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# Havelock North – Mangarau Stream 2c Affected Landowners Meeting

**13 December 2023**

# **AGENDA**

- **Introductions – project team**
- **Purpose**
- **Findings of the T&T report/ flood mitigation options report**
- **Progress to date**
- **Moving Forward**
- **Strategy**
- **Next Steps and Questions**

# Introductions

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- **Phil Duncan (Senior Project Manager – Hawke’s Bay Regional Council)**
- **Steve Cave (3 Waters Manager - Hastings District Council)**
- **Craig Mountfort (Stormwater Manager – Hastings District Council)**
- **Darren de Klerk (Project Lead – Beca)**

# Purpose

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**To present the finalised Tonkin and Taylor report with flood mitigation options for the areas around the Mangarau Stream**

**To provide an update on progress to date, the planned approach moving forward and how future communications and engagement will be undertaken with affected residents.**

# Havelock North

## Findings of the T&T report/ flood mitigation options report

13<sup>th</sup> December 2023

# Havelock North Category 2C

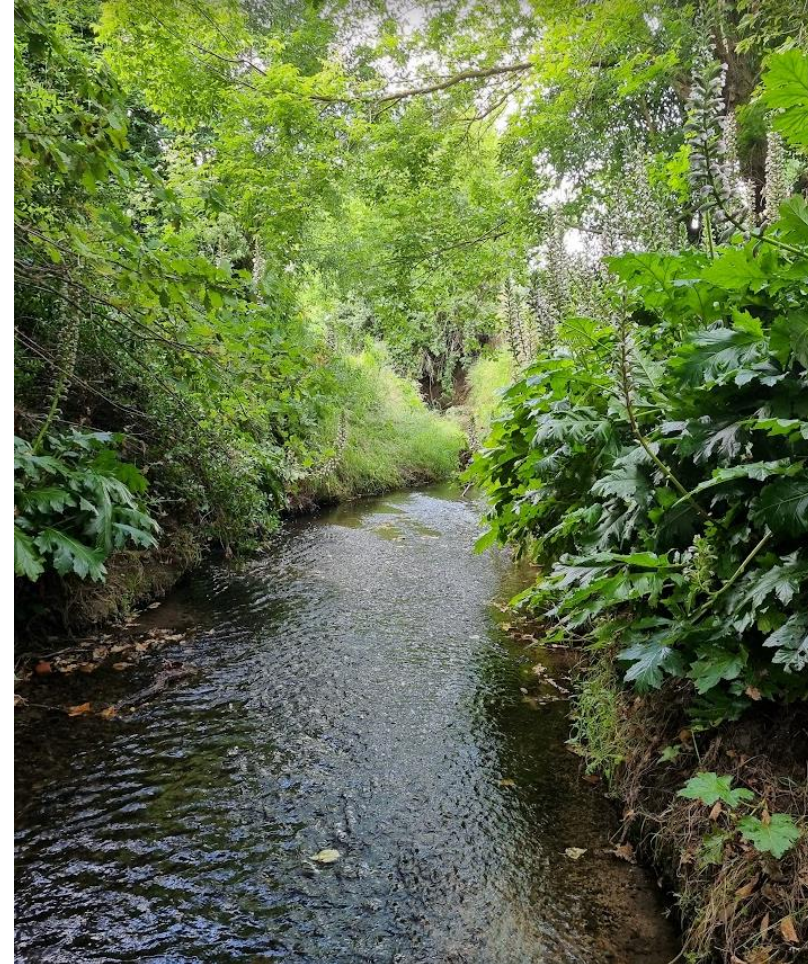


# Initial Optioneering

- Improving maintenance and upgrading limited structures
- Stream widening
- Review the operation of the dam and throttle culvert
- Alternative detention options, i.e. other storage areas in catchment
- High flow bypass culvert
- Move affected properties to Category 3 (with appropriate consultation);
- Lining the stream, similar to sections of the Karituwhenua Stream; and
- Combination of the above.
- Emergency Action Plan (EAPs) as suggested by HDC

# Preferred Options

- Improved maintenance including access provisions
- Stream widening where feasible (including channel widening, rock armouring and retaining walls)
- Partially remove old weir structures and headwall.



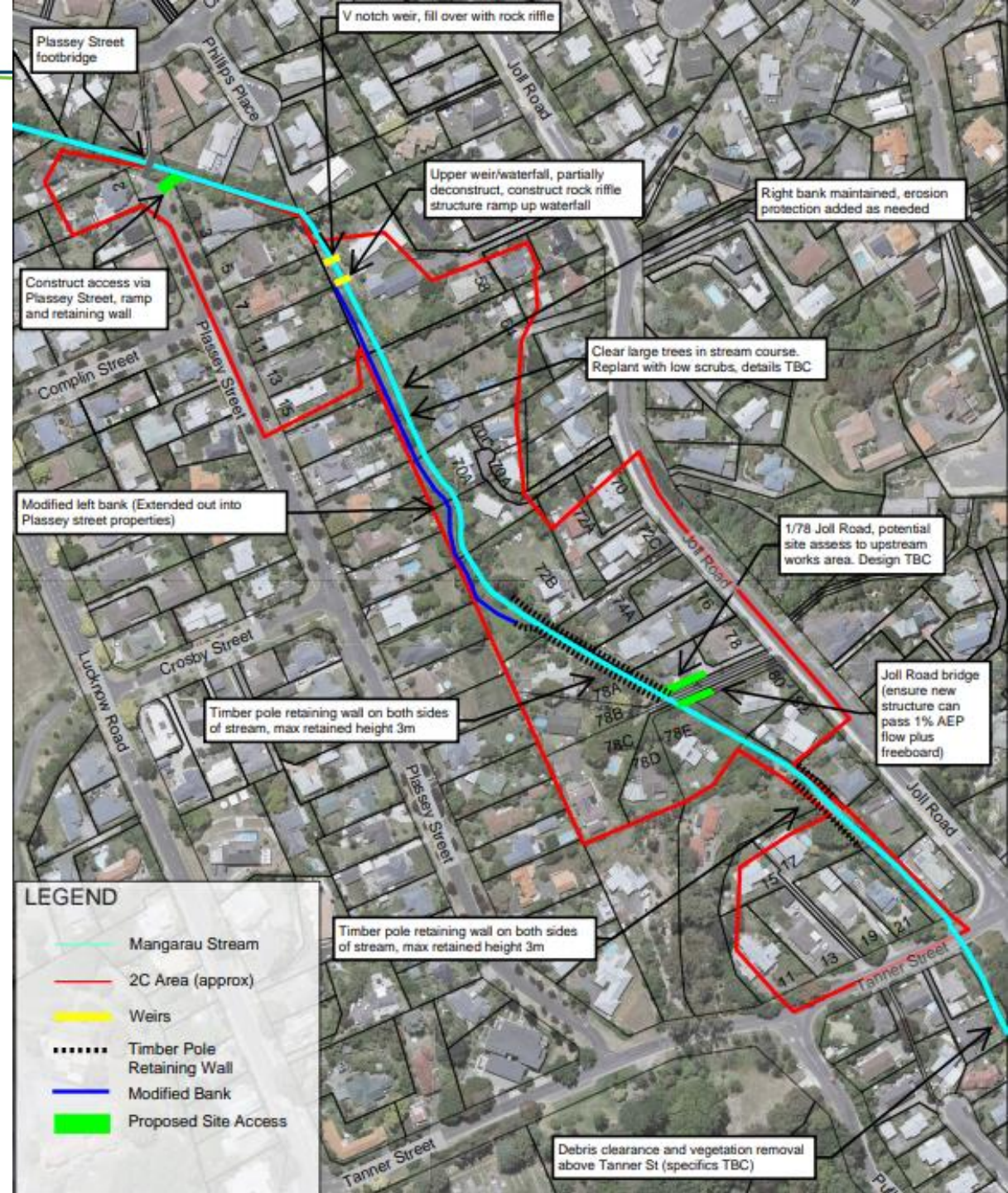


# Key Considerations

- Final design will be subject to hydraulic modelling and detailed survey work to inform final stream profile.
- Effect of stormwater on stream capacity
- Construction access and future Maintenance Requirements
- Conversations with landowners on Land Access and Easements required
- Detailed topographical survey of access potential points

# Proposed Works

- New access points at end of Plassey St and off Joll Rd
- Widen stream sections, remove weirs, install erosion protection
- Retaining walls to improve conveyance capacity (where widening is constrained by property encroachment).
- Vegetation and debris management to prevent blockages
- Land agreements / easements may be required



# What Happens Next ....



Next steps for category change



Timeline



Funding



Delivery plan

# Pathway Through Categorisation

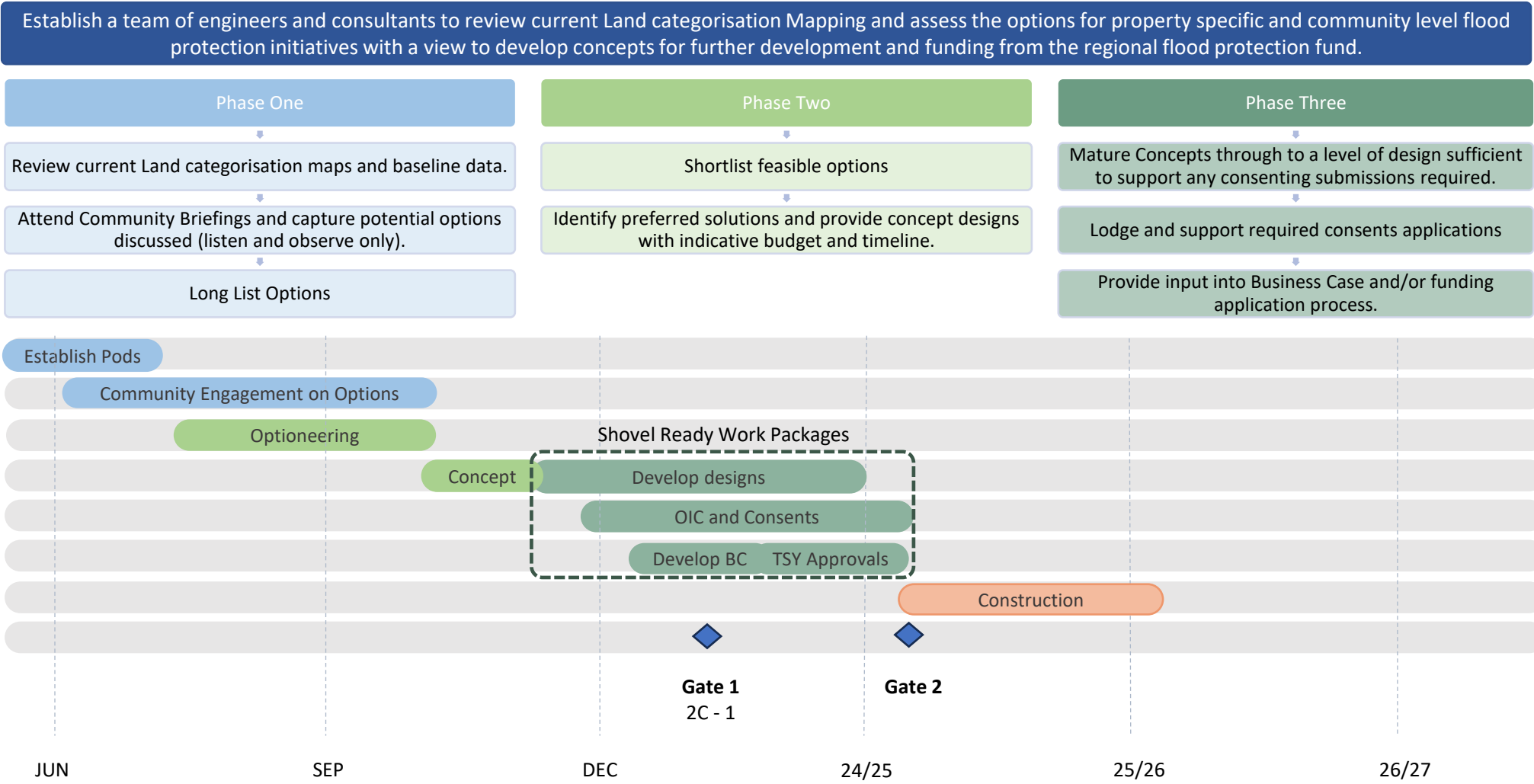
2C will move to Category 1, on confirmation that:

A sound concept that has  
a consenting pathway;  
and

A legal interest in favour  
of HDC in the relevant  
land;

Available funding.

# Havelock North – Timeline (HBRC Plan)



# Crown Infrastructure Partners – Road Map

## Gate one – 3-6 Months

- List of packages and projects
- Preliminary Design
- Detailed Project Delivery Plans
  - Cost, benefits
  - Return on investment
  - Third party requirements
  - Risk and contingency.

## Gate Two – 6 to 18 Months

- Developed and detailed design specifications and cost estimate.
- Check alignment with delivery plan metrics
- Resource consent application and approval
- Contractor pricing and procurement

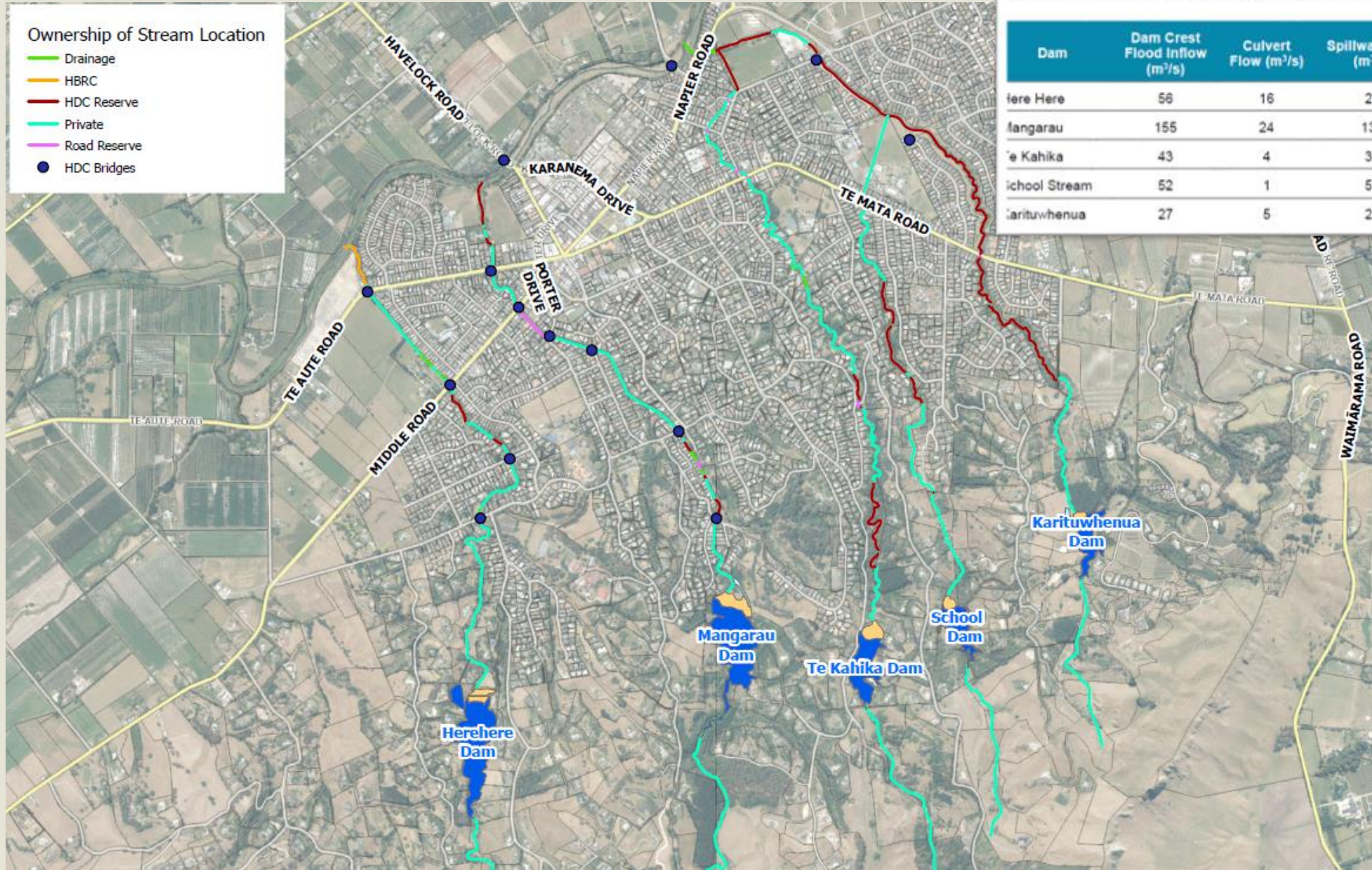
# Questions

**HERETAUNGA  
HASTINGS**

# **Background and Progress**



# Background



The minimum flood capacity for a high potential impact classification dam is an annual exceedance probability of 1 in 10,000. This should be the minimum target flood capacity for all Havelock North dams, with recognition given to a higher target as the potential for loss of life increases if the dam were to breach. The current flood capacity as determined from this review are summarised in the following table.

Dam	Dam Crest Flood Inflow (m <sup>3</sup> /s)	Culvert Flow (m <sup>3</sup> /s)	Spillway Flow (m <sup>3</sup> /s)	Total Outflow (m <sup>3</sup> /s)	Flood Volume (m <sup>3</sup> )
Herehere	56	16	28	44	288,690
Mangarau	155	24	131	155	369,610
Te Kahika	43	4	35	39	125,320
School Stream	52	1	50	51	103,230
Karituwhenua	27	5	22	27	41,600

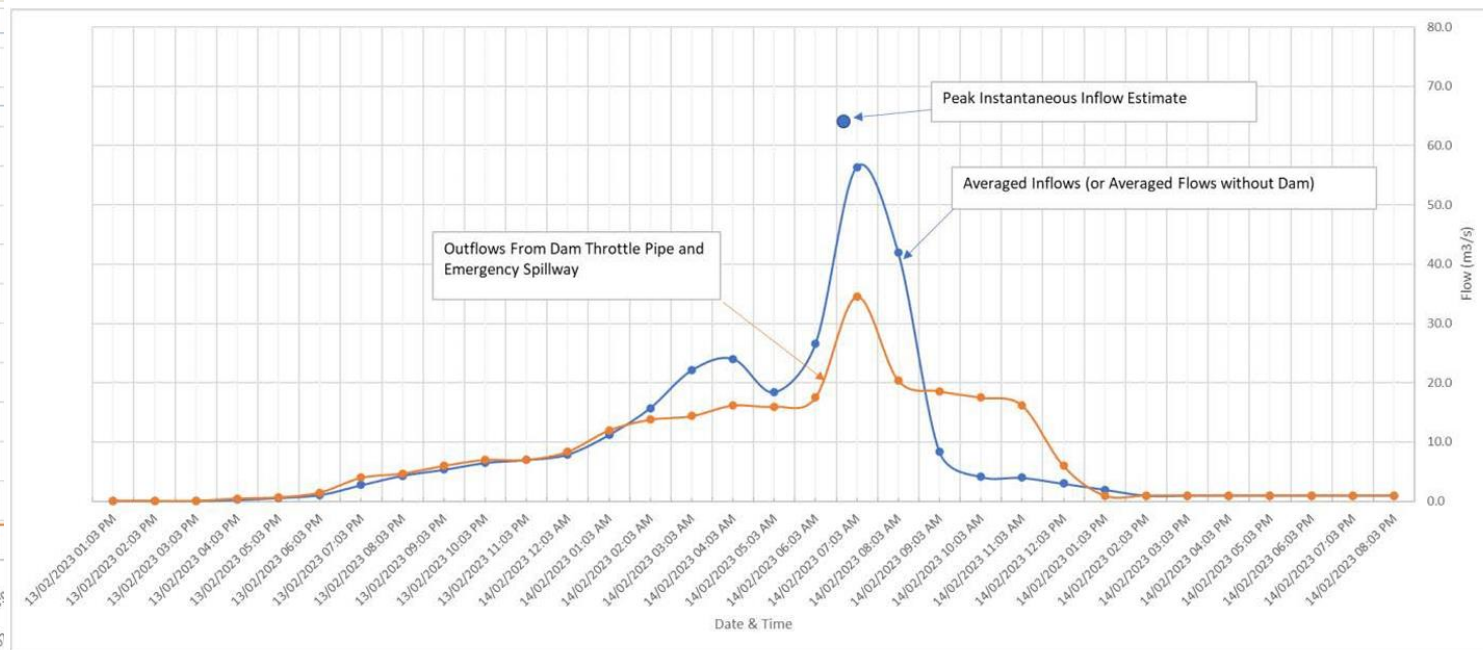
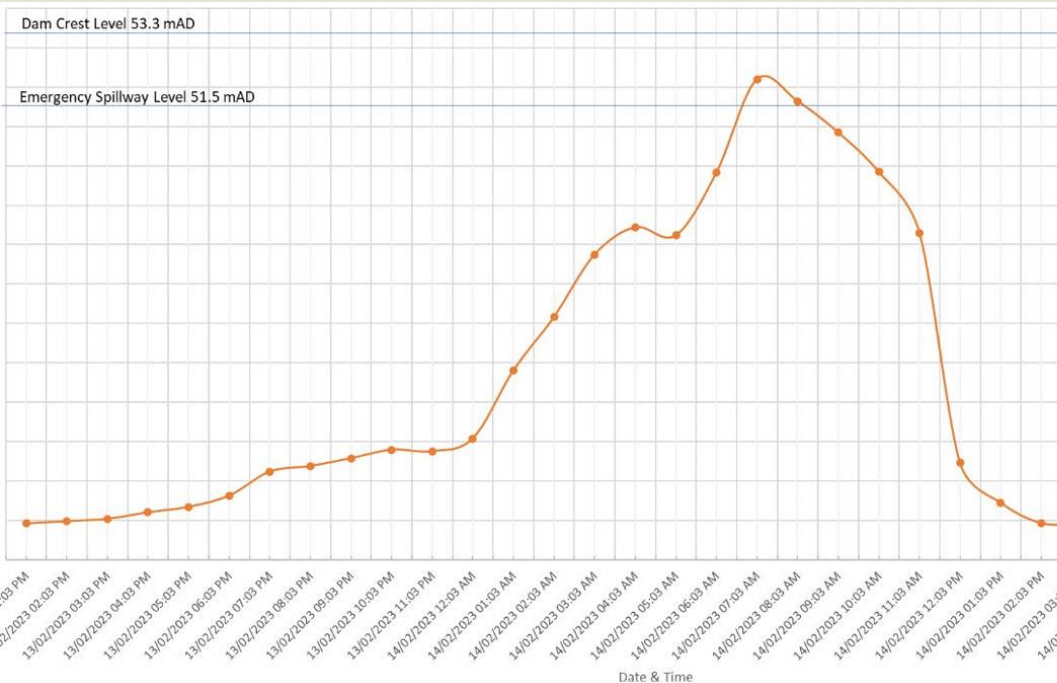
# Cyclone Gabrielle Impacts

Over 280mm of rainfall in Havelock North catchments

- Streams overtopped
- Flooding of homes
- Subsidence and Erosion
- Bridge and retaining wall failures

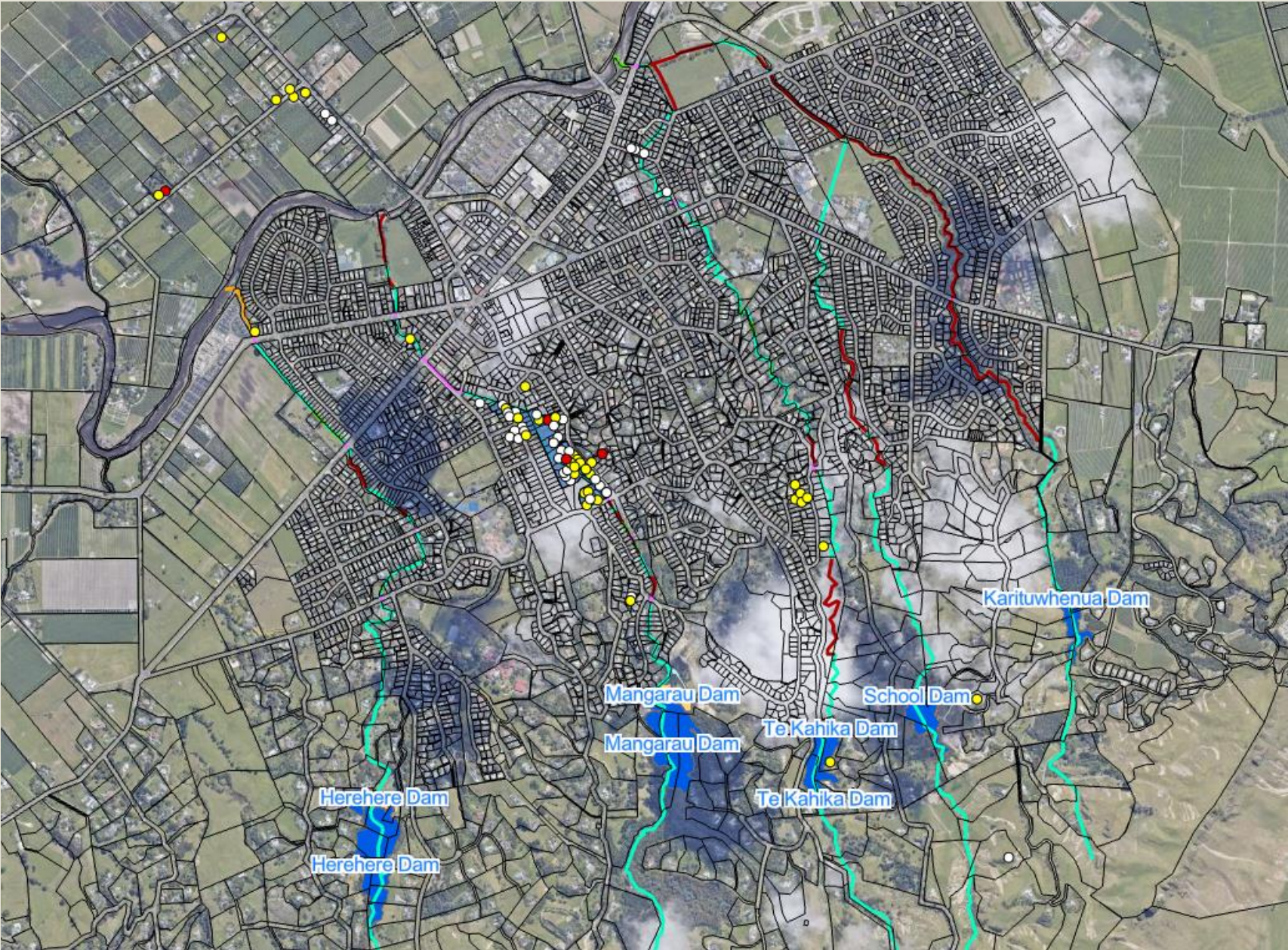
Flood estimation puts this rainfall in excess of a **1 in 250 year event now**, and a **1 in 100 year** applying future 2090 climate change factors.

Dam	Peak Estimated Inflow (m <sup>3</sup> /s)	Peak flow through Throttle Culvert (m <sup>3</sup> /s)	Spillway Overflow (m <sup>3</sup> /s)	Combined Flow (m <sup>3</sup> /s)	Peak Volume Stored (m <sup>3</sup> )
Mangarau	70.0	19.7	14.8*	34.5	300,000
Herehere	37.0	11.9	0	11.9	205,400
Te Kahika	9.0	3.4	0	3.4	40,950
School Stream	3.6	1.2	0	1.2	22,750
Karituwhenua	5.2	3.0	0	3.0	8,300



Average Outflow and Estimated Inflow Hydrographs for Mangarau Dam

# Post Cyclone Gabrielle impacts



# Progress

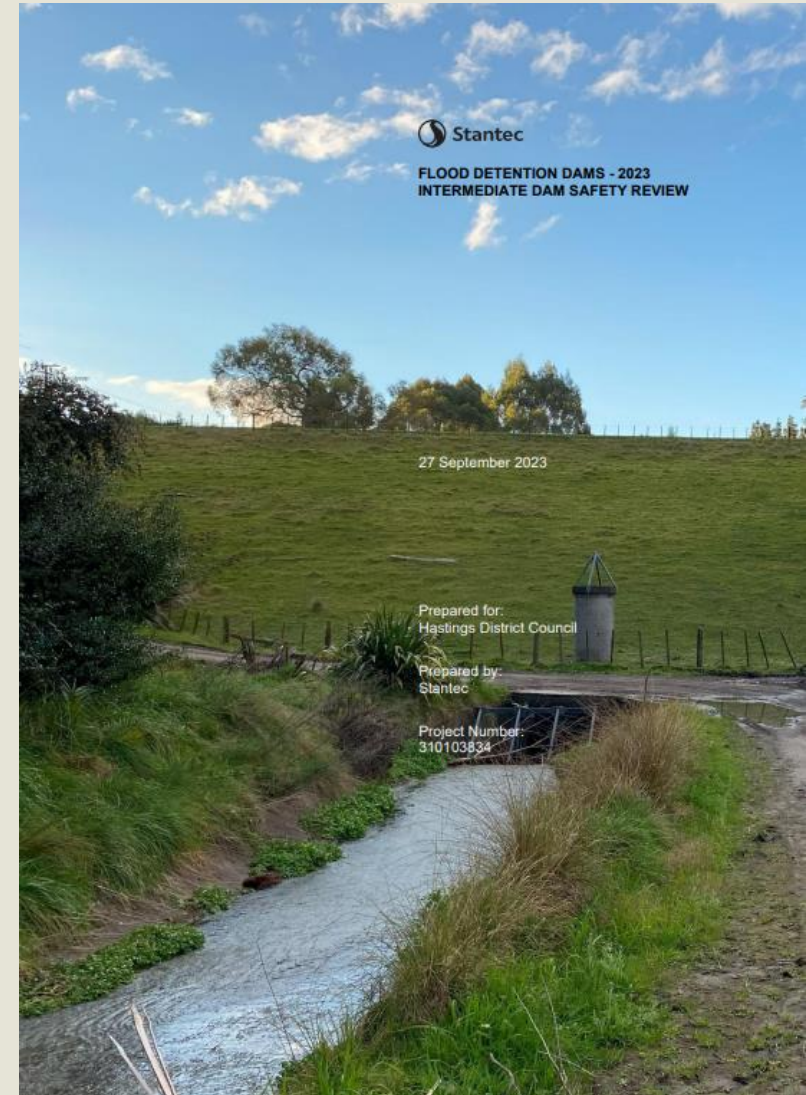
## Maintenance ongoing;

- Debris has been cleared
- More debris to be removed
- Ongoing assessment of structures/ trees

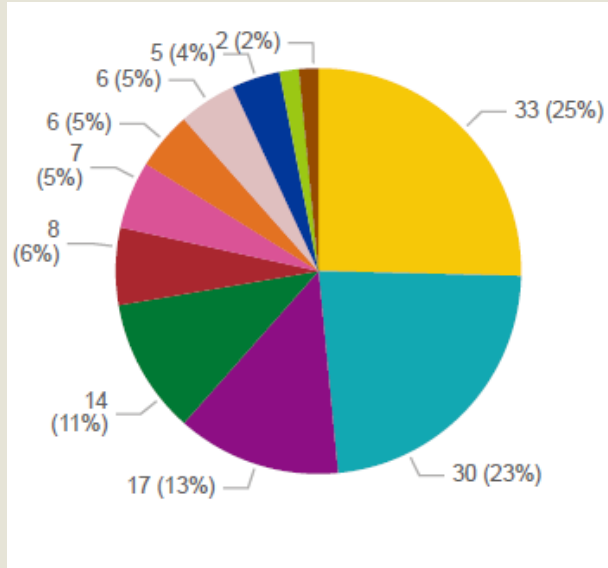
## Structures assessed

- Work required to repaired structures (weirs)
- Dam safety assessments completed for 2023

## Responding to Maintenance/ landowner enquiries

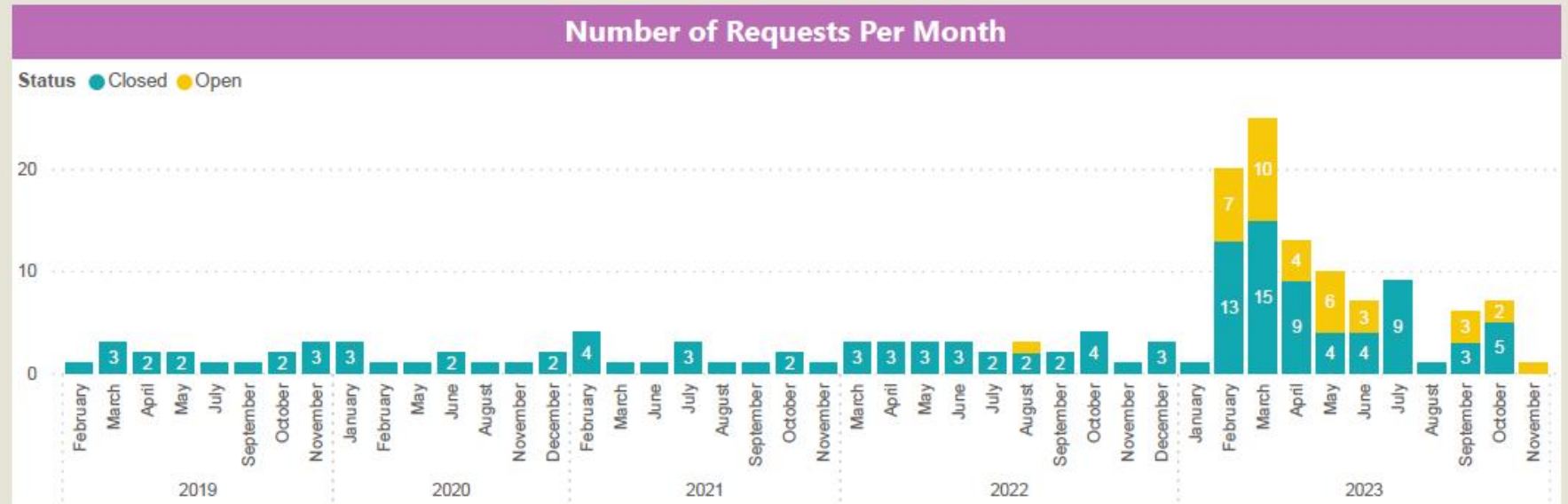


# Maintenance Enquiries



### Request Category

- Flooding
- General debris clearance
- General query
- General structural issues
- General vegetation clearance
- Instream blockages
- Large tree issues along riparian margins
- Non-natural debris clearance
- Stream bank erosion
- Stream ecology
- Water quality



### Status

- Open = Active
- Closed = Resolved

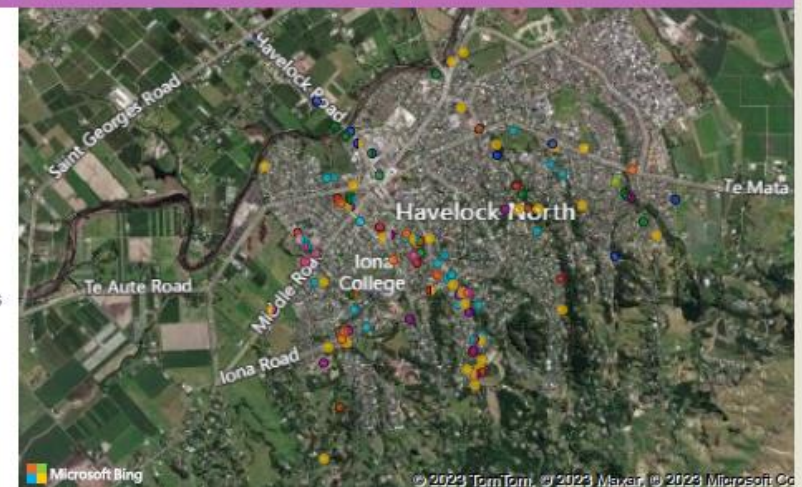
### Request Categories

- Instream blockages = Blocked stream
- Large tree issues along riparian margins = Concerns about trees along riparian margins
- General vegetation clearance = Plant material
- Non-natural debris clearance = Man-made waste
- General debris clearance = Debris not specified
- General structural issues = Damage or impaired function to pipes, retaining wall, drains, property etc
- Stream bank erosion = Identified erosion along stream banks
- Stream ecology = Concerns about flora, fauna, and conservation
- Water quality = Concerns about water quality from a human health perspective
- Flooding = Stream overflow or flooding
- General query = Seek general information or advice

### Geographic Distribution of Requests

#### Request Category

- Flooding
- General debris clearance
- General query
- General structural issues
- General vegetation clearance
- Instream blockages
- Large tree issues along riparian margins
- Non-natural debris clearance
- Stream bank erosion
- Stream ecology
- Water quality




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# Moving Forward

# Coordinated strategy, plan and work programme

The Cyclone has identified a need for a coordinated strategy, plan and priority work programme for the five Havelock North streams and catchments.

The strategy needs to be informed via engagement with community, residents and mana whenua as well as by technical investigations, design and engineering.



**HASTINGS**  
DISTRICT COUNCIL  
*Te Kaitiaki o Te Kaitiaki o Hastings*

Tuesday, 14 November 2023

*Te Hui o Te Kaunihera ā-Rohe o Heretaunga*  
**Hastings District Council: Council Meeting**

*Te Rārangī Take*  
**Report to Council**

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**Nā:** Craig Mountfort, Stormwater Manager  
**From:** Steve Cave, 3 Waters Manager

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**Te Take:** Havelock North Streams Management Strategy  
**Subject:** Havelock North Streams Management Strategy

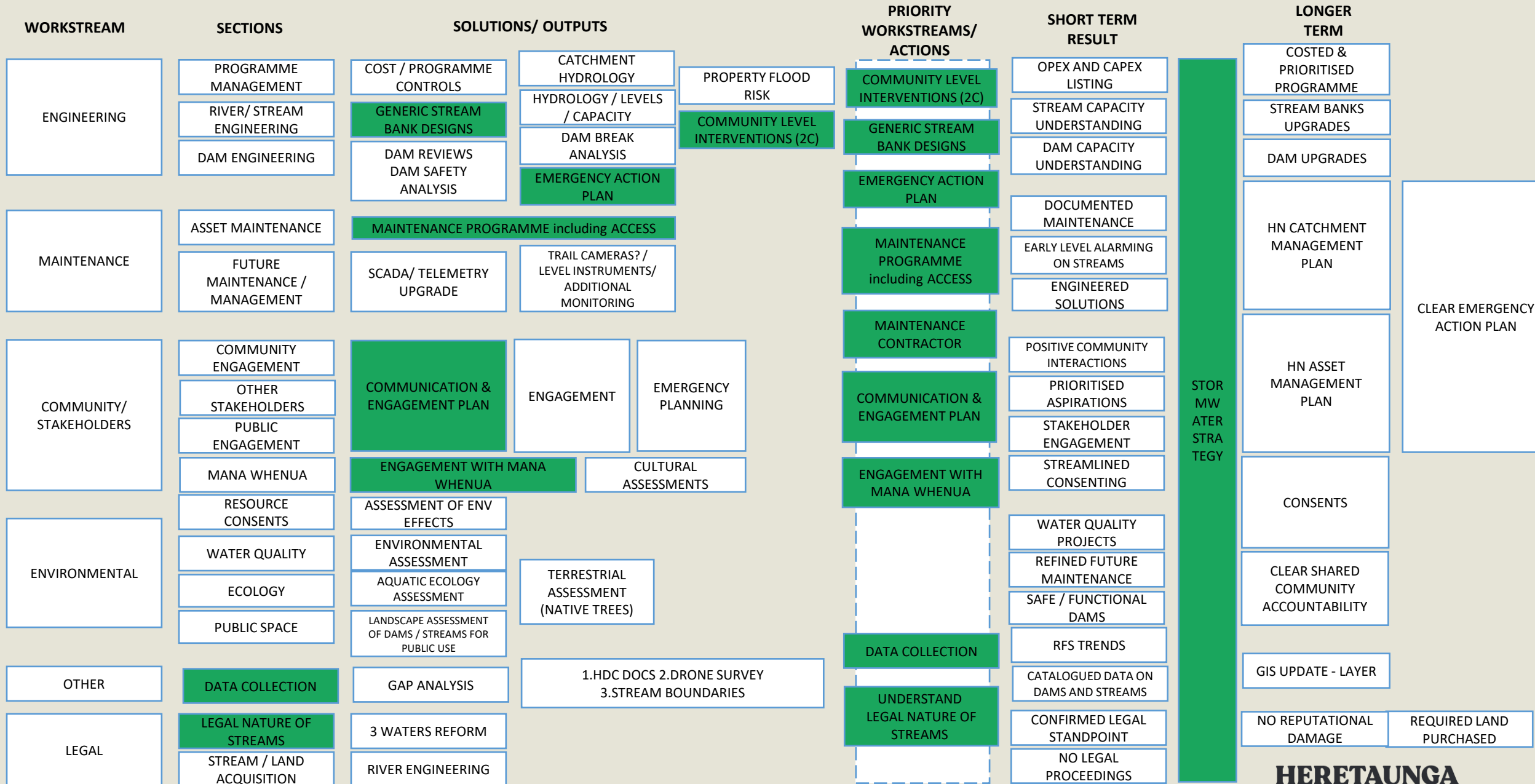
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**1.0 Executive Summary – Te Kaupapa Me Te Whakarāpopototanga**

- 1.1 Five streams flow through Havelock North with over ninety percent of the stream reaches flowing through private property creating access and maintenance challenges.
- 1.2 Council under a governance agreement with Hawke's Bay Regional Council (HBRC), signed in December 2003, currently has management responsibility for the Havelock North Streams and Detention Dam assets.
- 1.3 Under the governance agreement, Hastings District Council (HDC) has fulfilled its management and maintenance responsibilities through:
  - 1.3.1 Meeting its network discharge consent and dam consent condition obligations including annual inspection and reporting requirements.
  - 1.3.2 Completing prioritised investigations and approved capital work programmes.
  - 1.3.3 Completing proactive and reactive maintenance programmes.
  - 1.3.4 Administering building and development in accordance with District Plan requirements.
- 1.4 Cyclone Gabrielle struck New Zealand between 13th and 14th February 2023 with devastation resulting in loss of life, homes, possessions, and livelihoods.
- 1.5 The five Havelock North stormwater dams built in the late 1970's / early 1980's which feed five streams received heavy loads of rainwater, particularly in the Mangarau Dam. This contributed to flooding at Joll Road and Plassey Street.
- 1.6 The Mangarau dams primary detention area is designed to contain up to a 1:100 year rainfall event at which point the dams spillway may activate. On current information 24hr rainfall in the Mangarau catchment during Cyclone Gabrielle exceeded a 1:250 year event.
- 1.7 Following Cyclone Gabrielle the Havelock North dams have been both structurally and hydraulically assessed by qualified dam engineers. The dams performed satisfactorily.

Item 5

# HAVELOCK NORTH STREAMS STRAWMAN



STORM WATER STRATEGY

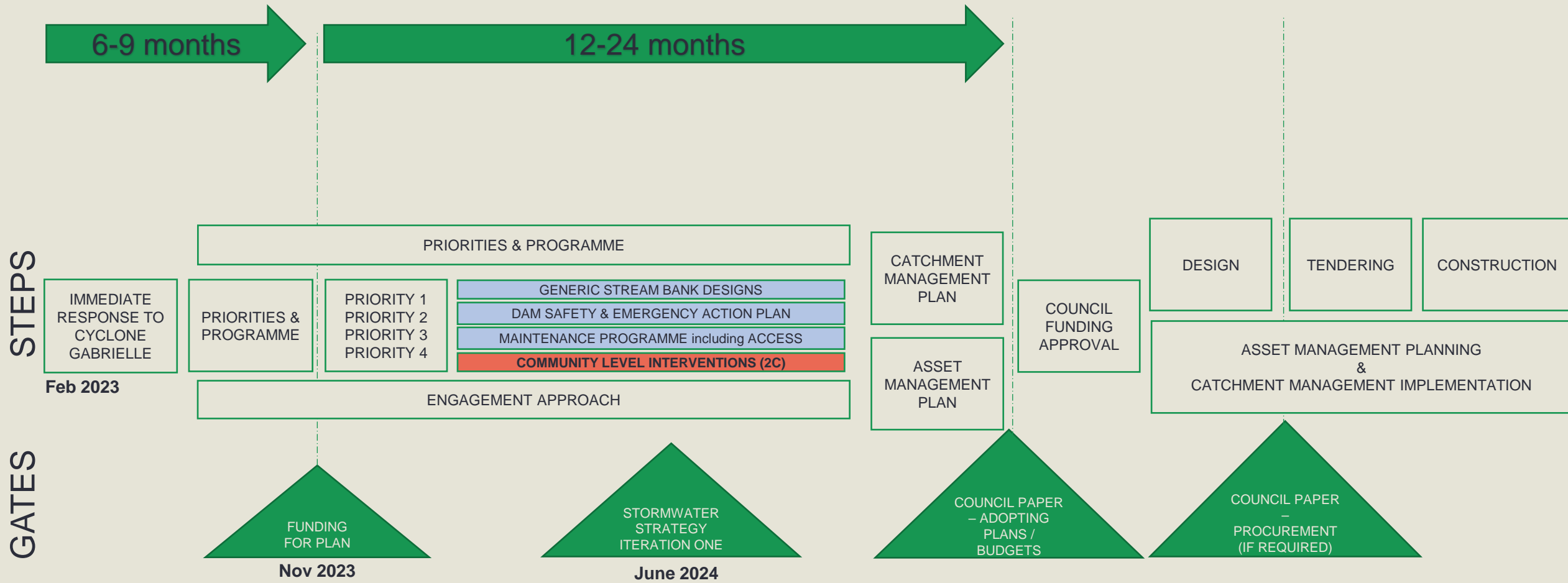
CLEAR EMERGENCY ACTION PLAN



# Priority Workstreams

Priority Workstream	Objective	Timeframe
Uplift in maintenance	Improved maintenance, debris removal and upgrade prioritising etc. Measuring trends over time to inform maintenance contract requirements.	Ongoing
Appoint dams and streams maintenance contractor	Via Council's procurement process, contract a dedicated resource to manage planned, corrective and reactive maintenance across the Havelock North, Clifton and Te Awanga streams that convey stormwater.	By March 2024
Dam safety analysis	Assess dam safety regulations and potential impact classification (PIC) upgrades,	By May 2024
Emergency action plan	Further develop dams and streams Emergency Action Plan (EAP).	By March 2024
Implementation of Category 2C recommendations	Incorporate recommendations from the HBRC-commissioned T+T streams report as appropriate into work programme once the report is finalised. (Requires community engagement.)	Report by Dec 2023 Implementation - TBC
Improve erosion risk	Review historic erosion hazard/risk streams assessments. Creation of a suite of engineering designs/ standards to remediate banks. (With property owner engagement)	In stages - By March 2024
Improve engagement and communications with community	A community engagement plan has been prepared that addresses the needs of the directly impacted and the interests of the wider community, both in the short and long term. The plan will specifically address the engagement required with landowners abutting the streams.	Ongoing (Improved ownership post 2c report) Website (live)
Data and historic reports review	Pull together all historic reports to ensure all future work understands the history and minimises duplication.	By December 2023
Property acquisition/easement strategy	Planning for future land agreements to facilitate access improvements. This may include negotiating property easements or acquisition to improve management of the streams and dams for the community as a whole.	Alongside 2c report By June 2024
Long term planning	Prepare asset management plans, catchment management plans and a stormwater strategy specific to the Havelock North Streams, with community input.	Ongoing, complete by mid 2025

# The Programme – Havelock North Streams

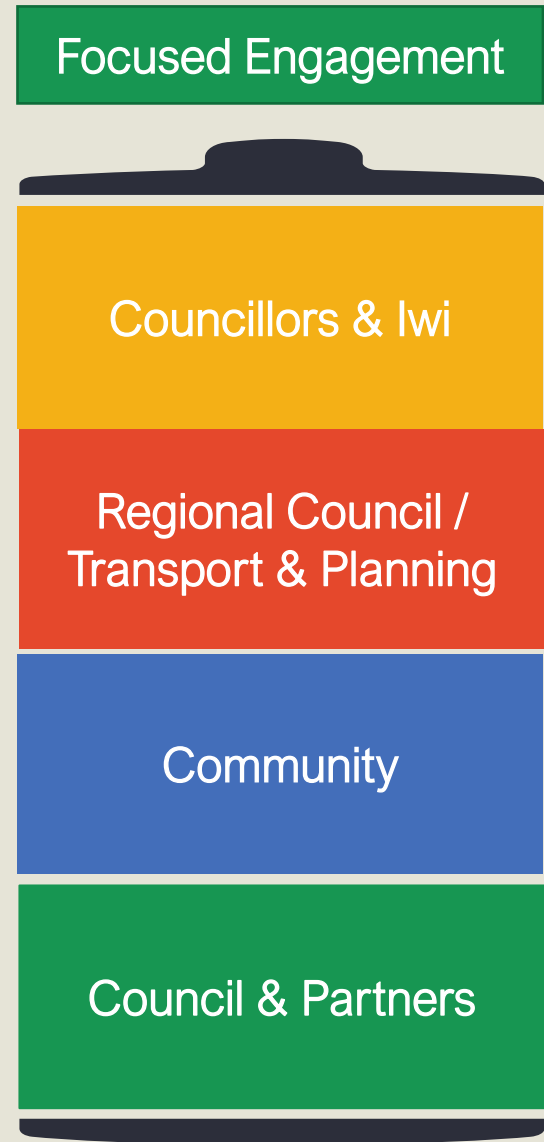


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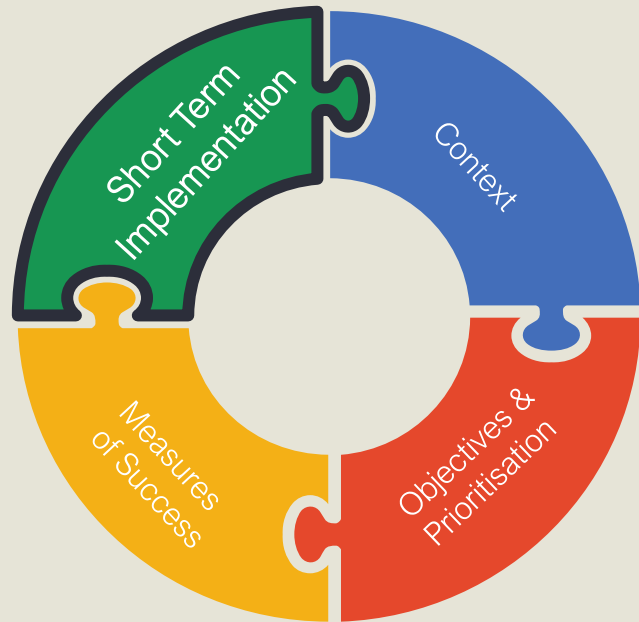
# Strategy

# STORMWATER STRATEGY

## PROPOSED STRUCTURE & CONTENT

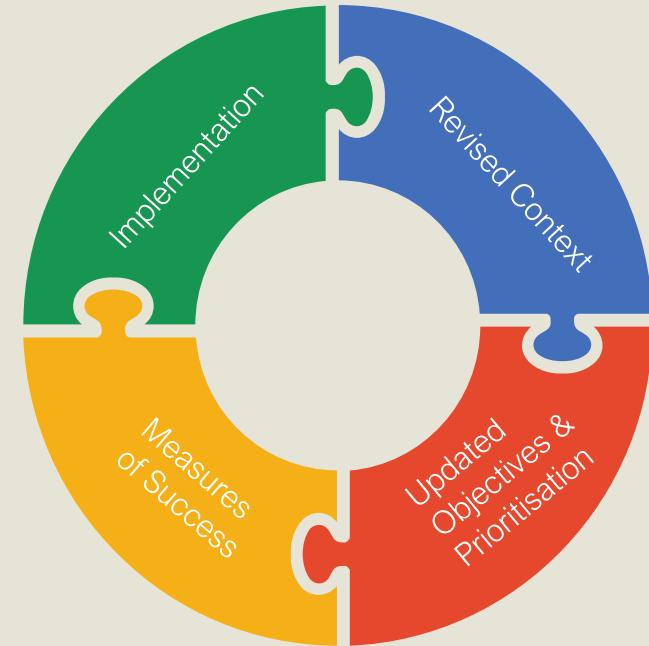


# Iterations of the strategy



## *Iteration 1*

- Nov 2023 – March 2024
- Provides a framework for robust decision making and support investment
- Community understanding enhanced maintenance and focus
- Prioritises flooding issues and a 1-2 year horizon



## *Iteration 2*

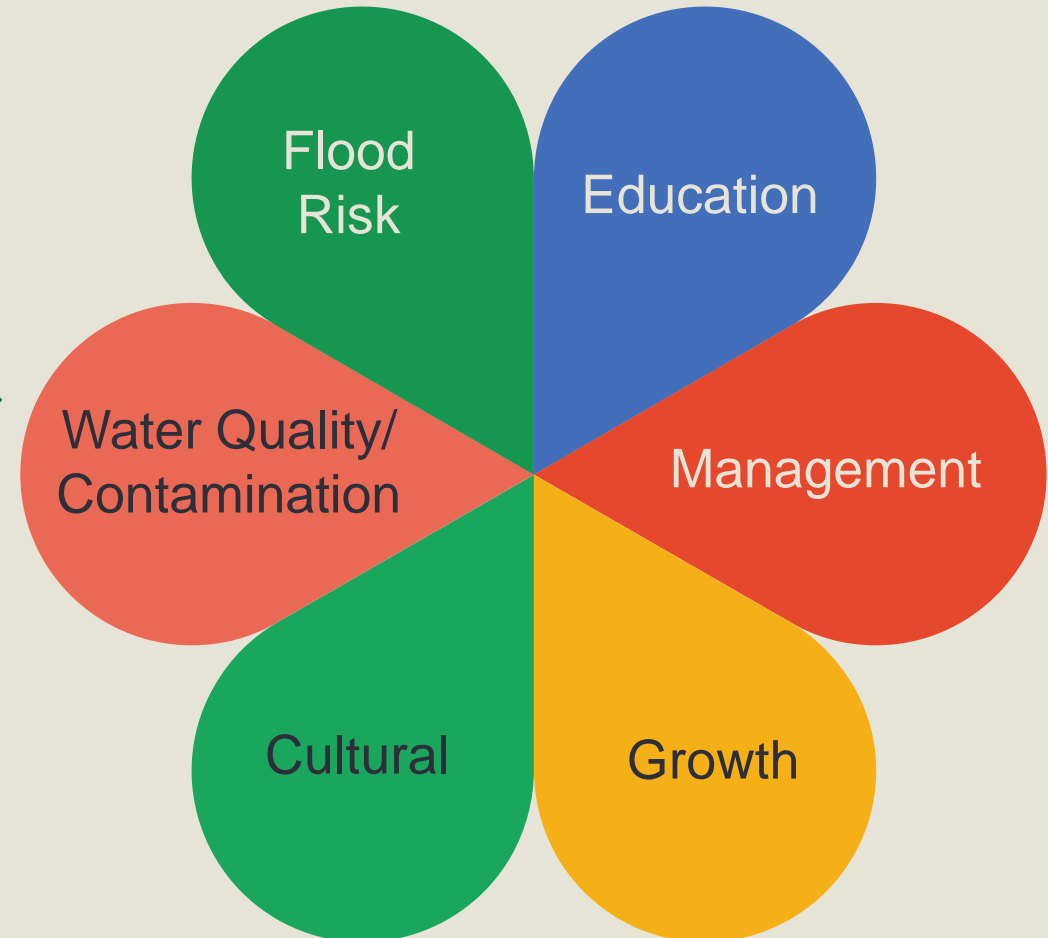
- April 2024 – Sep 2024
- Allows for collaboration / partnership
- Focuses on objectives and targets
- Brings in water quality issues
- 3-10 year horizon (AMP and LTP)

# Prioritisation of objectives

*Iteration 1 (qualitative):*



*Iteration 2 (comprehensive):*



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# **Communications**

# Communications

Website live: <https://www.hastingsdc.govt.nz/services/water/stormwater/hndamsstreams/>



DO IT ONLINE

POPULAR LINKS

## Havelock North dams and streams – post-Cyclone Gabrielle

This page provides information on what we know about the performance of the dams and streams following Cyclone Gabrielle. It is focused on the Mangarau dam and stream, as that stream was the one that flooded homes during the cyclone. Using the links to the right, you can find newsletters that have been sent to residents, historic and current reports, related information, and contact Council if you have questions.

On this page

Related pages

### History

The dams in the hills above Havelock North were built in the late 1970s/early 1980s following devastating


Submit information via Community Survey >

### Current reports and



# Communications

- Newsletters
- Flyers
- Social Media
- One to One Meetings
- Small group meetings
- Community Meetings
  
- **What else?**



**Cyclone Land Categorisation**

Good afternoon,

We are contacting the owners of 2C properties in Havelock North, to advise that we have collated a great deal of information on the dams and streams in Havelock North and published it on Council's website [here](#).

There is a mix of history (why the dams were built), rain statistics related to Cyclone Gabrielle and previous storm events, technical information and reports, and FAQs.

The stormwater team will continue to add information as it becomes available.

The next expected report is the HBRC-commissioned report by Tonkin and Taylor (T+T) recommending flood mitigation options for areas of the Mangarau stream. As noted by HBRC in its most recent letter to you, that report (currently in draft) details the work T+T has carried out to identify and investigate potential options for increasing the capacity of the Mangarau Stream so it is better able to cope with future severe weather events. (A copy of that October HBRC letter can be read [here](#).)

A meeting for 2C residents will be scheduled once that report is finalised later this month.

Please don't hesitate to contact Council if you have questions: [customerservice@hdc.govt.nz](mailto:customerservice@hdc.govt.nz) (with HN streams in the subject line), or phone 06 871 5000.

Regards

Steve Cave

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# **Next Steps**

# Next Steps – over next 6 months

## 2c Affected Area

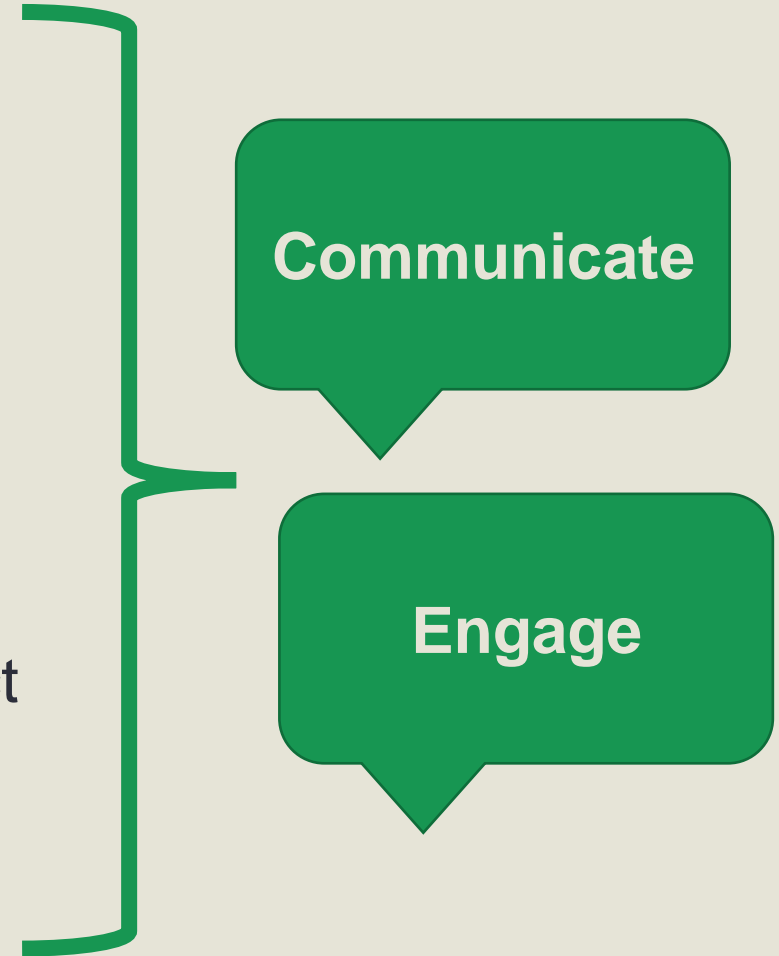
- Develop design, and consenting requirements
- Understand property requirements
- Develop business case to unlock funding

## Priority Work programme

- Develop and progress workstreams
- Continue maintenance uplift and maintenance contract

## Strategy

- Develop Strategy – Iteration One



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# Questions