

Application for Resource Consent

Section 88 of the Resource Management Act 1991



About this form

i Please answer all the questions and provide the relevant details of your proposal. We recommend you talk your proposal through with Council planning staff before you fill in this form.

1. Activity type and location

This application is for:

- ☐ Change of consent notice (s.221) ☒ Land Use Consent ☐ Subdivision Consent ☒ Land Use (Regional)
☒ Other Various other activities including water take from the Waipaoa River - see resource consent application

Site(s) to which this application relates is described as:

Various, see resource consent application

Street/ Rapid No.

Street/Road Name:

Property valuation No. Various, see resource consent application

(see rates invoice)

Legal Description: See resource consent application

Fully describe the location:

Te Karaka township - see resource consent application.

OFFICE USE ONLY: Map Reference NZTM:

2. Applicant's details (See Terms for the Applicant below)

Company/Organisation (If applicable): Gisborne District Council (Rivers and Land Drainage)

Individual/Company Org Contact Person: Foote

Dean

Surname:

First Name(s)

Purchase Order/Unique reference for Invoicing: GDC internal transfer / journal to be provided

Postal address:

15 Fitzherbert Street, Gisborne, 4010

Phone: 0273358068

Day

Mobile:

Email: dean.foote@gdc.govt.nz

Email is Council's preferred method of contact.

Do you agree to receive your correspondence and consent by email?

☒ Yes

☐ No

The applicant is the:

- ☒ Owner ☐ Occupier ☒ Prospective Purchaser ☐ The Crown ☐ Network Utility Operator
☒ Agent / Consultant (provide details over page)

Office use only

Application No:

Received GDC: Received SO: Received ADM: EDRMS No:

Deposit paid: Date paid: Category: Officer:

3. Terms for the applicant

LEGAL STATUS: Any consents granted will be issued in the name of the applicant. Applicants must ensure they hold the legal title or status necessary to obtain consent. If the application is made on behalf of an unincorporated trust, an attachment must accompany the application, listing the full names of all trustees.

INVOICES: All invoices for processing fees and other applicable charges will be issued to the applicant, as the person legally responsible for the resource consent application. Please ensure the applicant's billing information is accurate and complete.

4. Property owner's details (if different from applicant)

Name in full:	Various, see consent application report		
	Surname:	First Name(s)	
Postal address:			
Phone:			
	Day	Mobile:	
Email:			

5. Agent/consultant's details (all correspondence will be sent to your agent)

Company:	Strategy Planning Limited		
Contact Person:	Sven Exeter		
Postal address:	PO Box 239, Napier, 4140		
Phone:	0273037354		
	Day	Mobile:	
Email:	sven@stradegy.co.nz		

Email is Council's preferred method of contact.

Do you agree to receive your correspondence and consent by email?

☒ Yes ☐ No

6. Detailed description of proposed activity

Te Karaka stopbank upgrade project - See resource consent application for more details.

7. Additional resource consents required for this proposal

Are any other resource consent(s) required for your proposal, but are not being applied for under this application? ☐ Yes ☒ No

- | | | |
|---|--|---|
| ☐ Land Use Consent | ☐ Subdivision Consent | ☐ Discharge Permit |
| ☐ Coastal permit | ☐ Water Permit | ☐ Land Disturbance |
| ☒ Other (give details): Refer to consent application report | | |

Please list any previous consents relevant to this current application:

8. Consultation

Have you consulted with iwi? ☒ Yes ☐ No

If yes, which iwi groups have you consulted with?

Te Aitanga a Mahaki

Who else have you consulted with?

Various - see consent application.

Please attach any relevant correspondence.

9. Approval of potentially affected parties

Have you obtained written approval from all parties potentially affected by the proposal?

☐ Yes ☒ No

Please attach the completed approval forms with a copy of your plans also signed by the affected people.

Please Note: Council planning staff will determine whether any people or groups are potentially affected by your proposal. Please discuss with our planning staff prior to lodging your application.

10. Notification of the application

Are you requesting the application to be publicly notified?

☒ Yes ☐ No

Please discuss the implications of notification with our planning staff if necessary.

11. Assessment of Environmental Effects (AEE)

Further information about preparing an AEE is on our website.

Please note: An AEE generally requires a separate sheet/report. Please attach any additional information.

Please see attached AEE.

12. Council contact

Have you discussed your proposal with any Council planning staff?

☒ Yes ☐ No

If yes, who have you spoken with:

Dalia Evanson and consultant planner Danielle Singh

(Name of Council staff member)

13. Contributions

When granting consent to certain activities, Council may levy a monetary contribution. Development contributions are levies under the Local Government Act 2002 in accordance with the Council's Development Contribution Policy. Financial or reserve contributions are levies under the RMA and Council's Combined Regional Land and District Plan.

14. Deposit and signature

The required deposit must be paid before we process your application.

Please refer to the Fees and Charges Schedule as per the website.

☒ I enclose a deposit of \$ for processing this application.

☐ I have paid a deposit by electronic banking of \$ on (date)

Council's bank account details: **Account No. 03 0638 0502288 00**

Particulars:

CODE:

(surname)

PARTICULARS:

(road name)

Declaration

I understand that Council may invoice me for the actual and reasonable costs incurred in processing this application.

I (print your name),

Agree that:

- I am liable for all fees and charges relating to this application
- The deposit is to be paid at the time of lodging the application
- That payment is due within 30 days of the issue date of any additional charges
- The information provided in this application and the attachments are accurate.

Signature of Applicant: (or person authorised to sign on behalf of applicant)

S Exeter

Date:

Admin check ☐

15. Privacy information

The information you have provided on this form is required so that your application can be processed under the RMA and statistics can be collected by Council. The information will be stored on a public register held by Council. The details may also be made available to the public on Council's website. These details are collected to inform the general public and community groups about all consents which have been issued through Council. If you would like to request access to, or correct your details, please contact Council.

16. Checklist for completing your application

To ensure your application will be accepted by Council for processing, this checklist sets out the information required to be lodged with your application for a resource consent. This is a generic list of information required to be lodged with all resource consent applications. For some activities, specific information requirements are detailed in activity specific information requirement checklists. If any of the required information is not supplied Council will not accept the application and will return the documentation and deposit fee.

Lodging

Two methods for consent applications to be lodged are:

1. Digital applications – to be emailed to rlodgement@gdc.govt.nz
Please note if the combined file size of your documents exceeds 30MB you will need to contact Consent Coordinators on the above email address. Staff responding will send out a secure link to upload your files.
2. Physical applications, lodged in person over the front counter. These will need to be lodged with the Duty Planner at Council Offices. Two paper copies (including one unbound) of all the information is required.

Information required

Along with a completed application form, the following information is required:

	Council use		
	Y	N	n/a
✓ Applicant to check			
✓ Proof of deposit fee payment.	☐	☐	☐
✓ Record(s) of Title less than three months old for the site to which this application relates. Please attach the title and any consent notices, covenants, easements attached to the title if relevant or affected by the proposed activity.	☐	☐	☐
✓ A detailed description of the proposed activity.	☐	☐	☐
✓ Locality plan or aerial photo. Indicate the location of the site in relation to the street and other landmarks. Show the location of the subject site and those of adjoining sites.	☐	☐	☐
A scaled site plan showing:	☐	☐	☐
✓ The boundaries;	☐	☐	☐
✓ The location of the proposed activity or building;	☐	☐	☐
✓ North point;	☐	☐	☐
✓ Title/reference number(s);	☐	☐	☐
✓ Date the plans were drawn and individual plan numbers;	☐	☐	☐
✓ Location of existing and proposed accessways and points of entry;	☐	☐	☐
✓ Topographic features;	☐	☐	☐
✓ Contours;	☐	☐	☐
✓ Location of any mapped natural or cultural heritage features;	☐	☐	☐
✓ Location of any mapped natural hazards;	☐	☐	☐
✓ Location of any rivers, streams, watercourses.	☐	☐	☐
✓ Also refer to the checklist specific to the consent type to see any additional features that need to be added to the site plan.	☐	☐	☐
✓ An assessment of the activity the relevant provisions of the Tairāwhiti Resource Management Plan (TRMP) - A list of the rules from the TRMP that require resource approval and status of the proposed activity in the TRMP.	☐	☐	☐
✓ An assessment against any relevant National Environmental Standards.	☐	☐	☐
✓ An assessment against any relevant National Policy Statements (i.e NPS for highly productive land)	☐	☐	☐
✓ An assessment of effects on the environment (AEE) in accordance with Schedule 4 of the RMA at a level of detail that corresponds with the scale and significance of the effects that the proposed activity may have on the environment. In addition, this may require one or more technical specialist reports. The AEE must include a full description of the proposed activity, the effects that may be generated and how these will be managed. For more information refer the AEE guidance available for each consent activity type.	☐	☐	☐
✓ An assessment against the relevant matters in Part 2 of the RMA will be required. Part 2 matters may be included in your AEE or in a separate document.	☐	☐	☐

☒	An assessment against any relevant provisions (i.e. policies and objectives) of a statutory document (e.g. the Tairāwhiti Resource Management Plan, Regional and/or National Policy Statement). The assessment may be included in your AEE or in a separate document. Note: This is only required for discretionary and non-complying activities.	☐	☐	☐
☒	Include details (name, postal and site address) of any consultation undertaken (including iwi) and any responses from those consulted with.	☐	☐	☐
☐	Written approval from all affected persons which includes a completed Affected Party Approval form(s) and signed and dated copies of the site plan, elevations.	☐	☐	☐
☐	Written approval from NZTA where your site adjoins a state highway and proposes any of the following, subdivision, new vehicle crossing, consent for an activity that increases vehicle movements associated with the site	☐	☐	☐
☒	A completed checklist relevant to your application – Refer to the separate checklists relating to the consent you are applying for, i.e. the activity type.	☐	☐	☐

Pre-lodgement meeting

Have you had a pre-lodgement meeting with a Council Consents Planner?

☒ Yes ☐ No

Whom did you have the pre-lodgement meeting with?

To ensure a smoother lodgement process and to increase the chance of the application being accepted (as any outstanding information would have been identified at the pre-lodgement meeting) we encourage you to arrange a pre-lodgement meeting with a planner prior to lodging your application.

Office use only

Signed by Acceptance Officer:

Officer:

Date:



Resource Consent Application for Te Karaka Flood Scheme Upgrade

Te Karaka Township

Gisborne District Council (Rivers and Land Drainage)

25255 AP1
21 April 2026



APPLICATION DETAILS – FORM 9 RMA

Consent Authority: Gisborne District Council - Te Kaunihera o Te Tairāwhiti

The Applicant: Gisborne District Council (Rivers and Land Drainage)

Address for Applicant: 15 Fitzherbert Street, Gisborne, 4010

Address for Service: Stradegy Planning Limited, PO Box 239, Napier, 4140

Address for Invoice: 15 Fitzherbert Street, Gisborne, 4010

Site Details:

Street Address: Various in Te Karaka - see Table 2

Legal Description: Various in Te Karaka - see Table 2

Zoning: Various in Gisborne District - see Table 4

Activity for which Consent is sought:

Resource Consent is sought for:

- the construction and operation of stopbanks and various ancillary activities as a bundled Discretionary Activity under various rules of the Tairāwhiti Resource Management Plan;
- the construction and operation of a culvert as a Discretionary Activity under Regulation 71 with flap gate as a Non-Complying activity under Regulation 74, and construction of specified infrastructure within 100m of a potential wetland under Regulation 45(3) & 45(4) of the National Environmental Standard for Freshwater; and
- a Controlled Activity under Regulation 5(9) of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health.

**Prepared
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Approved for
Release by:**

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Senior Associate Planner

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EXECUTIVE SUMMARY

This application seeks resource consent for the Te Karaka Flood Scheme Upgrade, a Crown-funded flood resilience project led by Gisborne District Council (Rivers and Land Drainage) in partnership with Te Aitanga a Māhaki. The project responds to Cyclone Gabrielle (February 2023), which overtopped the existing stopbank system and caused extensive flooding and disruption in Te Karaka.

The proposal comprises of:

- construction and operation of upgraded stopbanks (including sections set back from the existing alignment to make more room for the river),
- alternative stopbank alignment,
- associated earthworks and borrow pits,
- local road raising to tie-in with the stopbank, stormwater swales/drainage adjustments,
- an extension to an existing SH2 culvert (including fish-passage improvements),
- and temporary construction activities (access, laydown areas, traffic management, and environmental controls).

Comprehensive flood modelling and extensive community engagement has identified a preferred stopbank alignment and upgrade to the existing Te Karaka stopbank, which is retreated from the existing alignment in places. This option improves overall flood resilience and aligns with international best practice to set stopbanks back where practicable. This approach is also aligned with the principles of Te Mana O Te Wai and the project has been developed in close partnership with Te Aitanga a Mahaki. An alternative stopbank alignment option is also proposed should further engagement confirm the need for this option to be taken forward. An overview of the existing, proposed and alternative stopbank alignments are shown in Figure 1.

The project however also requires land acquisition, with potential flood impacts on both Māori and general landowners. There is a notable trade off of benefitting a large number of properties and the majority of the Te Karaka community, whilst acknowledging the social impacts on those landowners who may need to relocate due to the increased flood risk of the proposal. It is also acknowledged that the proposal relies on Public Works Act (PWA) compensation process rather than the Resource Management Act (RMA) effects mitigation or remediation package to address flood effects which is unlikely to be practically achievable and cost effective.

The upgraded scheme is designed to achieve a 1% AEP (100-year) level of service consistent with the downstream Waipaoa River scheme, with freeboard and climate-change allowances applied in accordance with the project's adopted design approach. Once implemented, the works are expected to materially reduce flood risk for Te Karaka township, including protection for approximately 200 properties (residential dwellings, commercial premises, and the local school), while recognising that some areas outside the protected footprint may experience changes in flood behaviour. Given its scope and community impact, it is considered a high-priority initiative within the suite of Crown-funded flood resilience projects.

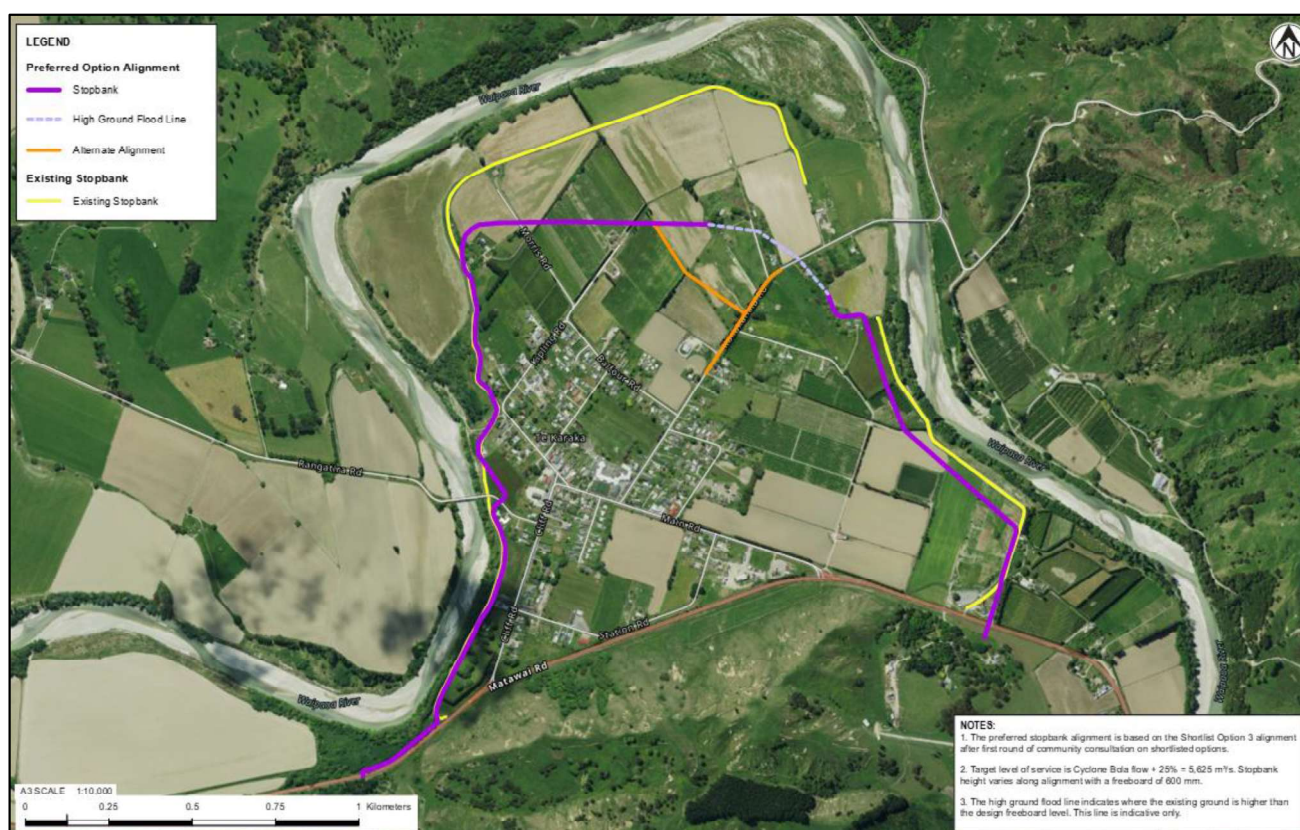


Figure 1: Stopbank Project Overview

Consents are sought under the Tairāwhiti Resource Management Plan (TRMP) and relevant national environmental standards, including the National Environmental Standards for Freshwater (NES-F) and the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS). Overall, the application is primarily assessed as a Discretionary Activity under the TRMP (noting a Non-Complying component associated with a passive flap gate under the NES-F).

The application provides for two stopbank alignment options (preferred and alternative) to retain flexibility during land access and detailed design, with the final alignment to be confirmed prior to construction. Construction is anticipated to be staged over multiple seasons (indicatively October 2026–May 2027 and October 2027–May 2028, with an additional reserve season if required).

A suite of assessment of environmental effects (AEE) has been undertaken. A summary of the actual and potential effects and mitigation measures of the proposal is provided in Table 1:



Table 1: Summary of effects (high-level)

Effect area	Likely effect (summary)	Pre-mitigation effect	Mitigation / management (proposed)	Residual effect (indicative)
Flood risk (benefit area)	Improved level of service to approximately 1% AEP (100-year including climate change considerations) design event with freeboard, reducing flood risk for Te Karaka township including homes, businesses and key community facilities. Protects (to the design level) the local wastewater treatment plant which has various benefits across the social, cultural, environmental and economic spheres.	Significant positive effects	Stopbank upgrade and setback alignment; ongoing maintenance and inspections.	Significant positive effects
Consequential flooding (outside benefit area)	Some properties and roads outside the protected area may experience increased flood depth /velocity / hazard in modelled events.	More than minor / significant adverse for six properties.	Compensation and/or property acquisition. Property-level mitigation options (e.g., floor level raising, relocation, or agreed no-mitigation); design refinement; consent conditions requiring confirmation of mitigation approach before works. Evacuation plan updates.	Typically minor to moderate (location-specific) with residual effects to be confirmed pending further landowners discussions
Ecology & water quality	Potential short-term construction effects; longer-term potential net gain from converting parts of scheme area to less intensive land use and improving fish passage at upgraded culvert.	Potentially less than minor positive effects on fish passage (culvert SH2) and no more than minor adverse effects overall	Erosion and sediment controls (ESCP/CEMP); timing controls; riparian management and reinstatement; fish-passage design requirements.	Operational (culvert SH2) less than minor positive. Operational (stopbank) less than minor adverse / negligible. All construction activities: less than minor adverse.



Cultural / mana whenua	Works in and near waterways may affect cultural values; partnership approach with mana whenua supports project development and outcome alignment.	To be confirmed through CIA	Ongoing engagement; Cultural Impact Assessment (to be provided) and agreed protocols/conditions; monitoring and responsive management where required.	To be confirmed through CIA; expected manageable with conditions
Landscape & visual	New/raised stopbank and vegetation removal may alter local landscape character and views; stopbanks are an established element in the modified river corridor.	Mostly less than minor adverse except at Rangatira Road raising site (potentially moderate)	Minimise vegetation removal where practicable; reinstate grass cover; targeted replanting where agreed and feasible. Targeted screening planting at Rangatira Road	Less than minor adverse
Construction (noise, dust, traffic, access)	Temporary disruption from earthworks, haulage, road raising, and site compounds.	Short-term and no more than minor adverse	Management plans; traffic management; hours of work controls; dust suppression; communications and signage.	Short-term and no more than minor adverse
Archaeology / heritage	Low likelihood of archaeological discovery; scheduled heritage sites near haul routes may be exposed to noise/vibration from traffic.	Less than minor adverse (potential)	Accidental discovery protocol; manage vibration/noise via construction controls and routing where practicable.	Less than minor adverse (anticipated)
Land / productive soils	Land take and earthworks within productive alluvial soils; potential change in farming patterns within scheme area.	Less than minor adverse	Minimise footprint through design; reinstate borrow areas; landowner agreements and acquisition process.	Less than minor adverse

Benefits and positive effects summary

The consequential flood risk assessment results indicate that while the stopbank protects approximately 161 hectares during the design event, it reduces effective floodplain storage and forces flows into a narrower corridor. Consequently, land immediately upstream and adjacent to the stopbank experiences increases in flood depth, velocity and hazard, with 10 hectares of newly flooded land and 157 hectares experiencing a hazard category increase during the design event.

Within the protected benefit area, 215 buildings experience a flooding benefit during the design event. Within this area of reduced flood risk, there are 179 residential dwellings, 21 commercial parcels and an estimated population of 531. There is also a school, which also acts as an emergency management centre, two early childhood centres and other community facilities (churches, store, petrol station).



Flood impacts summary

However, outside the protected area, 23 buildings (including 6 residential dwellings) experience adverse flooding effects. Flood impacts on road infrastructure follow a similar pattern, with roads within the township being protected, while adjacent rural roads experiencing increased flood depths and hazard classifications.

Key conclusions

In summary, key conclusions of the proposal are as follows:

- The proposal is a high-priority flood resilience upgrade responding to Cyclone Gabrielle impacts and is expected to materially reduce flood risk for Te Karaka township (including key community assets).
- The preferred stopbank setback alignment delivers significant overall benefits but creates consequential flood risk changes for a small number of properties outside the protected area that require property-specific mitigation and/or acquisition outcomes.
- Construction effects (earthworks, traffic, noise, dust, water quality risk) can be managed through detailed management plans and consent conditions and are expected to be temporary.
- With appropriate erosion/sediment controls and ecological design (including fish passage improvements), the proposal can avoid significant long-term ecological effects and may deliver net environmental gains through reduced land-use intensity within parts of the scheme area.
- Ongoing partnership and engagement with mana whenua, supported by the Cultural Impact Assessment (to be provided) and agreed protocols, is central to managing cultural effects and shaping appropriate conditions.
- On balance, the proposal delivers significant regional and community benefits by improving flood resilience for Te Karaka and critical community assets and is supported by technical assessments and proposed mitigation measures.
- The proposal is deserving of consent and is considered to meet all relevant RMA and statutory requirements.



1. INTRODUCTION

In 2023, Cyclone Gabrielle exceeded the design capacity of the existing Te Karaka flood protection scheme, resulting in extensive damage and significant disruption to the community. In response, Gisborne District Council - Te Kaunihera o Te Tairāwhiti (GDC), working in partnership with Te Aitanga a Māhaki and supported by Government funding, initiated a project to upgrade the townships flood defenses.

The proposed Te Karaka Flood Resilience Improvements project is expected to protect approximately 200 properties, including residential dwellings, commercial premises, and the local Te Karaka Area school. Given its scope and community impact, it is considered a high-priority initiative within the suite of Crown-funded flood resilience projects.

Resource consents are being sought from the GDC regulatory team by Gisborne District Council – Rivers and Land Drainage (the Applicant) under the Tairāwhiti Resource Management Plan (TRMP) and other RMA high order instruments for flood resilience works and stopbank improvements adjacent to and within the Waipaoa River. The proposal aims to aid in the reduction of existing and potential flooding effects on Te Karaka township.

This resource consent application has been prepared in accordance with the requirements of Schedule 4 and S104 of the Resource Management Act 1991 (the Act or the RMA). The completed GDC application form is provided in Appendix 1 with other supporting information appended.

2. BACKGROUND

2.1 Overview

Te Karaka is a township located inland, approximately 30km to the north of Gisborne. The settlement, containing a population of about 600 people, was built on the true right bank of Waipaoa River, in the broad floodplain of the river valley, and is bound to the south by State Highway 2 (SH2). Historical and ongoing sediment inputs have resulted in a reduced channel capacity and alteration of natural flow regimes. These changes have contributed to an increased flood risk during high rainfall events.

The township is currently defended by 4.2km of stopbanks, which were raised following Cyclone Bola in 1988. During Cyclone Gabrielle in February 2023, the river overtopped these stopbanks, starting at the eastern corner and continuing westward until the entire stopbank system was overtopped, inundating the township (see Figure 2).



Figure 2: Cyclone Gabrielle 2023 Flood Map

Source: GDC.

In response to the extensive flooding caused by Cyclone Gabrielle across the region, GDC is advancing a programme of flood resilience improvements aimed towards reducing flood risk and protecting homes and livelihoods. The Te Karaka flood improvement scheme falls under this programme. This entails upgrading the existing stopbanks at Te Karaka to achieve the same level of service as the downstream Waipaoa River Stopbank Flood Control Scheme (WRFCS) upgrades. Upon completion, it is anticipated that the scheme will operate at a higher level of service, flood protection and flood resilience than that which existed pre-Cyclone Gabrielle.

Following technical assessment, modelling, and evaluation of environmental and community considerations, an adjusted stopbank alignment has been identified which makes more room for the river. This approach is in line with international best practice and principles of Te Mana O Te Wai. The project has been managed in close partnership with Te Aitanga a Mahaki.

2.2 Land Categorisation - Future of Severely Affected Land (FOSAL)

Following the devastating impact of Cyclone Gabrielle, the Government announced a system of land categorisations to deal with the risks from future severe weather events on affected properties. The Future of Severely Affected Land (FOSAL) framework led by central government provided compensation funding for properties within the Te Karaka area to contribute to relocation (Category 3) and mitigation (Category 2). Provisional maps were



As part of the recovery effort following Cyclone Gabrielle, the Government allocated \$13.2m to GDC to upgrade the Scheme. This funding is specifically designated for improving flood resilience within Te Karaka township. It forms part of a broader \$71.1m funding package aimed at enhancing flood resilience across the wider Tairāwhiti region.

2.3 Community Engagement and Options Assessment Summary

Engagement with the local community, Te Atianga a Māhaki iwi and local marae about flood mitigation options began subsequently after Cyclone Gabrielle in 2023 and engagement is ongoing (refer to the consultation section below for more details).

In 2025 flood mitigation and stopbank realignment options assessment (Tonkin and Taylor, refer to Appendix 6) was undertaken which considered community feedback when determining the preferred option (i.e. this project). The 'do nothing' and four different stopbank alignment options were considered through a multi-criteria analysis (MCA) process. Given the significant flood risk of the 'do nothing' option this was discounted and a stopbank upgrade was considered necessary.

The community selected preferred option was then endorsed by GDC councillors in August 2025 and subsequent minor design optimisation changes were made which forms the basis of the preferred stopbank alignment of this consent application. Subsequent engagement with Wi Pere Trust (landowner where the proposed stopbank traverses) also identified the potential need for an alternative stopbank alignment (see details below) to avoid the Wi Pere Trust property.

3. SITE DESCRIPTION

3.1 Te Karaka Township & Surrounds

The Te Karaka township plays an important role in the local area, providing support to surrounding farming, horticultural and forestry operations. Located approximately 30km inland to the north of Gisborne city, the township is situated inside an S-bend in the Waipaoa River. The location of the township is shown in Figure 4.

The proposed area of works is rural lowland bordered by the Waipaoa River to the north, a hard bottomed watercourse that originates from the eastern slopes of the Raukūmara Range. The Waipaoa River travels 80 km before flowing out to sea at Poverty Bay just south of Gisborne. Te Karaka and the surrounding area is primarily productive land, and is utilised for highly productive horticulture, cropping and sheep and cattle grazing land. The surrounding area exhibits a low-lying and primarily flat topography and is therefore highly susceptible to flooding during heavy rainfall when the Waipaoa River overtops its banks.

The township is currently defended by 4.2km of stopbanks setback approximately 100m – 300m from the edge of the Waipaoa River. This existing flood scheme includes approximately

39 ha of floodplain to the north of Te Karaka. However, during cyclone Gabrielle, the river breached the stopbank causing widespread inundation of the township.

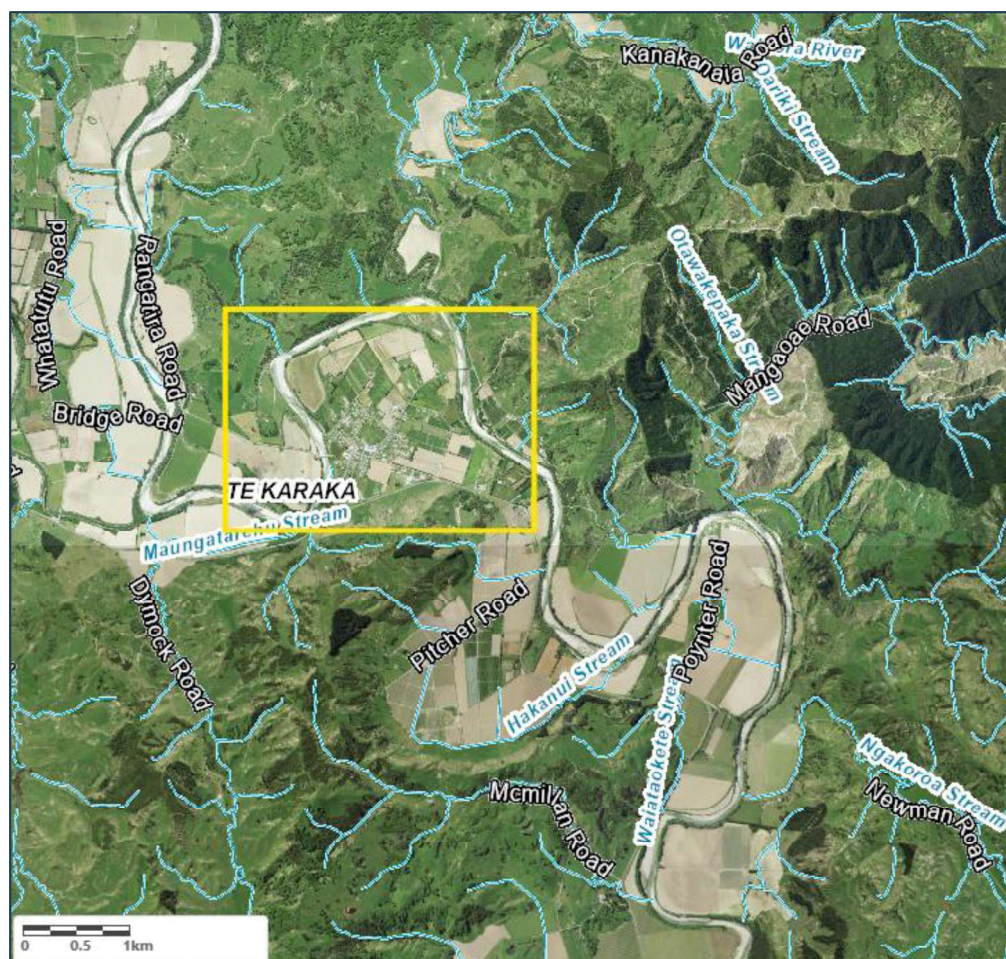


Figure 4. Site location (stretch of proposed works indicated within yellow rectangle).

3.2 Subject Properties

The properties on which the proposed works are to be carried out are detailed in Table 2 and illustrated in Figure 5, Figure 6, Figure 7 and Figure 8 below. Further property details and larger higher resolution maps are provided in Appendix 2.

Table 2: Subject Properties

Ref	Address	Alignment	Appellation	Record of Title
TK 1	Matawai Road	Both	Lot 2 Deposited Plan 570263	1029993
TK 2	Cliff Road, Te Karaka	Both	Lot 3 & PT Lot 2 DP 3062, Lots 1 - 4 DP 4355	GS2A/820/508/507/506/505 and GS112/44



TK 3	25 Cliff Road, Te Karaka	Both	Lot 1 DP 3062	GS2C/758
TK 4	27 Cliff Road, Te Karaka	Both	Lot 1 DP 3109	GS2C/799
TK 5	Rangatira Road, Te Karaka	Both	Part Lot 25 DP 1287 and Section 3 SO Plan 494650	738243
TK 6	9 Rangatira Road, Te Karaka	Both	Part Lot 25 DP 1287	GS5D/883
TK 7	11 Rangatira Road, Te Karaka	Both	Lot 1 DP 3768	GS99/113
TK 8	Rangatira Road, Te Karaka	Both	Section 9 Block IV Waikohu SD	GS3C/723
TK 9	Kipling Road, Te Karaka	Both	Sec 1 2 SO 494650	738242
TK 10	1 Kipling Road, Te Karaka	Both	Lot 15 DP 1145	GS3B/1033
TK 11	7 Kipling Road, Te Karaka	Both	Part Lot 16 DP 1145	GS5B/493
TK 12	29 Morris Road, Te Karaka	Both	Lot 21 DP 1145	GS3B/1026, GS3A/1414, GS3A/641
TK 13	59 Kipling Road, Te Karaka	Both	Lot 1-2 DP 2661, part Lot 18 DP 1145, Lot 1 & 2 DP 3322, Lot 1 DP 2909, Lot 1 DP 8784 & Part Section 44 Block IV Waikohu SD	GS2A/860/567/568/1364/1365 and GS2D/162
TK 14	Kanakanaia Road (16B & C Block)	Both	Karaka 16B Block	GS2B/954, GS3C/1413
TK 15	Kanakanaia Road (16F Block)	Both	Te Karaka 16F Block	486858
TK 16	Kanakanaia Road (16D Block)	Both	Te Karaka 16D Block	488582
TK 17	Kanakanaia Road (16E Block)	Both	Te Karaka 16E Block	489025
TK 18	End of Kipling Road	Preferred	Part Karaka 15& 17 Block	GS2B/1216 & GS2B/1225
TK 19	Kanakanaia Road	Both	Te Karaka 16 Road Line Block	502562
TK 20	90 Kanakanaia Road, Te Karaka	Both	Karaka 11A2 Block	GS131/4
TK 21	35 Paulson Road	Both	Te Karaka 11B2 Block	486631
TK 22	Paulson Road	Both	Lot 8-9 and Part Lot 7 Deposited Plan 1326,	GS110/195
TK 23	Paulson Road	Both	Part Karaka 7 Block	GS4C/398
TK 24	2424 Matawai Road, Te Karaka	Both	Karaka 8 Block	GS3B/1054
TK 25	Matawai Road	Both	Section 3 Block IV Waikohu Survey District	GS3C/526
TK 26	2431 Matawai Road, Te Karaka	Both	Lot 5 Deposited Plan 3085	GS2C/491



TK 34	82 Kanakanaia Road, Te Karaka	Alternate	Lot 1-8 Deposited Plan 2332	GS3A/504
1	Matawai Road	Both	N/A	N/A
2	Waipaoa River	Both	N/A	N/A
3	Doc marginal strip	Both	Crown Land Survey Office Plan 6047	N/A
4	Rangatira Road	Both	N/A	N/A
5	Kipling Road	Both	N/A	New Zealand Gazette 2016 In 2192 Balance Road Parcel
6	Kipling Road	Both	N/A	N/A
7	Morris Road	Both	N/A	N/A
8	Kipling Road	Both	N/A	N/A

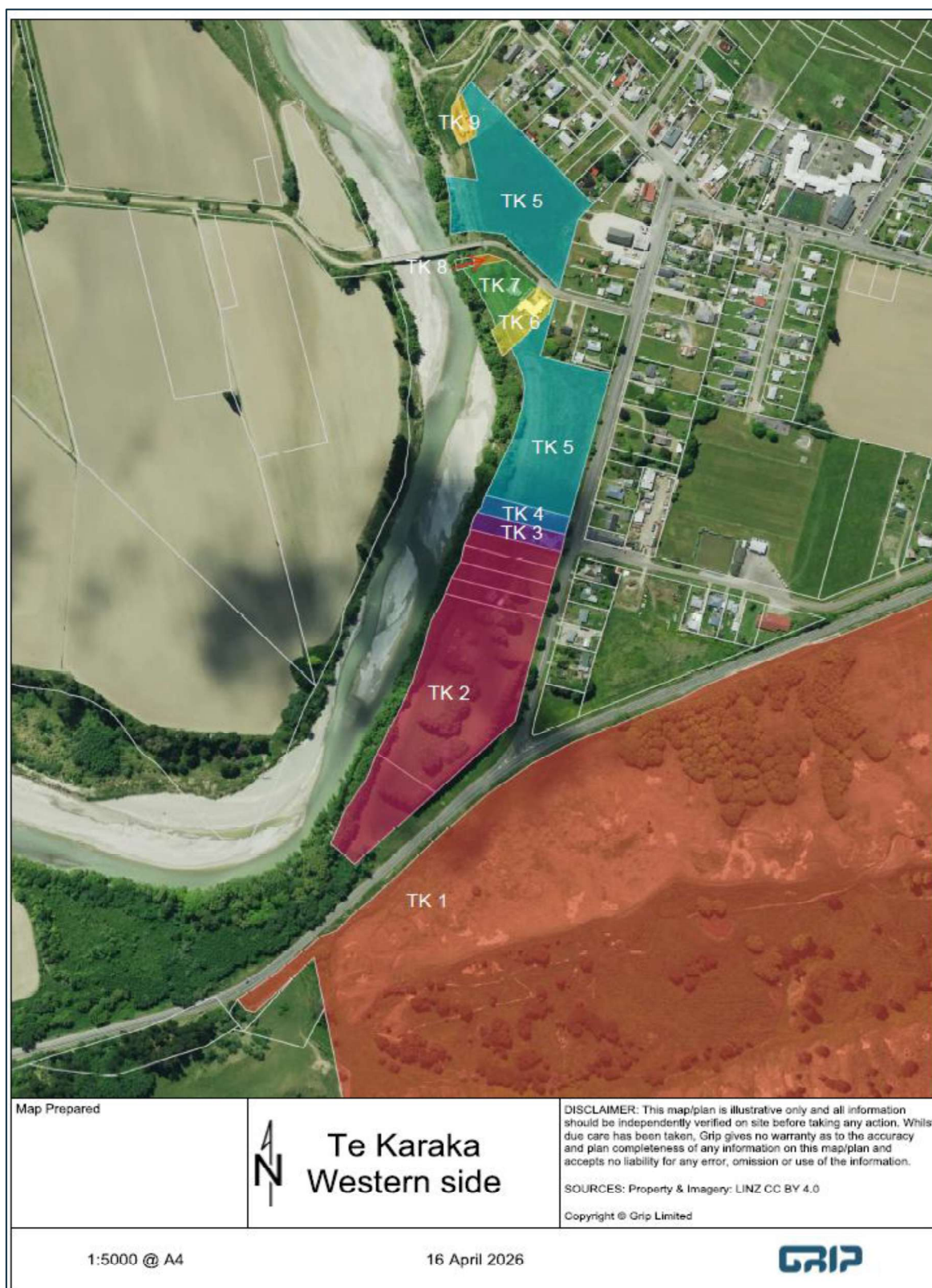


Figure 5: Subject Properties - West

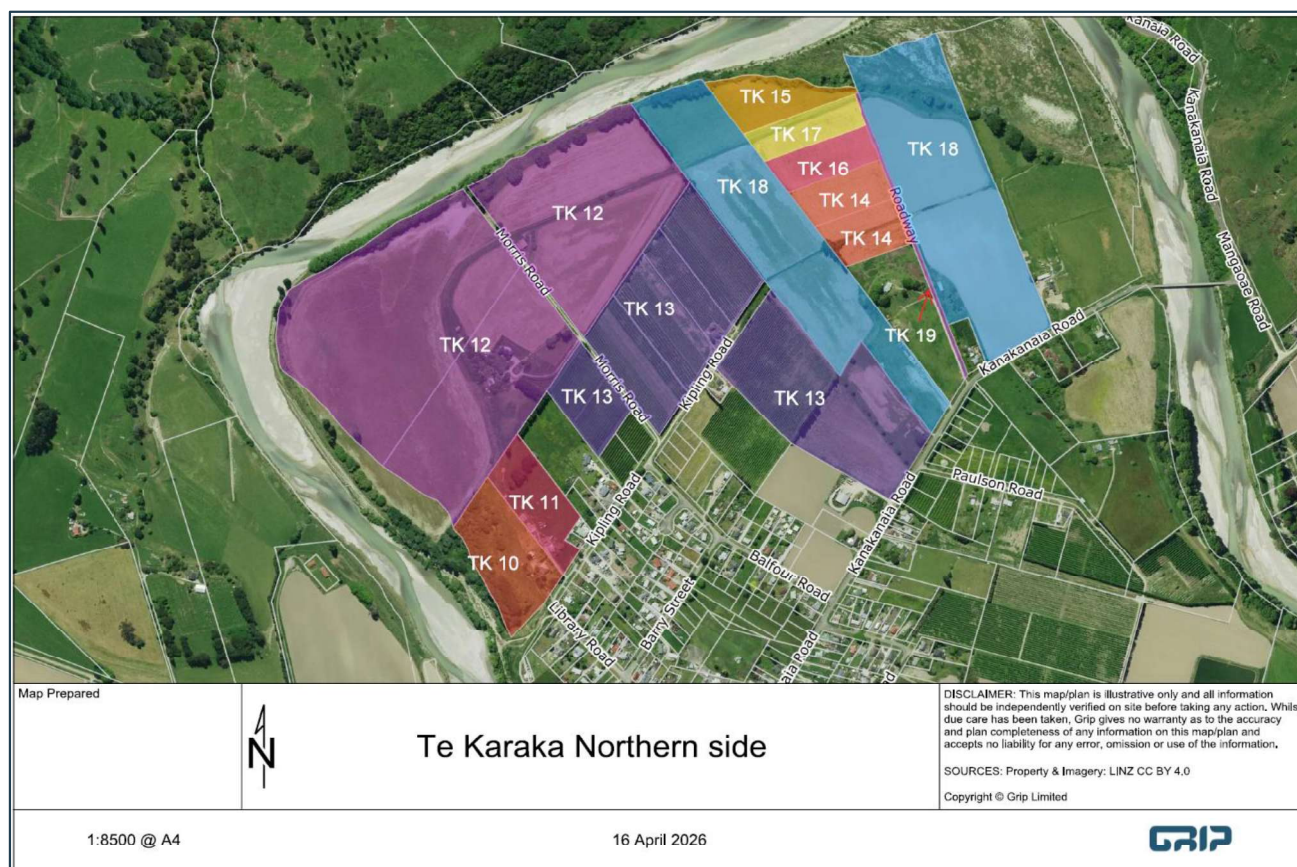


Figure 6: Subject Properties - North



Figure 7: Subject Properties – East

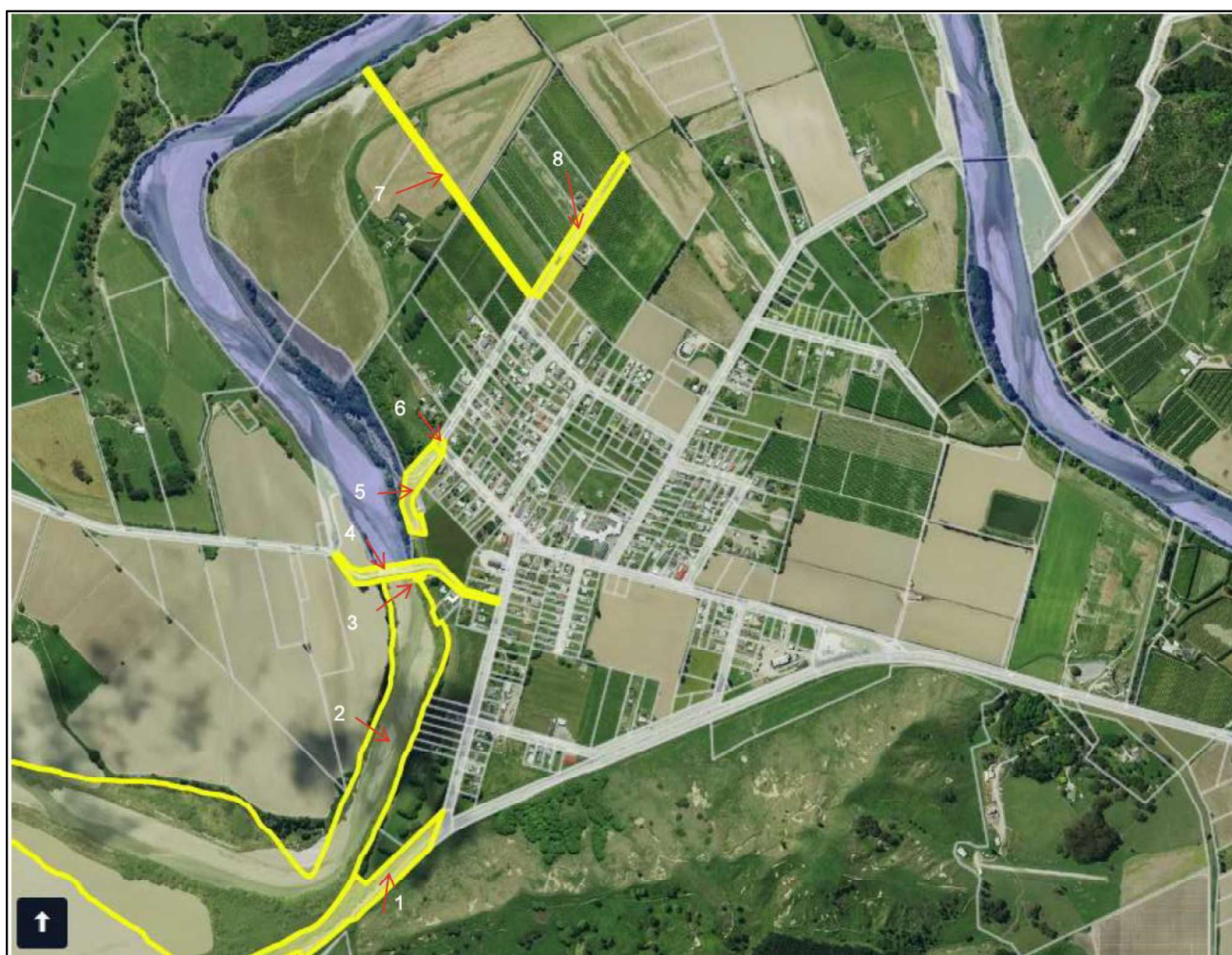


Figure 8: Subject Properties – Roads and Rivers

Legal instruments

Certificate of titles for where all activities traverses are provided in Appendix 3. Key instruments on certificate of titles are Māori land pursuant to Section 124(1) Te Ture Whenua Maori Act 1993 as noted and commented on in Table 3.

Table 3: Legal Instruments summary and commentary

Ref	Address	Record of Title	Instrument / Interests	Māori Land	Comment
TK 1	Matawai Road	1029993	N/A	No	N/A
TK 2	Cliff Road, Te Karaka	GS2A/820/508/507/506/505 and GS112/44	N/A	No	N/A



TK 3	25 Cliff Road, Te Karaka	GS2C/758	N/A	No	N/A
TK 4	27 Cliff Road, Te Karaka	GS2C/799	N/A	No	N/A
TK 5	Rangatira Road, Te Karaka	738243	N/A	No	N/A
TK 6	9 Rangatira Road, Te Karaka	GS5D/883	N/A	No	N/A
TK 7	11 Rangatira Road, Te Karaka	GS99/113	N/A	No	N/A
TK 8	Rangatira Road, Te Karaka	GS3C/723	N/A	No	N/A
TK 9	Kipling Road, Te Karaka	738242	N/A	No	N/A
TK 10	1 Kipling Road, Te Karaka	GS3B/1033	N/A	No	N/A
TK 11	7 Kipling Road, Te Karaka	GS5B/493	N/A	No	N/A
TK 12	29 Morris Road, Te Karaka	GS3B/1026, GS3A/1414, GS3A/641	N/A	No	N/A
TK 13	59 Kipling Road, Te Karaka	GS2A/860/567/568/1364/1365 and GS2D/162	741 Order in Council imposing Building Line Restriction; Consent Notice s221 RMA; Land Act / Coal Mines Act subject to Section 8.	No	Instruments / interests to be considered as part of landowner discussions.
TK 14	Kanakanaia Road (16B & C Block)	GS2B/954, GS3C/1413	92936 Status Declaration 103188 Status Declaration Māori Land Court	No	Instruments / interests to be considered as part of landowner discussions.
TK 15	Kanakanaia Road (16F Block)	486858	Section 124(1) Te Ture Whenua Māori Act 1993 & Status Declaration 8235252.4 Māori Land Court	Yes	Instruments / interests to be considered as part of landowner discussions.
TK 16	Kanakanaia Road (16D Block)	488582	Section 124(1) Te Ture Whenua Māori Act 1993, Section 167(5) Land Transfer Act 1952, Māori Freehold Land.	Yes	Instruments / interests to be considered as part of landowner discussions.



TK 17	Kanakanaia Road (16E Block)	489025	MFPO 8235260.1; Section 124(1) Te Ture Whenua Māori Act 1993, Māori Freehold Land	Yes	Instruments / interests to be considered as part of landowner discussions.
TK 18	End of Kipling Road	GS2B/1216 & GS2B/1225	Māori Freehold Land – s32(1) Māori Purposes (Wi Pere Trust) Act 1991	Yes	Instruments / interests to be considered as part of landowner discussions.
TK 19	Kanakanaia Road	502562	MFCO 8327057.1; Section 124(1) Te Ture Whenua Māori Act 1993, 8327057.2 Māori Freehold Land	Yes	Instruments / interests to be considered as part of landowner discussions.
TK 20	90 Kanakanaia Road, Te Karaka	GS131/4	88776 Status order pursuant to Part I of the Māori Affairs Amendment Act 1967 declaring that the status of the within land shall cease to be Māori Freehold Land	No	Instruments / interests to be considered as part of landowner discussions.
TK 21	35 Paulson Road	486631	MFPO 8238858.1; Certificate under Section 461 Māori Affairs Act 1953 See PR GS28/40 8238858.3 Māori Freehold Land	Yes	Instruments / interests to be considered as part of landowner discussions.
TK 22	Paulson Road	GS110/195	N/A	No	Instruments / interests to be considered as part of landowner discussions.
TK 23	Paulson Road	GS4C/398	Transfer 154158.1; Land Covenant; Gazette Notice SH2; Transit NZ Notice	No	Instruments / interests to be considered as part of landowner discussions and noting NZTA.
TK 24	2424 Matawai Road, Te Karaka	GS3B/1054	6184387.1 Gazette Notice (2004 p.1452) declaring State Highway No.2 to be a limited access road	No	Instruments / interests to be considered as part of landowner discussions and noting NZTA.
TK 25	Matawai Road	GS3C/526	Subject to Section 59 Land Act 1948; Transfer 176364.1 pipeline and natural gas rights - 12.10.1989 at 9.10 am; 6184387.1	No	Instruments / interests to be considered as part of landowner discussions, noting FirstGas and NZTA.



			Gazette Notice (2004 p.1452) declaring State Highway No.2 to be a limited access road		
TK 26	2431 Matawai Road, Te Karaka	GS2C/491	N/A	No	N/A
TK 34	82 Kanakanaia Road, Te Karaka	GS3A/504	Set apart as a Māori Reservation for the purpose of a Marae. Māori Freehold Land.	Yes	Instruments / interests to be considered as part of landowner discussions.
1	Matawai Road	N/A	N/A	No	N/A
2	Waipaoa River	N/A	N/A	No	N/A
3	Doc marginal strip	N/A	N/A	No	N/A
4	Rangatira Road	N/A	N/A	No	N/A
5	Kipling Road	New Zealand Gazette 2016 In 2192 Balance Road Parcel	N/A	No	N/A
6	Kipling Road	N/A	N/A	No	N/A
7	Morris Road	N/A	N/A	No	N/A
8	Kipling Road	N/A	N/A	No	N/A

3.3 Planning Context

Relevant overlays and zones in the TRMP planning maps for where the proposed activities traverse are summarised below in Table 4.

Table 4: Summary of TRMP Overlays & Zones

Plan Section	Overlay	Location
Flood Hazard Overlays (See Figure 11)	River and Floodway (F1)	Surrounding three sides of the project extent.
	High Hazard Areas (F2)	Area between existing stopbanks and the river.
	Flood Ponding Areas (F3)	South eastern corner of the project extent, between the state highway and the river.
	Areas Liable to Flooding (F4)	The remainder of Te Karaka township between the state highway and the stopbanks.



Plan Section	Overlay	Location
Freshwater	Scheduled Rivers and Streams – G15B	Full extent of works area (river)
Historic and Cultural Heritage (See Figure 10)	Heritage Alert Overlay	Majority extent of works area
Land Management	Land Overlay 1	Full extent of works area (river and its banks)
District Zoning	Road reserve	Local network and SH2
	Rural General	River side of existing stopbanks
	Rural Residential	Horticultural land on the outskirts of the township
	General Residential	Township

Land zoning is implemented to regulate how land can be used and developed within a specific area. Each zone chapter contains its own objectives, policies and rules to guide how that land can be used. Although zoning does not apply to the beds of rivers, works on the adjacent land may need to take these provisions into consideration. The relevant 'TRMP district planning zones' (see Figure 9) are that the proposed works traverse are:

- Road reserve;
- General Residential;
- Rural Residential; and
- Rural General.

Land zoning is implemented to regulate how land can be used and developed within a specific area. Each zone chapter contains its own objectives

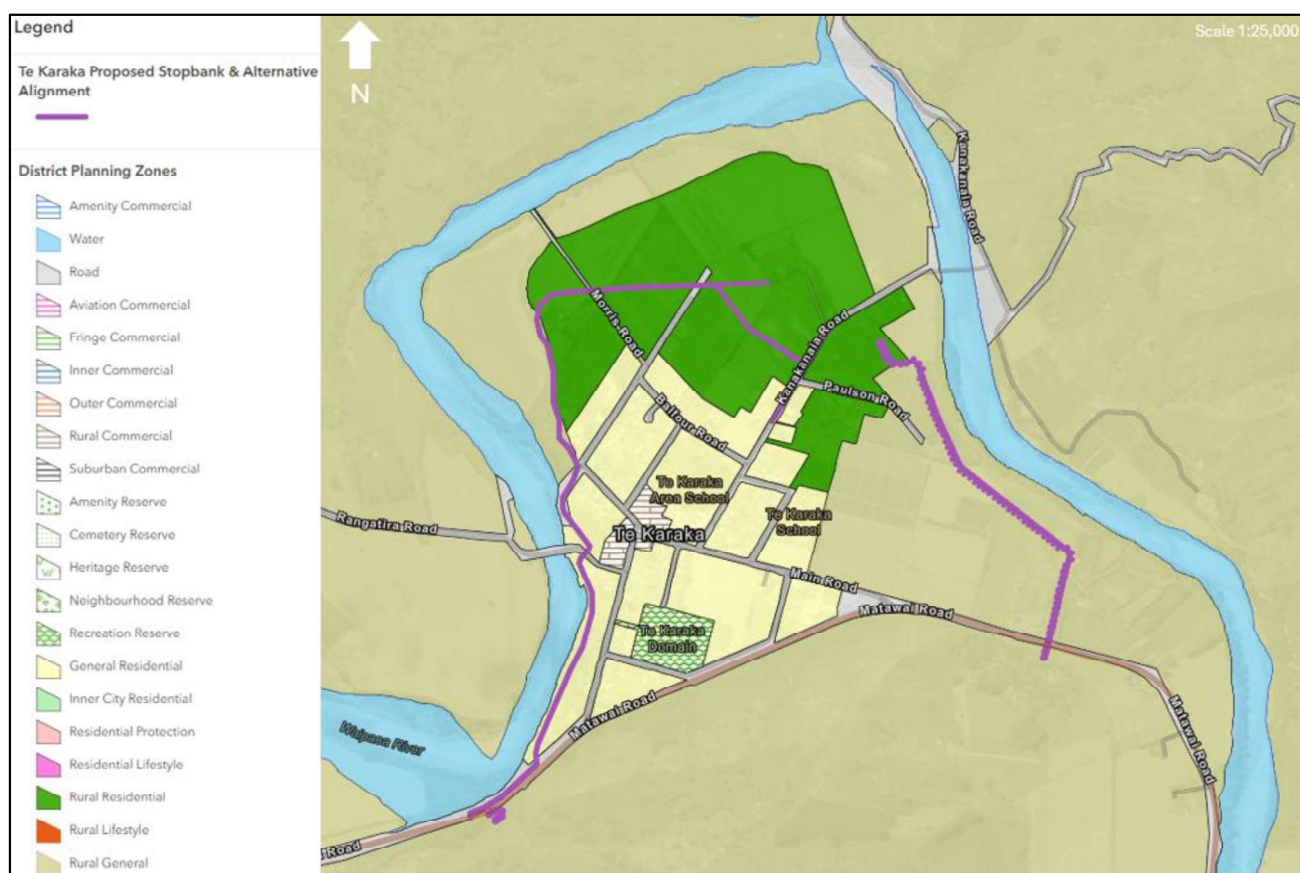


Figure 9: TRMP District Zoning & Proposed Stopbank



Figure 10: Heritage Alert Overlay & Proposed Stopbank

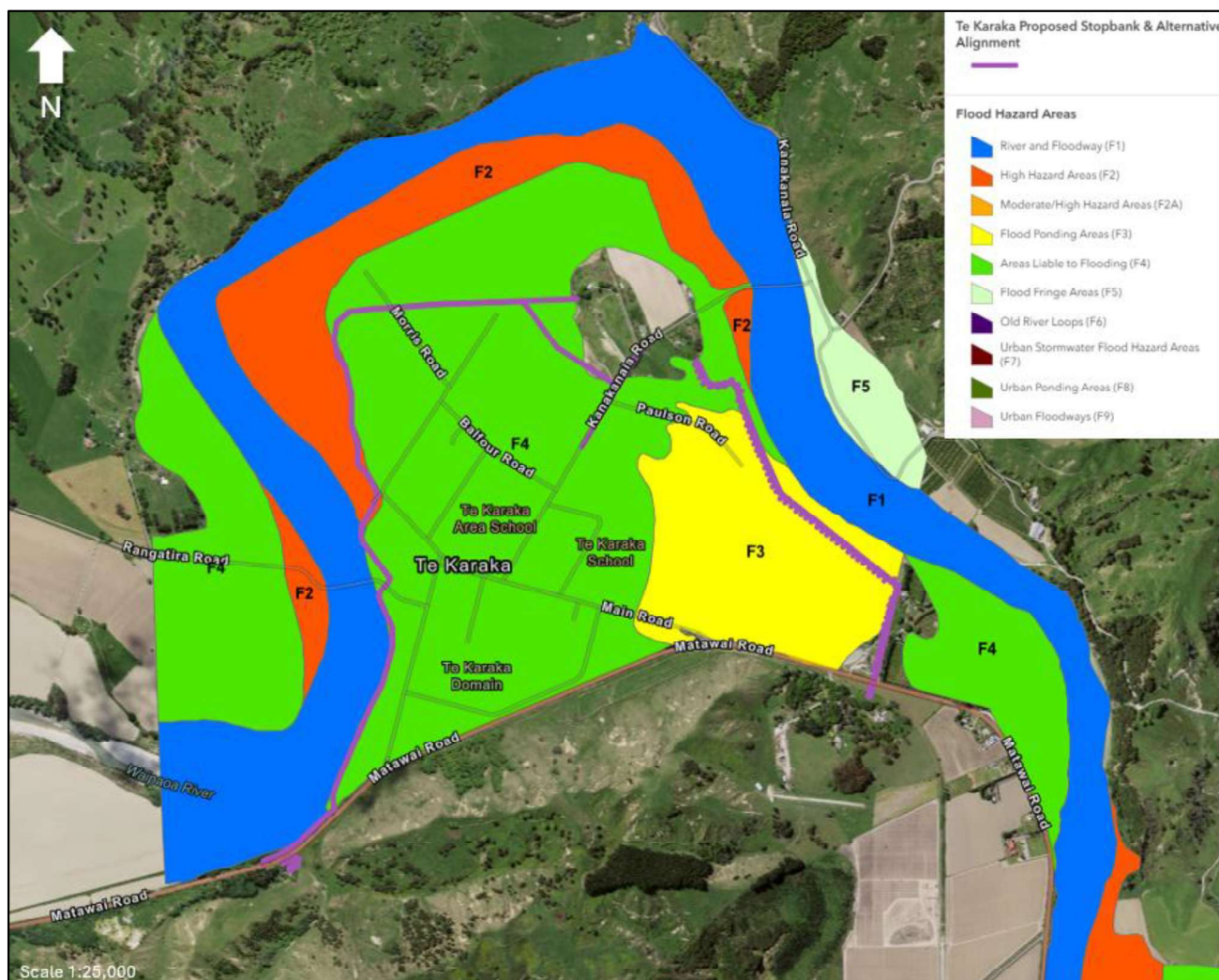


Figure 11: Flood Hazard Overlay & Proposed Stopbank

Statutory Acknowledgement Areas

There are no statutory acknowledgement areas are within the consent application area.

Archaeology

Archaeological assessment has confirmed that there are no known archaeological sites within the footprint of the proposal.

Landscape and Amenity

Landscape and amenity context of the project is area is as follow (taken from the Landscape and Visual Report Appendix 14):



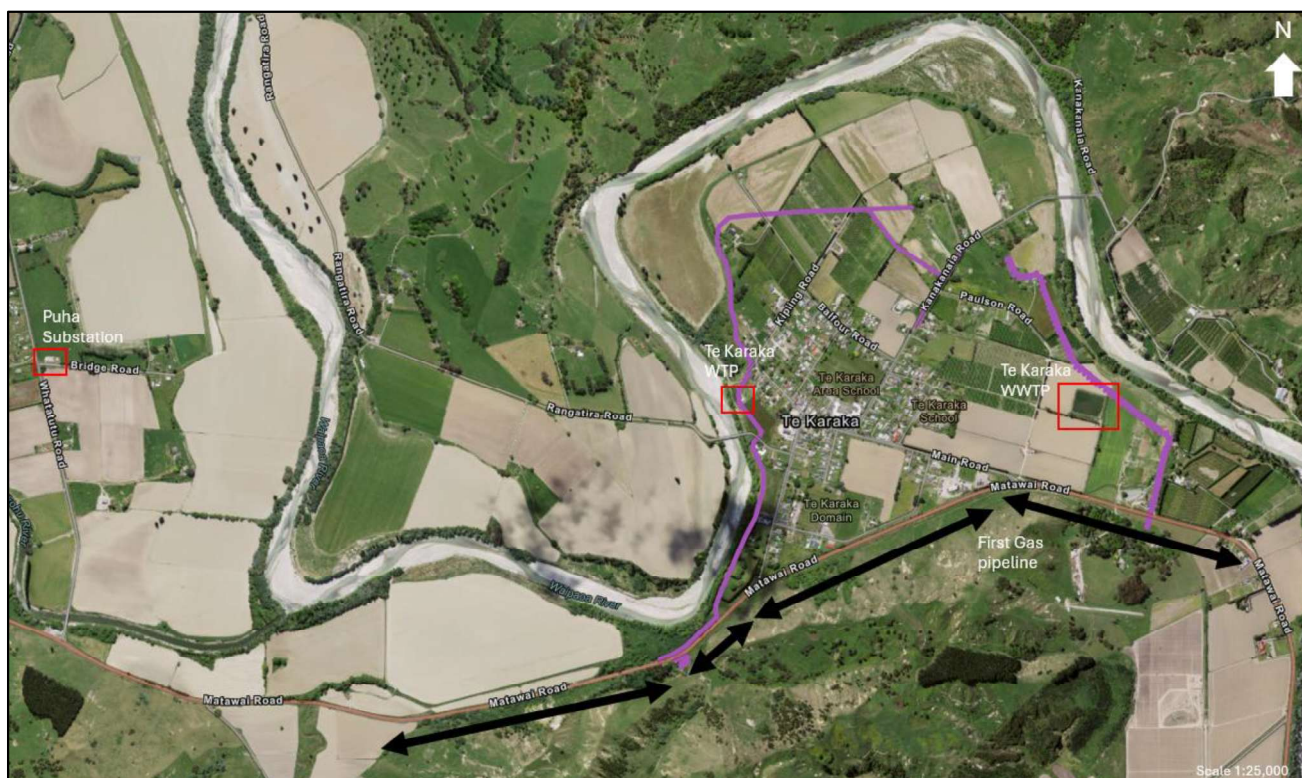
- Te Karaka is characterised by a contained rural valley landscape, where flat alluvial landforms, pastoral and horticultural landcover, and low-density rural settlement patterns combine to create a coherent and legible landscape.
- An existing stopbank structure is evident along sections of the Waipaoa River corridor, broadly following the river alignment and delineating the active river channel from the surrounding productive valley floor. This engineered landform introduces a subtle but continuous linear feature within the landscape, reflecting flood management measures while also reinforcing the separation between the river system and adjacent agricultural land.
- The productive valley floor is strongly defined by a geometric pattern of agricultural and horticultural activities, with paddocks and lots clearly articulated by shelterbelt planting, hedges, and farm boundary vegetation. These linear vegetative elements provide visual structure, wind protection, and a strong sense of order across the landscape. As a result of the established presence of this stopbank, such engineered flood protection structures are perceived as an expected and accepted element within the landscape, consistent with the modified character of the river corridor and its long-standing relationship with surrounding agricultural land uses.
- The river corridor and enclosing hill country remain key defining elements of the area. Together, the productive farmland, structured field patterns, and compact rural settlement reinforce Te Karaka's identity as an agriculturally based township embedded within a distinctive and well-defined rural landscape.

Infrastructure and Network Utilities

Key infrastructure and network utilities that are adjacent to, span the project area or are part of the consequential flood risk assessment include (see Figure 12):

- GDC wastewater treatment plant (WWTP) – SH2, Te Karaka.
- GDC water treatment plant (WTP) - 2 Kipling Road, Te Karaka.
- First Gas mains pipeline – runs along SH2, Te Karaka.
- Firstlight Network electricity network – throughout Te Karaka township.
- Puha Substation – Corner Whatatutu Road and Bridge Road, Puha.
- Chorus – broadband network throughout the township.

Stormwater drainage runs through most of the township road network. Potable water supply is reticulated throughout the township as well as the sewer network and associated pump stations.



Transport Network and Roads

25

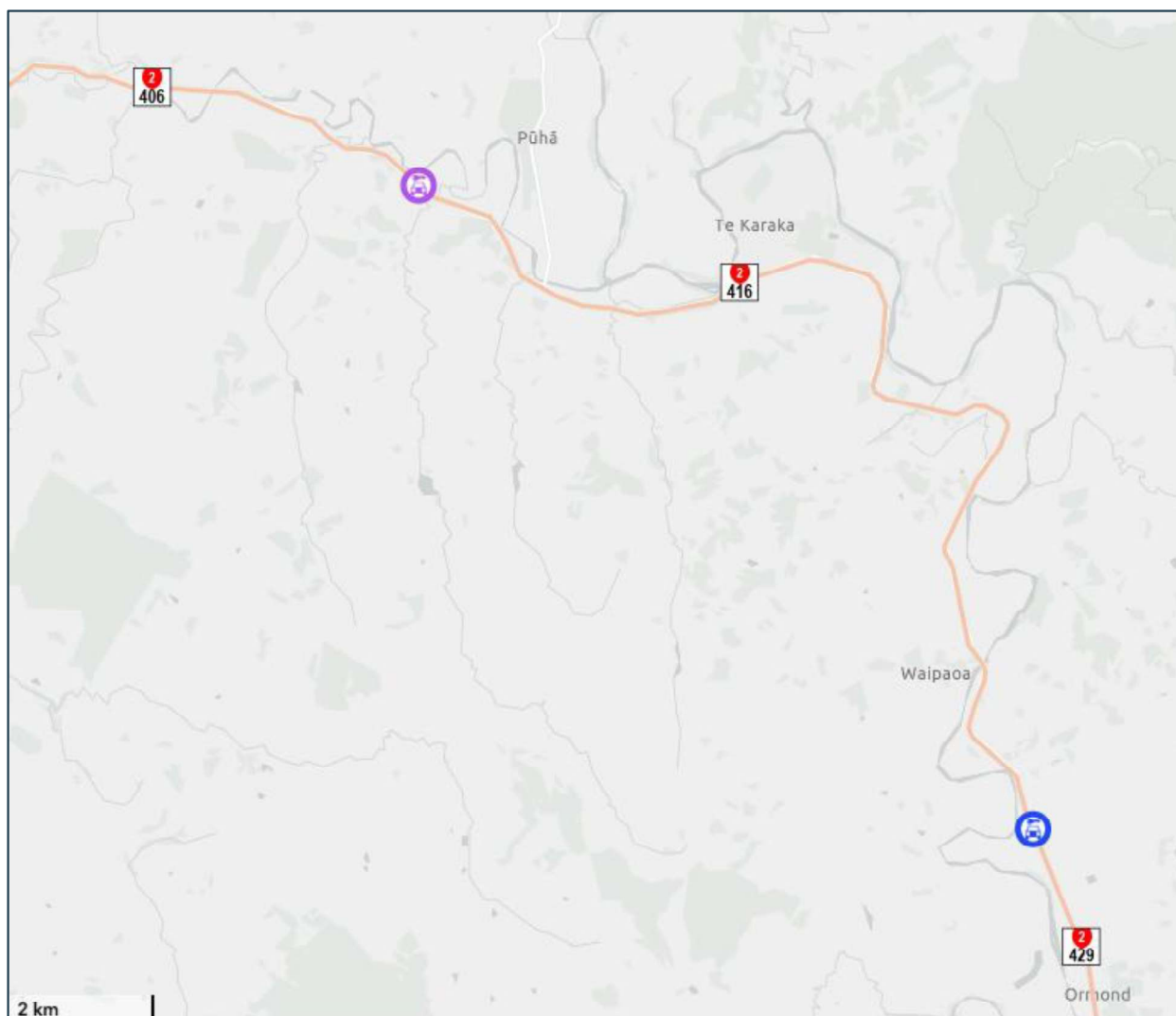


Figure 13: NZTA Traffic Monitoring Stations Map

Existing Resource Consents within the area

Existing resource consents in the area are shown in Figure 14 below. No current resource consents appear to be affected¹ by the project. Figure 15 shows the existing wells in the area. Bore GPO053 / GPO005 (GDC Te Karaka water supply bore) appears to be located where the existing and proposed stopbank is located. However, after liaising with the GDC Asset Management Team, the GDC online GIS records are incorrect. The GDC water supply well is located further to the east and not within the stopbank footprint.

¹ Note that the landowner at 2424 Matawai Road, Te Karaka, was granted resource consent LU107252 to establish and operate an equestrian centre in the Rural General zone under. Any matters regarding the operation at this property being discussed as part of the parallel property consultation process. Other resource consents for water takes are considered in the AEE sections below.

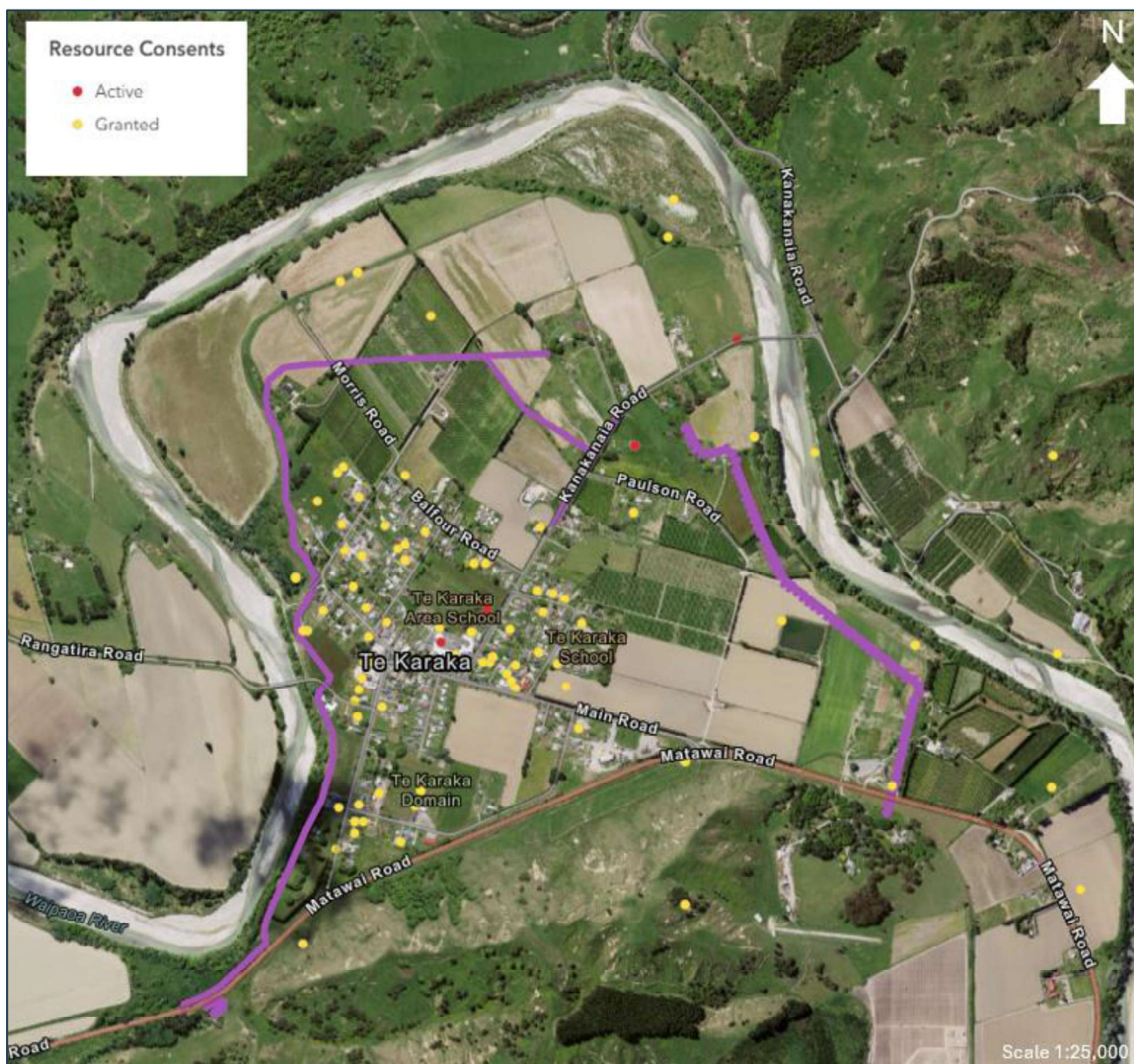


Figure 14: Existing resource consents & proposed stopbank

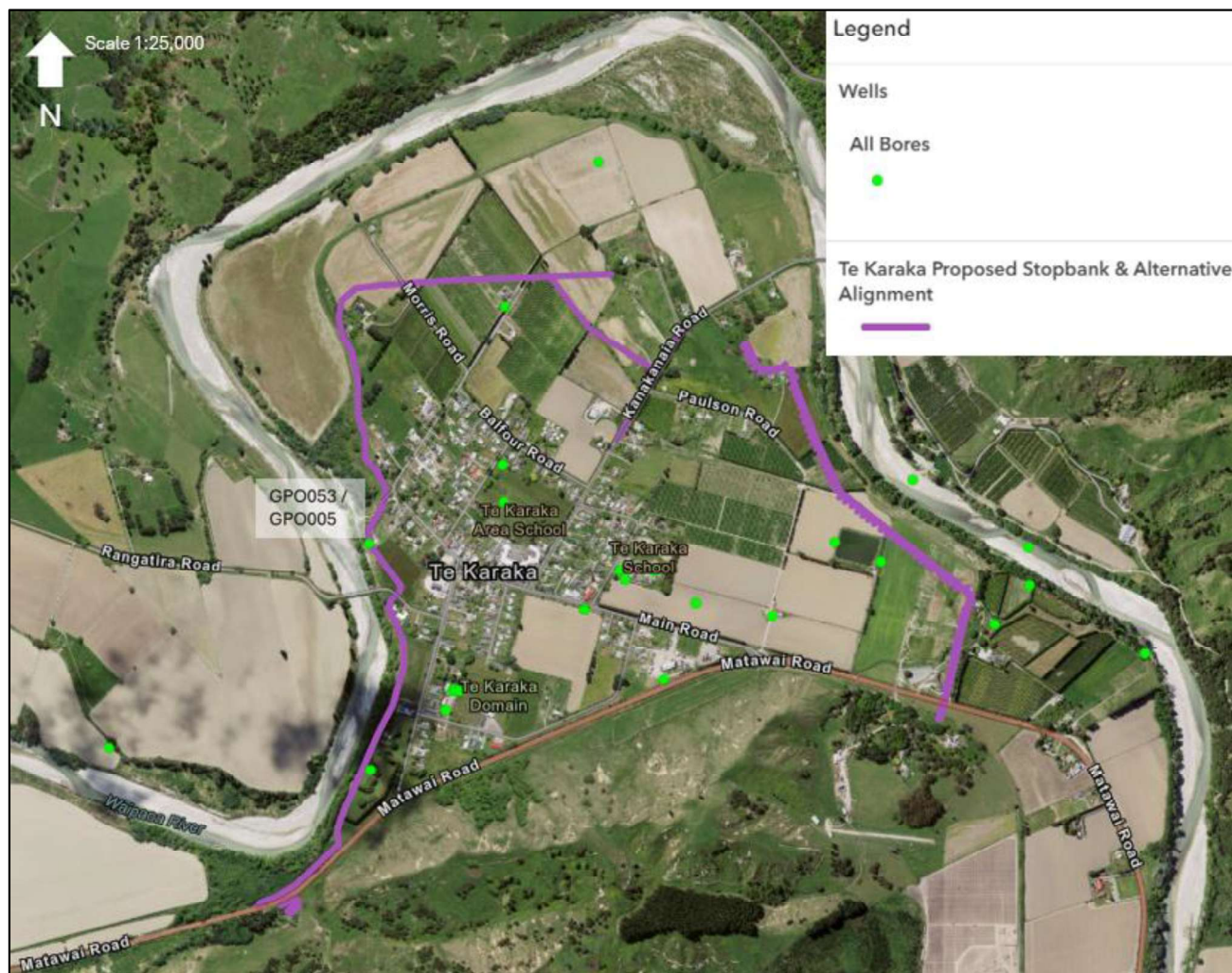


Figure 15: Existing Wells

Ecological Context

An Ecological Impact Assessment (EcIA) has been prepared by SLR Consulting and attached as Appendix 7 of this application. The proposed works area can be divided into two key categories: freshwater habitat and terrestrial habitat as described in the EcIA.

The EcIA provides the following ecological context:

- Most of the flood scheme expansion area has been maintained as grazed pasture or crops since at least the 1940s and is therefore largely comprised of exotic pasture grasses and horticultural crops. It does not provide important habitat for indigenous flora or fauna and has been assessed as having 'negligible' ecological value.
- The riparian vegetation is primarily grey willow (*Salix cinerea*) planted for bank stabilisation dotted with occasional poplar. There is likely crack willow (*Salix fragilis*) also present.



- A review of aerial imagery and the GDC Regional Wetland Assessment (2025) did not identify any wetlands in the existing scheme or within the proposed scheme expansion area. A small area of standing water in the willow shrubland area can be seen on the Tairāwhiti Services map but was not detected during the field visit. It remains unclear if it is a wetland or an area that ponds during heavy rain as part of an overland flow path. Given the nature of the surrounding area, it is likely that any wetland species present would be exotic. Therefore, the potential wetland area (see Figure 16) has been assessed as having 'low' value.
- The Waipaoa River is heavily constrained by surrounding agricultural land use. As indicated by the ecological stream data and water quality data, it is characterised by limited riparian vegetation, nutrient enrichment, and elevated sedimentation with most metrics being below the national bottom line. Despite these degraded habitat characteristics, eDNA sampling confirmed the presence of several fish species classified as At Risk – Declining. On this basis, the ecological value of the freshwater habitat within the Waipaoa River at Te Karaka is assessed as 'moderate'. The ecological value of fish was determined to be 'high'.
- Two At-Risk bird species were recorded in the Te Karaka area over the past 5 years. It is possible birds are using the site of the proposed works for foraging, but the habitat is of low/negligible value. The ecological value assigned for bird species was therefore 'low'. Bats are not known to be using the site of the proposed works but have been identified 12 km away. However, due to the unknown presence or absence of bats in the proposed works area, and that it is possible for bats to utilise the tree habitat on site therefore monitoring and management is proposed.

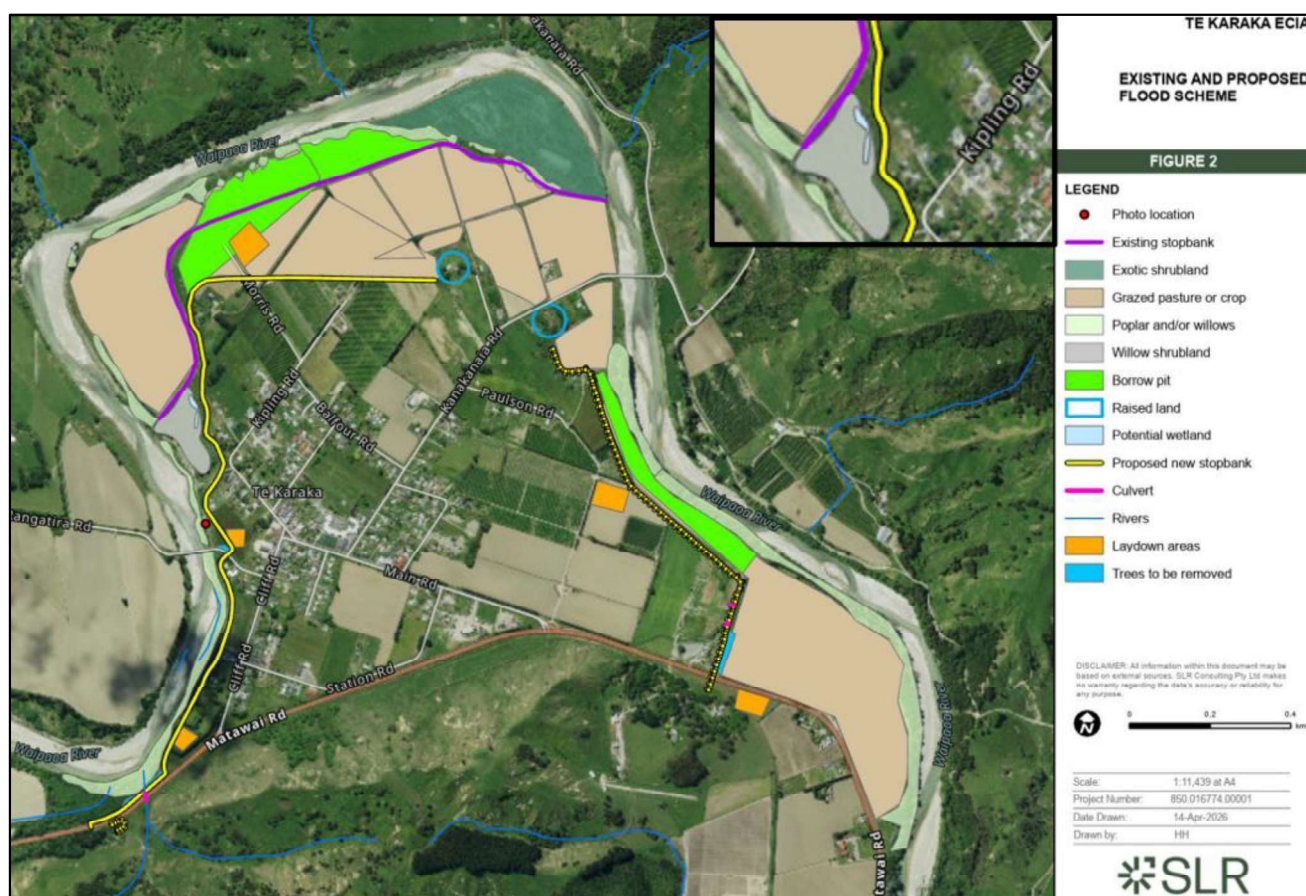


Figure 16: EclA Overview Map

Figure Notes: Potential wetland inset provided showing at least 10m setback from proposed stopbank.

Local geology geotechnical context and productive Soils

Geotechnical assessment (see Appendix 15) is summarised as follows:

- The surficial geology of the sites to comprise of Holocene river deposits (Q1a) and a pocket of Late Pleistocene river deposits (Q3a) of the Pakihi Supergroup.
- The hand auger logs indicated near-surface silty soils with minor sand and clay, underlain by predominantly clayey silt and silty clay to the termination depth of approximately 2 m below ground level.
- The soils were generally described as firm, becoming stiff with depth, and exhibit moderate to high plasticity. Minor sand content was present throughout, locally with coarse sand grains evident.
- Groundwater was not encountered within the investigations.
- The soil description presented on the logs were consistent with fine-grained alluvial soils typical of the Te Karaka area.
- The nearest active fault to the site recorded on the GNS Active Faults Database is the Otoko-Totangi Fault, which is located approximately 6.5 km southwest of Te Karaka. The



fault is classified as active, with normal faulting as the dominant movement sense and down-throw to the south.

- The GDC hazard maps (GDC, 2026) indicate that the proposed stopbank alignment is located within an area mapped as having a moderate liquefaction risk. Soils susceptible to liquefaction are typically granular, non-cohesive, and of low plasticity, with site-specific factors such as groundwater level also influencing liquefaction potential.

As noted above and discussed and mapped in Section 7.4.4 below, the project area comprises of fertile river deposited silt loam soils which are considered highly productive soils.

4. DESCRIPTION OF PROPOSAL

4.1 Overview

The Applicant proposes to undertake flood resilience works within the Te Karaka part of the Waipaoa River to reduce the potential of flooding on the community. The works will involve the upgrade of the existing stopbank to reduce flooding during extreme weather events and achieve the 1% AEP (Annual Exceedance Probability) design level of flood protection.

The proposed works are to increase the size of the floodplain and build a new stopbank south of the existing stopbank. The purpose is to increase the carrying capacity of the flood scheme to protect the community of Te Karaka from future flooding of the Waipaoa River.

The area of the existing floodplain is approximately 39 ha with a stopbank up to 4.5m high. The proposal is to construct a new higher stopbank to the south of the existing structure and increase the floodplain by an additional 50ha (90ha total) providing for additional flood capacity. Being an upgraded flood defence structure, the proposal subsequently dams and diverts water currently overtopping the structure during extreme weather, as well as increasing the height profile of the structure to prevent overtopping in the future.

Two high points in the topography (blue circles in Figure 16) will be incorporated into the new stopbank. The western terminus of the new stopbank will connect to the Rangatira Road bridge. Refer to Figure 17 for the proposed flood scheme.

The proposed works will improve in the mitigation of flood effects and a reduction in potential flood damage in the future.

In summary, the proposed works will include:

- Earthworks associated with the use of the current stopbanks as fill for new stopbanks, borrow pit excavation, road raising activities and ancillary activities;
- Exotic vegetation removal including mature exotic trees (polar and willow);
- Deposition of solid material for the construction of stopbanks and road raising;
- Construction of new or extended culverts at State Highway 2 and along stopbanks;



- Excavation of overland flow paths and construction of new stormwater swale drains including a new stormwater swale drain that flows into the Waipaoa River;
- Road raising of existing roads and highways;
- Relocation of services including power poles and lines;
- Construction of new temporary construction and haulage access tracks to and from the stopbanks and borrow sites and Waipaoa River for water take (and use of existing tracks where possible);
- Temporary vehicle crossing at Kanakania Road for construction vehicles;
- Stormwater discharges during and post construction;
- Water take from the Waipaoa River for construction purposes (mainly dust suppression);
- Dewatering and discharge for construction purposes;
- Works in or near rivers and adjacent to potential wetlands;
- Traffic management and temporary traffic control for lane closures;
- Road layout change to Morris Road;
- Ongoing use of existing farming activities within the scheme (where applicable) including sheep grazing and horticulture;
- Reinstatement of stopbank, including grass seeding or hydro-seeding.

Overall, resource consent is required as a Discretionary Activity under the TRMP with other varying activity types under the higher order NES's. Details of the proposal are further discussed Sections 4.2 to 4.10 below.

4.2 Proposed Stopbank Alignment Options - Location and Key Design Details

The proposal seeks to authorise two alternative alignments. The final alignment will be confirmed prior to construction commencing. The effects assessment set out in Section 6 of this AEE considers the effects from both potential stopbank alignment options.

4.2.1 Preferred option

The proposed stopbank preferred alignment (see Figure 17 and Appendix 4 engineering drawings for details) will be approximately 4.2 km long. The stopbank varies between 1m and 4.8 m in height, with a crest level of between 46.35 m RL and 40.39 m RL in New Zealand Vertical Datum 2016 (NZVD 2016).

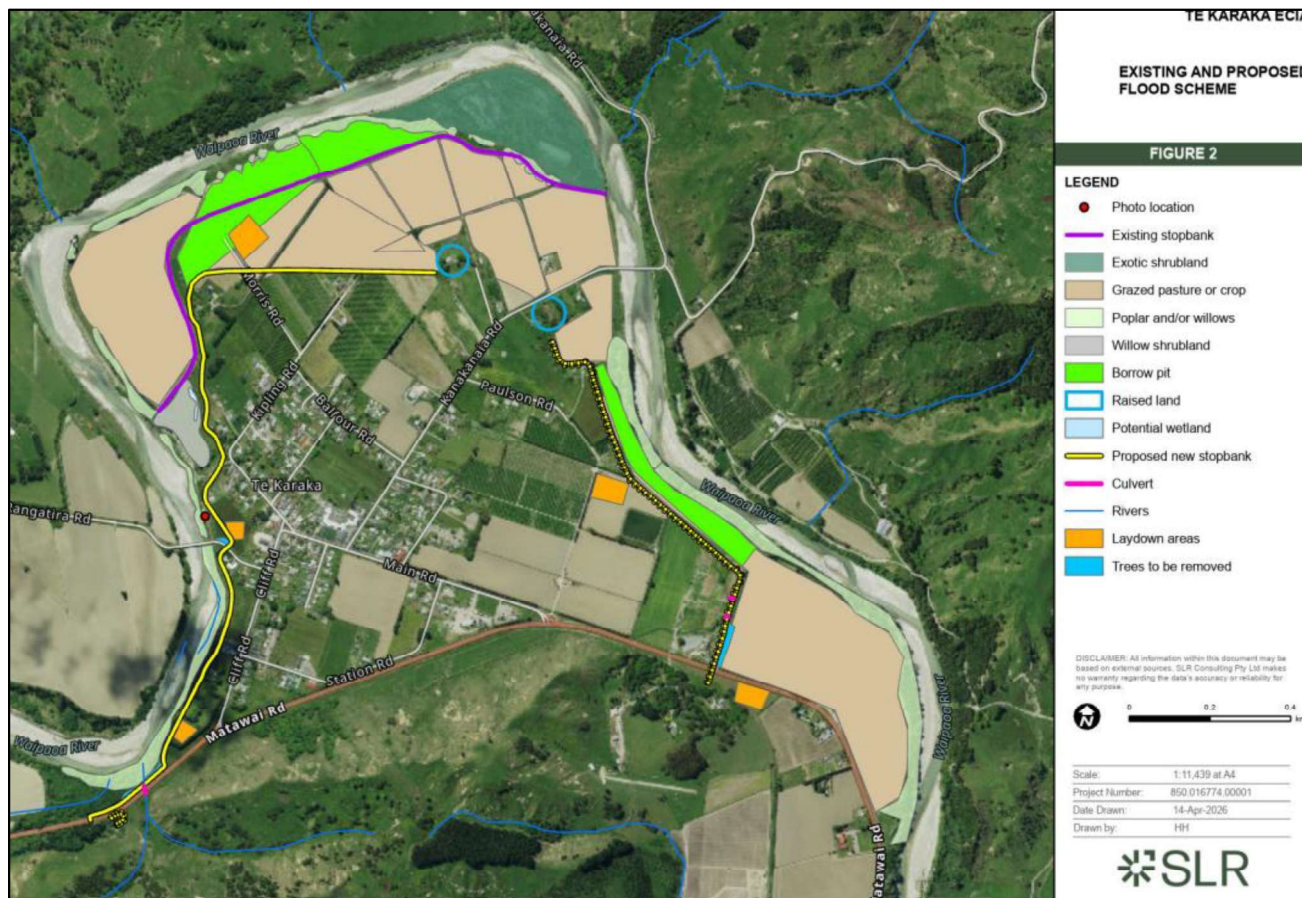


Figure 17: Existing & Proposed Flood Scheme (preferred stopbank alignment)

The proposed stopbank is to be constructed with a 2:1 side slope and a crest width of 4 m. The design profile increases from the original '6ft (1.8m) top width', to a '4 metre top width' over the stopbank crest, which has the following advantages:

- Stopbanks are more robust, which is particularly important if the floodwaters overtop,
- Reduces risks related to seepage/piping through the stopbank, as structure becomes quite a lot wider,
- Provides an all-weather access along the crest for asset inspections, maintenance and flood monitoring purposes,
- Provides an ability to add up to 0.5 metre in height (if required in the future) without further widening of the bank,
- Opens up opportunities for utilising the stopbank for recreation (e.g. cycling, walking). Note that public access to the stopbanks will be restricted and walking and cycling does not form part of the proposal.
- The typical design of the stopbanks is to upgrade (raise & widen) the existing stopbank alignment on the riverside face of the stopbank.

Figure 18 below shows a typical cross-section of the proposed Te Karaka stopbank.

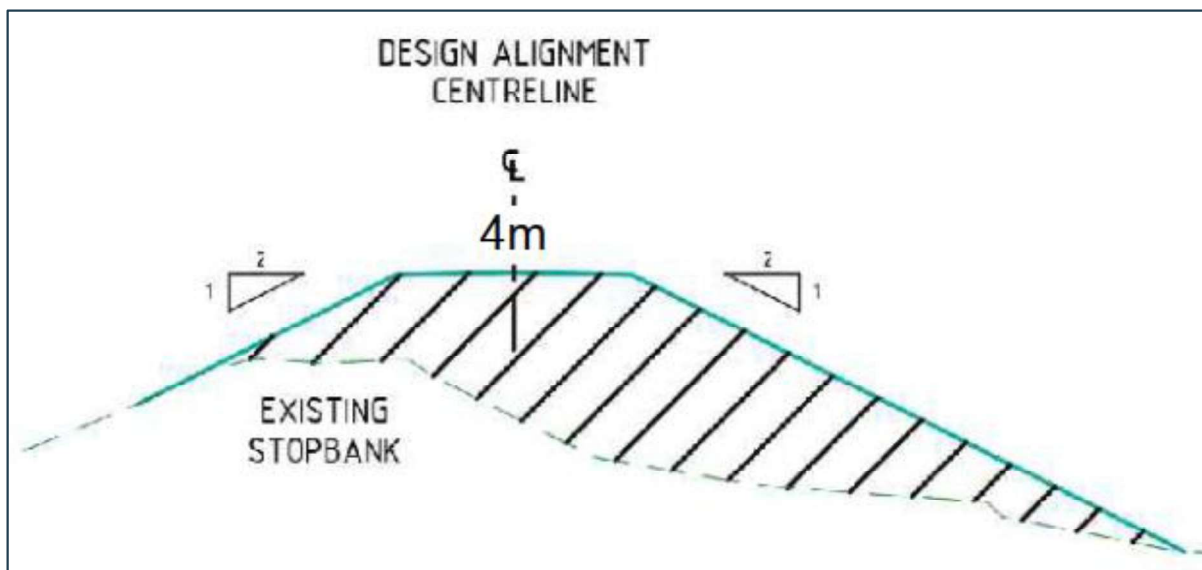


Figure 18: Proposed stopbank general geometry. Civil Project Solutions, 2026.

4.2.1 Design Event, Freeboard and Climate Change

The design has been based on the same level of service used to upgrade the WRFCs which is nearing completion in 2026. This was based on a 1% AEP (100-year ARI) analysis undertaken in 2017 including climate change assumptions. The design event was the equivalent of Cyclone Bola + 25% which is 5,625 cumecs. The same design flow was used to the Waipaoa scheme both for equity, and so that the Te Karaka scheme did not adversely impact the WRFCs.

For the upgraded design, a freeboard amount of 600mm has been applied consistently across the Scheme. Again this gives consistency with the WRFCs which protects Gisborne City. The application of freeboard is not meant or designed to convey the design flow. Freeboard is to account for factors such as; modelling inaccuracies, survey errors, aggradation / gravel movement, super-elevation uncertainties, velocity head, channel roughness variation, localised debris build-up, future differential settlement of the constructed stopbank and/or of the underlying ground, and future poor land management practices which could damage or erode the stopbank.

The design flow was chosen based on the 100-year return period design event plus an increase of 25% to account for an increase in rainfall intensity due to the effects of climate change. (i.e. $4500 \times 1.25 = 5625$). This is based on the 2017 analysis undertaken for the WRFCs upgrade. A warmer atmosphere can hold more moisture (about 8% more for every 1°C increase in temperature). Increased rainfall intensity has obvious implications for increased flooding. A temperature increase of 2.1 degrees has been assumed (i.e. $2.1 \times 8\% = 16.8\%$ increase in rainfall) based on the Ministry for Environment Guidelines (2008).



4.2.2 Over Design Event

The proposed Scheme upgrade provides a theoretical equal level of protection up to the 2090 1% AEP event. Should an event larger than this event occur, overtopping of the stopbanks or stopbank failure is likely to occur. However, predicting where this overtopping might occur is difficult with any certainty. Noted that the Scheme upgrade does not cater for such events in so much as directing water down a spillway to "sacrifice" one area to save another. In a super design event we would expect stopbank overtopping or failure to typically occur at the top end (upstream) of the scheme first and progressively move downstream, but this is unlikely to be uniform.

4.2.3 Road layout changes

The proposed stopbank will traverse Morris Road. The land on the 'river side' of this road will be purchased and the road will end where the stopbank crosses at this point. The proposed Morris Road partial 'road stopping' is governed under the LGA and would be aligned with the PWA process (refer below). At the end of Kipling Road, the stopbank would traverse the paper road part of the road and would also require a road layout amendment. The Applicant will work with the GDC roading team to confirm the new road layout and requirements during detailed design. Any road changes would be subsequently confirmed with Land Information New Zealand (LINZ). The changes to the road layouts will run in parallel to the resource consent process or both processes could potentially be heard together. Further details on this parallel process or combined process will be worked through in due course.

4.2.4 Alternative option

As mentioned above, an alternative stop bank alignment is also proposed to be consented for flexibility should the Wi Pere Trust property need to be avoided as shown in Figure 19. The alternative stopbank alignment would be designed to the same design parameters and cross section as outlined above for the preferred alignment. Proposed consent conditions have been provided which require the confirmation which alignment is confirmed for construction. Assessment of environmental effects has also covered the alternative alignment option.

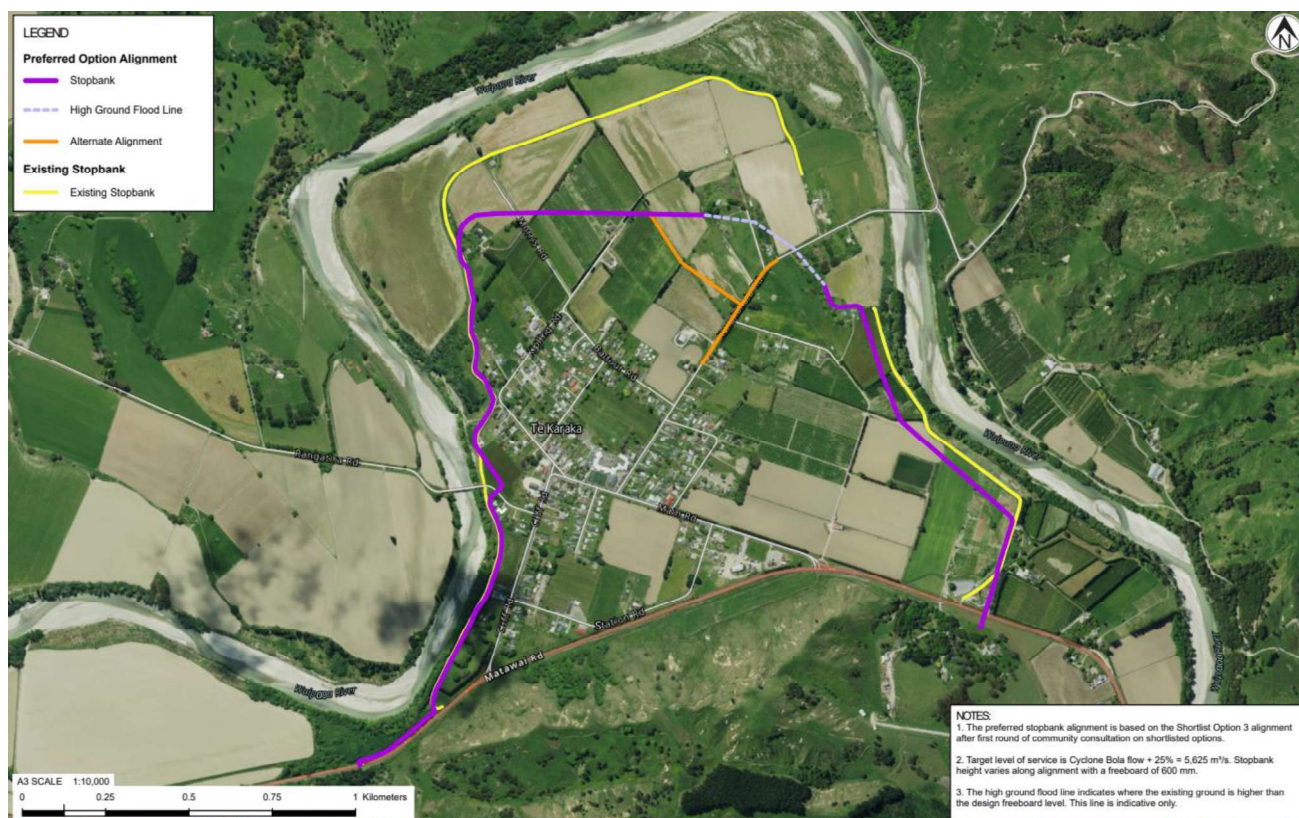


Figure 19: Proposed and alternative stopbank alignment

4.2.2 Localised stormwater

At some stopbank locations (see Figure 20) new and upgraded stormwater drainage channels / swales will be excavated and constructed set back 2m from the toe of the stopbank. The swales will be up to 4m in width and 1.5 m in depth (refer to the drawings in Appendix 4). At the northern end of the project (see Figure 20 - label 'Sheet#3') an existing stormwater drain that flows into the Waipaoa River will be deepened and widened. The new drains will rely on gravity i.e. pumps are not expected to be needed.

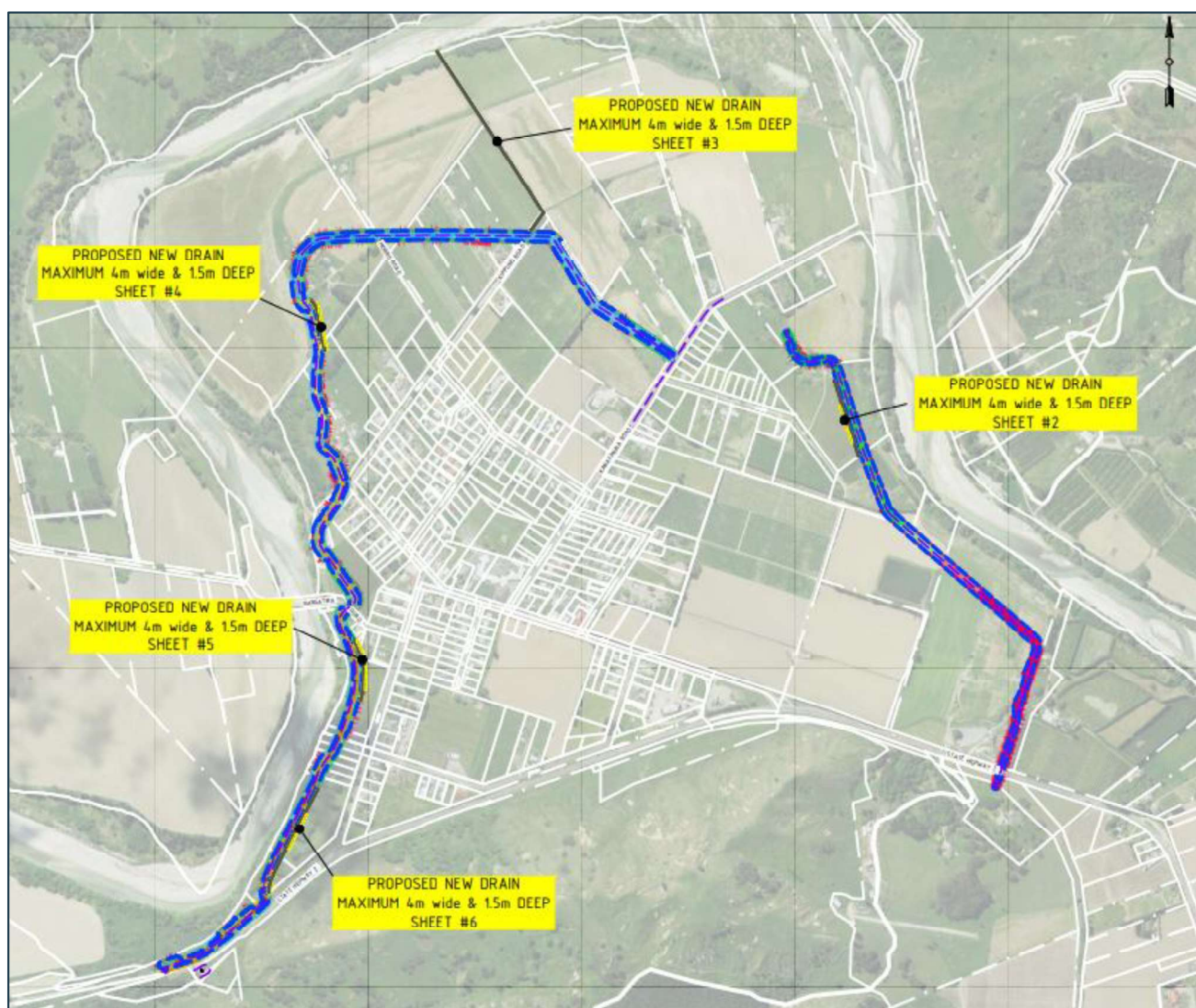


Figure 20: Proposed new and upgraded stormwater swales

4.3 Consequential Flood Risk, Mitigation Options and Compensation Approach

Consequential flooding as a result of the proposed stopbank on the north side of the river has been modelled by DHI consultancy which informed the consequential flood risk assessment. Land River Sea Consultancy also undertook a modelling peer review. Based on the findings of the consequential flood risk assessment and its aforementioned companion documents and hydraulic model peer review, the scope of works for the proposal are discussed below.

Potential mitigation options for properties with an increased flood hazard risk profile as a result of the stopbank form part of the scope of the proposal. Options include:

- Raising floor levels,



- Relocation and compensation,
- No mitigation (if preferred by landowners and residents) and compensation.

Localised bunds have been considered but discounted as an appropriate option as these would reduce velocity but not meaningfully change potential flood levels at the affected properties. Mitigation of increased flood risk to local roads and bridges has been developed in the form of updates to the local Te Karaka flood evacuation plan as proposed consent conditions.

4.4 Proposed Road Raising

To facilitate and tie into the proposed stopbanks, existing roads are required to be raised by up to 3m to provide adequate grade and sight lines in accordance with GDC and NZTA standards. The concept design drawings, engineering details and health and safety considerations of the design are provided in the Road Raising Concept Design Report (WSP) as provided in Appendix 5.

Roads are proposed to be raised at up to four locations (see Figure 21) depending on if the alternative stopbank alignment is required:

- SH2 (2424 Matawai Road)
- SH2 just south of Cliff Road
- Rangatira Road – adjacent to the bridge
- Kanakanaia Road – alternative stopbank alignment location

Roading pavement type will be reinstated on a like for like basis and to GDC and NZTA standards.

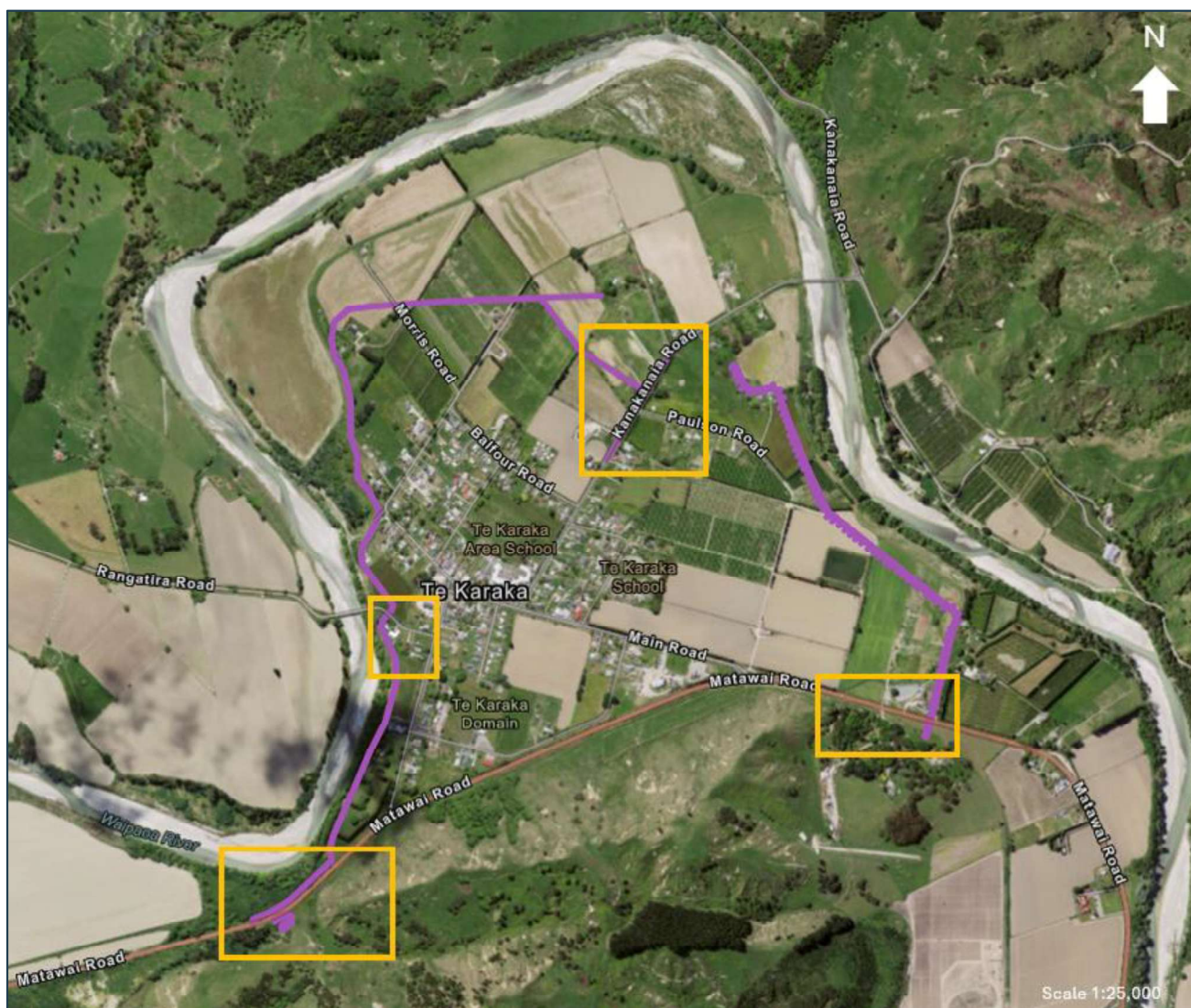


Figure 21: Road raising locations

4.5 Earthworks, Borrow Pits, Land Disturbance & Laydown Areas

Earthworks/land disturbance will be required to excavate suitable material (“borrow site”), shape the embankment, and compact the fill to create the stopbank structure. The proposal will involve approximately 350,000 m³ of earthworks over an area of approximately 80 hectares. The cut and fill plans showing the extent of earthworks and relevant cut and fill volumes are provided in Appendix 4.

The northern-most 7 ha of grazed land (labelled ‘borrow pit’ in Figure 4) borders approximately 600m of riverbank and will be excavated to approximately 2.5 metres below the current topography to collect fill for the new stopbank. Excavation will not be deeper than the groundwater level. Topsoil will be removed and stockpiled, for use for reinstatement following completion of excavation of borrow material. Fill from the existing stopbank will also



be excavated and reused. The borrow site area will be reinstated into pasture utilising the stockpiled topsoil and seeding or alternative suitable methods. Side walls for the borrow area will be battered to a maximum final slop of 1 (v):3(H).

Disturbance works will result in the deposition of material, to one of the following locations:

- A temporary stockpile location adjacent to the river;
- Onto land within the floodplain; and
- Onto land outside of the floodplain.

Indicative areas for lay construction down areas and site offices are shown in Figure 17 above and in the Constructability Assessment report (see Appendix 11) and are listed below:

1. Morris Road
2. SH2 Western Section
3. Rangatira Road
4. Paulson Road
5. SH2 Eastern Section

Laydown and site office areas (up to ~0.5 ha each in size) are generally used for storing various construction materials and machinery and:

- site office compound with site facilities such as offices, lunchroom, toilets e.g. portacoms and 'portaloo's'.
- bulk fuel storage may also be required depending on the contractor's requirements.
- any bulk fuel storage tanks would utilise specific containment controls.
- dangerous goods will be stored within locked shipping containers such as diesel, petrol, oils, grease.

All areas will generally be reinstated on a like for like basis at the completion of the works.

Landowner approvals for access and use of the land will be sought and obtained prior to construction.

4.6 Vegetation Removal and Reinstatement

The proposed works described above will result in removal of vegetation along the project extent area in the location of the proposed stopbank. Vegetation clearance will involve the removal of low growing vegetation such as grass, weeds and shrubs as well as the occasional tree or group of trees (willows and macrocarpa). Any removal of mature trees will be undertaken outside of the native bat roosting season (April to October) unless native bat surveys and investigative work is undertaken in accordance with Department of Conservation and Wildlife Act 1953 requirements.

Replanting of vegetation and trees removed will be subject to detailed design, landowner agreements and requirements from GDC Roading team. The majority of exotic trees removed are not proposed to be replaced but some will be replaced where practicable on



a like for like basis and as agreed with landowners through a parallel civil agreement and PWA process.

4.7 Waipaoa River Water Take & Dewatering

Water is proposed to be taken from the Waipaoa River using mobile water take intake pumps with a 1.5mm mesh wire screen. Up to 1,000 m³/day of water at a maximum rate of take of 30 litres per second is proposed to be taken for general construction purposes such as dust suppression, concrete 'make-up' water, truck wheel wash (if required) and reinstatement activities (minor irrigation of grass and vegetation).

A water meter with a logger will record the volume and rate of water taken with records provided to GDC regulatory team. Water is proposed to be taken near to where earthworks will be occurring via existing river access generally between the two points² (see yellow lines) shown in Figure 22 below. Water is proposed to be taken from the Waipaoa River – Poverty Bay Flats catchment which is currently over-allocated based on an annual volumetric basis but under-allocated based on a combined instantaneous rate of take (L/s).

Based on groundwater level in the area, dewatering is highly unlikely to be needed during construction. Taking a conservative approach and to provide flexibility certainty for the construction contractor, a dewatering and discharge consent is also being sought. Given that the need for dewatering is unknown and location is not known at this point in time (consent is sought for the entire project area), a management plan approach is proposed as set out in the proposed consent conditions.

Dewatering would consist of a mobile pump that pumps out any unwanted shallow groundwater / surface water from an excavation. The exact rate of take and discharge is unknown but is typically around the 20 litres per second for construction projects of this scale. The water would be pumped to an appropriate location like an erosion and sediment control device or pond, or a grassed area or grass berm, or to part of an existing GDC stormwater system (after settling out any solids to meet TRMP total suspended solids or turbidity standards through an approved method).

² Points of take will be approximately between E2022645 N5730332 to E2026303 N5729923 NZTM.

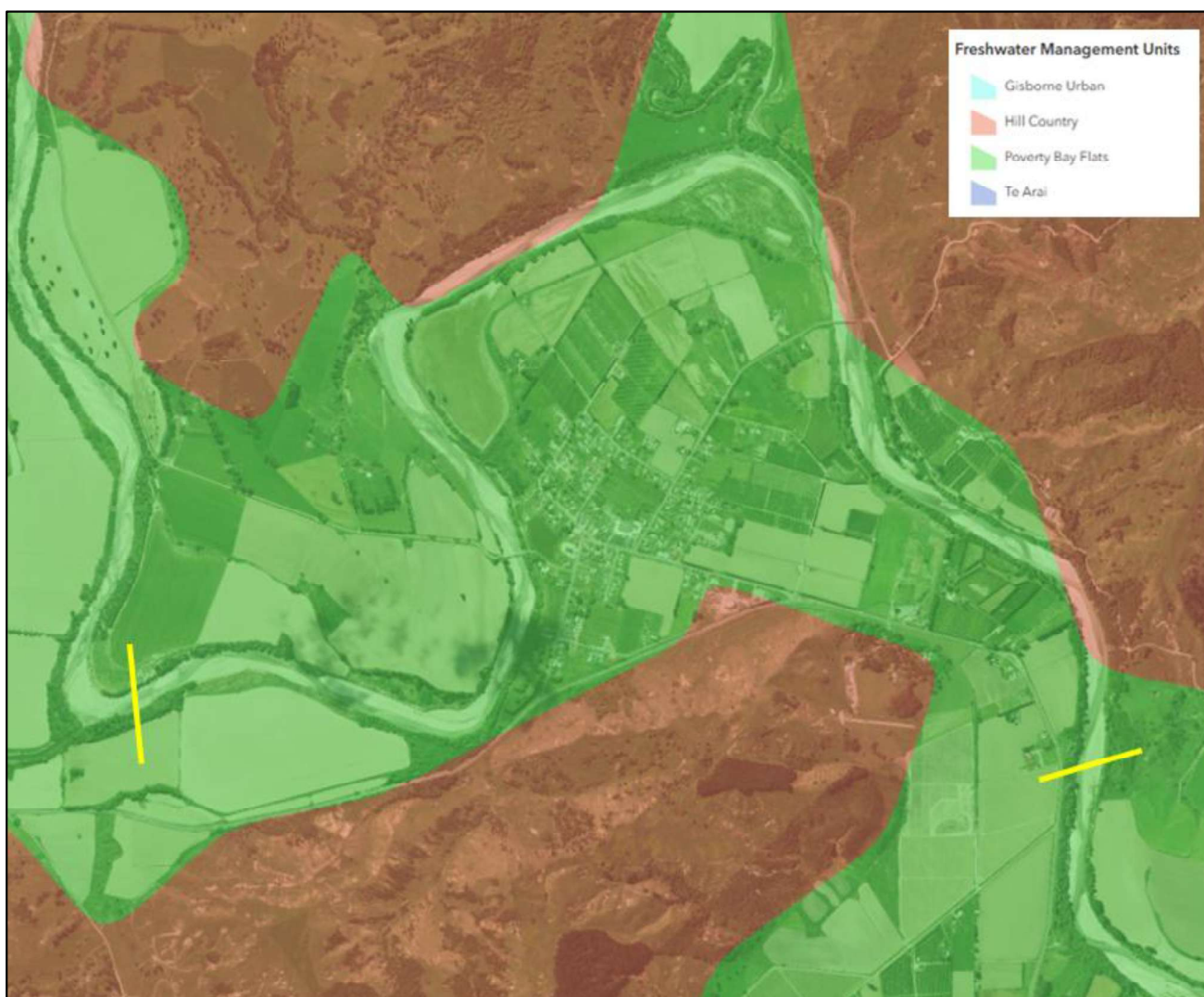


Figure 22: Proposed water take point of take area & water quantity catchment zones

4.8 Culverts

Multiple small-scale culverts along the stopbank will be constructed in overland flow path areas which are not considered rivers or streams as defined by the RMA and do not require consent. These culverts will be designed by the engineering design team or construction contractor in due course.

An existing twin culvert along SH2 will be extended by approximately 20 metres on the downstream side which requires resource consent. The concept design (see Appendix 17) key features are:

- have either an automatic or passive flood gate
- be designed with a length, height and width to support flood flows based on the existing level of service and the SH2 road corridor requirements



Subsequently after the concept design was provided, the Applicant has decided to improve the perched nature of the culvert and fish passage by proposing to add a ramp at the downstream end of the culvert. The ramp design will be developed through the next design phase and provided for review and certification.

The culvert extension design parameters and requirements, fish passage requirements and certification and management plan approach are set out in the proposed consent conditions. The culvert will be designed by the engineering design team or construction contractor to meet all relevant RMA and NZTA requirements.

The existing and proposed culvert is along SH2 / Matawai Road at E2024034 N5730117 (NZTM) as shown in Figure 23 below.



Figure 23: Existing and proposed culvert location map

4.9 Construction Management, Methodology & Timing

Contractors to undertake the works are yet to be determined. Contact details of the project site manager and a detailed construction methodology will be provided to the GDC Regulatory Team prior to the commencement of works via a Construction Environmental Management Plan (CEMP). A Constructability Assessment report (see Appendix 11) has been undertaken which informs this section and is summarised below.

The following outlines the likely methodology for undertaking the proposed stopbank works. The exact details will be determined by the contractor along with the staging of the works:



- a. Establish working site (remove fencing, spray grass, create workers compound) and erosion and sediment controls.
- b. Strip topsoil from existing stopbank. The required depth of stripping will typically be around 0.2m to 0.5m. This work will be undertaken by a combination of bulldozer, grader, or excavator. Material will be stockpiled for reuse.
- c. Once the foundation is prepared, material from the existing stopbank and borrow pit will be placed, spread, and compacted using truck, excavator, bulldozer or roller until design height and slope batter is achieved.
- d. Grass will be seeded directly on the raised stopbank and any exposed earthworks areas will also be grassed.

The indicative SH2 road raising sequence of works is as follows:

1. Relocate or protect impacted services (gas, water, and overhead power lines).
2. Construct temporary road widening to create a safe working area for the permanent works.
3. Construct the road raising embankment in lifts along one lane at a time using a stop/go lane closure traffic management.
4. Switch the live traffic over onto the partially lifted lane, continue to fill the other lane.
5. Continue to fill single lane width whilst switching traffic back and forth until the design level is reached.
6. Carry out surfacing works.
7. Move traffic onto the newly constructed road.

The indicative SH2 culvert extension sequence of works is as follows:

1. Construction will commence with tree and vegetation removal, stabilised construction access and haul road over the existing culvert and going back to the adjacent site compound.
2. Erosion and sediment controls, dewatering works, and works in existing watercourse will be in accordance with the ESCP and GD05 which will be confirmed by the Contractor during ESCP approvals. Temporary high and low flow management will likely be required. A typical approach may include a Decanting Earth Bund (DEB) at the upstream end and temporary pipes inserted through the existing culvert. This will allow a dry working environment to complete the works.
3. The site will then be stripped of all existing topsoil and buried organic matter within the proposed work area. Works in the existing watercourse shall comply with the resource consent conditions.
4. After completion of gas main refurbishment, the existing concrete haunching around the pipes at the outlet will need to be broken away and removal of any unsuitable foundation material.
5. The new culvert pipes will be lowed into place and rested on approved foundation and bedding material.
6. Approved backfill will then be placed over the pipes and tested as per the geotechnical engineer requirements.



7. The new outlet structure will be formed after the last pipe has been placed and the downstream receiving creek regraded as per design requirements.

Indicative construction sequencing for the other road raising parts of the project are detailed in the Constructability Assessment report (Appendix 11).

Works will generally occur during low-flow periods and during dry weather. The indicative construction program is:

- Season 1: Enabling Works and Main works construction October 2026 to May 2027
- Season 2: Enabling Works and Main works construction period October 2027 to May 2028
- Reserve Season: Close outworks for final minor works and ancillary activities October 2028 to May 2029

The likely construction sequence is as follows:

- 1) Site establishment
- 2) Land Remediation
- 3) Electrical relocation works
- 4) Enabling works and Environmental Controls
- 5) Existing gas main refurbishment works
- 6) Culvert extension on SH2
- 7) Bund around historical train tunnel portal
- 8) SH2 road raising (western section)
- 9) Western Stopbank construction
- 10) Rangatira Road raising
- 11) Kanakanaia Road raising
- 12) Eastern Stopbank construction
- 13) SH2 road raising (eastern section)
- 14) Disestablishment

The construction staging and sequencing would be determined through the procurement phase by the contractor.

Hours of construction and timing will be as follows:

- Works hours will generally be 6.00am to 7.00pm each day, Monday to Saturday (excluding public holidays)
- The start time is to allow for erosion and sediment control measures to be implemented, monitored and checked. The use of dust suppressants is generally more effective if they are first used in the early morning
- The broader working hours will enable the works to be completed as soon as possible
- As outlined below, noise will be managed according to the long-term duration limits set out in Table 2 and Table 3 of NZS 6803:1999



The outline of the requirements of the proposed CEMP is provided in below in the proposed consent conditions section. It is proposed that a detailed CEMP is required to be submitted and certified prior to works occurring.

In accordance with the CEMP and proposed consent conditions, the key measures to be implemented will include but not be limited to:

- a. Erosion and Sediment controls will be established in accordance with an Erosion and Sediment Control Plan (ESCP). Note that the Constructability report includes a draft ESCP.
- b. No machinery will enter the wetted areas of the river.
- c. A clean machinery protocol will be adhered to, ensuring no pest plant species are introduced to the site.
- d. No machinery refuelling or fuel storage shall occur at a location where fuel can enter any waterbody.
- e. Spill kits will be located on site for the duration of the works.
- f. Exclusion of public from the works area.
- g. Signage with contact details of the consent holder and contractor details.
- h. Works will be staged to minimise the area of ground exposed to erosion at any one time.

Indicative off-road and on-road haul routes from the borrow pits to the stopbank construction locations are shown in Figure 24 and Figure 25. Haul roads are temporary off-road tracks that will be required to transport excavated material from the borrow pits to the new stopbank construction location along the proposed alignment. To minimise environmental impacts, a practical approach is to create a haul road that runs parallel to the new stopbank footprint. The haul road would need to be wide enough to accommodate heavy earthmoving plant travelling in both directions. The Contractor would need to confirm the preferred haul road construction and layout, but a typical allowance would be a 10m wide haul road running along the toe of the new stopbank.

A temporary heavy plant road crossing at one or two locations will likely be required on Kanakanaia Road to allow transportation of fill material from the northern borrow pit to the eastern stopbank construction location. Haul routes are the on-road routes the construction traffic will likely follow to transport excavated material from the borrow pits to the new stopbank construction location along the proposed alignment. They will also be utilised for transporting various other materials around the site.

Due to typical maximum efficient haul distances, the section between SH2 and Rangatira Road will likely require the fill material to be transported via the on-road routes using truck and trailer. Due to the tight nature of the stopbank construction corridor, the truck and trailers would offload the material at the western SH2 compound. From there Articulated Dump Trucks (ADT) would likely be used to transport the fill material to the stopbank construction location.

Temporary traffic management controls may be implemented at designated Site Access Points to manage the increased truck movements. Sealed access points and wheel washes can be implemented if debris on the road become excessive from the truck movements.

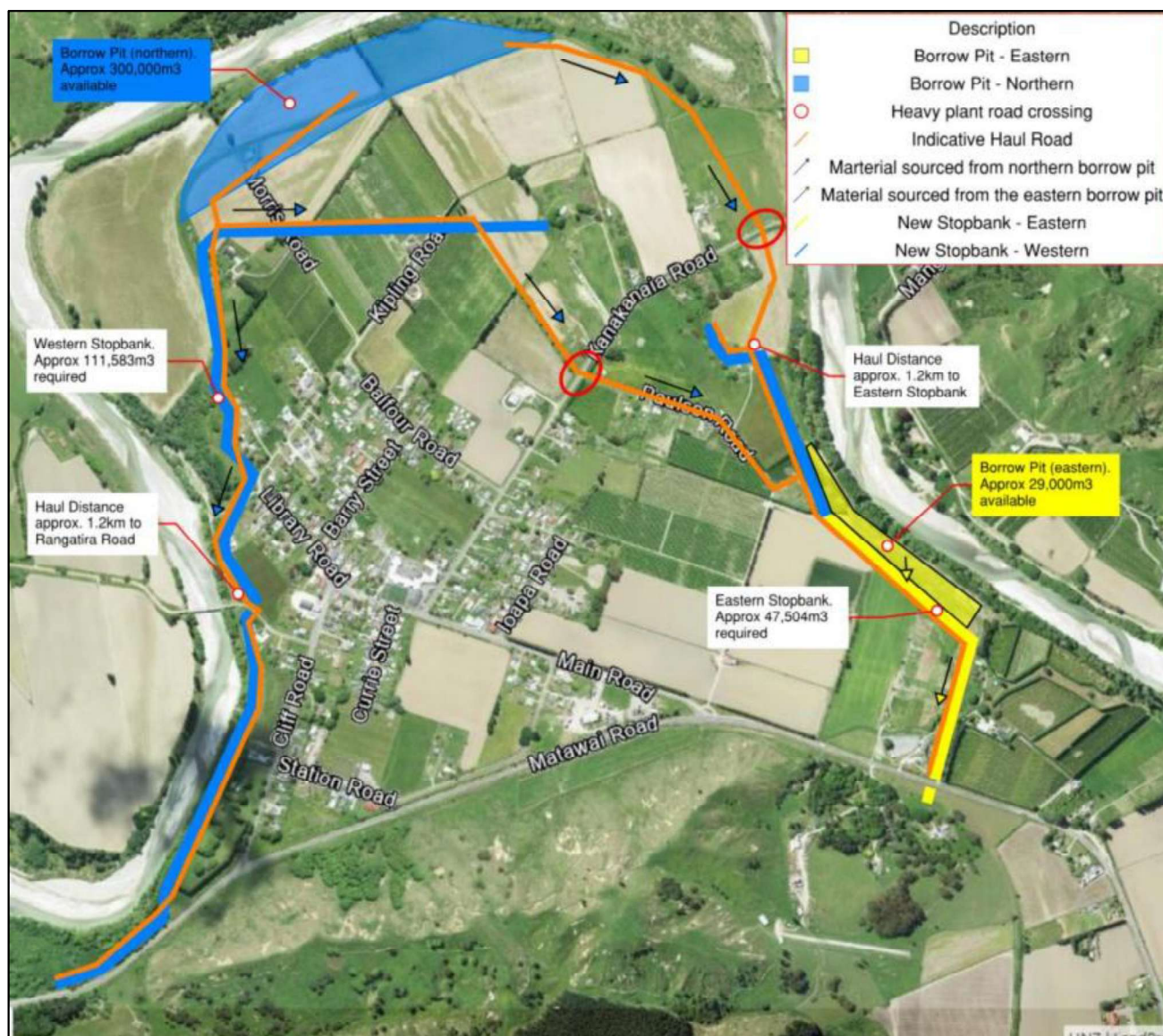


Figure 24: Indicative off-road haul road layout

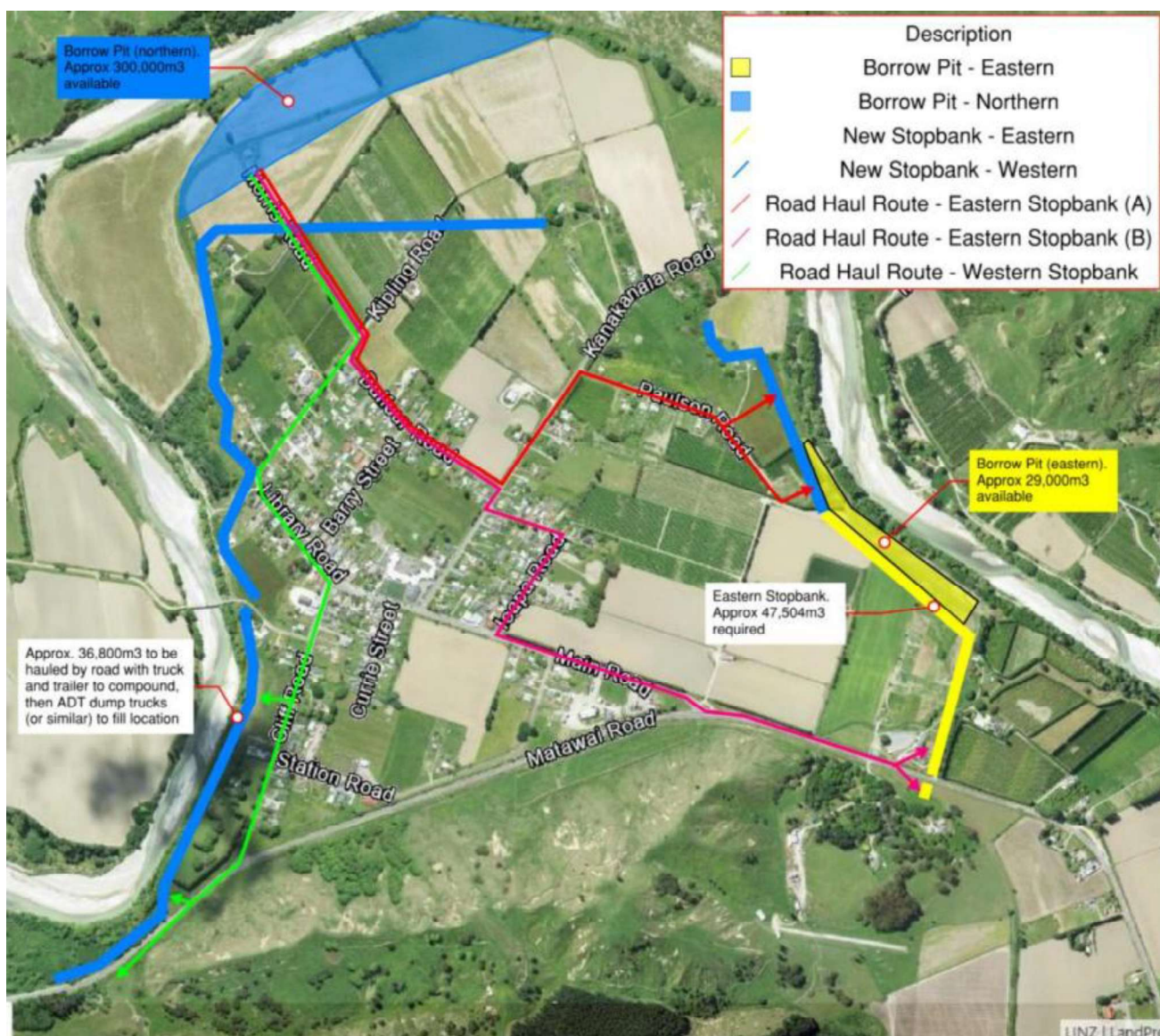


Figure 25: Indicative On-road haulage routes

4.10 Property & Compensation Approach

Agreements to acquire or access the relevant land are currently being worked through with the relevant landowners via the PWA process where landowners will be compensated fairly for full or partial acquisition where relevant. The PWA provides a clear framework for land acquisition, either by agreement or compulsorily, with the objective of placing affected owners in a “no better and no worse” position as a result of the Project.

Land requirements plans (LRP) are currently in draft form. Amendments will be required, particularly in relation to temporary occupation areas. In most cases, a stopbank results in



exclusive occupation of land and therefore fee simple acquisition is generally more appropriate than an easement. However, where the stopbank is traversable and can support ongoing access that is sufficient for the affected land use, an easement may be appropriate to address severance issues.

Where soil is excavated from private land for borrow sites, a PWA lease covering the duration of works and reinstatement may be used. The applicant has identified properties not directly affected by the Project footprint that may be injuriously affected by changes to flood hazard levels. If flood hazard changes result in a negative impact on market value, owners may be entitled to compensation.

5. REASONS FOR CONSENT

An assessment of the proposal against the relevant statutory documents has been undertaken and the following reasons for consent have been identified as summarised below. A detailed assessment of the reasons for consent is provided in Appendix 9.

5.1 Activities Enabled as Permitted Activities

We have identified within the TRMP, the following activities and threshold which can be relied upon for works to remain as permitted:

- Solid discharge to land up to 500m³ – Rule C6.2.12(2)
- Discharge of agrichemicals - Rule C6.2.15(1)
- Exotic vegetation clearance up to 100m² – Rule C6.4.2(2)
- Farming in rural zones - Rule DD4.6.1A(1)
- Permanent and temporary discharges of stormwater from the stopbanks, new drainage swales and roads including during construction - Rules C6.2.3(2), C6.2.3(7) and C6.2.3(8))
- Storage of hazardous materials / Establishment and operation of hazardous facilities (Rule C5.2.6(1))
- Alterations to existing residential or rural buildings for house floor level raising under Rule DD1.6.1(2) and Rule DD4.6.1A(9)

While this is the case, any works which are above this threshold/not listed result in the application being restricted discretionary or discretionary. The relevant rule triggers have been outlined below.

The exact details for the potential floor level raising at some houses subject to increased flood risk requiring compensation or mitigation is still to be confirmed. Floor level raising at houses at TK29 / 108 Kanakanaia Road, TK30 / 23 Mangaoae Road and TK33 / 96 Kanakanaia Road (zoned rural residential or rural general) would unlikely require resource consent (but would likely need building consent) if the floor levels were raised and the houses remain at the same location.



Note that some existing farming activities within the proposed flood scheme area may continue to operate where possible (as permitted activities where relevant) and some farming activities 'river side' of the upgraded stopbanks would cease. As noted above, the final details of this land is subject to property negotiations and future lease arrangements.

Natural Hazard works are also permitted under Regulation 51 of the National Environmental Standards for Freshwater (NES-F). This is discussed further in Section 6.2 in relevance to the proposal.

5.2 Tairāwhiti Resource Management Plan (TRMP)

A summary of resource consents required under the TRMP is provided in Table 5:

Table 5: Reasons for Consent - TRMP

Rule	Description	Activity Status	Proposed activities
C6.1.2(6)	Surface water take Groundwater / shallow surface water / dewatering take	Restricted Discretionary	Up to 1,000 m ³ /day of water at a maximum rate of take of 30 litres per second is proposed to be taken for general construction purposes from the Waipaoa River Dewatering for construction purposes
C6.2.3(13)	Point source discharge to land or waterbodies	Discretionary	Dewatering discharge to land or water New drainage swales (if considered not permitted under Rules C6.2.3(2) or C6.2.3(7)
C6.2.12(7)	Solid Discharges to Land	Discretionary	Stopbanks, borrow pit excavation and road raising
C6.3.2(18)	Use and erection of a culvert	Discretionary	Erection of the SH2 culvert in the unnamed tributary of the Waipaoa River
C6.3.2(19)	Excavation in the bed of a river for the erection of a culvert	Discretionary	Erection of the SH2 culvert in the unnamed tributary of the Waipaoa River



C6.3.2(20)	Deposition of sediment during construction for erection of culvert.	Discretionary	Erection of the SH2 culvert in the unnamed tributary of the Waipaoa River
C6.3.13(4)	Damming, diversion and drainage of streams, rivers and lakes	Discretionary	Stopbanks, road raising and culvert with floodgate
C6.4.5(16)	Vegetation clearance within the Riparian Management Area (Schedule G15)	Restricted Discretionary	Stopbanks, borrow pit excavation and road raising
C6.4.5(20)	Land disturbance that exposes or disturbs more than 10m ² of earth per contiguous 100m of Riparian Management Area or exposes or disturbs more than 10m ² of earth over any 24 month period.	Restricted Discretionary	Stopbanks, borrow pit excavation and road raising
C7.1.6(9)	Land disturbance and vegetation clearance activities which do not comply with the General Standards	Discretionary	Stopbanks, borrow pit excavation and road raising
C8.2.3(2)	Any activity in the road reserve that may result in the diversion or ponding of floodwaters, including any new road, road alteration or shape correction (F1 River and Floodway)	Restricted Discretionary	Stopbanks, borrow pit excavation and road raising
C8.2.3(4)	Construction of river control works (F1 River and Floodway)	Restricted Discretionary	Stopbanks and road raising
C8.2.3(5)	Earthworks which alter the level of the land (F1 River and Floodway)	Restricted Discretionary	Stopbanks and road raising



C8.2.3(7)	Construction or installation of new structures associated with network utility activities F1 River and Floodway)	Restricted Discretionary	Powerline and services relocation for stopbanks and road raising.
C8.2.3(16)	Earthworks which alter the existing ground level (F2 High Hazard Areas)	Restricted Discretionary	Stopbanks, borrow pit excavation and road raising
C8.2.3(19)	Any activity within the road reserve that may result in the diversion or ponding of floodwater, including any new road, road alteration or shape correction (F2 High Hazard Areas)	Restricted Discretionary	Stopbanks, borrow pit excavation and road raising
C8.2.3(20)	Construction of river control works	Restricted Discretionary	Stopbanks, borrow pit excavation and road raising
C8.2.3(27)	Any earthworks that alter the ground level in the F3 & F4 areas	Restricted Discretionary	Stopbanks, borrow pit excavation and road raising
DD4.6.1A(13) DD4.6.1A(15) DD1.6.1(23)	Temporary works within general residential, rural residential and rural zones.	Restricted Discretionary	All site compounds and lay down areas that may not meet setback and yard standards and noise and vibration standards; and all construction works at all locations works that may infringe noise and vibration standards C11.2.15.2.A.1 and C11.2.15.4.A.1

Construction of new roads (provided that the activity is not part of a proposed subdivision) under Rule 2.1.6(5) is a Restricted Discretionary activity. The proposed road raising activities are not considered 'new roads' and fit within the rules outlined in Table 5 above. Likewise, the proposed construction and haulage access tracks are considered to fit within the rules outlined in Table 5 above.



5.3 National Environmental Standard for Freshwater

The National Environmental Standard for Freshwater (NES-FW) regulates activities that pose risks to the health of freshwater and freshwater ecosystems. These regulations relate to activities which involve works and clearance of vegetation in waterways and activities which may affect natural wetlands. In this instance, the project involves vegetation clearance, earthworks and the diversion of water adjacent to natural inland wetlands for the purpose of specified infrastructure under Regulation 45 of the NES-FW. The project also involved the dam and diversion of an unnamed tributary of the Waipaoa River through the installation of a new culver with flood flap gate (Regulation 71 and 74).

Specified infrastructure is defined in the NES-FW includes:

“(d) any public flood control, flood protection, or drainage works carried out: by or on behalf of a local authority, including works carried out for the purposes set out in section 133 of the Soil Conservation and Rivers Control Act 1941; or for the purpose of drainage by drainage districts under the Land Drainage Act 1908”

The proposal is for flood protection and stop bank construction works carried out on behalf of GDC to improve flood carrying capacity of the Waipaoa River. Accordingly, the project is considered to fall under the definition of specified infrastructure.

Consent triggers under the NES-F are included in Table 6 below.

Table 6: Reasons for Consent - NES-FW

Clause	Description	Activity Status
45(3)	Earthworks or land disturbance outside a 10 m, but within a 100 m, setback from a natural inland wetland is a discretionary activity if it— a) is for the purpose of constructing specified infrastructure; and b) results, or is likely to result, in the complete or partial drainage of all or part of the natural inland wetland	Discretionary
45(4)	The taking, use, damming, or diversion of water within, or within a 100 m setback from, a natural inland wetland is a discretionary activity if— a) the activity is for the purpose of constructing or upgrading specified infrastructure; and b) there is a hydrological connection between the taking, use, damming, or diversion and the wetland; and c) the taking, use, damming, or diversion will change, or is likely to change, the water level range or hydrological function of the wetland.	Discretionary



71(1)	The placement, use, alteration, extension, or reconstruction of a culvert in, on, over, or under the bed of a river is a discretionary activity if it does not comply with any of the conditions in regulation 70(2).	Discretionary
74(1)	The placement, use, alteration, extension, or reconstruction of a passive flap gate in, on, over, or under the bed of any river or connected area is a non-complying activity.	Non-complying

5.4 Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011

The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES-CS) applies to land that is known to have been, or is more likely than not to have been, contaminated from current or past land use. The NES-CS does not apply to activities within the beds of lakes and rivers. In addition, it is only applicable to assessing and managing adverse effects of contaminants in soil on human health from selected activities. These activities include soil disturbance and soil sampling which is relevant for the project.

A preliminary site investigation (PSI) has been undertaken (LDE, February / March 2026) in accordance with the Contaminated Land Management Guidelines No.1- Reporting on Contaminated Sites in New Zealand (revised 2021) and Contaminated Land Management Guidelines No.5: Site Investigation and Analysis of Soils (revised 2021). The PSI identified Hazardous Activities and Industries List (HAIL) within the project area and recommended that a Detailed Site Investigation (DSI) is undertaken. The DSI (LDE, 17 March 2026) confirmed that the proposed activity is a controlled activity under Regulation 9 of the NES-CS. A site management plan for contamination (SMP) has also been undertaken (see Appendix 13).

5.5 Overall Activity Status

For efficiency and to reduce the complexity of assessment of a range of restricted discretionary activities, and given that the most stringent activity has been identified as discretionary, resource consents can be bundled for assessment under the TMRP as a **discretionary activity**.

Resource consent for potentially contaminated land matters can be assessed as a **controlled activity** under Regulation 5(9) of the NES-CS.

The proposed passive flap gate (**non-complying activity** under the NES-FW) can be assessed separately as required.



6. ASSESSMENT OF ENVIRONMENTAL EFFECTS

6.1 Introduction

Having reviewed the relevant plan provisions, and taking into account the matters that must be addressed by an assessment of effects on the environment as outlined in clause 7 of Schedule 4 of the Act, the effects that warrant consideration as part of this application are listed below.

As this application is for discretionary activity, the relevant effects that the consent authority can consider are not restricted. Notwithstanding the ability of the consent authority consider all effects, it is considered that following effects are relevant:

- Positive effects
- Cultural and Mana Whenua Effects
- Archaeological effects
- Heritage effects
- Effects of flooding
- Economic effects
- Social effects
- Construction effects
- Effects on ecology and water quality
- Landscape and visual effects

An assessment of these effects, that corresponds with the scale and significance of the effects that the proposed activity may have on the environment, is provided below. Clause 7(2) notes that the requirement to address matters in the assessment of effects on the environment is subject to the provisions of any policy statement or plan. The relevant documents are also assessed in this report.

6.2 Permitted Baseline

The “permitted baseline” is relevant to the assessments under sections 95A to 95G and 104 of the Act. Under these sections, the consent authority may disregard an adverse effect on the environment if a national environmental standard or the plan permits an activity with that effect. This is the permitted baseline. It is only the adverse effects over and above those forming a part of the baseline that are relevant when considering an application.

The purpose of the permitted baseline test is to isolate, and make irrelevant, the effects of activities on the environment that are permitted by the plan. When applying the baseline, such effects cannot then be taken into account when assessing the effects of a particular resource consent application. The baseline has been defined by case law as comprising the “existing environment” and non-fanciful (i.e., credible) activities that would be permitted as of right by the plan and/or national environmental standard in question.



In this case, the activities permitted by the plan has been discussed in section 5.1 of this report. It is noted that this includes solid discharge to land up to 500m², vegetation clearance up to 100m², and clearance and maintenance of drains. While the proposal will exceed these standards, only the exceedances of these standards will be considered.

It is noted that Regulation 51 of the NES-F allows for natural hazard works as a permitted activity for the purpose of: *removing material, such as trees, debris, and sediment, that —*

- a. *is deposited as the result of a natural hazard; and*
- b. *is causing, or is likely to cause, an immediate hazard to people or property.*

A portion of the material being removed has been deposited as a result of previous flood events, however, it is acknowledged that some of the material will have also been deposited as a result of natural processes.

Notwithstanding this it is considered that parts of the proposal could generally fall under the permitted activity regulations, noting that the activity is inherently being proposed to reduce the immediate risk to people and property during extreme weather events. We respectfully request that GDC planning staff take this into consideration and give some weight to the permitted activities (baseline) under the NES-F.

6.3 Receiving Environment

In assessing the potential effects on the environment, the “receiving environment” for effects must be considered.

The receiving environment is a mandatory consideration that is defined by case law, and it is the environment beyond the site upon which a proposed activity might have effects. This includes the future state of the environment upon which effects will occur, including:

- the environment as it might be modified by the utilisation of rights to carry out permitted activities; and
- the environment as it might be modified by implementing resource consents that have been granted at the time a particular application is considered, where it appears likely that those resource consents will be implemented.

In this case, the receiving environment is as described in the sections above in this report and the appended assessments by the various specialists. The ability for existing consent holders to exercise their consent within the area after the proposed upgrades are not expected to be affected, however any issues in this regard can be considered through this consent process and the ongoing PWA negotiations.

6.4 Other considerations

Sections 95D(d) to 95D(e) and 104(3)(a) of the Act require that assessments must disregard:

- trade competition, or the effects of trade competition; and
- any effect on a person who has given written approval to this application.



Trade competition and written approval are not relevant to this application.

6.5 Positive Effects

This section sets out a summary of the positive effects of the proposal with more details provided in the sections below. In summary the proposal will result in positive effects through:

- Significant reduction in flood risk to properties and assets within the 'benefit' area of the scheme resulting in significant positive social, environmental, cultural and economic effects.
- Less intensive farming within the new flood plain area with reduced nutrient and pesticide leaching which will be a 'net gain' for the freshwater habitat and fish ecological features.
- Upgraded culvert with ramp has the potential to improve fish passage.

6.5.1 Flood risk reduction and social and economic benefits

The proposed works for the Waipara River will improve the resilience of the Te Karaka community to climate change and the ability to withstand natural hazard events. The proposal will improve the flood capacity and reduce the potential for extensive flooding of residential areas during extreme weather events, as seen in Cyclone Gabrielle. The reduction in flood risk to properties is expected to have significant social effects on the Te Karaka community and positive cost benefit ratio. See below sections for more details on the benefits of the proposal.

6.5.2 Ecological benefits

As discussed in the EclA in Appendix 7, once the new stopbank is built, it will be resown in pasture grasses and the prevailing land use will be converted from intensive agriculture to passively managed grazed land. This will result in a positive magnitude of effect on the freshwater habitat and fish due to pasture requiring less intensive management including fertilizer and pesticide application and it being less prone to erosion than row crops. Therefore, the overall level of effect of converting the flood scheme land from intensively managed land to passively managed land will be a 'net gain' for the freshwater habitat and fish ecological features.

Another potential ecological benefit of the scheme is the upgrade of the existing perched twin culvert (limited fish passage) on SH2 with a more 'fish friendly' culvert, see below for more details.

6.6 Cultural & Mana Whenua Effects

No Statutory Acknowledgements are held over the extent of works area, however an Area of Interest is mapped for Te Aitanga a Mahaki who will be providing a cultural impact assessment (CIA) in due course. Assessment of effects on cultural values is more appropriate to be undertaken by the relevant Mana Whenua entity, however an indication of the expected effects on cultural values is provided below noting it is limited and narrow in scope.



It is recognised that most natural waterways and the whenua will have cultural values associated with them as they contribute to the overall health and well-being of the wider environment. Many native flora and fauna species living within the region's waterways are valued by tangata whenua for their medicinal, food and weaving values and intrinsic values. It is common for archaeological sites to be located near waterways, and this is reflected in the spatial distribution of the Heritage Alert Overlay and recorded sites. Historic settlement patterns were usually connected to waterways as they provided important food sources and transport routes.

No known site of cultural significance (noting that the Waipaoa River and its tributaries and the local whenua hold cultural significance) archaeological and heritage sites are known within the proposed works areas as indicated by the GDC GIS and as outlined by an Archaeological Report below.

The proposed construction works are temporary. As such, it is likely there will be limited continuing or noticeable effects on the downstream environment and whenua post construction. The proposed CEMP and ESCP and inclusive spill management plan, will also provide mitigation for adverse cultural effects on the health of the stream and the freshwater habitat within the waterbody. Resource consent conditions will be developed with Te Aitanga a Mahaki where required in due course to manage any relevant cultural and mana whenua matters.

6.7 Archaeological Effects

Archaeological assessment has been undertaken by In Situ Archaeological Heritage (see Appendix 10). The archaeological assessment concluded and recommended:

1. No recorded archaeological sites will be affected by the proposed works. The likelihood of encountering intact unrecorded archaeological features during the proposed works is assessed to be very low, due to unfavourable soils and flooding risk.
2. Given this very low probability, having an Archaeological Site Discovery Protocol in place during all earthworks will provide sufficient safeguard to ensure that if archaeological deposits are encountered, they are appropriately managed and recorded.

Proffered resource consent conditions have been developed which detail the Archaeological / Accidental Site Discovery Protocol which aim to avoid and mitigate any actual and potential adverse effects on archaeological values.

Overall, it is considered that the actual and potential adverse effects on archaeological values are expected to be less than minor.



6.8 Heritage Effects

The project areas overlaid by the TMRP Heritage Alert Overlay as shown in Figure 10 above. Listed Post European Contact Schedule Historic Sites (P50, P51, P52 and P53) are located adjacent to the project area as shown in Figure 26 and Figure 27.

A summary of the scheduled sites is provided below:

- P50 - HPT3476, Church of St John the Evangelist, Category B.
- P51 - HPT3475, Waikohu War Memorial - WWI field gun, WWII, war memorial gateway, enclosing wall, Category A.
- P52 – no longer listed in the TRMP schedules however still appears in online TRMP planning maps. The scheduled building no longer exists, and the site is a gravelled and clear of any new buildings and structures.
- P53 - Waikohu Hall, Category C.

On road truck movements will be adjacent Post European Contact Scheduled Sites P50, P51 and P53. No other works are proposed within close proximity of the scheduled sites therefore any potential effects would be limited to those arising from truck movements (i.e. noise and vibration). Given that no works other than on road truck movements will not occur near any Post European Contact Schedule Historic Sites it is considered it is considered that the actual and potential noise and vibration adverse effects on Listed Post European Contact Schedule Historic Sites and heritage values will be less than minor.



Figure 26: Listed Post European Contact Schedule Historic Sites – Township View



Figure 27: Listed Post European Contact Schedule Historic Sites

6.9 Consequential Flooding Effects

6.9.1 Preferred option stopbank alignment overview

A summary of the Consequential Food Risk Assessment (by Tonkin and Taylor, refer Appendix 8) and discussion on the actual and potential effects and mitigation options is provided below:

- Overall, there is a significant reduction in the number of buildings and residential dwellings flooded as a result of the proposed stopbank in the design event, with nearly all of these dwellings that benefit being in the township of Te Karaka.
- Outside of this, some dwellings and other community sites would have worsened flooding effects in the design event.

The proposed stopbank is intended to protect the Te Karaka township from flooding in the Waipaoa River, up to a design event flow of 5,625 m³/s (with an additional 600 mm freeboard allowance). The primary purpose of the Consequential Food Risk Assessment is to evaluate the consequential adverse flood effects (disbenefits) of the proposed stopbank for locations outside of its immediate protected 'benefit area'.



To assess these consequential effects, the assessment uses outputs from a two-dimensional hydraulic model for the Waipara River. The model was used to evaluate 'pre-upgrade' and 'post-upgrade' cases across three event scenarios: a Cyclone Gabrielle-sized event, a 5,625 m³/s design event (approximately a 100-year annual recurrence interval event, in the present day), and an over-design event (approximately a 500-year annual recurrence interval event, with climate change).

The proposed upgraded stopbank crest levels have been designed on the basis of a specific hydrological event representing Cyclone Bola flows + 25%, with the 25% representing an increase of flows for climate change.

Flood flows and extreme rain events are expected to occur more frequently as a result of climate change which has been considered in the Consequential Flood Risk assessment in line with the NPS-NH risk assessment requirements and the 'combined flood hazard curves' adopted by Water NZ Stormwater Modelling Guide (2024), by Smith, et. al., 2014 (refer to Table 7 and Figure 28 below).

Table 7: Hazard classifications (design event) referenced to NPS NH risk matrix

Hazard Class (Smith, et al., 2014)	NPS NH – Consequence	NPS NH – Risk at 'Possible' likelihood
H6	Catastrophic	High
H5	Major to catastrophic	High
H4	Major	High
H3	Moderate	Medium
H2	Minor	Medium
H1	Negligible	Low

Source: Consequential Flood Risk Assessment (Tonkin and Taylor, 2026)

6.9.2 Benefits and positive effects summary

The consequential flood risk assessment results indicate that while the stopbank protects approximately 161 hectares during the design event, it reduces effective floodplain storage and forces flows into a narrower corridor. Consequently, land immediately upstream and adjacent to the stopbank experiences increases in flood depth, velocity and hazard, with 10 hectares of newly flooded land and 157 hectares experiencing a hazard category increase during the design event.

Within the protected benefit area, 215 buildings experience a flooding benefit during the design event. Within this area of reduced flood risk, there are 179 residential dwellings, 21 commercial parcels and an estimated population of 531. There is also a school, which also acts as an emergency management centre, two early childhood centres and other community facilities (churches, store, petrol station).



6.9.3 Flood impacts summary

However, outside the protected area, 23 buildings (including 6 residential dwellings) experience adverse flooding effects. Flood impacts on road infrastructure follow a similar pattern, with roads within the township being protected, while adjacent rural roads experiencing increased flood depths and hazard classifications.

6.9.4 Effects on Properties and Residential Dwellings

Focusing on areas where the model indicates a potential effect on flood levels, the assessment identifies the extent of benefits or adverse effects ("disbenefits").

The "Australian Disaster Resilience Handbook 7 Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia (AIDR 2017)" has been adopted to evaluate the impact. This provides an overview of various risk categories (H1 – H6) based on flood depth and velocity as shown below in Figure 28.

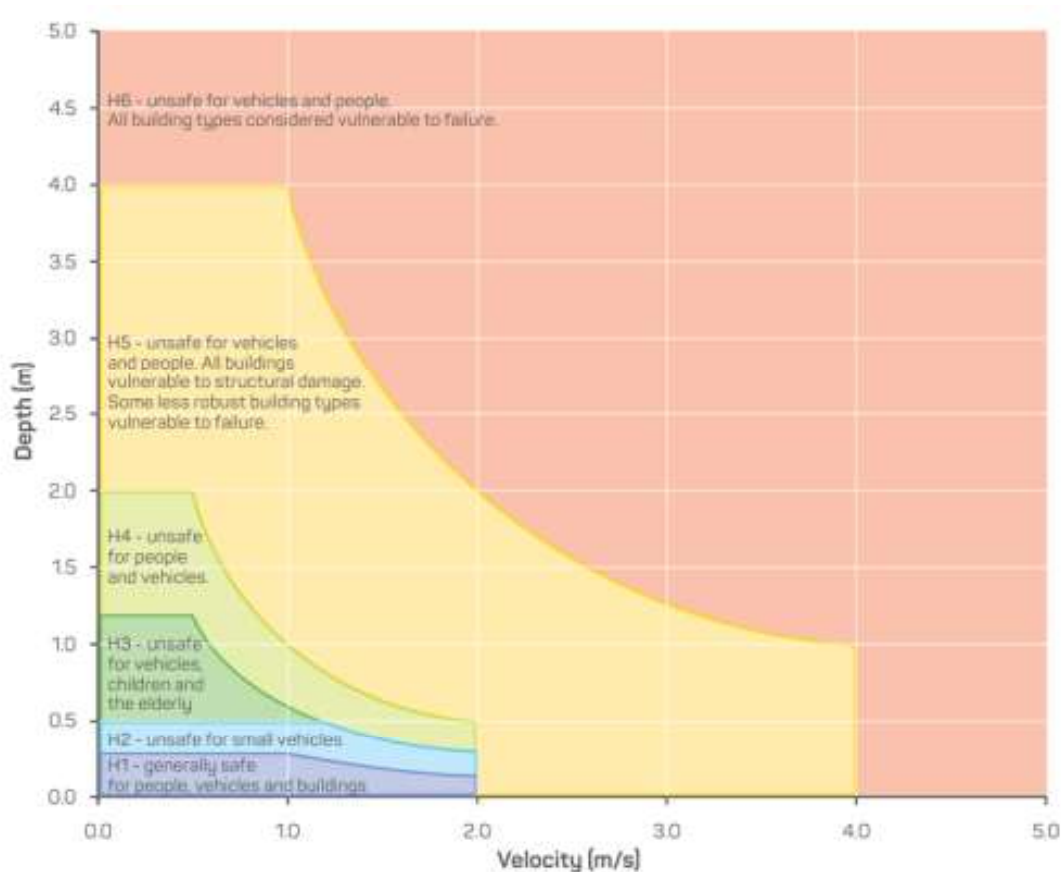


Figure 28: Flood Depth vs Velocity Risk Category



Benefits or positive effects of the proposed preferred stopbank alignment upgrades are as follows:

- A positive flooding effect (or 'benefit') resulting from the proposed stopbank upgrades is defined as either a decrease in the flood hazard classification or a localised flood depth reduction of at least 50 mm when comparing the post-upgrade case to the pre-upgrade case.
- In general, flooding benefits in each of the events are concentrated in the previously identified Te Karaka township 'benefit area', which is directly protected (up to the design event + 600 mm freeboard) by the proposed preferred option stopbank – refer to Table 8:

Table 8: Parcels and buildings (in the 'benefit area' with flooding benefit in each event, in the post-upgrade case (as compared to the pre-upgrade case).

Event	Properties (parcels) with flooding benefit	Buildings with flooding benefit
Cyclone Gabrielle	277	209
Design Event	284	215

Source: Consequential Flood Risk Assessment (Tonkin and Taylor, 2026).

Adverse effects or disbenefits as result of the proposed preferred option stopbanks upgrade is summarised as follows:

- Across all modelled events, an adverse flooding effect to a building is defined in this case as an increase in the flood hazard classification, or a localized flood depth increase of at least 50 mm, when comparing the post-upgrade case to the pre-upgrade case.
- In the design event, 23 individual buildings are subject to an adverse flooding effect. Of these, six are identified as residential dwellings (see Table 9 below).

Table 9: Design event flood levels and hazard for dwellings with worsened flooding & RMA effects

Residential Address	Design event – levels and hazard					RMA Effects
	Pre-Upgrade Mean Flood Level	Post-Upgrade Mean Flood Level	Flood Level Difference	Pre-Upgrade Maximum Hazard	Post-Upgrade Maximum Hazard	
103 Kanakanaia Road	41.90 m RL	42.60 m RL	0.70 m	H1	H5	Significant adverse effect requiring offsetting, compensation and/or significant mitigation.
108 Kanakanaia Road	41.76 m RL	42.40 m RL	0.64 m	H5	H6	More than minor adverse to moderate adverse effect requiring mitigation.
23 Mangaoae Road	41.43 m RL	41.81 m RL	0.38 m	H4	H4	Minor adverse effect requiring mitigation.



45 Bridge Road	46.15 m RL	46.41 m RL	0.27 m	H3	H3	Minor adverse effect requiring mitigation.
46 Bridge Road	46.07 m RL	46.37 m RL	0.29 m	H3	H4	Minor adverse effect requiring mitigation.
96 Kanakanaia Road	41.86 m RL	42.58 m RL	0.72 m	H1	H3	More than minor adverse to moderate adverse effect requiring mitigation.

Notes: Taken from the Consequential Flood Risk Assessment (Tonkin and Taylor, 2026). Colour coding matches the combined flood hazard curves adopted by Water NZ Stormwater Modelling Guide (2024), by Smith, et. al., 2014. RMA effects assessment added by Strategy.

Table 10 summarises the potential effects of the proposed stopbank and explanation of the hazards during the design level flood as well the potential compensation, mitigation and emergency response as collated by ongoing draft background investigations and reports.

Table 10: Adverse consequential flood effects on residential properties and potential mitigation options

Residential Address	Hazard / Effects	Floor over topped pre-upgrade case?	Floor overtopped post-upgrade case?	Potential compensation / mitigation options / emergency response
103 Kanakanaia Road	The proposed stopbank upgrade significantly increases the flood risk for the entire parcel at 103 Kanakanaia Road (Karakā 14 Block, Ref GS3B/988), including its sole dwelling and a garage/shed. Building Stability likely to be OK, low hazard for adults, high for children and elderly for evacuation. Hazard changes as a result of project.	No	Yes	Consider possible PWA partial compensation or full 'buy' out / acquisition. The parcel as a whole is subject to an increase in flood hazard in the design event and the dwelling is already located at the most elevated position in the parcel. The possible evacuation route is along Kanakanaia Rd, and elevated, flood-free (in the design event) land is accessed within approximately 200 m from the dwelling.
108 Kanakanaia Road	The proposed stopbank upgrade increases the flood risk for the parcel at 108 Kanakanaia Road (Karakā 11A1 Block, Ref GS131/3), including the sole dwelling and a small shed. Structural Stability threatened by	Yes	Yes	Consider possible PWA full 'buy' out / acquisition. The south-western corner of the property is not subject to a flood hazard in the design event, and the dwelling is not located in the most elevated location in the parcel. The possible evacuation route is along Kanakanaia Rd, and elevated, flood-free (in the design event) land is accessed within approximately 200 m from the dwelling.



	floodwaters - very high hazard for all for evacuation.			
23 Mangaoae Road	The proposed stopbank upgrade increases the flood risk for the parcel at 23 Mangaoae Road (Tangutuhanui 1B2A Block, Ref GS2B/1445), including the sole dwelling and numerous small sheds. Building Stability likely to be OK, high hazard for all for evacuation. Hazard classification not changed.	Yes	Yes	Consider improvements to evacuation route in addition to compensation for increased flood damage. The north-eastern side of the property is not subject to a flood hazard in the design event, and the dwelling is not located in the most elevated location in the parcel. The possible evacuation route is along Mangaoae Rd, and elevated, flood-free (in the design event) land is accessed within approximately 30 m from the dwelling. The margin of the floodplain is less than 100 m from the dwelling.
45 Bridge Road	The proposed stopbank upgrade increases the flood risk for the parcel at 45 Bridge Road (Lot 3 DP 7800, Ref GS5B/1319), including the sole dwelling and a shed. Building Stability likely to be OK, high hazard for all for evacuation. Hazard classification not changed.	Yes	Yes	Consider improvements to evacuation route in addition to compensation for increased flood damage. The western side of the property is not subject to a flood hazard in the design event, and the dwelling is not located in the most elevated location in the parcel. The possible evacuation route is along Bridge Road, and elevated, flood-free (in the design event) land is accessed within approximately 150m.
46 Bridge Road	The proposed stopbank upgrade increases the flood risk for the parcel at 46 Bridge Road (Lot 1 DP 447441, Ref 564682), including the sole dwelling and a large shed/garage.	Yes	Yes	Consider improvements to evacuation route in addition to compensation for increased flood damage. The entire property parcel is subject to a flood hazard in the design event, although the dwelling is not located on the most elevated location in the parcel. The possible evacuation route is along Bridge Road, and elevated, flood-free (in the design event) land is accessed within approximately 150 m.
96 Kanakanaia Road	The proposed stopbank upgrade increases the flood risk for the parcel at 96 Kanakanaia Road (Karaka 12 Block, Ref GS2C/1190), including the sole dwelling, a garage and two small sheds.	No	Yes	Consider raising house or other localised flood protection including improved evacuation route as alternative to compensation. The southern corner of the property is not subject to a flood hazard in the design event, and the dwelling is not located in the most elevated location in the parcel. The possible evacuation route is along Kanakanaia Rd, and elevated, flood-free (in the design event) land is accessed



	Building Stability likely to be OK, low hazard for adults, high for children and elderly for evacuation. Hazard changes as a result of project.			within approximately 100 m from the dwelling.
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Compensation is the primary approach to manage the above effects noting that this is not mitigation *per se* under the RMA. Written approvals will also be sought. Mitigation measures for the above properties that forms part of the scope of the proposal includes floor raising only not any new evacuation routes that require any physical works, only evacuation plan updates regarding additional warning procedures and the like. The final mitigation approach will be determined in consultation with property owners and will be confirmed (as required by the offered resource consent condition) prior to construction works commencing on the new stopbank.

Overall, there is a significant increase in overall flood protection as a result of the proposed works with over 200 buildings having a reduced hazard classification after the proposed works. Most of the buildings experiencing a higher modelled flood level in the design event are already inundated prior to the stopbank project; and in any case, the effects will be mitigated.

6.9.5 Effects on Roads and Bridges

The consequential flooding risk assessment provides a map of the effects on the road network, see Figure 29:

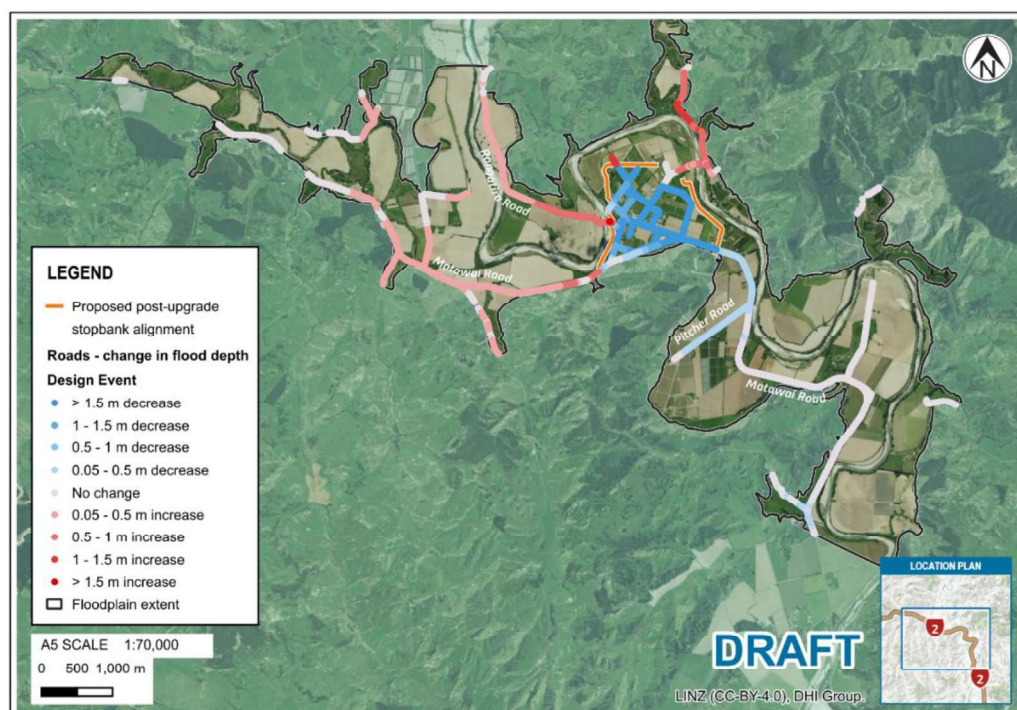


Figure 29: Change in flood depth along roads in the design event

Source: Consequential flood Risk Assessment (Tonkin and Taylor, 2026).

Table 11 outlines the shifts in median flood hazard classifications. Roads within the scheme 'benefit area' significantly reduce in the hazard risk whilst roads outside of the stopbank protection scheme generally increase in flood risk. Of particular note, Mangaoae Road is already at risk 'pre-upgrade' being at H5 hazard risk class which will increase to the H6 hazard class post upgrade. The road is therefore already not passable during a design event; therefore, the actual impacts in terms of access and resilience will be minimal. Emergency response procedures updates will be developed to address the increase in flood risk to that part of Managaoe Road as outlined below.

Table 11: Changes in median flood hazard classification for assessed roads at peak hazard during the design event

Road name	Median flood hazard		
	Pre-upgrade case	Post-upgrade case	Change
Ahirau Road	H1	H1	None
Balfour Road	H5	H1	-4 classes
Barry Street	H5	H1	-4 classes
Bridge Road	H1	H1	None
Cliff Road	H5	H1	-4 classes
Currie Street	H5	H1	-4 classes



Road name	Median flood hazard		
	Pre-upgrade case	Post-upgrade case	Change
Dymock Road	H3	H3	None
Graham Road	H5	H5	None
<i>Ioapa Road</i>	H5	H1	-4 classes
Kaitara Road	H4	H4	None
Kanakanaia Road	H5	H5	None
<i>Kipling Road</i>	H5	H1	-4 classes
<i>Library Road</i>	H4	H1	-3 classes
<i>Main Road</i>	H5	H1	-4 classes
Mangaoae Road	H5	H6	+1 class
Matawai Road/SH2	H5	H5	None
McMillan Road	H1	H1	None
Morris Road	H5	H1	-4 classes
Newman Road	H5	H5	None
<i>Paulson Road</i>	H5	H1	-4 classes
Pitcher Road	H5	H5	None
Poynter Road	H5	H5	None
Rangatira Road	H5	H5	None
<i>Rangitawhio Street</i>	H4	H1	-3 classes
<i>Station Road</i>	H5	H1	-4 classes
Whatatutu Road	H4	H4	None

Note: Italicised road names are within the Te Karaka township area and are directly protected by the post-upgrade stopbank case. Bold road names are outside of the township extent. Names that are both bold and italicised have portions inside the township and portions outside. Source: Consequential Flood Risk Assessment (Tonkin and Taylor, 2026).

Consequential flood risk assessment on five local bridges following was undertaken:

- Whatatutu Rd - Waikohu River
- Matawai Rd – Mangamāhaki Stream
- Matawai Rd - Kurunui Stream
- Rangatira Rd - Waipaoa River
- Kanakanaia Rd - Waipaoa River

Flood depths and velocities on the Whatatutu Rd - Waikohu River, Matawai Rd – Mangamāhaki Stream and Matawai Rd - Kurunui Stream bridges appear to be negligible and any actual and potential adverse effect on these bridges is considered less than minor.

An assessment of effects on the Rangatira Road and Kanakanaia Road bridges indicates that the proposed stopbank upgrade will result in increased hydraulic loads and scour depths under the design flood event, with predicted increases in scour depth of approximately 0.7–0.8 metres.



It is noted that both bridges are already vulnerable to extreme flood events under the existing environment. During Cyclone Gabrielle, flood levels approached the soffit of the bridge decks, although no structural damage to the steel girders was observed.

Rangatira Road Bridge was constructed in 1959 and was designed to accommodate a flood event equivalent to the 1948 flood, with an estimated capacity of approximately 3,500 m³/s. Kanakanaia Road Bridge was constructed in 1976, and detailed information on its original design standards is not available.

The existing flood risk to both bridges reflects their age and the historical design standards applied at the time of construction, which are materially lower than contemporary engineering and resilience standards and lower than the design event adopted for the proposed stopbank upgrades. The proposed works therefore result in a marginal increase in hydraulic loading and scour risk relative to an already constrained baseline condition, rather than introducing a new or unanticipated hazard.

The potential effects on these bridges is further assessed below.

6.9.5.1 Rangatira Road Bridge

As outlined in the Consequential Flood Risk Assessment, under the design flood event the proposed stopbank upgrade is predicted to increase hydraulic and structural loading on the Rangatira Road Bridge. Modelling indicates up to a 101% increase in bending moment loads on the superstructure, up to a 44% increase in lateral loads, up to a 40% increase in vertical uplift loads, and up to a 50% increase in pier bending moment loads. Scour depth at the bridge is estimated to increase by up to approximately 0.7 metres, representing around 10% of the total predicted scour depth.

Importantly, the bridge piles are founded into underlying bedrock, which provides a high degree of vertical stability and significantly reduces the risk of foundation undermining due to scour. Preliminary structural checks indicate that the bridge piers are capable of sustaining the increased flexural demands under the post-upgrade design flood event.

While a full structural assessment of all load paths would be required to confirm overall capacity, the available information indicates that the proposed stopbank upgrade does not materially change the likelihood of bridge failure relative to the existing environment.

Notwithstanding the existing flood vulnerability of the Rangatira Road Bridge under current conditions, it is considered that the incremental increase in hydraulic and structural loading associated with the proposed stopbank upgrade is unlikely to result in more than minor adverse effects on bridge failure risk, or on the associated impacts for the local community and bridge beneficiary group. Based on the scale and nature of the potential effects identified, specific mitigation is not considered necessary from an RMA effects perspective. However, it is noted that outside of the stopbank project, ongoing engagement between the GDC and the community will inform any future plans regarding resilience in this area.



This may include updates to emergency management planning and/or any future structural upgrades.

6.9.5.2 Kanakanaia Road Bridge

As outlined in the Consequential Flood Risk Assessment, the proposed stopbank upgrade is predicted to increase hydraulic and structural loading on the Kanakanaia Road Bridge under the design flood event. Modelling indicates increases of up to 79% in bending moment loads on the superstructure, up to 29% in lateral and vertical uplift loads, and up to 32% in pier bending moment loads. Scour depth is estimated to increase by up to approximately 0.8 metres, representing around 10% of the total predicted scour depth.

Unlike the Rangatira Road Bridge, the piles at Kanakanaia Road Bridge are not founded in bedrock but extend to depths of up to approximately 20 metres within the underlying alluvial materials. Preliminary assessment indicates that the 5,625 m³/s design flood event would potentially exceed the flexural capacity of the existing bridge piers under *both* the current stopbank configuration and the post-upgrade scenario.

Accordingly, the bridge is already at risk of structural failure during the design flood event in the existing environment, irrespective of the proposed stopbank upgrade. A full structural assessment of all load paths is required to confirm overall capacity and inform future upgrade or replacement options.

Given this existing risk profile, the proposed stopbank upgrade does not materially alter the likelihood or consequence of catastrophic bridge failure when compared with the baseline condition. While the proposal results in an incremental increase in hydraulic and structural loading, this increase occurs against a baseline where the bridge is already unable to meet the adopted design standard. It is therefore considered that the proposal is unlikely to give rise to more than minor adverse effects on bridge failure risk, or on the associated impacts for the local community and bridge beneficiary group.

As above, based on the nature of the effects identified, specific structural mitigation for the bridge as part of the stopbank project is not considered necessary from an RMA effects perspective. Operational measures, including flood forecasting, early warning systems and bridge closure protocols during extreme events, are considered appropriate interim responses to manage residual risk. GDC also proposes to undertake ongoing engagement with the community to determine whether any physical upgrade measures are appropriate, outside the scope of this current proposal.

Based on the preliminary findings of the Consequential Flood Risk Assessment, it is considered that the bridge is at risk of failure during the design event irrespective of whether the proposed stopbank upgrade proceeds.

6.9.6 Effects on Marae

A summary of the hazard risks and effects on the two local marae is provided in Table 12:



Table 12: Design event flood levels and hazard for marae & RMA effects

Residential Address	Design event – levels and hazard					RMA Effects
	Pre-Upgrade Mean Flood Level	Post-Upgrade Mean Flood Level	Flood Level Difference	Pre-Upgrade Maximum Hazard	Post-Upgrade Maximum Hazard	
Rangatira Marae (66 Rangatira Road)	43.92 m RL	44.77 m RL	+0.85 m	H5	H6	More than minor adverse to moderate adverse effect.
Takipū Marae (2343 Matawai Road)	38.54 m RL	38.42 m RL	- 0.12m	H5	H5	Less than minor positive effects.

Notes: Taken from the Consequential Flood Risk Assessment (Tonkin and Taylor, 2026). Colour coding matches the combined flood hazard curves adopted by Water NZ Stormwater Modelling Guide (2024), by Smith, et. al., 2014. RMA effects assessment added by Strategy.

During Cyclone Gabrielle, Rangatira Marae was significantly impacted with widespread building and property damage, and this is reflected in the pre-upgrade H5 hazard classification. The increase in flood risk to Rangatira Marae through the proposed stopbank is considered a more than minor adverse effect. However, Rangatira Marae is currently being relocated to higher ground and will be compensated through the FOSAL framework (Category 3), therefore the adverse effects on Rangatira Marae can be disregarded.

The proposal will result in a modest reduction in flood level depths on Takipū Marae resulting in less than minor positive effects. However, like Rangatira Marae, Takipū Marae is a Category 3 FOSAL site and is planning to relocate to a more flood resilient location.

6.9.7 Effects on Te Karaka Area School

Te Karaka Area School is located within the primary Te Karaka township benefit area. In the post-upgrade scenario, the school is protected from inundation during both the design event and Cyclone Gabrielle flows, resulting in a reduction from an H5 to an H1 hazard classification. It is considered that the proposal will result in significant positive effects for the school through significantly reducing the flood risk.

6.9.8 Effects on Infrastructure & Other Sites

As outlined in the consequential flood risk assessment the Firstlight Network Puha Substation site is subject to a peak hazard class of H1 in both the pre-upgrade and post-upgrade cases, meaning that it remains generally safe for vehicles, people and buildings. the proposed stopbank upgrade slightly increases the flood risk to the substation in the overdesign event. In all other events, or in the pre-upgrade case, the flood extents do not reach the substation. However, in the post-upgrade case in the overdesign event, the substation experiences shallow, low velocity inundation. This is considered a less than minor adverse effect.



The Te Karaka WWTP / Sewage Treatment Plant will experience reduced flood risk from the proposal through as the flood hazard risk will be reduced from H6 to H1. This a significant benefit of the proposal with the reduction in flood risk in turn reducing:

- the potential risk to human health through containing wastewater within the wastewater treatment ponds in design event floods
- the risk to the Waipaoa River aquatic ecology as the risk of the wastewater treatment ponds being inundated would be reduced thus reducing overflows to the Waipaoa River and any subsequent wastewater discharge quality issues from a compromised WWTP
- potential flood related WWTP 'clean-up' and recovery effort and related costs

6.9.9 Effects on non-habitable buildings

The Contractors' Sheds (48 Whatatutu Road) will experience slightly higher flood levels and velocities, but the resulting potential adverse effects are considered no more than minor. The Applicant is currently engaging with the landowner to discuss potential compensation options.

6.9.10 Effects on productive soils

The consequential flood risk assessment did not explicitly cover the potential effects on productive soils however the following observations have been made:

- Given the relative infrequency of the design event, the impact on productive capacity of land is expected to be minimal.
- It is noted that the stretch of Waipaoa River at the Te Karaka township is accreting.
- The current stopbanks were breached during Cyclone Gabrielle and the area already experienced some productive soil loss during that flood event.

On balance the difference in soil loss comparing the existing environment and proposal is considered negligible and the actual and potential effects on productive soils from future floods post-upgrades is considered less than minor.

6.9.11 Compensation, Mitigation Options and Emergency Response

Ongoing assessment and investigations are underway to determine and agree (where possible) PWA compensation, mitigation measures (e.g. house raising) and emergency response procedures and evacuation routes.

Any compensation through the PWA or civil agreements ideally would be resolved prior to consent application lodgement however it is not uncommon for such processes to run parallel. The PWA process will also consider other partial compensation and mitigation measures. Further updates will be provided by the Applicant in due course on where compensation and mitigation packages have been resolved.

In the event of catastrophic failure of either, or both of, Kanakanaia and Rangatira Bridges in Te Karaka, and the inundated Mangaoe Road, the following options are being considered:



1. New Access Road Between Bridges
2. Kanakanaia to Waimata Valley track improvement
3. New Road - Rangatira Rd to Whatatutu
4. Temporary modular Bridges
5. Strengthening of existing bridge structures

Note that any physical works mitigation measures taken forward for these bridges is considered outside the scope of this application. Physical works mitigation is not considered required due to the minor adverse effects of the project on the bridges and given that Kanakanaia Rd Bridge is already at risk of failure.

Emergency response procedural changes and management responses are considered a suitable mitigation measure to manage any potential increased flood risk to the bridges and Managoae Road e.g. such as early warning alerts to avoid the Kanakanaia Rd bridge or facilitate a bridge closure ahead of time of a flood.

Preliminary proffered consent conditions have been developed address the above the mitigation responses, refer below.

6.9.12 Conclusion

The proposed stopbank upgrade is designed to increase the effective flood conveyance and level of service of the existing flood protection scheme, resulting in a substantial reduction in flood risk to the Te Karaka township community during extreme weather events. This represents a significant benefit to the wider community when compared with the existing environment, where Cyclone Gabrielle demonstrated the vulnerability of the township to inundation.

The consequential flood risk assessment identifies that, while the proposal results in increased flood depths, velocities and hydraulic loading at certain locations outside the protected area, including a small number of properties and existing bridges and roads, these effects largely occur against a baseline where flood risk and infrastructure vulnerability already exist. In the case of the local bridges, the assessment indicates that the proposal does not materially alter the likelihood or consequences of failure relative to the existing environment, notwithstanding incremental increases in loading under the design flood event.

On balance, the proposed stopbank upgrade delivers a clear net benefit by materially reducing flood risk to the Te Karaka township, which outweighs the identified increases in consequential flood risk to a limited number of properties and infrastructure assets. Engagement with affected landowners, the community and relevant asset owners is ongoing to refine compensation, operational and mitigation responses where practicable. Updates on this process and its outcomes will be provided as the project progresses (as proffered through resource consent conditions), with the objective of avoiding, remedying or mitigating adverse effects to an acceptable level where reasonably possible, and compensating for any residual adverse effects that cannot be mitigated.



6.9.13 Alternative option stopbank alignment

Figure 30 shows the change in flood depths from the proposed alternative stopbank alignment.

As discussed in the Consequential Food Risk Assessment (Tonkin and Taylor), *'the alternate alignment has a small, but localised impact on flood levels in the design event, as compared to the previously discussed post-upgrade stopbank alignment. Part of the parcel at 69 Kanakanaia Road, as well as part of Karaka 17 Block (Kanakanaia Road) and a small part of 81/81a Kanakanaia Road would now flood, as they are no longer behind the stopbank...'*.

Parts of the 69 Kanakanaia Road property that previously did not flood may experience up to the H5 risk hazard based on the alternate flood risk assessment and therefore the adverse flood effects on this property is considered more than minor. Should the alternate alignment go ahead then this property would be compensated via the PWA process.

The shed at 44 Morris Road would experience an increase in flood depth but this property is already categorised as hazard H6 and is proposed to be part of the PWA buy out.

A number of land parcels are subject to an increase in flood levels, all either in the newly flooded area or immediately adjacent to the stopbank, as far upstream as Morris Road, on the true right of the river. No land parcels are subject to an increase in hazard class and therefore the adverse flood effects on all other properties are considered no more than minor.



Figure 30: Depth differences in the design event, comparing the alternate alignment (post-upgrade) to the

6.10 Effects on Hydrology and River Dynamics

The effects of the proposal on the hydrology and dynamics of the Waipaoa River has been assessed and summarised below, drawing from the Tonkin and Taylor options report. The proposal will inherently affect the current extent of the floodplain by relocating the stopbank to the south and, as a result, increasing the flood capacity of the river.

In previous heavy rain events including Cyclone Gabrielle, water has breached the existing stopbanks of Waipaoa River and flowed overland, inundating properties and productive land in Te Karaka. Heavy siltation of the riverbed and berm areas has led to reduced capacity and conveyance, which exacerbates flooding during severe weather events. With ongoing aggradation expected in the river, any retreated stopbank is likely to offer only a medium-term solution, likely in the order of decades, without further works being required. This limitation exists irrespective of the proposed works and reflects broader catchment-scale processes rather than effects generated by the proposal alone.



There is therefore an existing and recognised need for improved catchment-wide management and greater use of nature-based solutions or land use change to help mitigate sediment influxes that are driving aggradation in the river. These measures are required regardless of whether the proposed stopbank upgrade proceeds.

Overall, when compared with the 'do nothing' scenario, the proposed stopbank upgrade is expected to contribute to a reduction in the rate of aggradation within the project reach and to improve flood conveyance and capacity. The proposed works will not adversely affect minimum flows or base water levels within the Waipaoa River.

6.11 Social Impacts

Christensen Consulting Limited has undertaken an economic effects assessment (see Appendix 16) which outlined intangible losses which are social impacts. Stopbank projects (especially those that include property acquisition) can cause both positive and negative social impacts. A social impact is a change that is experienced in either a perceptual (cognitive) or a corporeal (physical) sense at any level associated with a planned intervention. A high-level social impact assessment is provided as follows.

6.11.1 Positive social impacts

Given the improved resilience and reduction in flood risk to the Te Karaka township community it is considered that there will be significant positive social impacts from the proposal including:

- **Increased Public Safety and Reduced Flood Risk:** Protection of approximately 200 properties, including residential dwellings, commercial premises, and the local school.
- **Ability for communities to remain in place:** By significantly reducing flood risk for the majority of the township, the proposal enables most residents to remain in their homes, maintain community connections, and avoid the social disruption associated with widespread displacement or retreat.
- **Continuity of social infrastructure and services:** Reduced flood risk supports the continued operation and accessibility of key community facilities, including the local Te Karaka Area school, community services and transport links, helping to sustain everyday social functioning during and after flood events.
- **Protection of Critical Infrastructure:** Upgrades protect essential community assets, including roads, state highways, power networks, and schools, so that these services can continue to operate during flood events.
- **Climate Change Resilience and Adaptation:** Upgrades prepare the Te Karaka community for increased frequency and severity of rainfall events, offering long-term security against future climate uncertainties.

6.11.2 Adverse social impacts



It is acknowledged that the project will result in adverse social effects for property owners who may need to relocate from their homes as a consequence of increased flood risk in areas outside the protected stopbank area. Potential effects include stress, uncertainty and disruption associated with relocation and loss of place attachment.

These social effects must be recognised and assessed under the RMA. However, where properties are proposed to be acquired under the PWA, the availability of statutory compensation is relevant to the nature and weighting of those effects. Although compensation does not remove the need to consider social impacts, it materially alters their character and severity, as affected landowners are entitled to full and fair compensation intended to place them, as far as money can, in the same position as before the acquisition.

In this context, while social effects associated with relocation may be significant for affected individuals, they are addressed primarily through the PWA process rather than through RMA consent mechanisms. Accordingly, once acquisition and compensation are taken into account, the residual social effects associated with property relocation are not considered more than minor in an RMA weighting sense, notwithstanding that they are understandably significant for those directly affected.

Through community engagement with bridge beneficiaries³ potential adverse social effects associated with bridges and access include:

- Reliability of access for the community during and after an event.
- Welfare considerations, including emergency response, isolate risk and livestock welfare.

As discussed in Section 6.9, emergency response planning, flood forecasting, early warning systems and bridge closure protocols form part of the broader risk management framework. Temporary alternative access options are also being proactively investigated where practicable. In light of these measures, and recognising that the local road and bridge network already operates within a flood-prone environment, it is considered that any residual adverse social effects for bridge beneficiaries are no more than minor.

Overall, the proposal will generate substantial positive social effects through a significant reduction in flood risk for the Te Karaka township, while adverse social effects are limited to a small number of affected landowners and infrastructure users and are appropriately managed through acquisition, compensation and operational risk management. The proposal therefore achieves a net social benefit and appropriately manages social effects in accordance with established RMA principles.

³ Bridge beneficiaries' are those landowners that live on the far side of the Kanakania and Rangatira bridges from the Te Karaka township and benefit from the use of the bridges.



6.12 Economic Impacts

6.12.1 Stopbank impacts

Christensen Consulting Limited has undertaken a high-level economic effects assessment (see Appendix 16) of the proposed upgrade to the Te Karaka flood protection scheme. A summary of the economic assessment is as follows:

- Flood modelling data for three flood events for the existing and proposed scenarios have been used along with assessed dwelling floor heights as the basis for assessing damages.
- Damages to dwellings have used RiskScape depth damage curves appropriate for a typical dwelling in the Te Karaka community along with the current rateable value of improvements.
- Dwelling contents and vehicle losses have also been estimated using RiskScape depth damage curves along with national average data for contents value, vehicle value and number of vehicles per household.
- Damage to horticultural land has used typical values accounting for lost income and costs for repairs on a per hectare basis.
- Damage to commercial, retail, educational and other non-residential use building has applied an average depth damage curve from a range of international guidance and been applied to the current rateable value of improvements for the property.
- Indirect and intangible damages have been estimated as percentages of total damages associated with dwellings based on recent post flood research undertaken in Australia.

It is considered that the project will have positive economic impacts that include:

- **Reduced Economic Disruption and Protection of Livelihoods:** By safeguarding businesses, and commercial areas, the project will reduce the economic toll of flood events on the community.
- **Beneficial cost – benefit ratio:** It is likely that the proposed investment in flood mitigation for Te Karaka will provide direct, indirect and intangible benefits to the community that are greater than the capital cost of the scheme with a cost benefit ratio of approximately 1.5 to 3.9.

The project also opens up opportunities for local employment and economic activity as the project can use local contractors and suppliers for construction, and materials, providing job opportunities and boosting the local economy.

6.12.2 Summary

It is considered that overall, the proposal will have positive economic effects on the local Te Karaka community.



6.13 Construction Effects

6.13.1 Sediment, Erosion, & Vegetation Clearance

The proposal will result in the modification of the riverbank and surrounding area, as well as bulk earthworks which has the potential to result in instability, erosion and scour, and the release of sediment into the environment. The proposed earthworks will result in the creation of areas of exposed soils and the potential for erosion and sedimentation from these surfaces. Earthworks will be undertaken outside of the typical wet season. Works will be undertaken with careful planning and only to the extent necessary to improve flood capacity of the river. Consideration will be given to minimising the duration of works and this will be planned for low flow periods. Any areas of the bed that are required to be disturbed will be stabilised after works are completed.

Minor vegetation clearance will also be required to allow for the proposed works. Due to the nature of the activity this is required, however, will not include significant wetland vegetation, and these areas will be revegetated and stabilised as required following the completion of the works. Any removal of vegetation will be carefully managed as to not exacerbate erosion and scouring effects.

In addition to any site-specific controls, the following management procedures will also apply:

- All erosion and sediment control devices will be installed in accordance with the Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region (June 2016) or HBRC guidelines;
- Works will be undertaken in accordance with the principles and methods outlined in an ESCP that will be provided to GDC for approval prior to works commencing. It is anticipated that submission of a finalised ESCP for certification will be a requirement of the consent conditions.
- The erosion and sediment controls will be inspected and maintained regularly to ensure that the erosion and sediment controls are functioning adequately.
- Exposed areas of soil that have the potential to generate sediment will be stabilised as soon ground and weather conditions permit.
- Vegetation clearance will be limited to areas of active works, retaining existing ground cover as much as possible. In areas where vegetation was cleared this will be replanted as soon as practicable.
- Appropriate sediment controls will also be in place to ensure that nutrient and biological contaminants are appropriately managed in accordance with best practice.
- Any stockpiles will be located within the catchment of an appropriately sized sediment control device or will be covered with geotextile cloth or other suitable material if they are to remain outside of a device catchment.



With the implementation of the above control measures, the potential for release of sediment into the receiving environment can be appropriately managed to mitigate construction related effects on the receiving environment.

6.13.2 Air Quality and Dust

The proposed activities, namely the extraction of material, has the potential to generate dust that can be objectionable and offensive if not properly managed.

Extracted material is proposed to be immediately stockpiled and is considered to have grain sizes large enough not to create adverse dust effects on a day-to-day basis. It is considered that any adverse dust effects from operations will not be dangerous or noxious. It is proposed that stockpiles be damped down if dry and windy conditions lead to excessive dust generation. Any contaminated material that will be disturbed or extracted will be managed by way of the draft Site Management Plan (contamination). Overall the actual and potential adverse effects arising from the management of soil (contaminated or not) and dust will be less than minor.

It is considered that any mobile machinery and construction vehicle emissions (i.e. diesel combustion engine) will be temporary and will have less than minor adverse effects on air quality.

6.13.3 Noise and Vibration

Noise and vibration assessment has been undertaken by Styles Group (see Appendix 12).

Construction associated with the proposed works has the potential to create adverse noise effects. Under the RMA, the Applicant is required to adopt the best practicable option to ensure that noise emissions from the land in which operations are undertaken do not exceed a reasonable level.

The major noise and vibration generating activities associated with the project are:

- Site establishing works including relocation of powerlines and a power pole on Rangatira Road, gas main refurbishment work, fencing, and potential waterpipe diversion.
- Construction and use of five laydown areas across the site for storage of equipment and materials.
- Relocation of materials from the borrow pits to the stopbanks involving approximately 80 truck and trailer movements per day on local roads over approximately two-four months.
- Stabilisation and landscaping of borrow pits at the completion of earthworks activities.
- Earthworks for drainage, silt control, haul roads, and stopbank construction.
- Extension of the existing culvert under SH2 including tree and vegetation removal.



- Road construction works for road raising on Rangatira Road and at the east and west sections of SH2 that intersect the proposed stopbank.
- Truck and trailer movements on local roads for aggregate delivery involving approximately 60 movements per day over approximately two-three months.
- Approximately 80-120 Six-wheeler truck movements per day on haul roads to transport aggregate to the road raising sites.
- Watercart movements on haul roads for dust suppression.

The Styles noise and vibration assessment assumed any potential effects on these sites because they will be partially or fully acquired, or written approval will be provided. The properties nearest to the proposed works that are not part of the subject site were assessed. The assessment considered the potential construction noise associated with the project. The construction methodologies, plant, timeframes, and locations.

The construction site is considered to be relatively isolated and located where construction noise is not unusual or unexpected. The generation of noise during construction will be undertaken in accordance with NZS 6803:1999 Acoustics – Construction noise, which allows for the production of noise between the hours of 7.30am to 6pm during weekdays. Additionally, operations are not undertaken at all times of year. As such, the effects of noise are intermittent.

Noise and vibration standard in the TRMP have been identified as being outdated therefore Styles assessed the actual and potential effects of the proposal based on the relevant current industry standards. Based on the indicative construction methodology, vibration effects are likely to be limited, and proposed consent conditions in the form of limits, have been developed to mitigate vibration amenity effects.

Construction works on the site must be designed and conducted to ensure that vibration does not exceed the limits set out in German Industrial Standard DIN 4150–3:2016 Vibration in buildings – Part 3: Effects on structures when measured in accordance with that Standard on any structure not on the same site, in the aim to avoid structural damage to nearby buildings.

Proposed conditions of consent have been provided these standards and therefore the effects from noise and vibration will be adequately managed. The contractor will be required to prepare and adhere to a Construction Noise and Vibration Management Plan (CNVMP).

Provided that the consent conditions are met, it is considered that the actual and potential noise and vibration effects on sensitive receptors will be no more than minor.

As outlined in Section 6.13.5 below, construction vehicle on-road haulage routes are proposed to avoid the Te Karaka Area School (a key sensitive noise and vibration receptor in the township). As such, it is considered that any actual and potential adverse noise and vibration effects on the school will also be no more than minor.

6.13.4 Contaminated Land

A DSI has been prepared, which confirmed:



- Soil sampling results meet the relevant human health guidelines
- Provided that the SMP for contamination is adhered to, the risk to construction workers during construction is low

As noted above, the SMP for contamination has been developed to manage any potential contaminated soil on site (see Appendix 13).

Overall the actual and potential effects of contaminated land on human health is expected to be less than minor.

6.13.5 Traffic Effects

The project will generate on-road traffic due to truck movements of fill and spoil and other ancillary construction vehicle movements. Estimated construction vehicles movements shown in Table 13.

Table 13: Construction traffic volumes and details

Work Area	Road-going Volume (m ³)	Duration (Months)	Local Roads (loaded trucks per day)	State Highway 2 (loaded trucks per day)
Western stopbank – Lower end	36,800	4	40	40
Eastern stopbank	19,000	2	40	40
Bulk Roding Aggregate Import	20,000	3	0	30
SH2 Western road raising	1,200	0.5	30	30
SH2 Eastern road raising	5,500	1	30	30
Rangatira Road	3,280	0.5	30	30
Kanakanaia Road	10,000	2	30	30
Other Materials deliveries			15	15

Proposed on-road and off-road haul routes are shown above in Figure 24 and Figure 25. As the proposal is to the roads that border local Te Karaka Area School, traffic effects on the school (which is likely to be the most sensitive part of the local road network) will be largely avoided. Increased traffic volumes on the local road network and SH2 from the proposed works are considered minimal. For example, the increase in truck movements along SH2 AADT (i.e. 30 vs 1,300) represents only a 2.3% increase in traffic.

Corridor access requests (CAR) and traffic management plans will be required for the road raising works at Rangatira Bridge, Kanakanaia Road crossing and general road raising works, and all SH2 road raising and culvert works. At all of these locations traffic will be impacted for 2 weeks to four months. Stop/go lane closure traffic management will be required to be implemented.



SH2 works may need lane closures for up to one month which will have a minimal impact on traffic given the SH2 AADT volumes i.e. wait times would be short and manageable throughout the day.

Overall, it is considered that the actual and potential adverse effects on local and SH2 traffic will be no more than minor.

6.13.6 Construction water take effects

Water takes from rivers can potentially affect other water take consent holders subject to minimum flow cut off consent conditions (i.e. by causing the minimum flow to be reached and other users are “forced” to stop irrigating etc) and can cause environmental (refer Section 6.14 below), social, financial and economic impacts. The proposal is to take water from the Waipaoa River to use for construction purposes, mainly dust suppression, for a maximum of 30 l/s and up to 1,000 m³/day. This equates to about 9 hours of pumping per day.

A summary of the Waipaoa River Water Quantity Allocation Status is provided in Table 14 which shows that the catchment is under allocated based on a rate of take but overallocated based on the annual volume that can be taken. It is considered that managing rivers is more appropriately managed by setting allocation limits based on litres per second and not an annual volume as it is the instantaneous rate of take that impacts on aquatic ecology and other river users more so than an annual volume.

Table 14: Waipaoa River Allocation Status as at 15 April 2026

TRMP DF1.4.3.2 Water Quantity Limits for Poverty Bay Flats - Waipaoa River at Kanakanaia	Rate of take (L/S)	Annual Volume (M ³)
Total Allocated A Block	1,887.94	21,556,568.50
Allocation A Block	2,000	6,267,500
A Block Allocation Status	112.06 available	15,289,068.50 over-allocated

Source: GDC Freshwater Team

Of the total A Block allocation taken, the majority is taken for irrigation / frost fighting (see Table 15). It is understood from discussion with GDC Freshwater Team staff that most irrigators / frost fighters take and use water overnight or early in the morning. The proposal is to take water in the morning and during the day but not at night. It is therefore unlikely that the total instantaneous rate of take of water drawn from the river would reach the allocation limit and water users would not be subject to a minimum flow cut off due to the taking of water under this proposal.



Table 15: Waipaoa River A Block Water Use

Use	Water / Statistic
GDC Public Water Supply (L/s)	204.70
Irrigation / Frost (L/s)	1683.24
Irrigation / Frost % of Total	89.16%

Source: GDC Freshwater Team

The GDC public water supply takes (consents WG108877, WG108878 & WG109634) from the Waipaoa River are required to implement water conservation measures and restrictions such as notifying all users that the reticulated supply is only to be used for essential domestic use (excluding garden watering) and sanitation purposes when flows are at or below 1,300 L/s at Kanakanaia Bridge gauging site. Given the proposed water take will be temporary and sporadic, it is considered that the public water supply and community users will be largely unaffected.

The proposed water take is temporary and minor, and unlikely to significantly affect other water take users nor cause any negative social and economic impacts. Overall, the adverse effects on other water take consent holders is considered less than minor.

Summary

Given the short-term construction timeframes and the proposed stabilisation and management measures, any adverse effects resulting from construction works will be temporary in nature and therefore considered to be less than minor.

6.14 Effects on Ecology and Water Quality

This section is based on the SLR Ecological Impact Assessment (ECiA) as provided in Appendix 7. Ecological context and values are set out in the ECiA and above, and are not repeated here for brevity.

6.14.1 Stopbank and Road Raising Effects

Stream and rivers form part of a network that connect to wetlands, estuaries, and the marine environment. Earthworks/land disturbance on the banks of rivers can cause an increase in sediment, nutrients and other pollutants entering waterways during the works.

As discussed above, so that the effects of disturbing land and any potential release of sediment is prevented or minimised, an ESCP will be in place in accordance with the Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region (GD05, 2023). The implementation of a robust ESCP should result in potential effects on water quality being largely avoided, or minimised so that adverse effects are acceptable. Additionally, any machinery will be operated from the banks and will be cleaned prior to arrival and departure to prevent introduction or spread of unwanted organisms.



The EclA has outlined the potential and actual temporary ecological effects arising from the construction phase of works as:

- Sediment and stormwater runoff during excavation works could negatively impact the surrounding environment, in particular, the freshwater habitat and fish species which already suffer due to sediment and nutrient runoff within the catchment. Due to the volume of earthworks prescribed, and the proximity to the river to the area of excavation, as well as the works being temporary, the unmitigated effect of sediment runoff would be '*moderate*'.
- Appropriate sediment & erosion controls will be adhered to and best practice controls will be undertaken during the construction period. This will result in a mitigated magnitude of effect, on all the described ecological features including the freshwater habitat and fish, of '*low*'.
- Ambient noise above certain levels anticipated from the use of machinery during construction is known to cause wildlife disturbance, including for birds, which for the site have an ecological value of '*low*'. It is proposed to keep sound levels from the mechanical workings of machinery on-site as close to background levels as practical. Therefore, the effects of unmitigated ambient noise on native fauna would therefore be considered low.
- Tree felling is to occur outside of the bat roosting season (April to October) or alternatively develop procedures for managing bats prior to felling trees that have potential bat roosting features.

No permanent effects are considered to occur based on the proposed works. Various measures have been proposed to minimise effects on spawning and migration and minimisation of construction effects including duration and timing, erosion and sediment control measures, and native fish management. Proposed measures to manage and address potential adverse ecological effects of construction consists of:

- Erosion and sediment controls during earthworks and construction activities
- Prevention of stock access to the river in the expanded flood plain to prevent bank degradation and allow riparian vegetation to establish.
- Planting riparian areas with native vegetation and not just *Salix cinerea* to improve biodiversity.
- Proffered conditions / mitigation measures.

6.14.2 Culvert Effects

Multiple small-scale culverts along the stopbank will be constructed in overland flow path areas which are not considered rivers or streams as defined by the RMA and do not require consent nor any assessment.

The culvert extension along SH2 in an unnamed tributary (permanent stream) of the Waipaoa River requires resource consent. The existing two circular concrete culverts (twin) that are proposed to be extended are approximately (see Figure 32):

- 1.85m width

- 1.85m height
- 25m length

The upstream catchment of the stream is approximately 92 ha and is mostly pasture with scattered trees, see Figure 31 below.

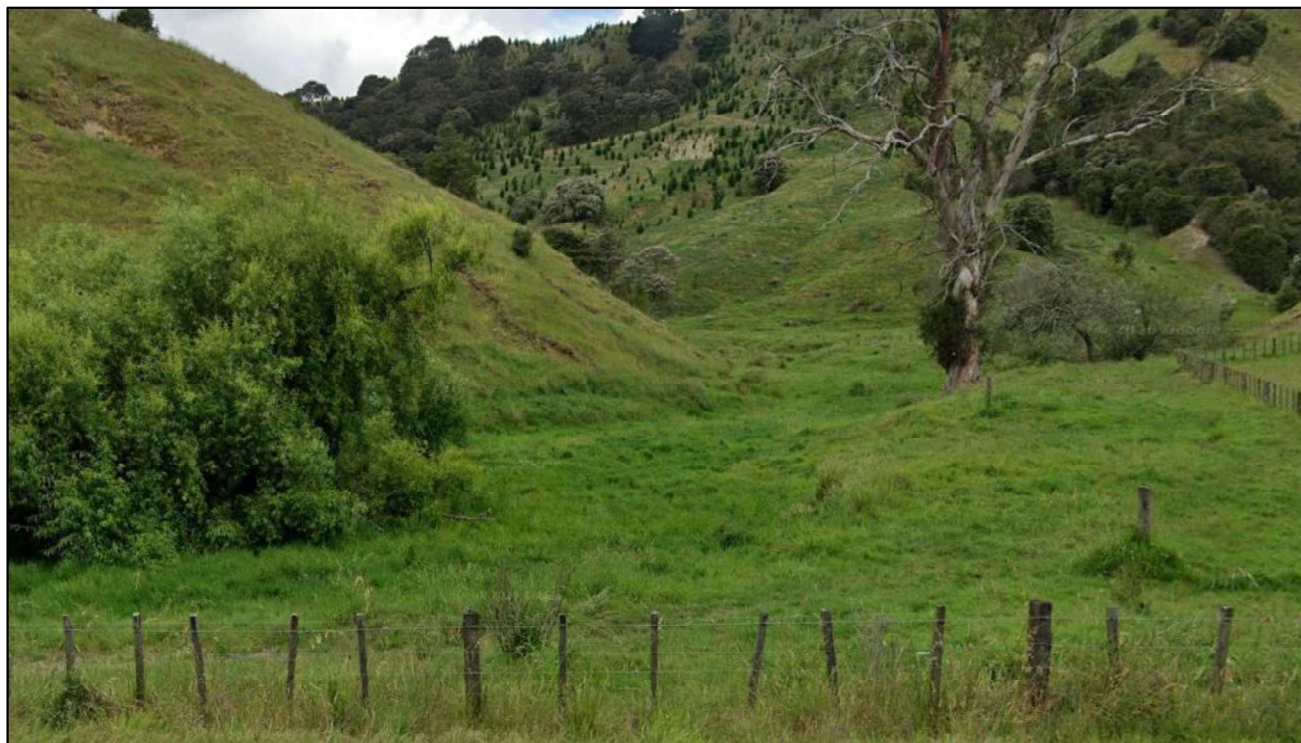


Figure 31: Upstream catchment

The existing twin culvert is perched and only provides limited fish passage. The concept design (see Appendix 17) for the culvert will be provide a similar flood carrying capacity as the existing culvert and will have either an automatic or passive flood gate.

The design currently does not deal with the perched nature of the current twin culvert. As the twin culvert sits under SH2, it cannot be removed therefore the extension of the culvert through the detailed design process will likely have ramps added to facilitate some fish passage from downstream to upstream.

The culvert design parameters and requirements, fish passage requirements and certification and management plan approach are set out in the proposed consent conditions. Other generic works in streams conditions to minimise effects on the environment would also apply to the proposed future SH2 culvert. The proposed consent conditions also require that there is a net benefit for fish passage compared to the existing twin culvert.

As detailed in the EcIA, provided that the ongoing fish passage is provided and if a passive flood gate is installed monitoring is proposed (i.e. to keep the flood gate open for as long as

practicable), the actual and potential adverse effects on fish passage and in-stream aquatic ecology is expected to be less than minor. It is expected that the proposed approach to fish passage through the provision of the ramp would be an improvement when compared to the existing culvert which limits fish migration due to being perched, and could be conceived as a less than minor positive effect.



Figure 32: Existing twin culvert on SH2 – view looking from downstream to upstream

6.14.3 Effect of water take from Waipaoa River

The water take of up to 1,000 m³ /day with a maximum extraction of 30 l/s has the potential to reduce flow and alter instream habitat and disrupt the natural flow variability of the river. Water take infrastructure has the potential to suck in fish, cause them to become impinged, injured, or and kill them. The unmitigated effect on freshwater habitat (moderate ecological value) from the water abstraction would be 'moderate' and the unmitigated effect on fish (high ecological value) would be 'high'.

The EclA recommended a fish screen size on the water take intake to minimise potential fish kills. A resource consent condition has been proposed to mitigate adverse effects on fish from physical pumping.

The TRMP has rules and limits on water abstraction and rates which consider ecological value and the effects on the river. If these abstraction limits and rates are adhered to in relation to the plan, the mitigated level of effect of the water abstraction in regard to freshwater habitat is considered 'low'. Given the temporary nature of the take and minimal rate and volume to be taken, despite the catchment being over-allocated, it is considered that the effects on



the environment will be less than minor and a minimum flow cessation condition is not considered warranted.

6.15 Landscape and visual effects

Landscape and visual assessment (LVA) has been undertaken by WSP (see Appendix 14). The LVA assessed the potential effects of the proposed stopbanks and road raising for construction and operation, as well as suggested mitigation measures. A summary of the LVA is provided below in Table 16.

Table 16: LVA Summary of Effects and Proposed Mitigation

Activity	Location	Existing	Proposed Construction	Proposed Operation	Proposed Mitigation
Stopbanks	Residential Properties in Proximity (Cliff Road, Library Road and Kipling Road)	Very Low Adverse i.e. less than minor adverse effects.	Moderate-Low Adverse, reducing to Negligible once construction is complete i.e. less than minor adverse effects.	Very Low Adverse i.e. less than minor adverse effects.	None required.
Stopbanks	Rural Properties (Farm Dwellings and Lifestyle Blocks)	Low adverse i.e. less than minor adverse effects.	Moderate-Low Adverse, reducing to Negligible once construction is complete i.e. less than minor adverse effects.	Moderate-Low Adverse i.e. minor adverse effects.	None required.
Roads	SH2 adjacent properties	Low adverse i.e. less than minor adverse effects.	Low Adverse i.e. less than minor adverse effects.	Low Adverse i.e. less than minor adverse effects.	None required.
Roads	Rangatira Road / bridge end residential properties	Low adverse i.e. less than minor adverse effects.	Moderate-Low Adverse, reducing to Negligible once construction is complete i.e. less than minor adverse effects.	Moderate Adverse effect reducing to low adverse effect if mitigation planting is provided i.e. less than minor residual adverse effects	Planting of the fill embankments with appropriate low-maintenance vegetation to soften and partially screen the earthworks and elevated



					vehicles are recommended
Removal of existing stopbanks	All properties	N/A	Less than minor adverse effects.	Very Low to Low Positive effects	General reinstatement to pasture or as otherwise agreed with landowners.

Based on the LVA, it is considered that the actual and potential adverse effects can be adequately mitigated so that residual adverse effects are less than minor. Proposed resource consent conditions require a planting plan to mitigate effects on the Rangatira Road residents where road raising will have potential moderate adverse effects. The planting plan is proposed to be certified through the standard certification process with the GDC regulatory manager before being implemented.

6.16 Property impacts

The project results in significant severance to TK5, TK10, TK12, TK13, TK18, TK21, TK22 and TK24. For these properties, the landowner may require the Applicant to acquire the severed areas, or grant a right of way over the stopbank to enable the areas to still be used. There are additional properties where relatively minor severance will occur. In these cases, it is anticipated that the Applicant will acquire the severed areas. Areas of severance acquired for the project may be used as exchange for other land to be acquired. As noted above this process is still a work in progress and further details will be provided in due course.

6.17 Conclusion

Overall, based on the assessment above:

- There will be significant positive effects for the community by providing a more resilient flood protection scheme that aims to reduce the overall flood risk for the Te Karaka township (noting that a small number of properties will be subject to increased flood risk hence they are proposed to be compensated via the PWA process).
- All other environmental adverse effects of the proposal are expected to be no more than minor.



7. STATUTORY CONSIDERATIONS

Section 88 of the RMA allows any person to make a resource consent application, provided it is in the prescribed form and includes, in accordance with Schedule 4, an assessment of environmental effects in such detail as corresponds with the scale and significance of the effects that the activity may have on the environment.

Schedule 4 of the Act lists those matters that should and must be included in an assessment of environmental effects, as well as the matters that should be considered. These matters are referenced throughout the body of this report confirming that the application meets all the requirements of Section 88.

7.1 S104 RMA

In accordance with Section 104(1), and when considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2 of the Act, have regard to:

- a) *Any actual and potential effects on the environment of allowing the activity; and*
- ab) *any measure proposed or agreed to by the Applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and*
- b) *Any relevant provisions of:*
 - i) *a national environmental standard:*
 - ii) *other regulations:*
 - iii) *a national policy statement:*
 - iv) *a New Zealand coastal policy statement:*
 - v) *a regional policy statement or proposed regional policy statement:*
 - vi) *a plan or proposed plan; and*
- c) *Any other matter the consent authority considers relevant and reasonably necessary to determine the application.*

7.2 Other Regulations

Other relevant regulation and legislation for this project are:

- Local Government Act 2002
- Public Works Act 1981
- Soil Conservation and Rivers Control Act 1941
- Te Ture Whenua Māori Act 1993
- Wildlife Act 1953



7.2.1 Local Government Act 2002 (LGA)

GDC have responsibilities regarding flood management and infrastructure under the LGA (e.g. Sections 10, 11A, 101A and 101B). GDC are mandated to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future. GDC financial strategy must include the expected capital expenditure on network infrastructure, flood protection, and flood control works that is required to maintain existing levels of service currently provided by the local authority. Road layout changes for Morris Road and Kipling Road would be managed under the LGA processes.

7.2.2 Public Works Act 1981 (PWA)

The Project meets the definition of a Public Work in the PWA. Therefore, the Applicant can use the powers of the PWA to acquire the land required for the Project.

Acquisition by negotiation under the PWA is generally the preferred method for local councils to acquire land for public works. It provides a clear framework for negotiations and valuations and ensures a fair process for the landowners.

Whether the land or an interest in land is acquired, the compensatory entitlement under the PWA is the same. Compensation under the PWA is based around a fair and reasonable regime where an affected property owner is to be placed in a 'no better or no worse' situation than enjoyed prior to the public work.

PWA compensation negotiations and engagement with affected persons is ongoing.

Road layout changes for Morris Road and Kipling Road would be managed under the PWA process which would be aligned with LGA requirements.

7.2.3 Soil Conservation and Rivers Control Act 1941 (SCRA)

As a unitary authority, the Applicant has broad powers under the SCRA to construct and maintain flood protection works on private land. The SCRA provides a potentially more efficient mechanism to secure construction access within the available timeframe. Compensation under the SCRA is assessed in accordance with the PWA.

Section 133(1)(b) provides broad powers to "...otherwise improve any defence against water" and at s133(1)(c) to "...erect any new defence against water or carry out any work it thinks necessary or desirable for the purpose of controlling or preventing damage by flood waters."

Section 137 sets out the process required to gain entry for construction of works on private land. This specifically relates to the stopbank works proposed, and any works required to form a Floodway. Section 137 sets out the process for entry onto private land, which includes:

- Making plans available for public inspection at Council offices
- Providing written notice to owners and occupiers, with a one month objection period (objections cannot relate to compensation amounts)



- If no objection is received, Council may proceed
- If objections are lodged and cannot be resolved, an independent assessor is appointed whose decision is final
- Appeals are limited to points of law and may be made to the High Court

Compensation is payable under Section 145 for land or interests taken, damaged, or injuriously affected. If agreement cannot be reached, the Section 147 determination process applies.

It is considered that the proposal meets the intent of the SCRCA, which would be utilised where required, with the above processes run in parallel with the resource consents process or together where possible.

7.2.4 Te Ture Whenua Māori Act 1993

All alignment options for the Project affect whenua Māori, which is administered under Te Ture Whenua Māori Act 1991 (TTWMA). The Applicant will not be seeking to acquire whenua Māori as part of the Project, unless requested to do so by the owners/trustees of that Block. Where whenua Māori is impacted by a change in flood risk or construction of the new stopbank alignment then the Applicant will seek to manage this impact through a compensation process.

Flood risk increases to Māori land includes the following sites:

- TK 16 - Kanakanaia Road (16D Block)
- TK 17 - Kanakanaia Road (16E Block)
- TK 18 - End of Kipling Road
- TK 19 - Kanakanaia Road
- TK 21 - 35 Paulson Road
- TK 34 -82 Kanakanaia Road, Te Karaka
- TK32 81A Kanakanaia Road, Te Karaka i.e. if the alternate alignment is to proceed (see Section 6.9 above).

7.2.5 Wildlife Act 1953

The Wildlife Act is applicable should trees be felled where there is the potential for native bats to be present. The EclA assessment and proffered consent conditions reflect Wildlife Act requirements. It is considered that if tree felling occurs outside of the bat roosting season (April to October), or alternatively procedures are developed to manage bats prior to felling trees that have potential bat roosting features to avoid the risk of killing protected wildlife, no Wildlife Act permits will be required for the project. Procedures are not required to be developed for managing native bird and lizard species prior to vegetation removal (refer to the EclA).

7.2.6 Resource Management (Measurement and Reporting of Water Takes) Regulations 2010

The 'Measurement and Reporting of Water Takes' regulations apply to water permit that allows fresh water to be taken at a rate of 5 litres/second or more. The Applicant proposes to



meet the requirements of the regulations through the installation of a suitable water meter and recording and returning data as agreed with the GDC regulatory team. Given the small and temporary take, under section 9, the GDC regulatory team can provide approval to measure water taken each week which is considered reasonable with monthly returns.

7.2.7 Civil Defence Emergency Management Act 2002

The Civil Defence Emergency Management Act 2002 creates a framework within which New Zealand can prepare for, deal with, and recover from local, regional and national emergencies. Section 12 states “every regional council and every territorial authority within that region must unite to establish a Civil Defence Emergency Management Group”.

Section 17 outlines “the functions of a Civil Defence Emergency Management Group, and of each member, are to

- (a) in relation to relevant hazards and risks,—
 - (i) identify, assess, and manage those hazards and risks:
 - (ii) consult and communicate about risks:
 - (iii) identify and implement cost-effective risk reduction:
- (b) take all steps necessary on an ongoing basis to maintain and provide, or to arrange the provision of, or to otherwise make available suitably trained and competent personnel, including volunteers, and an appropriate organisational structure for those personnel, for effective civil defence emergency management in its area:
- (c) take all steps necessary on an ongoing basis to maintain and provide, or to arrange the provision of, or otherwise to make available material, services, information, and any other resources for effective civil defence emergency management in its area:
- (d) respond to and manage the adverse effects of emergencies in its area:
- (e) plan and carry out recovery activities...”

GDC have a Te Karaka Flood Evacuation Contingency Plan (2019) which is currently being updated. Kanakanaia Road Bridge and Mangaone Road mitigation measures and procedures will be woven into this plan.

Note: In early 2026, the Government has introduced an Emergency Management Bill to replace the Civil Defence Emergency Management Act 2002, therefore there should be a watching brief on the progress of the “Bill”.

7.2.8 Building Act 2004

The Building Act is relevant to the project should any landowners wish for their floors levels to be raised i.e. a building consent is likely to be required. Building consents would be sought if required in due course.



7.3 National Environmental Standards

7.3.1 National Environmental Standard for Freshwater

The NES-FW has been considered in this proposal. It is considered that all relevant requirements of the NES-FW can be met and managed via the proposed consent conditions. Despite the proposed flap gate on the culvert being a non-complying activity, the proposal is to provide a net benefit to fish passage and ecology therefore the proposal is not contrary to the NES-FW.

7.3.2 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

The NES-CS has been considered in this proposal. It is considered that all relevant requirements of the NES-CS have been met through the PSI, DSI and Site Management Plan (contamination) i.e. human health from contaminated land will be protected.

7.4 National Policy Statements

7.4.1 National Policy Statement for Natural Hazards

The National Policy Statement for Natural Hazards (NPS-NH) was ratified in December 2025 and came into force from 15 January 2026. The NPS-NH applies to all activities managed under the RMA, except for infrastructure (as defined in the Act) and primary production (as defined in the National Planning Standards). Stopbanks are not included in the RMA definition of infrastructure, therefore, stopbanks are subject to the NPS-NH. Note that it is considered stopbanks are defined under the 'interpretation' section of the of the National Policy Statement for Infrastructure 2025 (NPS-I) as 'additional infrastructure' under the wider banner of 'flood control and protection works carried out by, or on behalf, of a local authority' (refer to NPS-I section below).

The overarching objective of the NPS-NH is: "*Natural hazard risk to people and property associated with subdivision use and development is managed using a risk-based proportionate approach.*"

Relevant policies of the NPS-NH state:

Policy 1: When considering natural hazard risk associated with subdivision, use or development, the risk level must be assessed using the risk matrix.

Policy 2: Natural hazard risk associated with subdivision, use and development must be managed using an approach that is proportionate to the level of natural hazard risk.

Policy 3: Where subdivision, use or development is assessed as having very high natural hazard risk, that risk must be avoided.

Policy 4: Where subdivision, use or development, including any associated mitigation measures, will create or increase significant natural hazard risk on other sites, that risk must



be avoided or mitigated using an approach that is proportionate to the level of natural hazard risk.

Policy 5: Natural hazard risk assessment and decisions must be based on the best available information and must be made even when that information is uncertain or incomplete.

Policy 6: The potential impacts of climate change to at least 100 years into the future must be considered.

Under clause 3.2, natural hazard risk must be assessed by determining:

- the likelihood level (Table 1, Appendix 1), and
- the consequence level (Table 2, Appendix 1), and then applying Figure 1 (the risk matrix – as shown in Figure 33 below) to determine whether risk is low, medium, high or very high, taking account of mitigation measures and residual risk (i.e., what happens when mitigation design thresholds are exceeded).

Consequence Level	Likelihood Level						
	Almost Certain	Very Likely	Likely	Possible	Unlikely	Rare	Very Rare
	ARI (years) up to 10	10-20	20-50	50-100	100-500	500-5000	> 5000
AEP	10% or more	10% to 5%	5% to 2%	2% to 1%	1% to 0.2%	0.2% to 0.02%	< 0.02%
Catastrophic	Very High	Very High	Very High	High	Medium	Medium	Medium
Major	Very High	Very High	High	High	Medium	Medium	Medium
Moderate	High	High	High	Medium	Medium	Low	Low
Minor	Medium	Medium	Medium	Medium	Low	Low	Low
Negligible	Low	Low	Low	Low	Low	Low	Low

Figure 33: NPS:NH Risk matrix

Based on the available information, the primary natural hazard relevant to this proposal is river flooding associated with the Waipaoa River. The proposed stopbank upgrade constitutes flood-risk mitigation infrastructure, rather than new development or subdivision that would increase exposure of people, property or infrastructure to natural hazards.

The purpose of the proposal is to increase the level of service and resilience of the existing flood protection scheme for the Te Karaka township by constructing a stopbank designed to contain a “likely to possible” flood event, thereby materially reducing flood risk to the existing community during extreme weather events. The proposal will not, of itself, create or enable



additional development potential, nor will it intensify land use in areas subject to natural hazard risk.

In this context, the NPS-NH is relevant primarily in directing consideration of whether the proposal appropriately manages natural hazard risk, including residual risk associated with events exceeding the design standard, and whether it avoids any unintended increase in hazard risk elsewhere through consequential flooding effects. Accordingly, the assessment below focuses on the management of residual flood risk, including consequential flood effects on properties and infrastructure outside the protected area, rather than on the suitability of new development in hazard-prone areas.

River flooding – land and buildings

Best available information

The consequential flood assessment (Appendix 8) is based on the best available information regarding catchment characteristics and high intensity rainfall events to inform catchment modelling.

Likelihood and consequence

The consequential flood assessment considers the following design events:

Table 17: Design event vs NPS-NH Risk Matrix

Modelled scenario	NPS:NH risk matrix likelihood category (conservative)
Cyclone Gabrielle sized event	Likely
A 5,625m³/s design event	Possible
Over design event	Unlikely

The Consequential Flooding Assessment has assessed the project's consequence level against the *Australian Disaster Resilience Handbook 7 Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia (AIDR 2017)*. This methodology has been used in numerous recent 'Hawke's Bay Order in Council'⁴ consenting projects where the decision maker was an independent commissioner which accepted the risk matrix from a technical perspective. The corresponding consequence level category under the NPS:NH risk matrix is outlined in Table 18.

Table 18: Flood risk assessment alignment with NPS-NH

Consequence level	Damage to Property	Potential for injury or fatalities	Corresponding river hazard risk category
Catastrophic	Severe damage to land and building(s),	High threat to life safety, with probable fatalities	H6

⁴ Refer: <https://environment.govt.nz/acts-and-regulations/orders-in-council/hawkes-bay-flood-works/>



	potential for collapse or total destruction of structures. Building(s) need to be demolished, rebuilt or relocated.	and/or critical injuries.	
Major	Major damage to land and building(s), including structural damage. Loss of use and substantial repair required.	Unsafe for people, with potential for many injuries, or critical injuries and/or fatalities.	H5
Moderate	Some damage to land and non-structural damage to building(s). Limited loss of use, repairs required.	Unsafe for people, with potential for injuries, although expected to be minor.	H3 - H4
Minor	Minor damage to land and building(s). No loss of use, minimal repairs required.	Isolate minor injuries possible.	H2
Negligible	No loss of use, no building repairs required.	No injuries.	H1

As set out in Section 6.9 of this report, in a design (likely) event, 284 properties and 215 buildings will have flood benefit i.e. a reduction in consequence level.

Properties with an anticipated increase in consequence level during a design event are shown in Table 19.

Table 19: Non-benefit Area residential property flood hazard change summary

Address	Pre-upgrade maximum hazard	Post-upgrade Maximum Hazard
103 Kanakanaia Road	H1 / Negligible	H5 / Major
108 Kanakanaia Road	H5 / Major	H6 / Catastrophic



23 Mangaoae Road	H4 / Moderate	H4 / Moderate
45 Bridge Road	H3 / Moderate	H3 / Moderate
46 Bridge Road	H4 / Moderate	H4 / Moderate
96 Kanakanaia Road	H1 / Negligible	H3 / Moderate

Risk matrix outcome

For each modelled scenario, the potential flood risk for each property (without mitigation) is identified below in Table 20:

Table 20: NPS-NH Risk Matrix Classification for Non-benefit Area Residential Properties

Address	Cyclone Gabrielle event (likely)	Design event (possible)	Overdesign event (unlikely)
103 Kanakanaia Road	N/A	High	High
108 Kanakanaia Road	High	High	High
23 Mangaoae Road	Medium	High	High
45 Bridge Road	Low	Medium	High
46 Bridge Road	Medium	Medium	High
96 Kanakanaia Road	N/A	Medium	High

Policy response

Overall, the proposed stopbank upgrade is strongly consistent with the intent and outcomes of the NPS-NH. The proposal is expressly designed to reduce existing flood risk to the Te Karaka township and does not enable or intensify development in areas exposed to natural hazards.

The consequential flood risk assessment demonstrates that the proposal will result in a substantial net reduction in flood risk for the residential community, with more than 200 properties experiencing a meaningful reduction in hazard risk classification when compared with the existing environment. This represents a significant improvement in community safety, resilience and wellbeing, particularly in the context of recent extreme flood events.

While the assessment identifies increased flood hazard effects on a limited number of properties outside the protected area, these effects occur against an existing hazard baseline and have been addressed through proportionate mitigation measures. The potential mitigation options, including property acquisition under the Public Works Act, floor level raising and emergency response and evacuation planning, are considered appropriate responses to the level of residual risk and are consistent with Policy 2 of the NPS-NH.

No residential properties are subject to a “very high” natural hazard risk as a result of the proposal, and accordingly Policy 3 is not triggered. The proposal does not inappropriately



transfer or exacerbate flood risk off-site, with identified consequential effects being localised, assessed and managed in accordance with Policy 4. Climate change effects over a 100-year timeframe have been explicitly incorporated into the flood modelling and risk assessments, consistent with Policy 6.

When assessed as a whole, the proposal achieves a clear net benefit by materially reducing flood risk exposure for the Te Karaka community while managing consequential and residual risks in a proportionate and transparent manner. The proposal therefore gives effect to the NPS-NH by reducing natural hazard risk where practicable, recognising residual risk, and avoiding the creation of new or intensified hazard exposure.

River flooding – roading and bridges

Best available information

The consequential flood assessment (Appendix 8) is based on the best available information regarding road and bridge levels, and structural design and performance of the local bridges.

Likelihood and consequence

As set out above, the consequential flood assessment considers the impacts of likely, possible and unlikely flood scenarios.

As set out in Table 11 of this report of the roads assessed, only Mangaoae Road is anticipated to have an increase in flood hazard consequence risk as a result of the proposed stopbank, during the design event. This will be an increase from H5 (Major) to H6 (Catastrophic).

The Rangatira Road bridge was designed to withstand approximately 3,500m³/s (around a “likely” event scenario). Based on the available information, it is therefore at risk of inundation/temporary loss of use (Major) during the design event (5,625m³/s) both with or without the proposed stopbank project. In terms of its structural capacity, preliminary structural checks indicate that the bridge piers are capable of sustaining the increased flexural demands under the post-stopbank design flood event. There is therefore no change anticipated in consequence classification.

The Kanakanaia Road bridge was nearly inundated during the Cyclone Gabrielle (“likely”) event. Based on the best available information regarding its structural capacity, the bridge is considered to be already at risk of failure/collapse during a design event (i.e. a Catastrophic consequence).

Risk matrix outcome

For the roads and bridges assessed as potentially having an increased risk profile as a result of the stopbank project, the risk classification remains at “high” during the design event both pre and post the stopbank upgrade project (see



Table 21).



Table 21: Road and Bridge NPS-NH Risk Matrix Assessment

Road / Bridge	Cyclone Gabrielle event (likely)	Design event (possible)	Overdesign event (unlikely)
Mangaoae Road	High	High	N/A
Rangatira Road bridge	High	High	N/A
Kanakanaia Road bridge	High	High	N/A

Policy response

Overall, the proposed stopbank upgrade is considered to be consistent with the intent and outcomes of the National Policy Statement for Natural Hazards in relation to roads and bridges. The proposal does not introduce new transport infrastructure in hazard-prone areas, nor does it materially increase exposure of people or assets to natural hazard risk. Rather, the assessment confirms that the relevant sections of the local road and bridge network already operate within a flood-prone environment and are subject to existing natural hazard risk under the current design event scenario.

The consequential flood risk assessment, based on the best available information, demonstrates that for the roads and bridges assessed as potentially affected by the proposal, overall risk classifications during the design flood event remain unchanged pre- and post-upgrade, and continue to fall within the "high" risk category. In the case of Rangatira Road Bridge, inundation and temporary loss of use during a design event is anticipated both with and without the proposed stopbank upgrade, while preliminary structural checks indicate no change to structural failure consequence. For the Kanakanaia Road Bridge, the bridge is already assessed as being at risk of catastrophic failure during the design flood event in the existing environment, irrespective of the proposed works.

While the assessment identifies an increased flood hazard consequence at Mangaoae Road during the design event, this change occurs against an existing baseline of flood exposure and does not result in a corresponding escalation in overall risk classification when likelihood and consequence are considered together. The proposal therefore does not materially worsen natural hazard risk for the transport network when assessed in accordance with the NPS-NH risk framework.

The NPS-NH policies relating to the avoidance of very high risk are not triggered by the proposal, as no roads or bridges transition into a new or intensified risk category as a result of the stopbank upgrade. Consequential effects have been identified, assessed and transparently characterised, and will be addressed through proportionate operational and asset management responses, including flood forecasting, early warning systems, and bridge closure protocols during extreme events.

When assessed against the objectives and policies of the NPS-NH, the proposal appropriately manages natural hazard risk for roads and bridges, recognises and makes transparent



residual and existing risks, and avoids creating new or intensified hazard exposure. In this context, the stopbank upgrade is consistent with a risk-reduction approach and responds proportionately to the scale and nature of consequential effects identified.

Summary

Overall, the proposed stopbank upgrade is not contrary with the intent and direction of the NPS-NH. The proposal is a natural hazard risk-mitigation project designed to substantially reduce existing flood risk to the Te Karaka township and does not enable or intensify development in hazard-prone areas.

The assessment demonstrates a clear net reduction in natural hazard risk, with more than 200 residential properties experiencing a significant improvement in flood risk classification as a result of the proposal. While consequential flood effects on a limited number of properties, roads and bridges have been identified, these occur against an existing hazard baseline and do not result in a material escalation of overall risk. Residual risks, including those associated with over-design flood events, have been transparently assessed and will be managed through proportionate mitigation, operational responses and longer-term asset management.

When considered in the context of the existing environment and future climate change, the proposal gives effect to the NPS-NH by reducing natural hazard risk where practicable, managing residual and consequential effects in a proportionate manner, and avoiding the creation of new or intensified exposure to natural hazards.

7.4.2 National Policy Statement for Infrastructure

The National Policy Statement for Infrastructure (NPS-I) applies to a broader range of infrastructure than defined in the RMA, and includes flood protection assets like stopbanks (i.e. additional infrastructure) and associated earthworks, land disturbance, vegetation clearance, and culverts (i.e. ancillary infrastructure activities).

The objectives of the NPS-I are to:

- (a) ensure the national, regional and local benefits of infrastructure are provided for;*
- (b) enable infrastructure to support the social, economic and cultural wellbeing of people and communities and their health and safety;*
- (c) enable infrastructure to support the development and change of urban and rural environments to meet the diverse and changing needs of present and future generations;*
- (d) ensure infrastructure is well-functioning, resilient and compatible, as far as practicable, with other activities; and*
- (e) ensure infrastructure is delivered in a timely and efficient manner while managing adverse effects from or on infrastructure*



As discussed in this proposal, the purpose of this application is aligned with the NPS-I objectives.

Policy 1 of the NPS-I states that decision makers *'must recognise that the benefits of infrastructure include ... reducing the risks from, and improving resilience to, natural hazards and climate change'*. The project has been designed and to achieve such that.

Policy 2 states *'decision-makers must recognise that the operational need or functional need of infrastructure includes...the need to...manage risks from natural hazards'*. The proposal clearly demonstrates an operational and functional need to manage the natural hazards.

Policy 6 states *'decision makers must recognise and provide for Māori interests in relation to infrastructure activities and infrastructure supporting activities, including by ... taking into account the outcome of any engagement with tangata whenua on any relevant resource consent'*. Te Aitanga a Mahaki iwi have endorsed the project in principle.

Policy 7 states:

(1) When assessing and managing the effects of infrastructure activities, decision-makers must:

(a) have regard to the extent to which adverse effects have been avoided, remedied or mitigated through the selection of the route, site or method of undertaking the work;

(b) consider the technical and operational requirements and constraints of infrastructure activities;

(c) take into account the extent to which the effects of the infrastructure activities are different in scale, intensity, duration and frequency from the effects of existing infrastructure;

(d) take into account relevant international standards (that are recognised or used in New Zealand), national standards and recognised best practice standards and methodologies to assess and manage adverse effects; and

(e) ensure that the mitigation measures and consent conditions are proportionate to the scale of adverse effects generated by the activity.

As discussed above, Policy 7 is considered to be met, with adverse effects managed through appropriate design refinement, proportional mitigation measures, and consent conditions that are commensurate with the scale and nature of effects identified.



Overall, the proposal is consistent with and gives effect to the objectives and policies of the NPS-I by providing resilient flood protection infrastructure that delivers significant local and regional benefits while appropriately managing adverse effects.

7.4.3 National Policy Statement for Freshwater Management

The National Policy Statement for Freshwater Management 2020 (NPS-FM) applies to all freshwater (including groundwater) and, to the extent they are affected by freshwater, to receiving environments (which may include estuaries and the wider coastal marine area). The NPS-FM came into force on 3 September 2020 and every local authority must give effect to this National Policy Statement as soon as reasonably practicable.

Part 2 of the NPS-FM contains a single overarching objective being –

The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises:

- *first, the health and well-being of water bodies and freshwater ecosystems*
- *second, the health needs of people (such as drinking water)*
- third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future*

The policies relevant to the proposal are included below:

- **Policy 1:** *Freshwater is managed in a way that gives effect to Te Mana o te Wai.*
- **Policy 2:** *Tangata whenua are actively involved in freshwater management (including decision making processes), and Māori freshwater values are identified and provided for.*
- **Policy 3:** *Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.*
- **Policy 4:** *Freshwater is managed as part of New Zealand's integrated response to climate change.*
- **Policy 6:** *There is no further loss of extent of natural inland wetlands, their values are protected, and their restoration is promoted*
- **Policy 7:** *The loss of river extent and values is avoided to the extent practicable.*
- **Policy 8:** *The significant values of outstanding water bodies are protected*
- **Policy 9:** *The habitats of indigenous freshwater species are protected.*
- **Policy 15:** *Communities are enabled to provide for their social, economic, and cultural wellbeing in a way that is consistent with this National Policy Statement*



The proposal will not have any significant adverse effects on the health and wellbeing of freshwater ecosystems. The proposed works will be carefully managed to ensure that adverse effects on the quality and values of Waipaoa River are avoided.

Mana Whenua have been consulted with throughout the process and GDC will continue to engage with them to ensure that they are actively involved in the process. The project has embraced Te Mana o Te Wai and has been endorsed in principle by local iwi and marae.

The works will reduce flooding effects and is inherently designed to account for the effects of climate change by increasing the flood capacity area during extreme weather events. Giving more room back to the river will increase the extent of the Waipaoa River and improve and protect river values.

The quality of the water will be maintained through the implementation of appropriate erosion and sediment controls during the earthworks and re-vegetation of any disturbed areas upon completion of the works.

A small, 'unconfirmed' wetland is located close to the proposed area of works, which will occur within 100m of the potential wetland area but at least 10m set back. It is noted in the EclA attached as Appendix 7 that given the nature of the surrounding area, it is likely that any wetland species present would be exotic and the potential wetland area has been assessed as having 'low' value. In this respect, the wetland will not be adversely affected.

Overall, the proposal is not contrary with the relevant policies of the NPS-FM.

7.4.4 National Policy Statement for Highly Productive Land

The National Policy Statement for Highly Productive Land (2002, amended December 2025, "NPS:HPL") has an interim definition of highly productive land (section 3.5(7)), which effectively means the objectives and policies of the NPS:HPL applies to rural zoned land identified as land use classification (LUC) 1, 2 or 3. The NPS:HPL is therefore applicable to the project as the proposed stopbanks traverse LUC 2 and LUC 3 categorised soils (see Figure 34). It is noted that the January 2025 amendments exclude land subject to a resource consent application for subdivision, use or development on LUC 3 land for any activity other than rural lifestyle, where that consent has been lodged at or after the commencement date.



Figure 34: Highly Productive Land in Te Karaka

The NPS:HPL overarching objective is *Highly productive land is protected for use in land-based primary production, both now and for future generations*. Relevant policies are:

- Policy 1: Highly productive land is recognised as a resource with finite characteristics and long-term values for land-based primary production.*
- Policy 2: The identification and management of highly productive land is undertaken in an integrated way that considers the interactions with freshwater management and urban development.*
- Policy 4: The use of highly productive land for land-based primary production is prioritised and supported.*
- Policy 8: Highly productive land is protected from inappropriate use and development.*

The NPS:HPL seeks to protect highly productive land for productive purposes, and from inappropriate use and development. However, the NPS:HPL provides discrete exemptions, including for the development of specified infrastructure where there is a functional or operational need for the use or development to be on highly productive land (See Section 3.9 2(j)). It is considered that an exemption would be applicable in this case provided that Section 3.9 (3) is generally met:

(3) Territorial authorities must take measures to ensure that any use or development on highly productive land:



(a) minimises or mitigates any actual loss or potential cumulative loss of the availability and productive capacity of highly productive land in their district; and

(b) avoids if possible, or otherwise mitigates, any actual or potential reverse sensitivity effects on land-based primary production activities from the use or development.

The proposal aims to minimise the loss of productive capacity as much as practicable by reinstating the borrow area north of the stopbank alignment into retired grassland or pasture for passive grazing. Also, the current stopbank material will be used in the new upgraded stopbank hence reducing the amount of potential productive soil loss through construction. Moreover, the land 'freed up' to the decommissioned stopbanks can be utilised again for agriculture and the like. It is acknowledged that the shift of the stopbank would 'open up' more of the productive soils to flooding and erosion. However, given that the current stopbanks were breached during Cyclone Gabrielle and the area experienced soil loss, on balance the difference in soil loss comparing the existing environment and proposal is considered negligible.

Overall it is considered that the proposal not contrary to the NPS:HPL overarching objective and relevant policies.

7.5 Tairāwhiti Resource Management Plan

Assessment against the Tairāwhiti Resource Management Plan (TRMP) relevant objectives and policies is provided in this section. The objectives and policies are provided verbatim followed by the assessment.

Part B - Regional Policy Statement

B1: Tangata Whenua

B1.2.1 Objective

1. To take into account the principles of the Treaty of Waitangi in the exercise of functions and powers under the Act.

B1.2.2 Policies

1. The Kawanatanga Principle To recognise that the Gisborne District Council's (delegated) right to manage natural and physical resources (kawanatanga) is exercised subject to the protection of rangatiratanga.

2. The Rangatiratanga Principle To endeavour to uphold, within the limits of the RMA, the rangatiratanga rights of iwi o Tairāwhiti. Policies and plans shall, as far as possible, be consistent with Māori values and preferences for management of their resources.



3. *The Partnership Principle To actively promote and develop greater partnership between Council and iwi o Tairāwhiti in the management of the district's natural and physical resources by exercising the utmost good faith, co-operation, reasonable compromise, flexibility and responsiveness.*

4. *The Active Protection Principle To actively protect the manataiao and taonga of iwi o Tairāwhiti by identifying and protecting, in a manner appropriate to the values of iwi, those natural and physical resources of significance to iwi.*

5. *To take account of the guarantee of rangitiratanga and its relationship with kawanatanga in resource management planning.*

B1.3.1 Objective

1. *To have particular regard to the concept of kaitiakitanga when managing the use, development and protection of natural and physical resources, in a way which accommodates the views of individual iwi and hapu.*

B1.3.2 Policies

1. *To consult with iwi and hapu on an individual basis to determine how kaitiakitanga can be recognised and integrated in the management of the use, development and protection of natural and physical resources in the Gisborne district.*

2. *To recognise and provide for the role and mana of kaitiaki as resource managers or guardians of local resources.*

3. *To encourage Applicants for resource consents to consult with tangata whenua.*

4. *To take account any relevant planning document/s recognised by the appropriate iwi, hapu or marae.*

B6.2.1 Regional Policy Statement Objectives – Freshwater

1. *Land and freshwater is sustainably managed in a way that safeguards the life-supporting capacity of freshwater, including ecosystem processes and indigenous species, and the health of people and communities.*
2. *The quality of freshwater is maintained and is improved where it is degraded or does not meet the relevant objectives for the freshwater unit.*
3. *Lakes, rivers, wetlands and their margins are managed in a way that:*
 - a) *Preserves their natural character and protects them from inappropriate subdivision, use and development; and*
 - b) *Maintains or enhances their amenity values.*
4. *Scheduled waterbodies and their margins, and the significant values of both outstanding waterbodies and wetlands, are protected or enhanced to provide for their values.*



5. *Freshwater is available, within limits, to meet the present and future needs of communities to support the social, cultural and economic wellbeing of the region.*
6. *To manage the allocation and use of freshwater so as to:*
 - a) *Avoid over-allocation and phase out any existing over-allocation; and*
 - b) *Improve and maximise the efficient allocation and use of freshwater, and ensure it is reasonable for its intended use.*
7. *The interactions between land, land use and development, freshwater, and the coastal environment and associated ecosystems are recognised and provided for through the integrated management of freshwater and coastal water resources to maintain or improve their values.*
8. *Freshwater accounting systems are established, and research and monitoring is undertaken that improves the understanding and sustainable management of freshwater resources, including the potential impact of climate change.*
9. *The planning and management of the region's freshwater resources is undertaken in a way that recognises and provides for their kaitiaki role of iwi and hapū and ensures that their values and interests are reflected in the decision-making process.*
10. *The mauri of waterbodies is recognised and provided for and action is taken to sustain and restore the mauri of degraded waters. Actions taken to sustain and restore the mauri of degraded waters will:*
 - a) *Recognise and provide for the kaitiaki role of iwi and hapū;*
 - b) *Recognise and provide for mauritanga.*
11. *Mana whenua values, mātāuranga and tikanga are reflected in resource management processes and decision making, in a manner consistent with the priorities and preferences of mana whenua within the limits of the Act.*
12. *The stewardship role of landowners, water users communities and mana whenua is recognised and provided for through a collaborative approach to freshwater planning, management and monitoring.*

B9.1.1 and B9.2.1 Regional Policy Statement Objectives – Natural Resources

B9.1.1

2. *The protection and rehabilitation, where appropriate, of areas of significant indigenous vegetation and significant habitats of indigenous fauna, including their genetic and biological diversity.*
3. *The sustainable management of natural and physical resources.*

B9.2.1

1. *Maintenance or enhancement of public access to and along rivers, lakes and the coastal marine area.*



Assessment:

The life supporting capacity of freshwater, ecosystem processes and the health of people are all safeguarded by the proposal. The values of scheduled waterbodies will be protected, and public access will not be limited by the proposed works.

Although the river catchment water allocation is over-allocated on an annual volume limit basis, any taking of water from the Waipaoa River will be temporary and minor, and will not compromise the present and future needs of communities' social, cultural and economic wellbeing.

A partnership approach with tangata whenua has been adopted for the project. Te Aitanga a Mahaki iwi and two local marae have been actively involved in the project and informed the preferred stopbank alignment. It is noted that the Te Aitanga a Mahaki iwi Environmental Inventory is recognised and lodged with GDC.

As the Waipaoa River is Scheduled in G15B (Additional Key Habitats for Longfin Eel) the proposed works need to be managed in a way which protect indigenous species, where appropriate. The EclA and proffered consent conditions includes management and mitigation strategies so that ecological values of the river are protected.

Overall, the proposal is not contrary with the above relevant objectives and policies of the Regional Policy Statement.

B7 Cultural and Historic Heritage

B7.1.1 Objective

To recognise and protect heritage values including those of Māori whenever these are affected by the use or development of natural and physical resources.

B7.1.2 Policies

1. To ensure the effects of development proposals on significant heritage values in the region are avoided, remedied or mitigated...

Assessment

As discussed in the effects assessment section above, cultural and historic heritage is unlikely to be affected by the proposal and proffered conditions have been developed to manage any potential effects. As such it is considered that the proposal is not contrary to chapter C7 objectives and policies.

B8 Land Management

B8.3.1 Objective



1. To protect soils which are highly fertile and versatile from the effects of subdivision and land use which are likely to result in their permanent or long-term loss.

B8.3.2 Policies

1. To recognise the importance of highly productive soils to the economic and social well-being of the community.

3. Recognise the need for all activities on highly productive soils to avoid adverse environmental effects and unsustainable practices.

Assessment

The proposal is to essentially shift the alignment current stopbanks to provide more floodplain capacity. Some productive soils will be lost through floods which already occur. As discussed above, the existing stopbank material will be re-used and the stopbanks will be reinstated for passive grazing. It is considered that the proposed approach is a sustainable method and meets the intent of these policies.

Part C - Region Wide Provisions

C6.1.1 Policies Water Quantity and Allocation

1. When considering any application the consent authority must have regard to the following matters:

a) the extent to which the change would adversely affect safeguarding the life-supporting capacity of fresh water and of any associated ecosystem; and

b) the extent to which it is feasible and dependable that any adverse effect on the life-supporting capacity of fresh water and of any associated ecosystem resulting from the change would be avoided.

9. Where an allocation cap has been reached or exceeded: ...

d) A waiting list shall be established for new applications;

h) No new water shall be allocated unless there is water available within the Allocation Cap.

Water Restrictions

11. The timing and procedures for the partial restriction of water permits will be implemented through the conditions of water permits on the following basis:

a) Restrictions may be applied to surface water takes when flows move within an allocation block identified in a catchment plan...

15. In addition to the policies above, when considering applications to take and use water, the following assessment criteria shall be used:



- a) Whether the amount of water to be taken and used is reasonable for the proposed use;
- b) The rate, volume and timing of the take including daily, weekly, monthly and annual limits;
- c) The location of the take and use of the water;
- d) Water meter requirements;
- e) Permit duration including common expiry dates, and permit lapse dates;
- f) For permit renewals in fully or over-allocated water quantity zones, any necessary reductions in the rate of take and allocated volumes to achieve catchment plan targets;
- g) Partial restriction requirements;
- h) Access to survival water within survival water blocks and above minimum flows, including rostering or application rates;
- i) The effects the take or use has on any other authorised takes and uses;
- j) Whether and how fish are prevented from entering the water intake;
- k) The effects of the proposal on the quantity and quality of all water resources that may be affected by the proposed activity;
- l) Any actual or potential effects on significant indigenous biodiversity or aquatic ecosystem values identified in Schedule G15;
- m) The availability and practicability of using alternative supplies of water, including water storage;
- n) The extent of existing water infrastructure investment;
- o) Any actual or potential for increasing the landward extent of saline intrusion;
- p) Any actual or potential adverse effects on tangata whenua values; and
- q) The requirement for an Irrigation Management Plan in accordance with Appendix H22.

Assessment

It is acknowledged that the Waipaoa River catchment / Poverty Bay Flats water quantity zone is over-allocated and no new water is typically allocated by GDC regulatory unless special circumstances apply. The application is a new application which would be subject to a queue / waiting list should the above policy be strictly adhered to. The above AEE has confirmed that the adverse effects on other water users and ecology are likely to be temporary and low.



The only other key alternative that the Applicant has to consider would be to use the public water supply for Te Karaka which draws water from the Waipaoa River. The public water supply water is treated to drinking water standards. The primary need for water for the project is for dust suppression which does not need to be treated. Overall, the proposed water take is considered a more sustainable option as less materials (dosing chemicals etc) would be required.

Given the high importance of the project to the Te Karaka community and minimal adverse effects, on balance it is considered that the intent of the above policies met and the proposal is not contrary to the above objectives and policies, and the water take consent should be granted.

C6.3.4 Policies for Vegetation Clearance and Disturbance

3. Encourage and promote the removal of inappropriate species of plants, or plants inappropriately located, including wilding willows and any plant identified in the Regional Pest Management Plan, the National Pest Plant Accord or any unwanted organism under the Biosecurity Act 1993, from the beds of streams, rivers and lakes where these are causing adverse effects on water flows, water quality, or the stability of the beds and banks of the waterbody.

4. Provide for vegetation clearance and planting in streams, rivers and lakes where:

- a) Adverse effects on the significant habitats and migratory and breeding activities of native aquatic and terrestrial species and trout are minimised;*
- b) There is no reduction in flood carrying capacity, increased flood levels, adversely altered floating debris carrying ability of the stream or river, or adverse alteration to rates of aggradation or bank erosion;*
- c) There is no damage to heritage items, waahi tapu, taonga and areas of cultural significance;*
- d) There is no reduction in value of the waterbody for activities such as kohinga kai harvesting or recreational use, including the protection of public access and impacts on natural character and amenity values.*

Assessment:

The proposal will involve minor vegetation removal to allow for the establishment of the stopbank. It is noted that this is required to provide for the reduction in flood hazard by improving the flood carrying capacity of Waipaoa River. There will be no material reduction in ecological values or natural values of the stream as a result of the works. This will not result in a loss of ecological habitats or heritage values.

Any adverse effects as a result of vegetation clearance have been discussed in the assessment of effects above. In this respect, the proposal is consistent with the relevant policy.



C6.3.12 Policies for Damming, Diversion and Drainage of Streams, Rivers and Lakes

1. Recognise that the damming and diversion of water can have a range of beneficial purposes, including:
 - f) Flooding/stormwater control;
 - h) Sediment control measures;
 - i) Property access to land; and
 - j) The provision of significant infrastructure.
2. Provide for the damming, diversion and drainage of streams, rivers and lakes only where:
 - a) It is reasonably necessary to provide for the benefits outlined in Policy C6.3.12.1;
 - b) There is a functional need to do so;
 - c) There is no practical alternative; and
 - d) Significant effects are avoided or other adverse effects are avoided, remedied or mitigated.
3. Modification such as straightening and piping of natural water channels should be avoided where possible. Where channels are already modified these should be managed to improve in stream habitat values.
5. Any new damming and diversion activities, or changes to existing (at plan notification) damming and diversion activities should ensure that fish passage is maintained or enhanced, and a residual flow, and appropriate flow variations for freshes and floods are retained within the waterway which:
 - a) maintains instream habitat values including the ability of native fish to migrate;
 - b) provides for existing surface water takes; and
 - c) allows for existing assimilative requirements associated with existing discharges of contaminants to water in downstream areas.

Assessment:

The key modifications to the stream will be the setting back of a pre-existing man-made stopbank to improve flood carrying capacity and a reduce the flood hazard risk to the Te Karaka township. Erosion and sediment control measures will be undertaken to ensure that there no unacceptable effects on the watercourse or ecological habitats during the short-term duration of the works.

The proposed culvert with flap gate is considered necessary for flood control. It will be designed in accordance with the expectations set out in Policy C6.3.12 (5). It will continue to provided 'freshes' up until a certain flood event. Fish passage will be improved compared to the current existing perched culvert. Water takes are unlikely be significantly impacted give that the culvert will be open during low flows and any high flow water takes (if any exist, given



the small catchment of 92ha) would unlikely be affected. Likewise, assimilative capacity of the river system will not be impacted.

In this respect, the proposal is not contrary to the above relevant C.6.3.12 policies.

C7.1.3 Land Management Objectives

1. *Land uses and management practices that avoid, remedy or mitigate adverse effects on the environment including adverse effects on aquatic and wetland ecosystems, biodiversity and physical resources.*
2. *Reduction of land and asset degradation caused by poor land management systems.*
3. *Maintenance of the life supporting capacity of the soil.*

C7.1.4 Land Management Policies

2. *To ensure that, when land disturbance or vegetation clearance operations take place in environments susceptible to erosion, measures to achieve soil conservation and the avoidance, remediation or mitigation of adverse effects will be taken into account.*
3. *Regard to the following will be had when preparing plans or considering applications for plan changes or consents:*
 - a) *the sustainable management of the land resource;*
 - b) *the effects of the activity on erosion and soil conservation;*
 - c) *the effects of the activity on the establishment or maintenance of ETC on LO3A land;*
 - d) *the effects of the activity on the receiving environment and waterbodies;*
 - e) *the effects of the activity on the aquatic environment;*
 - f) *the potential of the activity to erode physical resources.*
6. *To recognise that it is not possible to completely stop soil loss, and movement of sediment and gravel offsite, and to allow land disturbance and vegetation clearance activities with adverse effects that can be remedied or mitigated or have no more than minor adverse effects on erosion, soil structure and water quality.*

Assessment:

The policies recognise it is not possible to completely stop soil loss and the movement of sediment. This is also reflected in many of the rules of the TRMP. The Applicant is proposing best practice methods to manage the sediment loss during the proposed activity. During the works, erosion and sediment control measures will be implemented to mitigate the effects of this on Waipaoa River, and as vegetation re-establishes, sediment generation will reduce to background levels. In this respect, the proposal is not contrary with the above relevant objectives and policies.



C8.1 Natural Hazards

C8.1.3 General Objectives

1. A pattern of human settlement that:
 - a) provides a high level of personal safety from natural hazards for its inhabitants;
 - b) avoids or mitigates the risk to property and infrastructure from natural hazards; and
 - c) does not accelerate or worsen the adverse effects of natural hazards upon the natural and physical environment.
3. The protection of natural features that could lessen the impact of natural hazards.

Assessment:

Based on the consequential flood risk assessment, the proposal will improve personal safety from natural hazards for its inhabitants (i.e. the Te Karaka township) whilst recognising that some personal safety risks will be exacerbated to some properties outside of the benefit area unless appropriately mitigated. The proposal aims to avoid or mitigate the risk to property and infrastructure from natural hazards within the benefit area. The proposal is unlikely to accelerate or worsen the adverse effects of natural hazards upon the natural environment however will impact some physical environments as discussed in the sections above. The proposal does however overall does result in net benefit to the physical environment through significant reduction in flood depths to the Te Karaka township. Overall, the proposal is considered not contrary to Objectives C8.1.3 1 and 3.

C8.1.4 General Policy

2. In all hazard prone areas, any new subdivision, use and development should avoid or minimise any risk of loss of life or injury or other environmental damage due to natural hazard.
3. Any assessment of a resource consent application within a hazard prone area shall consider, but is not limited to, the following matters:
 - a) whether minimum floor levels for residential buildings should be set to reduce the susceptibility to danger and damage from flooding;
 - b) the desirability of residential buildings being relocatable so they may be moved if the risk of damage becomes imminent.
4. Patterns of human settlement, development and activities should not induce or accelerate the risk of natural hazards. When assessing an application for a resource consent the effects of that application on any hazard risk shall be considered. This includes but is not limited to the following:
 - a) the likelihood and effect of unrestrained material escaping and increasing potential hazard damage;
 - b) any diversion of overland flows of floodwaters or stormwater;
 - c) the safety of any occupants of buildings and evacuation procedures;



- d) potential flood conditions, including silt deposition, at the site;
 - e) site topography and location of the building;
 - f) likelihood of increased erosion elsewhere;
 - g) stormwater collection and disposal systems should be designed to mitigate any adverse effects on the stormwater system or avoid an increase in the risk or severity of flooding or land instability;
 - h) other measures in place to reduce the potential effects of the proposed buildings or site development on the movement of floodwater;
 - i) extent to which natural buffers exist and are adversely affected.
5. To recognise the limits of attempts to control natural processes by physical work and restrict such attempts to appropriate situations where they are:
- a) needed to protect existing development, or waahi tapu or new public infrastructure such as ports, roads and bridges; and
 - b) have a favourable benefit to cost ratio; and
 - c) will have no more than a minor adverse effect on the natural character of the coastal environment, lakes and rivers and their margins, or areas / features of natural or cultural significance, or other adverse environmental effects; and
 - d) will not cause or worsen hazards to other lands or waters; and
 - e) are the best practical alternative.
6. Mitigation works shall be designed and constructed in sympathy with the environment recognising:
- a) the dynamic, complex and interdependent nature of biological and physical processes;
 - b) effect on amenity values;
 - c) effects on the landscape and natural features of the locality;
 - d) any effect on public access.
8. In carrying out hazard assessments or considering resource consent applications the possibility and implications of climate change are to be recognised. In particular the likelihood of the following matters should be considered:
- d) higher local temperatures;
 - e) changes in rainfall patterns;
 - f) increase in cyclonic storms.

Assessment:

The objectives in this section of the TRMP essentially emulate the objectives and policies in the Regional Policy Statement (B5.1.2 and B5.1.3). In regard to Policy C8.1.4 (2), the proposal on balance will minimise any risk of loss of life or injury or other environmental damage. Floor levels have been considered as noted in Policy C8.1.4 (3) and have informed mitigation options that are being considered.



In regard to Policies C8.1.4 (4), C8.1.4 (5) and C8.1.4 (8), all relevant matters have been broadly considered in the consequential flood risk assessment and other above assessments. The proposal is expected to have a favourable benefit to cost ratio noting that some land parcels will have worse flood hazards. However the proposal which provides more room for the river is considered the best practical alternative to the 'do nothing' option. In regard to Policy C8.1.4 (6), mitigation options are still being explored and will be cognisant of this policy.

Overall, on balance the proposal is considered not contrary to the Natural Hazard policies of the chapter C8.1.4 and the Regional Policy Statement objectives and policies (B5.1.2 and B5.1.3).

C8.2 Flood Hazard

C8.2.2 Policies for Flood Hazards

1. In developing plan provisions, and in assessing resource and building consent applications, the Council will adopt 'design flood standards' for flood hazard assessments as follows:

a) (Waipaoa River within the) Poverty Bay Flats

Peak flood flow of 5830 cumecs in the Waipaoa River at Kanakanaia over a period of 30 hours. (Cyclone Bola hydrograph plus 10%) plus a flood equal to the magnitude of the July 1985 event from all other rivers and streams on the floodplain.

c) Te Karaka

Peak flow of 5300 cumecs in the Waipaoa River at Kanakanaia.

Assessment:

The design flood standards have been considered with the proposed design flood event equivalent to a Cyclone Gabrielle-sized event, a 5,625 m³/s design event (approximately a 100-year annual recurrence interval event). The proposed upgraded stopbank crest levels have been designed on the basis of a specific hydrological event representing Cyclone Bola flows + 25%, with the 25% representing an increase of flows for climate change.

Part D: Area Based Provisions

DF1.1 Waipaoa Catchment Plan

DF1.4.2.1 Water Quality Objectives

Nitrate toxicity – Waipaoa Water Quality Zone...High conservation value system. Unlikely to be toxicity effects on even the most sensitive organisms...In the Waipaoa River mainstem (as for its tributaries Waingaromia and Mangatu) improve current water clarity over the long term.



Assessment

The proposal through the potential reduction in grazed land may reduce nitrate contribution to the awa although the reduction would only be modest. The proposal may slightly impact visual clarity in the short term during construction but once the scheme is established and earthworks areas are full reinstated, long term impacts would be negligible.

DF1.4.2.2 Water Quantity Objectives

- 1. Summer low flows in the Waipaoa River provide for a moderate level of ecological health, based on the flow requirements of adult long finned eels.*
- 2. The B block allocation during higher flows provides for water storage and irrigation needs without affecting freshes and flushing flows within the Waipaoa River.*
- 3. The Waipaoa River continues to be both a key source of water for the Gisborne municipal water supply and a major source of water for irrigation uses.*
- 4. Allocations of water made through resource consents in the Poverty Bay Flats reflect the reasonable use test.*

A Block (and B Block) water is sought. As assessed in the EclA, it is considered that the proposal is consistent with Objective DF1.4.2.2.1. As assessed above, in Section 6.13.6, the proposal is unlikely to impact B block water users. Municipal supplies and irrigation will not be significantly impacted and water will only be taken based on the reasonable use test.

Section DF1.4.3.2 of the TRMP sets the water quantity limits and targets for the Poverty Bay Flats Waipaoa surface water zone (at Kanakanaia monitoring location) and as summarised in Table 14 above. Allocation based on an instantaneous rate of take is available therefore it is considered that the proposal will meet the limits based on a litres per second take basis. Although the catchment is over-allocated based on an annual volume basis and reduction in water take is ongoing, it is considered that the proposed water take is essential for the Te Karaka community to enable the flood upgrade. The proposed water take is significantly different to the other water takes that make up the water allocated which are taken on a regular and long term basis. Whereas the proposed water take is only needed for 2 to 3 construction seasons and consent conditions have been proffered to manage any long-term allocation issues (e.g. consent cannot be transferred or "renewed") i.e. at the end of construction, this allocated water would be "given back" to the river and allocation.

DD1.4.2 Amenity Values Policies

- 1. Manage the adverse effects of activities in residential areas by ensuring that:*
 - a) buildings and structures are located so as to avoid, remedy or mitigate any adverse effect on the adjoining properties;*
 - b) the scale of the development is appropriate for the site and the location of the site in the street, and will not cause a loss of residential amenity values for surrounding residents;*
 - c) the safety and amenity values of the neighbourhood are protected;*



- d) the character and amenity of the residential environment shall be maintained or enhanced and conflicts with adjoining land users avoided, remedied or mitigated.
- 2. Manage the effects of traffic generated by activities in residential areas by:
 - a) ensuring that adequate on-site vehicle parking and manoeuvring areas are provided for all developments;
 - b) ensuring that the level of traffic potentially generated by the proposal can be accommodated without compromising the safety of traffic and residents on the district's roads;
 - d) giving consideration to the nature of adjacent roads, to ensure that entry, exit and manoeuvring of vehicles onto a public road can be conducted safely from all sites in a residential zone.
- 3. Limit activities in residential areas to those which will not significantly alter the existing background noise level of the surrounding residential area.
- 4. Manage the adverse effects of fumes, smell, dust, glare or light in residential areas.
- 5. Preserve access to daylight and privacy for existing dwelling-units on adjoining properties, and for future occupants of any new dwelling-unit by ensuring that:
 - a) each dwelling-unit has a private outdoor area orientated to the sun;
 - b) new buildings or structures are designed and located so as not to cause significant loss of daylight or privacy to adjoining sites.
- 6. Manage the effects of non-residential activities by:
 - a) restricting the location of non-residential activities to the Inner Residential zone and only those sites fronting a principal or arterial road;
 - b) ensuring that all reasonable steps have been taken to avoid nuisance and that the amenity of the residential environment is protected;
 - d) the provision of fencing and landscaping, which safeguards the privacy and visual amenity of the surrounding area;
 - e) ensuring that any outdoor storage associated with a non-residential activity does not adversely affect the surrounding residential environment;
 - f) ensuring that the hours of operation of any activity will not adversely affect the amenity of the surrounding residents particularly with regard to noise and traffic generation;

DD1.4.3 Protection of Values Policies

- 1. Manage activities on sites of architectural, historical, or particular amenity value, to ensure that any activities – particularly construction, additions or alterations to buildings on sites in the Residential Protection zone – will maintain or enhance the significant features or values.

Assessment

It is considered that all of the amenity values and protection of values policies detailed above will be met by the proposal as discussed in Section 6 above and as managed by way of the proposed consent conditions.



DD4.4.1 All Rural Zones Policies

1. When preparing plans or considering applications for plan changes, resource consents or designations in all rural zones regard shall be given to the following general policy as well as any specific policy relating to the zone:

- a) effect of the activity on the natural landform characteristics;
- b) effect on significant indigenous vegetation and significant habitats of indigenous fauna with particular references to C9 – Natural Heritage;
- c) effect on biodiversity, water quality, land stability and erosion with reference to C9 –Natural Heritage and C7 –Land Management;
- d) the location, scale and nature of the proposed activity and its effect on the balance of the land and on adjoining properties;
- e) alternative methods and locations available to carry out the works or activities;
- f) physical constraints to the site such as separation by rivers or roads, site configuration and layout;
- g) any adverse effect that the activity may have on existing rural activities;
- h) the shape, size and location of lots to be subdivided and any adverse effects they may have on amenity values;
- i) whether covenants, buffer zones or separation distances between activities would assist in mitigating adverse environmental effects.

2. To manage the effects of land use in rural zones which may not be of a rural nature by ensuring that the amenity values of the rural environment and surrounding properties are maintained with particular regard to:

- a) traffic generation whereby:
 - i. the level of traffic generated by the activity must be able to be accommodated without compromising the safety of traffic and residents on the district's roads;
 - ii. given the nature of adjacent roads that all entry, exit and manoeuvring of vehicles onto a public road can be conducted safely;
 - iii. adequate on-site manoeuvring areas are provided for all developments;
- b) noise;
- c) visual impact ensuring that:
 - i. to manage the effects of land use in rural zones which may not be of a rural nature the scale of the structure is appropriate for the use and the environment in which it is located;
 - ii. activities are of an appropriate scale and intensity for the area in which they are located;
 - iii. structures, areas and activities visible from public places are screened;
 - iv. the type of construction materials are not inappropriate to the environment in which they are located.

3. Tall vegetation and structures should retain, where possible, the adverse environmental effects they generate within the property boundaries.

5. Siting of new facilities for handling, processing, treating, storing or disposing of contaminated materials (including landfills, transfer stations, treatment or bulk storage



facilities) should be avoided in or close to the areas set out below, if they would create adverse effects:

- a) Areas vulnerable to natural hazards;
- b) Areas which support ecosystems including:
 - i. wetlands
 - ii. intertidal areas, estuaries and coastal dunes and their margins
 - iii. protected management areas or other values identified in C9 – Natural Heritage
 - iv. ecological corridors
 - v. margins of lakes and rivers
- c) Areas used for other purposes which are incompatible with the land use including:
 - i. reserves
 - ii. waahi tapu
 - iii. coastal environment
 - iv. outstanding natural features or landscapes
 - v. adjacent to existing residential and commercial land
 - vi. areas in proximity to airfield or flight paths
 - vii. water supply catchments
 - viii. areas of historic, scenic or cultural significance
 - ix. areas with watercourses which cannot be diverted in an environmentally acceptable manner

Assessment

It is considered that all of the rural zones policies detailed above will be met by the proposal as discussed in Section 6 above and as managed by way of the proposed consent conditions.

TRMP Conclusion

Overall, it is considered that the proposed activities are not contrary to the relevant objectives and policies of the TMRP

8. SECTION 106A ASSESSMENT

Section 106A allows Councils to decline or place conditions on land use consents, regardless of activity status, where an activity either creates, increases or exacerbates a significant risk from natural hazards.

- (1) A consent authority may refuse to grant a land use consent, or may grant the consent subject to conditions, if it considers that there is a significant risk from natural hazards.



- (2) *For the purposes of subsection (1), an assessment of the risk from natural hazards requires a combined assessment of all of the following taken together:*
- (a) *the likelihood of natural hazards occurring (whether individually or in combination):*
 - (b) *the material damage to land in respect of which the consent is sought, other land, or structures that would result from natural hazards:*
 - (c) *whether the proposed use of the land would accelerate, worsen, or result in material damage of the kind referred to in paragraph (b):*
 - (d) *whether the proposed use of the land would result in adverse effects on the health or safety of people.*
- (3) *Conditions imposed under subsection (1) must be—*
- (a) *for the purposes of avoiding or mitigating the effects referred to in subsection (1); and*
 - (b) *of a type that could be imposed under section 108.*
- (4) *This section does not apply to land use consents if the use of the land for which the consent is sought is—*
- (a) *construction, upgrade, maintenance, or operation of infrastructure; or*
 - (b) *primary production activities, as described in the national planning standards.*

S016A is potentially relevant to the project. Infrastructure is exempt from this section of the act. As noted above the project is for specified infrastructure and not infrastructure *per se* as defined in the RMA. Given that S106A allows consent conditions to mitigate effects from proposals which this proposal addresses, it is considered that S106A does not preclude granting consent.

9. CONSULTATION & AFFECTED PERSONS

In accordance with Schedule 4 of the RMA, an application for resource consent should:

1. Identify the persons affected by the proposal.
2. The consultation undertaken.
3. Any response to the views of any person consulted.

9.1 Community and Iwi Engagement

Given the importance of the project and potential effects, significant consultation has been undertaken with the community. A list of the key consultation undertaken to date is provided below. The Applicant has utilised a project webpage⁵ for sharing project information and engaging with the community which included voting on stopbank options and other relevant matters. Face to face meetings in the form of public open days and more private property negotiation meetings were held.

⁵ <https://participate.gdc.govt.nz/te-karaka-flood-resilience-improvement>



In determining the preferred option for this consent application, an online survey was conducted. Online submissions closed on 28 July 2025 with 30 submissions made, and 876 views on the website. Results were as follows:

- a. 97% of respondents supported Council taking action to improve flood resilience for Te Karaka;
- b. 74% of respondents supported the 'make room for the river' approach of retreating the stopbank alignment to defend a smaller area; and
- c. 53% supported Option 3 which is the preferred option, 28% preferred 'Other' and only 5% supported the more retreated Option 4.

Community engagement timeline summary

13 April 2024 – Community hui. Presented the partially calibrated flood model outputs to the community for validation. Attendees were invited to provide feedback during the hui.

July 2024 – Steering Group Formation. A Te Karaka community-led Steering Group of approximately 20 members was established, with representation from Lavenham and Branson Roads, along Matawai Road (from the Lavenham Road junction through Te Karaka Township and up to Mangamaia Road, Whatatutu).

7 August 2024 – Steering Group Hui #1. The inaugural meeting of the Steering Group was held. Group tikanga and purpose were established. The calibrated Cyclone Gabrielle flood model was presented and discussed. Two modelling scenarios were introduced. Members were invited to consider and bring additional scenarios to the next hui for discussion.

13 August 2024 – Community Hui. A brief update on the formation and progress of the Steering Group was shared with the broader Te Karaka community as part of a wider recovery-focused hui.

31 August 2024 – Steering Group Hui #2. A representative from DHI (modelling specialist) attended this session. The Steering Group presented to Council their firsthand experiences of Te Karaka and surrounding area flooding. The results of three modelled scenarios were presented. The group discussed the current extent of the model and identified further scenarios for analysis.

27 March 2025 – Community Hui. The concept of retreating the stopbank alignment was introduced early. At least seven longlist alignment options were discussed.

30 April 2025 – Community Hui. Four shortlist alignment options were presented for community consideration and feedback.

29 June 2025 – Community Hui. Two final alignment options were presented and discussed. The online Council webpage and submission portal was also promoted.



24 July 2025 – Community Workshop. Community drop-in hui – an adjusted alignment based on the community feedback received at that point in time was presented for discussion. Attendees were encouraged to complete the online feedback in advance of the close date.

28 July 2025 – Online Feedback Closed. The online Council webpage and submission form for community feedback closed at 9am.

17 August 2025 - Community hui. Te Aitanga-a-Māhaki and Council shared the Te Karaka Flood Resilience Improvement Report that will be discussed by Council on the 21 August 2025.

22 September - Resident hui. Three hui were held for residents in areas outside of the Te Karaka township; Lavenham/Branson Road area, Takipu marae area, Tapuhikitia Road/Bridge Lane area. Residents of these areas requested hui to discuss how they would be impacted by the proposed Te Karaka stopbank alignment.

10 December 2026 - Community hui. Te Aitanga-a-Māhaki, Council and TREC shared updates of a number of recovery work programmes. The hui included an update on the Te Karaka Flood Resilience programme. Challenges with funding were discussed, and what steps were being taken to try and address this. Next steps including resource consent were also spoken too.

12 March 2026 - Affected property owner hui. The purpose of this hui was to inform property owners affected by the proposed stopbank design for Te Karaka and how the land access and compensation process will work. The session introduced The Property Group (represented by Gareth Nicholl) as the independent property consultants that would support owners through the project and outlined the statutory framework, negotiation steps, and property owner rights available under the PWA.

18 March 2026 - Bridge beneficiaries hui. The purpose of this hui was to update bridge beneficiaries on the proposed Te Karaka stopbank project, including its design, funding, and potential impacts on the Rangatira and Kanakanaia bridges. It also provided an opportunity for landowners to ask questions, raise concerns, and discuss risks, access, and mitigation options associated with future flood events.

***Note:** For this programme of work 'Bridge beneficiaries' are those landowners that live on the far side of the Kanakanaia and Rangatira bridges from the Te Karaka township and benefit from the use of the bridges.*

22 March 2026 - Community hui. Community update on recovery. An update was provided to the community on the Te Karaka stopbank programme, with opportunity for discussion and questions. Project costs have been refined, securing funding is looking more positive.



Resource consent will be lodged in April, likely to be notified. Impact on bridges. Adjustments to design.

9.2 Other stakeholders

The Applicant has also engaged with:

- NZTA regarding road raising works in the SH2 corridor and culvert matters
- First Gas regarding design and management matters

It has been agreed in principle with NZTA that the proposed stopbank, road raising, culvert design and traffic management will be undertaken in accordance with NZTA standards and guidelines. Separate NZTA approvals will be sought from NZTA during detailed design and once a contractor is on board.

Likewise, it has been agreed in principle with First Gas that the proposed stopbank, road raising culvert design and traffic management will be undertaken in accordance with First Gas standards and guidelines. Separate First Gas approvals will be sought from First Gas during detailed design and once a contractor is on board.

9.3 Affected persons

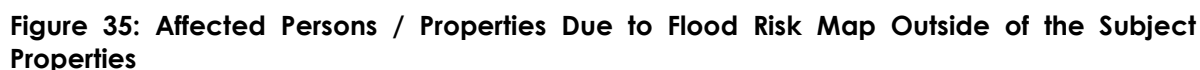
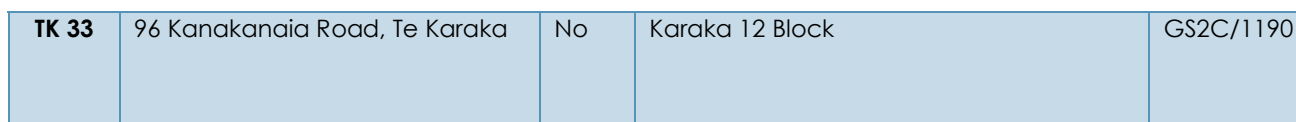
It is considered that the proposal will impact on the community and infrastructure due to the consequential flood risk and effects therefore the following are considered affected persons:

- a. All affected persons listed in the consequential flooding assessment (see summary below) where there are more than minor adverse effects
- b. NZTA
- c. GDC roading division

Affected persons / properties outside of the subject properties are provided in Table 22 and Figure 35.

Table 22: Affected Persons / Properties Outside of the Subject Properties Due To Flood Risk

Ref	Address	Maori Land	Appellation / Legal Description	Record of Title
TK 27	103 Kanakanaia Road, Te Karaka	No	Karaka 14 Block	GS3B/988
TK 28	46 Bridge Road, Te Karaka	No	Lot 2 Deposited Plan 447441	564683
TK 29	108 Kanakanaia Road, Te Karaka	No	Karaka 11A1 Block	GS131/3
TK 30	23 Mangaoae Road, Te Karaka	No	Tangutuhanui 1B2A Block	GS2B/1445
TK 31	2416 Matawai Road, Te Karaka	No	Lot 2 Deposited Plan 3735, Lot 1 Deposited Plan 3735	GS96/5, GS96/4
TK 32	81A Kanakanaia Road, Te Karaka	Yes	Karaka 16A Block	GS1A/689



The Applicant requests that the application is publicly notified as provided for under S95A. In summary, public notification is requested because:

- 129



Notice should be served on:

- The affected persons listed in the section above
- NZTA

Interested persons should also be served notice as courtesy:

- All owners and occupiers listed at the property addresses as Subject Properties
- Te Atianga a Māhaki iwi
- Takipū Marae
- Rangatira Marae
- First Gas
- Te Karaka Area School
- Department of Conservation (DOC) e.g. for any works on DOC land, refer to the DOC marginal strip
- Chorus

11. PROPOSED CONSENT DURATION & CONDITIONS

11.1 Requested consent duration

In accordance with relevant provisions contained within the TRMP and S123 (RMA) a five-year consent duration is sought for the construction of the proposed activities (including the water take from the Waipaoa River) which is expected to take approximately two to three years. A five-year construction consent duration will provide flexibility for any potential delays. The land use consents associated with the permanent structures of the proposal (stopbanks, roads and culverts) will have no expiry.

11.2 Proposed consent conditions approach

Proposed resource consent conditions have been developed based on a similar stopbank upgrade project where GDC was the Applicant, namely the Waipaoa River Flood Scheme, which was granted resource consents LU-2017-107781-00 *et al* via a publicly notified process. The proposed resource consent conditions have also been developed based on the Ministry for the Environment *National works in waterways guideline: Best practice guide for civil infrastructure works and maintenance* (2023) and the Severe Weather Emergency Recovery (Hawke's Bay Flood Protection Works) Order 2024.

Some consent conditions that may be required (relating to properties that may require mitigation e.g. floor level raising) where consultation and negotiations are still being considered via the PWA process, will be developed in due course. An example consent condition that may be appropriate would be as follows:

At least 20 working days prior to construction commencing, the consent holder shall provide the details of the proposed mitigation for the following properties to the Gisborne District Council (Manager Compliance):



[Insert property details and mitigation 'bottom lines']

Once the CIA has been received by Te Aitanga a Mahaki and further engagement has been undertaken, additional resource consent conditions may be proffered or required.

11.3 Proposed consent conditions

In accordance with S108 (RMA) proposed consent conditions are as follows:

General Conditions

1. The Consent Holder shall subject to final design, undertake all operations in accordance with any drawings, specifications, and all other information supplied as part of this resource consent including but not limited to [INSERT].
2. Where a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
3. All works and structures relating to this resource consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard.

Flood Evacuation Contingency Plan Updates & Mitigation Measures

4. At least 10 working days prior to the first construction season, the Consent Holder shall submit to the Regulatory Manager, Gisborne District Council, for certification, an updated *Te Karaka Flood Evacuation Contingency Plan*. The plan shall be updated to address increased flood hazard risk to Kanakanaia Road bridge and Mangaone Road with updates undertaken by a suitable experienced and qualified person(s). The updates to the plan shall include but not be limited to:
 - a. Updated flood hazard maps and evacuation maps.
 - b. Updates to the warning system and trigger points and a process for advance warnings to local residents of alternative routes, evacuations and bridge and road closures where required.
 - c. An outline of all mitigation measures required to reduce flood risk and impacts on the community to an acceptable level with regard to health and safety before and during flood events.
5. Construction activities shall not commence until the plan required under condition 4 above has been certified by the Regulatory Manager, Gisborne District Council, and written confirmation from the Regulatory Manager, Gisborne District Council has been received. If a written response is not received within 10 working days of the Consent Holder submitting the plan for certification, the certification shall be



deemed to be confirmed. After certification of the plan, the plan shall be implemented immediately.

Construction Season & Hours of Operation

6. The construction season for this work shall be 1 October to 30 May of the following year.
7. Minor works and SH2 road raising beyond the construction season detailed in condition 6 above may be undertaken subject to the approval of the Regulatory Manager, Gisborne District Council.
8. The hours of work for general low noise and vibration activities, site set up, erosion and sediment control devices checks and site shut down activities shall be limited to 6:00am to 7:00 pm Monday to Saturday. Construction work may only take place between the hours of 7:30 am to 6:00 pm, Monday to Saturday. This condition does not prevent quiet construction activities and meetings from taking place at any time, provided that any noise generated is generally inaudible at the notional boundary of any occupied dwelling. There shall be no work on Sundays and Public Holidays.

Construction Environmental Management Plan (CEMP), Design Requirements & Management Plans

9. At least 10 working days prior to the first construction season, the Consent Holder shall submit to the Regulatory Manager, Gisborne District Council, for certification, a Construction Environmental Management Plan (CEMP) prepared by a suitably qualified and experienced person(s). The CEMP shall include but not be limited to:
 - a. an outline of the environmental management and monitoring measures to be installed prior to and maintained during construction works, demonstrating that construction works can be carried out in such a way to minimise adverse environmental effects as much as practicable.
 - b. noise & vibration management measures (to show compliance with conditions 33 to 37);
 - c. dust control mitigation measures;
 - d. water quality (to show compliance with conditions 39 to 49);
 - e. erosion & sediment control plan and measures (to show compliance with conditions 51 to 56);
 - f. site design, spill containment, spill management, waste management, signage and contingency plans for construction lay down areas and compounds and locations where bulk fuel is stored to demonstrate compliance with Tairāwhiti Resource Management Plan C5.2.6.1 General Standards;
 - g. site remediation or reinstatement details;
 - h. contaminated land management details;



- i. fish passage management during works in waterways;
 - j. specific measures to manage the effects of construction of activities within ecologically sensitive areas including native bat surveys during October to April prior to tree felling;
 - k. dewatering details and management plan (if dewatering is required);
 - l. overview of construction programme for each stage of the construction works;
 - m. detailed staging plan and design details and program including:
 - i. earthworks for all works including stopbank works;
 - ii. confirmed stopbank alignment and design details and confirmation if the alternative alignment is required;
 - iii. culvert works;
 - iv. road raising works;
 - v. fish passage works;
 - vi. stopbank edge planting; and
 - vii. reinstatement works.
10. Construction activities shall not commence until the CEMP has been certified by the Regulatory Manager, Gisborne District Council, and written confirmation from the Regulatory Manager, Gisborne District Council has been received. If a written response is not received within 10 working days of the Consent Holder submitting the CEMP for certification, the certification shall be deemed to be confirmed.
11. The Consent Holder may amend the CEMP provided under condition 9, at any time by submitting the amended plan to the Consents Compliance Manager, Gisborne District Council, for certification, following the same process outlined in Condition 9 above. Construction activities subject to the amendment shall not commence until the amendment has been certified by the Manager, Gisborne District Council.
12. The Consent Holder shall supply as built engineering designs to the Consent Authority within 2 months of the end of each construction season. Any future maintenance of the Te Karaka part of the Waipaoa Flood Control Scheme shall be in accordance with these as-built engineering plans.

SH2 Culvert and Fish Passage

13. At least 20 working days prior construction season, the Consent Holder shall submit to the Regulatory Manager, Gisborne District Council, for certification the detailed design of the proposed culvert and management plan along State Highway 2 on the tributary of the Waipaoa River.
14. The design of the culvert and management plan shall include but be limited to:
- a. An automatic flood gate that is open to provide fish passage below the flood event interval design; or



- b. A passive flood gate that is routinely monitored (quarterly) and checked after the flood event design interval is reached. The passive gate must be opened as much as practicable to provide fish passage including during times when flows are below the flood event design.
 - c. The new culvert extension invert shall be installed a minimum of 0.1 metres below the bed of the stream at the downstream end unless otherwise agreed with Regulatory Manager, Gisborne District Council.
 - d. Details confirming how the proposed culvert and management approach provides a net benefit to fish passage compared to the current culvert through the addition of a fish friendly ramp or another suitable solution.
 - e. The culvert shall not cause significant increase on upstream water levels or flooding on neighbouring properties.
15. Construction activities of the culvert shall not commence until the culvert detailed design and management plan has been certified by the Regulatory Manager, Gisborne District Council, and written confirmation from the Regulatory Manager, Gisborne District Council has been received. If a written response is not received within 20 working days of the Consent Holder submitting the culvert design for certification, the certification shall be deemed to be confirmed.

Planting Plan

16. At least 10 working days prior to the proposed planting, the Consent Holder shall submit to the Regulatory Manager, Gisborne District Council, for certification, a Planting Plan prepared by a suitably qualified and experienced person(s). The planting plan shall include mitigation planting details on the new roading embankment at Rangatira Road to soften and screen past earthworks and operational bulk form.
17. Planting activities shall not commence until the planting plan has been certified by the Regulatory Manager, Gisborne District Council, and written confirmation from the Regulatory Manager, Gisborne District Council has been received. If a written response is not received within 10 working days of the Consent Holder submitting the planting plan for certification, the certification shall be deemed to be confirmed.

Advice note: the planting plan can be submitted as part of the CEMP.

Pre-Season Construction Team Meeting

18. At a date in August or September prior to each construction season, the Consent Holder shall hold a meeting with GDC Regulatory Team representatives to outline the upcoming season construction works including matters such as (but not limited to):
- a. Stopbank design levels;



- b. Earthworks and borrow area location and extent;
 - c. Number and location of culverts;
 - d. Review of the CEMP; and
 - e. Review of proposed fish passage enhancements.
19. At least 5 working days prior to each construction season the Consent Holder, shall hold a meeting with GDC Regulatory Team representatives and the primary Contractor. This meeting shall form the basis for confirming communication channels and the details of the Construction Methodology and proposed earthworks management and associated methodologies and shall ensure that all Contractors are aware of and familiar with the proposed construction methodologies.
20. At least 10 working days prior to the first construction season, the Consent Holder shall submit to the Regulatory Manager, Gisborne District Council, for certification, a Communications Plan that sets out procedures detailing how the public and stakeholders will be communicated with throughout the construction works program. As a minimum, the Communications Plan shall include:
- a. Details of a contact person available at all times during the works. Contact details shall be prominently displayed at the site office so that they are clearly visible to the public at all times;
 - b. Methods to consult with surrounding landowners, occupiers, representatives of Te Aitanga a Mahaki iwi, the local residential and rural community and utility operators, which may include:
 - i. Publications of a newsletter, or similar, and its proposed delivery area;
 - ii. Newspaper advertising;
 - iii. Council website;
 - iv. Notification of the owners and occupiers of properties located adjacent to the stopbank corridor where and when construction activities will take place; and
 - v. Notification to public utility operators with utilities within the Project Area, where and when construction activities will take place.
 - c. A register for recording any public or stakeholder feedback and any incidents or non-compliance in relation to the construction of the Project, including the outcome of any investigation or remedial action taken (in compliance with conditions 13 -15 of this consent).
 - d. Monitoring and review procedures for the Communications Plan.
21. A copy of the register of feedback shall be provided to the Regulatory Manager, Gisborne District Council, annually at the end of each construction season or as requested by the Manager, Gisborne District Council.



22. Construction activities shall not commence until the Communications Plan has been certified by the Regulatory Manager, Gisborne District Council, and written confirmation from the Manager has been received. If a written response is not received within 10 working days of the Consent Holder submitting the Communications Plan, the certification shall be deemed to be confirmed.
23. The Consent Holder may amend the Communications Plan provided under condition 22, at any time by submitting the amended plan to the Manager, Gisborne District Council, for certification, following the same process outlined in Condition 22 above. Construction activities subject to the amendment shall not commence until the amendment has been certified by the Manager, Gisborne District Council.

Feedback & Incidents

24. At all times during construction works the Consent Holder shall maintain a register of any public or stakeholder feedback received, and any incidents or non-compliance noted by the Consent Holder's contractor, in relation to the construction of the Project. The register shall include:
 - a. The name and contact details (as far as practicable) of the person providing feedback or contractor observing the incident / non-compliance;
 - b. Identification of the nature and details of the feedback/incident; and
 - c. Location, date and time of the feedback/incident.
25. The Consent Holder shall promptly investigate any negative feedback, incident or non-compliance. This shall include but is not limited to:
 - a. Recording weather conditions at the time of the event (as far as is practicable), and including wind direction and approximate wind speed if the adverse feedback or incident relates to dust;
 - b. Recording any other activities in the area, unrelated to the Project that may have contributed to the negative feedback/incident/non-compliance, such as non-Project construction, fires, traffic accidents or unusually dusty conditions generally (if applicable); and
 - c. Investigating other circumstance surrounding the incident.
26. In relation to conditions 24 and 25 above, the Consent Holder shall:
 - a. Record the outcome of the investigation in the register;
 - b. Record any remedial action or measures undertaken to address or respond to the matter in the register; or
 - c. Respond to the initiator, in closing the feedback loop, if practicable; and
 - d. Where the adverse feedback or incident was in relation to non-compliance with a condition of resource consent, the Regulatory Manager, Gisborne



District Council, shall be notified in writing of the matter within 10 working days of the non-compliance, and informed of the remedial actions undertaken.

Ecological Sensitive Areas & Management Requirements

27. All works shall be undertaken at least 10m away from the potential wetland shown in Figure [insert reference].
28. (a) The consent holder shall not fell exotic trees during the bat breeding and roosting season (April to October), unless otherwise provided for under clause (b) below;

(b) As an alternative to clause (a), tree felling may occur during the bat breeding and roosting season where the Construction Environmental Management Plan (CEMP) required under Condition [9], includes procedures for identifying, monitoring and managing potential bat roosts prior to tree felling. These procedures shall be prepared by a suitably qualified ecologist and shall have regard to the Bat Recovery Group protocols and relevant Department of Conservation guidance.

Archaeological and Cultural Discovery Protocols

29. In the event of any site, waahi tapu, taonga or koiwi being discovered during the works authorized by this consent, the Consent Holder shall immediately cease work at the affected site and secure the area. The Consent Holder shall contact the Council to obtain contact details of the relevant hapu and /or marae. The Consent Holder shall then consult with the appropriate tribal entities and Heritage New Zealand Pouhere Taonga, and shall not recommence works in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga and appropriate tribal entity approvals (including associated affected party approvals) to damage, destroy or modify such sites have been obtained.
30. The Consent Holder shall establish and agree written protocols in relation to any cultural practices to be observed during earthworks and specifically in relation to the accidental discovery of heritage artefacts and/or koiwi. The protocols shall be made available to the Consent Authority at least 10 working days prior to each stage of the earthworks.

Noise And Vibration

31. At least ten working days before any construction works authorised by this consent begin, the consent holder shall submit a Construction Noise and Vibration Management Plan (CNVMP) to Gisborne District Council for written certification. The CNVMP shall include but not be limited to:



a) Objectives that must:

- i. Set out the procedures to identify and adopt the best practicable options for minimising adverse construction noise and vibration effects; and
 - ii. Define the procedures to be followed to ensure that the project construction noise and vibration standards are being met.
- b) To achieve the objectives above, the final CNVMP must be prepared by a suitably qualified person and with reference to Annex E of NZS 6803:1999 *Acoustics – Construction noise* and the Association of Australasian Acoustical Consultants *Guideline for Interpreting and Applying NZS 6803-1999*, and include the following information:
- i. The consented construction noise and vibration limits for the project.
 - ii. Requirements and specifications for acoustically effective barriers and any localised screening required for compliance with the project limits.
 - iii. Minimum setback distances for compliance.
 - iv. Identification of surrounding noise and/or vibration sensitive receivers.
 - v. Details of general noise and vibration mitigation measures.
 - vi. Details for advising the occupiers of the neighbouring buildings of the works, including when the highest noise levels and perceptible vibration can be expected.
 - vii. Procedures for responding to concerns from neighbours and dealing with any complaints (including the provision of contact details for any concerns regarding noise and vibration).
 - viii. Procedures for noise and vibration monitoring to be undertaken during the works and for applying any corrective action measures.
 - ix. Procedures for ensuring that all contractors and operators on site are aware of the construction noise and vibration monitoring requirements during the works, and the requirement to minimise noise and vibration effects as far as practicable on the neighbouring sites.

Advice note: The CNVMP may be subject to amendment through the life of the project. Any subsequent amendment of the certified CNVMP which comprises changes to the construction methodology must be tracked and the revised CNVMP submitted to the Council for certification.

Notice of works to receivers

32. At least ten working days before any earthworks authorised by this consent begin, the consent holder must advise the occupants of all buildings within 100 m of the works. The advice must be provided in writing and include the following information:



- a. A general description of the construction works.
- b. The construction hours and expected duration of the works.
- c. The approximate dates, times, and durations of the activities that will generate the highest levels of construction noise and vibration.
- d. A contact name and phone number for any questions or complaints regarding noise and vibration throughout the project.

Construction noise limits

33. Construction works on the site must be designed and conducted to ensure that noise emissions do not exceed the following limits at 1 m from the façade of any occupied dwelling outside the subject site between 7:30 am and 6:00 pm on Monday to Saturday:
 - a. the project limits of 70 dB L_{Aeq} and 85 dB L_{Amax}
 - b. higher limits of 80 dB L_{Aeq} and 95 dB L_{Amax} when an activity cannot practicably comply with the project limits in (a). Before the activity begins, notice of the higher noise levels must be provided to the residents including the dates, times, and duration of the activity. The activity must be identified in the CNVMP. The reasons why compliance with the project limits in (a) is not practicable must be stated and the best practicable options for mitigating noise effects of the activity must be identified.
 - c. The L_{Amax} noise limits in this condition do not apply at 1 m from the façade of any occupied building that does contain a noise sensitive activity.
34. All construction noise must be measured and assessed in accordance with NZS 6803:1999 *Acoustics – construction noise*.

Construction vibration amenity limits

35. Construction works on the site must be designed and conducted to ensure that vibration does not exceed 5 mm/s PPV within any occupied building outside the subject site. Where vibration is expected to exceed 2 mm/s PPV within an occupied building outside the site, the consent holder must provide the following information in writing to the occupants:
 - a. The dates, times, and duration of the vibration expected to exceed 2 mm/s PPV.
 - b. A phone number and contact person for any questions or to advise of any sensitive times for construction vibration during the day.
36. The information / advice provided under condition 35 must be provided no less than 3 days before the works expected to exceed 2 mm/s PPV begin. The consent holder must maintain records of any consultation and provide them to Gisborne District Council on request.



37. The vibration from all other works must comply with 2 mm/s PPV within any occupied building.

Advice note: The vibration amenity limits do not apply at any building that is not occupied during the works. This allows higher vibration works to be scheduled when occupants are not in the building, subject to compliance with building damage criteria and compliance with the amenity limits at other nearby buildings that are occupied.

Construction vibration limits to avoid building damage

38. Construction works on the site must be designed and conducted to ensure that vibration does not exceed the limits set out in German Industrial Standard DIN 4150–3:2016 *Vibration in buildings – Part 3: Effects on structures* when measured in accordance with that Standard on any structure not on the same site.

Works In The Bed Of A River & Surface Water Quality

39. The Consent Holder shall take all practicable measures to limit the amount of sediment and prevent contaminants from entering any water bodies during construction. Such measures shall include (but not be limited to):
- a. Any surplus soil or cleared vegetation or debris shall be removed and deposited at an appropriate disposal site;
 - b. The wash water from containers and tools shall not be discharged into any waterbodies and the washing equipment shall not occur in any waterbodies;
 - c. Fuelling and carrying out of machinery maintenance away from water bodies;
 - d. The installations of erosion and sediment control measures in accordance with the certified Construction and Environmental Management Plan, as required by condition 9; and
 - e. No spoil or other debris shall be directly deposited into a permanently flowing water body or deposited into a position where it can readily enter or be carried into a permanently flowing water body.
40. No clearly discernible change in visual clarity of the water shall occur after reasonable mixing downstream of the activity site more than 48 hours after any construction work commences
41. The Consent Holder shall take all practicable measures to prevent contaminants such as diesel and oil entering any waterbodies in the event of a spill during construction.



42. Works within the streambed and banks shall only occur within 1 October and 1 March. Any works within the streambed and banks outside of this period shall be approved by the Consent Authority prior to any works occurring.
43. Where, by any cause, (accidental or otherwise), contaminants associated with the Consent Holder's operations escape to water, the Consent Holder shall:
 - a. Immediately take all practicable steps to contain and then remove the contamination from the environment;
 - b. Immediately notify the Council of the escape; and
 - c. Report to Council within 7 working days, describing the manner and cause of the escape, steps taken to control it and prevent its occurrence and steps taken to prevent a reoccurrence.
44. The Consent Holder shall ensure that at the completion of the works, any newly established surfaces, grassed slopes and vegetated areas that were cleared or damaged as a result of construction, are revegetated in order to prevent sediment from entering the water.
45. The Consent Holder shall where practicable construct all structures using methods and materials non-toxic to aquatic life.
46. No machinery used for the exercise of this consent, shall enter, operate or excavate within water in the waterbodies during the exercise of this consent except for river crossings, which shall be kept to a minimum and located at the upstream end of riffles where possible.
47. Any damage caused by the Consent Holder to any access way or other assets as a result of the exercise of this consent shall be repaired to the satisfaction of the Consent Authority and at the Consent Holders expense.
48. The Consent Holder shall ensure that any materials, machinery or equipment from the activities authorised by this consent (including any temporary structures) are:
 - a. not stored in or on the bed of any watercourse;
 - b. removed after completion of the activity;
 - c. disposed of in an appropriate manner where it will not adversely affect the stream channel or impede the flow of water.
49. The Consent Holder shall comply with all notices and guidelines issued by Biosecurity New Zealand (refer to www.biosecurity.govt.nz/didymo) in relation to avoiding the spread of the pest organism *Didymosphenia Geminata* (known as 'Didymo') and other freshwater pests.



50. In the event a spillage of chemicals occurs, or other such event, which may have a significant adverse effect on the quality of the water, the Consent Holder shall notify, as soon as reasonably practicable, the registered drinking -water supply operators concerned, the Medical Officer of Health and Drinking Water Assessor and the Manager, Gisborne District Council,

Earthworks & Erosion and Sediment Control

51. While borrow excavation is in progress, a vegetated strip of at least two metres wide will be left between the borrow excavation and the top of the riverbank for the purpose of sediment filtration. Any exemption to this minimum requirement will require pre-approval from the Regulatory Manager, Gisborne District Council.

Advice Note: This will provide a sediment detention barrier that is intended to minimise sediment discharge into the nearby watercourse. In some cases, the vegetated strip will be less than 2 metres when there is insufficient space to enable this. An individual borrow area will typically remain open from two weeks on small jobs, through to 10 or 12 weeks on larger jobs if rain delays work. This buffer will need to be removed at the completion of each construction phase to ensure adequate drainage of the berms and to discourage siltation which decreases flood capacity.

52. The Consent Holder shall minimise the time the borrow area is exposed by minimising the number of sites exposed at a time, and progressively exposing each borrow site only as needed. Multiple borrow areas supplying a long length of stopbank upgrade will similarly be reinstated in a progressive manner as the respective sections of stopbank they provide material for are completed.
53. Earthworks activities involving the stripping of the existing stopbank batter exceeding 500m in length, require site specific controls to be outlined in detail within Condition 9m (Staging Details).
54. The Consent Holder shall ensure that at the completion of the works, any newly established surfaces, grassed slopes and vegetated areas that were cleared or damaged as a result of construction, are revegetated in order to prevent sediment from entering the water.
55. The Consent Holder shall ensure that, where practicable, the borrow sites are appropriately stabilised by 30 May of each year unless otherwise certified in writing by Regulatory Manager, Gisborne District Council. Stabilisation shall be undertaken by providing adequate measures (vegetative and/or structural and including, pavement, metalling, hydro -seeding, re-vegetation and mulching) that will minimise erosion of exposed soil to the extent practical to avoid sediment run off.
56. Sediment control measures shall be installed prior to works and shall remain in place until any bare earth associated with the works has re-vegetated sufficiently to avoid sediment runoff.



Vegetation removal & disposal

57. Where any vegetation is removed that includes exotic plants such as willow and pampas, it is not to be disposed of in locations where such vegetation is not present. Exotic plants must be disposed of at a location and in a manner where it will not cause the spread of exotic plants. The disposal of exotic plants at a facility authorized to receive exotic vegetation will also satisfy this condition.

Waipaoa River Water Take

58. Water shall be taken from the Waipaoa River at a rate of take of no more than 30 litres per second and 1,000 cubic metres per day.
59. Water taken under this consent shall be only for general construction purposes such as dust suppression, wheel wash facilities, concrete 'make-up' water and reinstatement activities (minor irrigation of grass and vegetation).
60. The consent holder shall install, maintain and calibrate a suitable water meter and data logger in accordance with the *Resource Management (Measurement and Reporting of Water Takes) Regulations 2010*, record the water taken (instantaneous rate of take and volume) and return the records to the Council on a monthly basis. Advice note: Telemetry is not required.
61. Water authorised to be taken under this resource consent shall not be transferred or replaced upon expiry.
62. Mobile water take intake pumps shall be screened with mesh wire screen with gaps of a maximum of 1.5mm or as otherwise agreed in writing with the Regulatory Manager, Gisborne District Council.

Post Construction

63. All waste material shall be removed from the site on completion of the works and the shape of the streambed shall be reinstated to the predevelopment streambed profile or to a profile agreed to by the Regulatory Manager, Gisborne District Council.
64. The works shall remain the responsibility of the Consent Holder and shall be maintained so that any erosion, scour or instability of the stream bed or banks that is attributable to the works carried out as part of this consent is remedied by the Consent Holder within ten (10) working days.
65. The Consent Holder shall be responsible for the continued maintenance of the culverts, stopbank and associated works and shall replace any parts of the works that may be



dislodged through naturally occurring events; particularly should this compromise the integrity of the culvert, stopbank or impede access to the river or stream flow.

12. SECTION 104D ASSESSMENT

As part of the proposed road-raising works associated with the stopbank upgrade, a replacement culvert is proposed to improve hydraulic performance compared with the existing structure. While the proposed culvert represents an improvement on the existing situation, it does not fully comply with the National Environmental Standards for Freshwater Management and is therefore identified as a non-complying activity.

For the avoidance of doubt, the culvert replacement is a discrete component of the overall proposal and can be assessed independently of the stopbank and associated earthworks, which are discretionary activities. The culvert does not underpin the functional need for the stopbank upgrade and is not integral to achieving the primary flood protection outcomes of the project.

Accordingly, the s104D gateway assessment is applied specifically and solely to the culvert works, while the balance of the proposal is assessed under s104 as a discretionary activity.

The replacement culvert represents a clear improvement on the existing culvert and will continue to provide connectivity for the watercourse. It will not introduce new barriers or adverse effects beyond those already present in the existing environment.

The effects of the replacement culvert are localised and short-term in nature, primarily associated with construction disturbance. No permanent adverse effects of scale, intensity or duration exceeding those associated with the existing structure are anticipated. When assessed in the context of the existing environment, the replacement culvert does not result in more than minor adverse effects.

On this basis, the threshold in s104D(1)(a) is satisfied. As the proposal passes the “more than minor effects” gateway, it is not necessary to undertake a detailed assessment under s104D(1)(b) against objectives and policies that would otherwise preclude the activity. The culvert is therefore eligible to be considered on its merits under s104 and Part 2 of the Act, alongside the balance of the proposal.



13. PART 2 OF THE RMA

The assessments contained in Sections 7 and 8 of this report are subject to the matters contained in Part 2 of the RMA, which contains sections 5, 6, 7 and 8.

Section 5 sets out the purpose of the RMA, which is to promote the sustainable management of natural and physical resources and is supported by sections 6, 7 and 8 of the RMA. Sections 6 and 7 contain the “matters of national importance” and “other matters” respectively and section 8 provides for the principles of the Treaty of Waitangi. These sections are hierarchical and provide for a different level of consideration to be given to each.

The matters listed in section 6(a), (b) and (c) are not applicable to the proposal. Likewise, access along rivers as provided for in section 6(d) is not a relevant matter in this particular case. Heritage values have been considered in terms of section 6(f), while the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga will not be threatened as a result of the activity.

Sections 7(c) and 7(f) relate to the maintenance and enhancement of amenity values and the quality of the environment. These matters have been considered throughout the body of this report and it has been demonstrated that the activity is not inappropriate for the site and will not compromise reasonable amenity expectations in the context of the receiving environment.

Section 8 requires all persons exercising functions and powers under the RMA to take into account the principles of the Treaty of Waitangi. The Applicant has considered the relevant principles in preparing this application, including partnership, active protection, and informed decision making.

In summary, the proposal can be considered consistent with the principles and purpose of the RMA and deserving of consent.

14. CONCLUSION

The proposal is for construction and operation of the proposed Te Karaka upgrade stopbank scheme which involves bulk earthworks and a range of supporting activities including road raising, culverts and water takes and various ancillary activities.

Significant community and iwi engagement has been undertaken which confirmed and supports the preferred option which forms the basis of the consent application.

The proposal is to be assessed as being a discretionary activity under the TRMP, a non-complying under NES Freshwater and a controlled activity under the NES-CS which provides a pathway to consent.



In summary, the proposal will result have significant positive effects on the Te Karaka community by reducing flood risk for approximately 200 properties. It is acknowledged that some properties will experience exacerbated flood risk from the proposal and those landowners will be fairly compensated through the PWA process. All other adverse environmental effects are considered no more than minor.

Overall, it is considered that the application is not contrary to the relevant objectives and policies of the TMRP, or any of the other statutory documents referred to in Section 104(1)(b). Furthermore, having considered the proposal subject to Part 2 of the RMA, it is not expected to compromise the principles and purpose of the Act, and is subsequently considered to be deserving of consent pursuant to Section 104 and 104B.