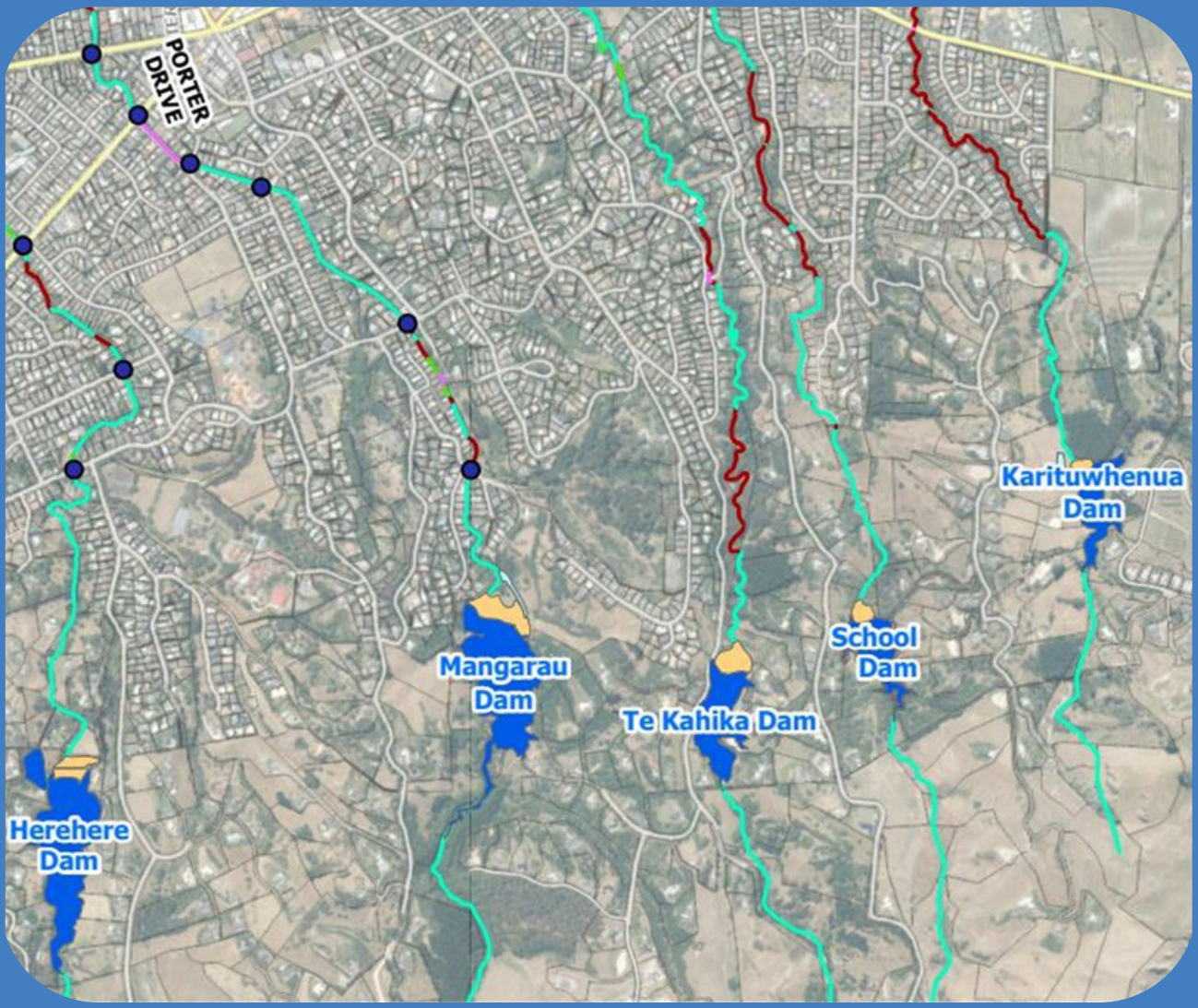
HAVELOCK NORTH STREAM MANAGEMENT STRATEGY

23 FEBRUARY 2024

HERETAUNGA HASTINGS DISTRICT COUNCIL

Prepared by Beca Limited

HAVELOCK NORTH
DAMS AND STREAMS MAP



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REVISION HISTORY			
REVISION Nº	**PREPARED BY**	**DESCRIPTION**	**DATE**
1	Kyleah Hess/ Helen Shaw	Drafted Management Strategy for HDC review	15-02-2024

DOCUMENT ACCEPTANCE			
ACTION	**NAME**	**SIGNED**	**DATE**
Prepared by	Kyleah Hess	Drafted Management Strategy for HDC review	15-02-2024
Reviewed by	Helen Shaw		
Approved by	Darren de Klerk		
on behalf of	Beca Limited		

INTRODUCTION

In February 2023, ex-tropical Cyclone Gabrielle caused significant damage to the Hawke's Bay area. The excessive rainfall resulted in water conveyance and storage systems (streams, rivers, dams, and stormwater networks) becoming overwhelmed. Consequently, the flood damage in the wider area was extensive.

The cyclone has raised community awareness of flooding, and prompted Hastings District Council to review the performance of their stormwater networks, and the level of service provided to residents.

Stormwater management is a complex mix of land use management, building controls, conveyance, detention, and stormwater treatment in order to meet multiple outcomes relating to water quantity and quality. With limited budgets, it is necessary to prioritise work. Hastings District Council needs to respond in the short term to the damage caused by the cyclone, making sure that short term work does not create new issues. A longer term plan for upgrades and improvements is also required to meet multiple outcomes.

Flood protection for the Havelock North area relies on the damming and flood flow conveyance of five key streams, the Herehere stream, Mangarau stream, Te Kahika stream, Karituwhenua stream and its tributary School stream. Flows up to 1% AEP from the rural upper catchment are retained in dams on these streams, and stormwater from the townships is conveyed towards the Karamū Stream. During the cyclone, inflows to the Mangarau dam exceeded design capacity, resulting in water flowing over the spillway. Continuing high flows resulted in a number of properties downstream being flooded. These properties were assessed following the floods, and have been categorised as 2C (requiring community scale flood protection solutions).

This Strategy for the Havelock North Streams is a planned way forward to address both the short and long term needs of the community with respect to stormwater management in the Havelock North area.

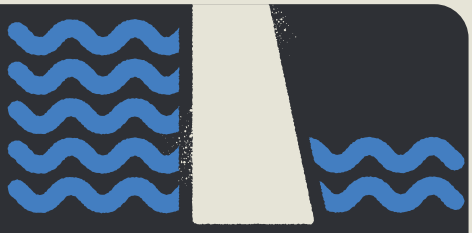
BACKGROUND AND PURPOSE

The five Havelock North Streams convey stormwater and runoff from the Kohinurakau Range, a 2,740 ha catchment. The urban area of the catchments is near the Karamū Stream, the receiving environment for all five streams, and therefore receives flood waters from a large area of rural land use upstream. To manage flood flows, a series of dams were installed in the 1970s and 80s; originally built and maintained by Hawke's Bay Regional Council, by mutual agreement these dams (and the streams) have been the responsibility of the Hastings District Council since 2003.

Downstream of the dam, open channels primarily run through private land (92% of stream adjacent land parcels), and the proper maintenance of these streams relies on the relationship between Council and the landowner. A key area is to develop better understanding, responsibility and role clarity between Council and private land owners.

Until Cyclone Gabrielle, the level of service of these dams had never been tested; with the estimated annual exceedance probability (AEP) being well in excess of the 1% AEP design standard for the dams, the performance of the system during over-design events has now been tested. The dams maintained their structural integrity during the cyclone, but flooding occurred downstream in the Mangarau Stream, due to flows discharged via the spillway of the Mangarau dam, and in other cases on the four streams to a lesser extent but still with significant impact to those properties affected.

The response to the damage caused by the cyclone is multi-faceted.



The primary drivers for a Stream Management Strategy for the Havelock North streams are;

- Clarifying roles and responsibilities for landowners and council relating to stream management and maintenance
- Establishing clear levels of service for the dams, streams and stormwater networks
- Providing for future community safety and resilience
- Improving asset and catchment management planning
- Developing clear investment priorities to inform long term planning

A number of different workstreams will be required to meet the objectives of the strategy, some of which will be specific to the Havelock North area, while others will be applicable across the district.

The intention of this streams management strategy is to outline a set of guiding principles and a prioritisation methodology that can be applied to the many issues present in the Havelock North area, and if required scaled up to provide information to support a changing three waters environment. The Strategy will also lay out key short, medium and long term actions.

The outputs of the strategy will be a number of documents and works programmes; some of which will be implemented in the Havelock North area only, while others may also be applicable elsewhere in the district.

CONTEXT OF THE STREAM MANAGEMENT STRATEGY

The stream management strategy for Havelock North provides a pathway for the management of the five Havelock North streams in the short, medium and longer term. It aligns with the Council's long term visions and priorities, but also responds to community concern, expectation and observed operational issues highlighted during Cyclone Gabrielle.

As a result of the implementation of the streams strategy, a number of works will be completed, and a stormwater strategy, catchment management plan and asset management plan developed to prioritise and recommend future investment and subsequent works. These documents, rather than the stream management strategy, will be the enduring tools for the management of the streams and associated flood management infrastructure.

A set of plans and programmes is presented in Figure 1 below. A description of each key output is also provided.

Figure 1: Hierarchy/Interdependencies of council outcomes, stream management strategy and it's outputs

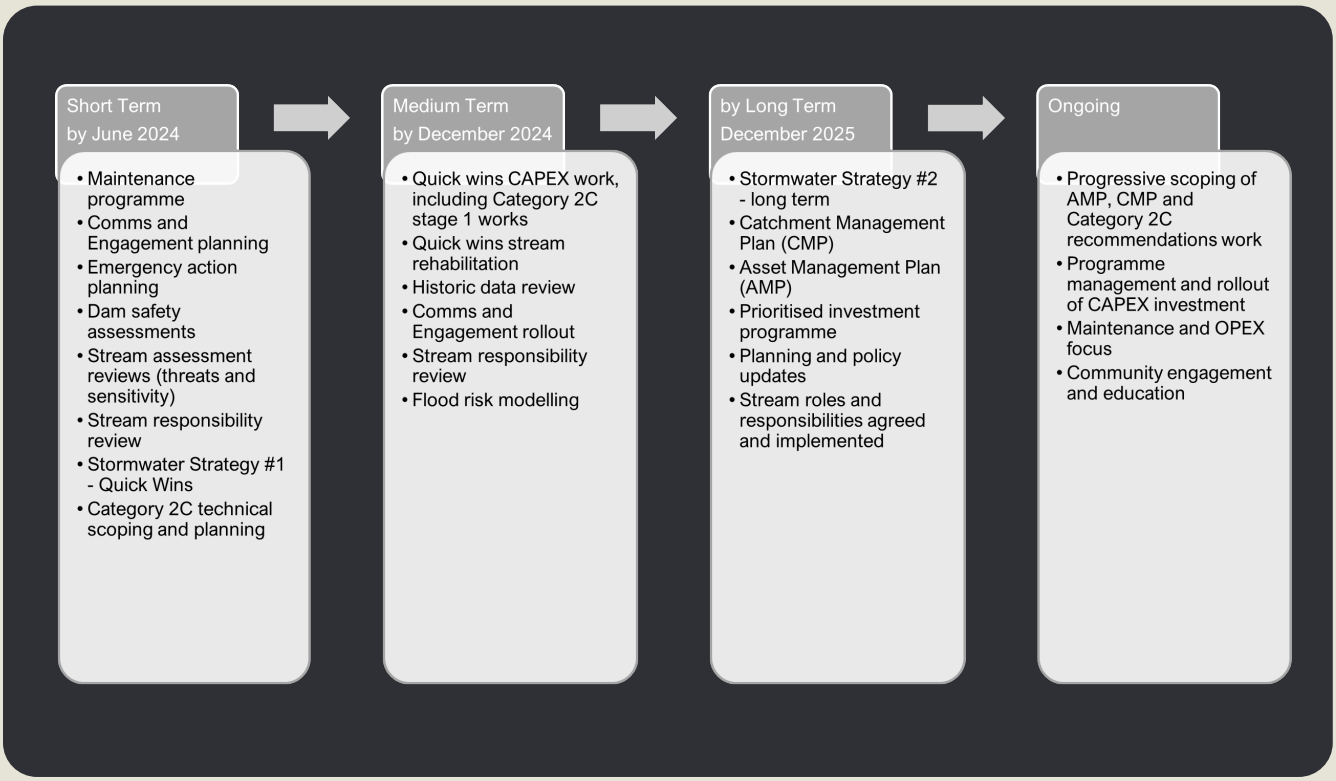
A Stormwater strategy for the Havelock North streams area will be completed in two stages, initially to support short to medium objectives around flood relief and stream management, followed by a strategy to achieve longer term visions for the area. The strategy 'sets the scene' and provides a framework for decision making, designed to meet broad community and statutory outcomes.

The strategy is then implemented through a number of mechanisms, including a catchment management plan, that explores issues and options at a holistic catchment scale, and uses the direction set by the strategy to recommend capital, education, maintenance and operational initiatives. Dam safety plans will outline dam maintenance and identify where work is required to meet new dam requirements. Recommended prioritised capital works (CAPEX) from both the catchment management plan and dam safety plans will then be included in the Asset Management Plan, with more detailed information and alignment with council budgets. Council annual and long term plans incorporate prioritised maintenance and operational work (OPEX).

When planning cycles allow, Revised policies and bylaws can also help to achieve objectives, by providing guidance to developers and home owners relating to building processes and subdivision requirements. Agreements with landowners and community will make roles and responsibilities clear with regard to stream maintenance and protection, in particular.

ACTION PLAN

In order to both respond to immediate concerns regarding flooding, while also preparing to meet broader community outcomes relating to stormwater, the programme of works and actions developed by the Streams Management Strategy has been split into short-, medium-, and long-term initiatives. This progression is designed to ensure that 'no regrets' actions can be implemented as soon as possible, while larger projects and policy work is developed in collaboration with the community.



GLOSSARY

Stream Management Strategy

An overarching strategy to provide an outline of the short, medium, and long-term management of the streams in alignment with Council's vision and priorities.

Stormwater Strategy

A Stormwater Strategy provides objectives and implementation actions for stormwater improvements.

Catchment Management Plan

A Catchment Management Plan (CMP) details the plan for managing runoff generated in a specific catchment. This can be used to meet water quantity and quality requirements or objectives. The CMP is guided by the Stream Management Strategy and Stormwater Strategy along with Regional Plans and Discharge Consents.

Asset Management Plan

The Asset Management Plan (AMP) outlines the plan for meeting the required level of service for the existing and future community. This will include information about the management, maintenance, and monitoring of the stormwater network. As the document contains details of levels of service requirements, current asset conditions and capacities, and legal requirements, it feeds directly into the workstreams.

Workstream

A grouping of activities to be completed as part of a larger scheme for improvements.

Quick Wins

Short-term works identified to help with the management of stormwater post Cyclone. These may include network upgrades, maintenance tasks, and more.

Water Services Bylaw

The Water Services Bylaw regulates the discharge of Controlled Stormwater to protect the network and connected bodies of water.

AEP – Annual Exceedance Probability

This is the probability of a certain size of flow occurring in any river or stream in a single year. A 1% AEP flow flood event has a 1% chance or 1/100 chance of occurring in any one year.

2C Categorisation

Properties where community level interventions are effective in managing future severe weather event risk and considered to have a 2C land categorisation. Risk mitigation required at a community level.

Emergency Action Plan

A plan outlining the steps to be taken for safety when an emergency such as an extreme weather event occurs.

CAPEX

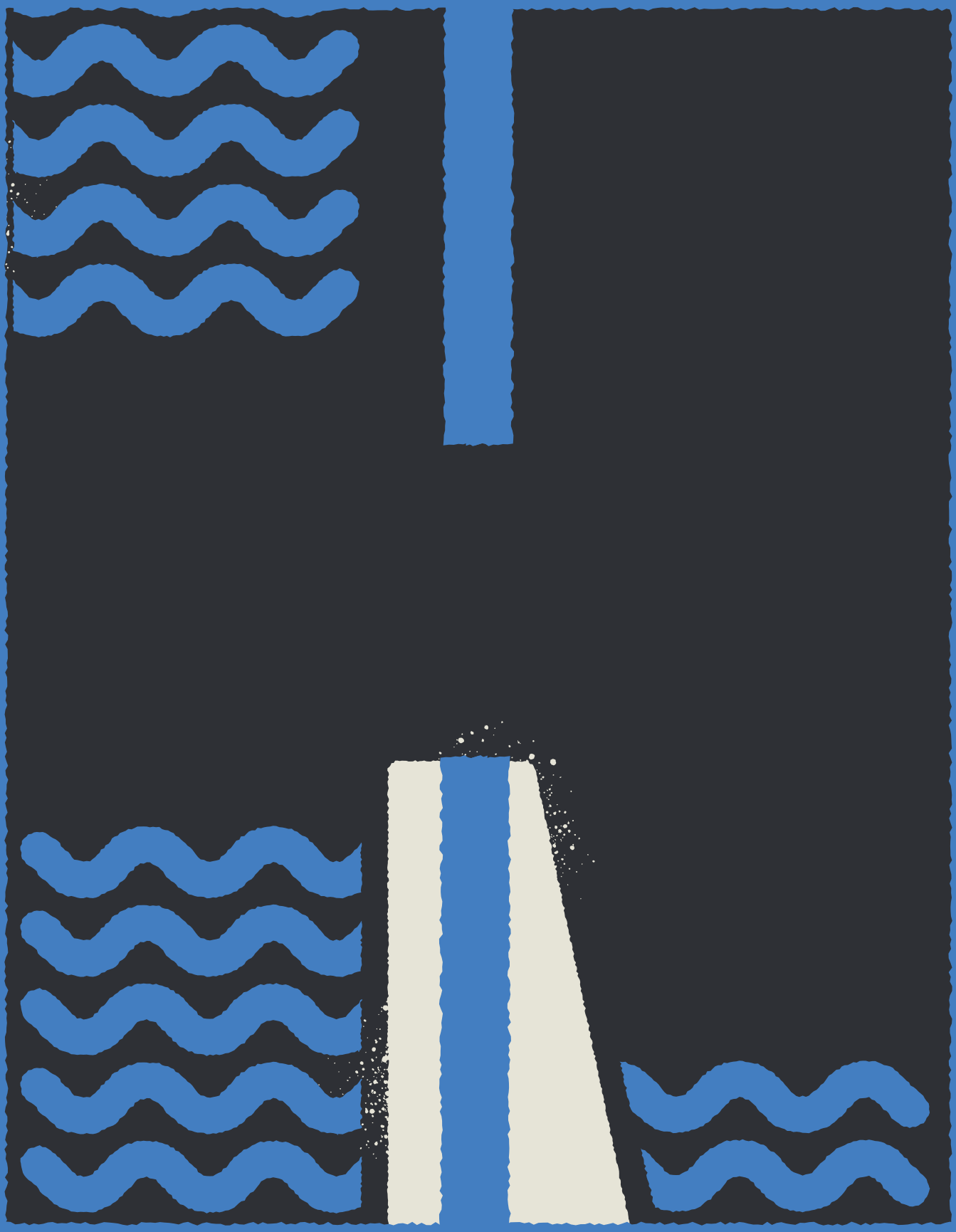
Capital expenditure includes short and long-term investments associated with acquiring, maintaining, or improving network assets.

OPEX

Operational expenditure includes day to day operations activities and maintenance on existing assets.

SHORT-, MEDIUM-, AND LONG-TERM ACTIONS CHECKLIST

INITIATIVE NO.	ACTION	DELIVERY TARGET	DELIVERY DATE
1	Maintenance programme and contractor established	May 2024	
2	Comms and Engagement framework operational	March 2024	January 2024
3	Emergency action plan	April 2024	
4	Dam safety assessments	May 2024	
5	Stream assessment reviews (threats and sensitivity)	June 2024	
6	Stream responsibility review	June 2024	
7	Stormwater Strategy #1 - Quick Wins	June 2024	
8	Category 2C technical scoping and planning	June 2024	
9	Quick wins CAPEX work, including Category 2C stage 1 works	December 2024	
10	Quick wins stream rehabilitation	December 2024	
11	Historic data review	December 2023	January 2024
12	Comms and Engagement rollout	Ongoing	
13	Stream responsibility review	December 2024	
14	Flood risk modelling	December 2024	
15	Stormwater Strategy #2 - long term	December 2025	
16	Catchment Management Plan	December 2025	
17	Asset Management Plan	December 2025	
18	Planning and policy updates	December 2025	
19	Stream roles and responsibilities agreed and implemented	December 2025	



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