DRAFT
Stormwater
Activity Management Plan
2024-2054

Quality Assurance Statement		
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Contents

1 Executive Summary

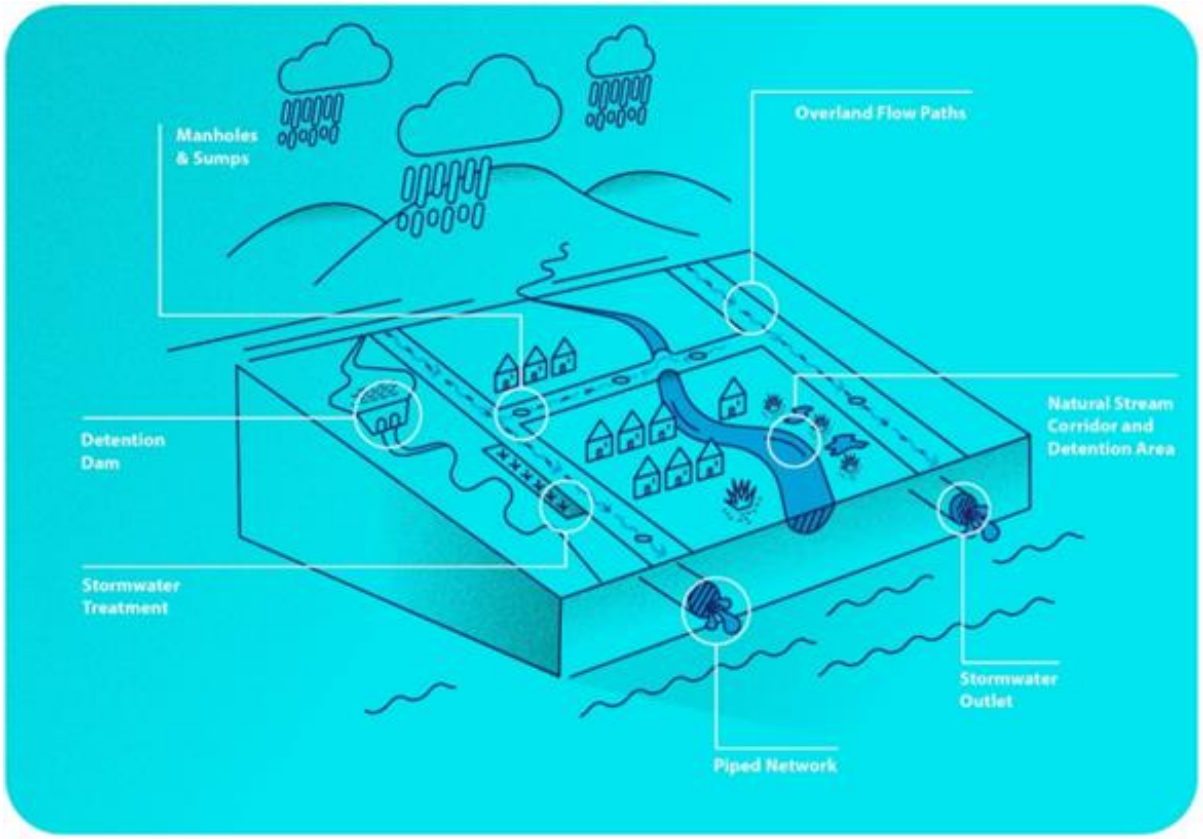
This Activity Management Plan (AMP) provides an overview of how the Council manages the stormwater activity and associated assets in an effective, cost efficient and sustainable manner.

The plan outlines key issues, goals, objectives, and the levels of service that the Council will provide to its communities. The plan provides information on any new projects and expenditure that are required to meet future demand as well as detail about life cycle management and maintenance. It provides an overview of costs and how the stormwater activity is funded. The risks and uncertainties involved in undertaking the activity and how we manage those are also outlined in the plan.

1.1 What We Do

The Stormwater activity encompasses the provision of stormwater collection, reticulation, and discharge systems in the Tasman District. The assets used to provide this service include drainage channels, piped reticulation networks, tide gates, detention or ponding areas, inlet structures, discharge structures and quality treatment assets.

The stormwater sumps and road culvert assets are generally owned and managed by the Council's Transportation activity or by the Waka Kotahi/New Zealand Transport Agency (NZTA), depending upon whether they are located on a local road or state highway. This Stormwater activity does not include land drains or river systems, they are covered under the Council's Rivers activity. Nor does it cover stormwater systems in private ownership.



The Council manages its stormwater activities primarily within 15 Urban Drainage Areas (UDAs). Systems that are outside the UDAs which include small communities with stormwater systems that primarily collect and convey road run-off to suitable discharge points.

1.2 Why We Do It

Activity Goal
We aim to provide cost-effective and sustainable stormwater systems that reduce flooding and meet environmental standards.

The Council undertakes the stormwater activity to minimise the risk of flooding of buildings and property from surface runoff and small urban streams. The Council enables the safe and efficient conveyance and disposal of stormwater from the urban drainage areas, this improves the economic and social well-being of the District by protecting people and property from surface flooding.

The Council has a duty of care to ensure that the effects of any runoff from its own properties is remedied or mitigated. Because most of its property is mainly in the form of impermeable roads in developed areas, this generally means that some level of reticulation system is constructed. The presence of this system means it also becomes the logical network for dealing with private stormwater disposal.

1.3 Our Levels of Service

The current adopted Levels of Service (LoS) for Stormwater Assets are shown in Table 1.

With the expected increase in significant rainfall events, we expect that the allocation in the planned budget ***is going to be insufficient*** to continue providing existing services at current levels for the planning period.

Table 1: LoS for Stormwater Assets for the 2024-2054 period

Levels of Service	Performance Measures
Stormwater flooding We have measures in place to respond to and reduce flood damage from stormwater to property and risk to the community.	The number of flooding events that occur in the District. For each flooding event, the number of habitable floors affected (expressed per 1,000 properties connected to the territorial authority's stormwater system). (Mandatory measure one). The median response time to attend a flooding event, measured from the time that council receives notification to the time that service personnel reach the site. (Mandatory measure three). As recorded through the Operations and Maintenance contract. The number of complaints received by a territorial authority about the performance of its stormwater system, expressed per 1000 properties connected to the territorial authority's stormwater system. (Mandatory measure four).

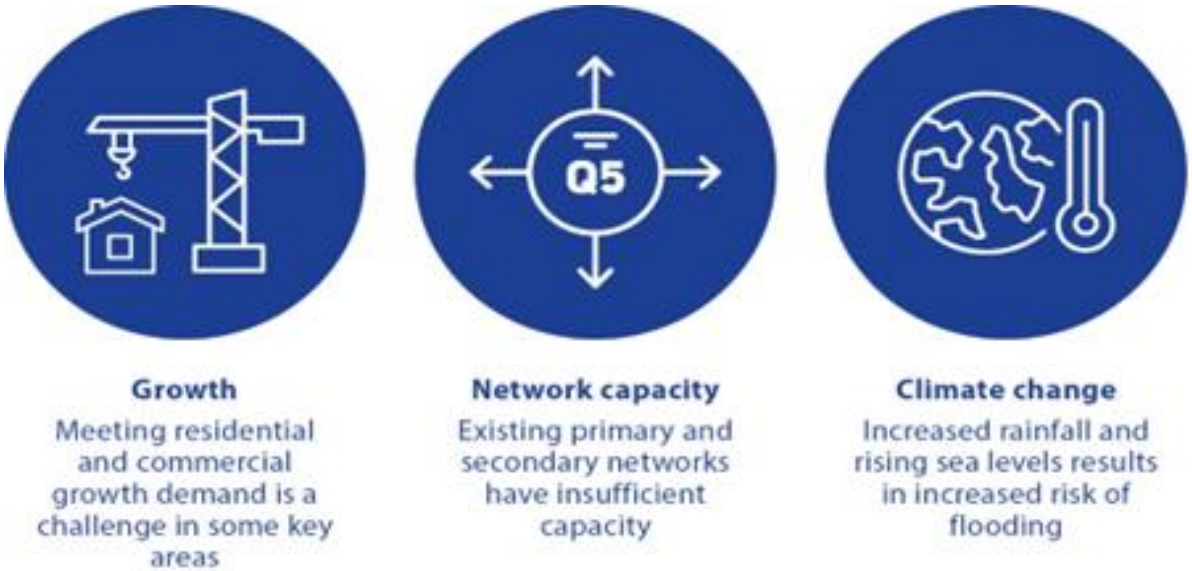
Levels of Service	Performance Measures
The environment Our stormwater systems do not adversely affect or degrade the receiving environment.	Compliance with Council's resource consents for discharge from its stormwater system, measured by the number of: • abatement notices (target ≤1) • infringement notices (target 0) • enforcement orders (target 0) • successful prosecutions (target 0). (Mandatory measure two).

The performance over the last few years has varied. The Council's piped network is at capacity in most of the Urban Drainage Areas (UDAs) and does not meet the current design standards of 10% AEP (1 in 10 year) or more. Most of the existing pipe assets have a design capacity of 20% AEP (1 in 5 year) or 50% AEP (1 in 2 year). The performance of secondary flowpaths varies and is in many cases potentially affected by blockages.

The Council has planned investments to improve the capacity of its primary and secondary networks as well as stormwater treatment to protect the receiving environment. In the short term, the Council plans to finalise the development of stormwater models and catchment management plans for all Urban Drainage Areas. Through these strategic plans the Council will develop a better understanding of the current and future performance of its networks against the agreed levels of service, identify gaps in performance, and programme works to address these gaps if funding allows.

1.4 Key Issues and response

The three key issues for the stormwater activity are:



1.5 Responding to the Issues

1.5.1 Growth

A number of projects are planned that are driven by the need to cater for future growth, such as Borck Creek and Poutama Drain in Richmond and Motueka West development area. In order to undertake some of the stormwater capital works, the Council will need to first acquire land.

To address the effects of stormwater discharges on our receiving environment, developers are required to implement water sensitive design principles within their developments, based on the following principles:

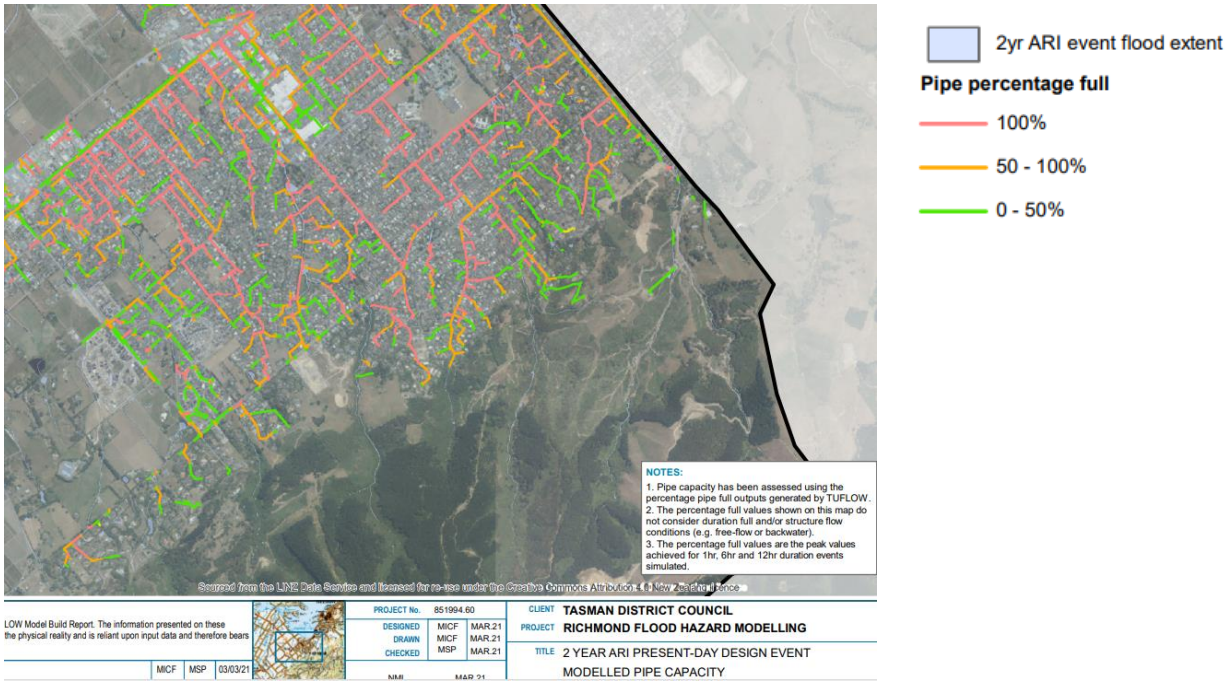
- Protection and enhancing the values of our natural ecosystems.
- Addressing the effects from stormwater as close to source as possible.
- Mimicking natural systems and hydrological processes for stormwater management.

Catchment Management Plans (CMPs) are being developed to assist the Council in identifying integrated solutions for the key issues by taking a holistic approach on a catchment wide basis. CMPs will be developed for each Urban Drainage Area, providing an overview of the current state of the network, objectives, issues and integrated solutions.

1.5.2 Network Capacity

Many of the Council's stormwater pipes and drains are too small to cope with the intense rainfall events experienced over the past few years. For example, Figure 1 below shows that the many of pipes in Richmond are full in a two-year storm whereas the new pipe LoS is 10 year. Current and foreseeable funding means it is not affordable to improve all the existing pipes and drains. A better option is to make some strategic investments in the primary network (the pipes) alongside the predominant work to protect and improve secondary flowpaths, so that when the intense rainfall events happen, the stormwater travels overland in areas where it does not risk lives and minimises damage to built and natural assets.

Figure 1 Richmond stormwater pipes % full in 1 in 2 year ARI event (50% AEP)



1.5.3 Climate Change

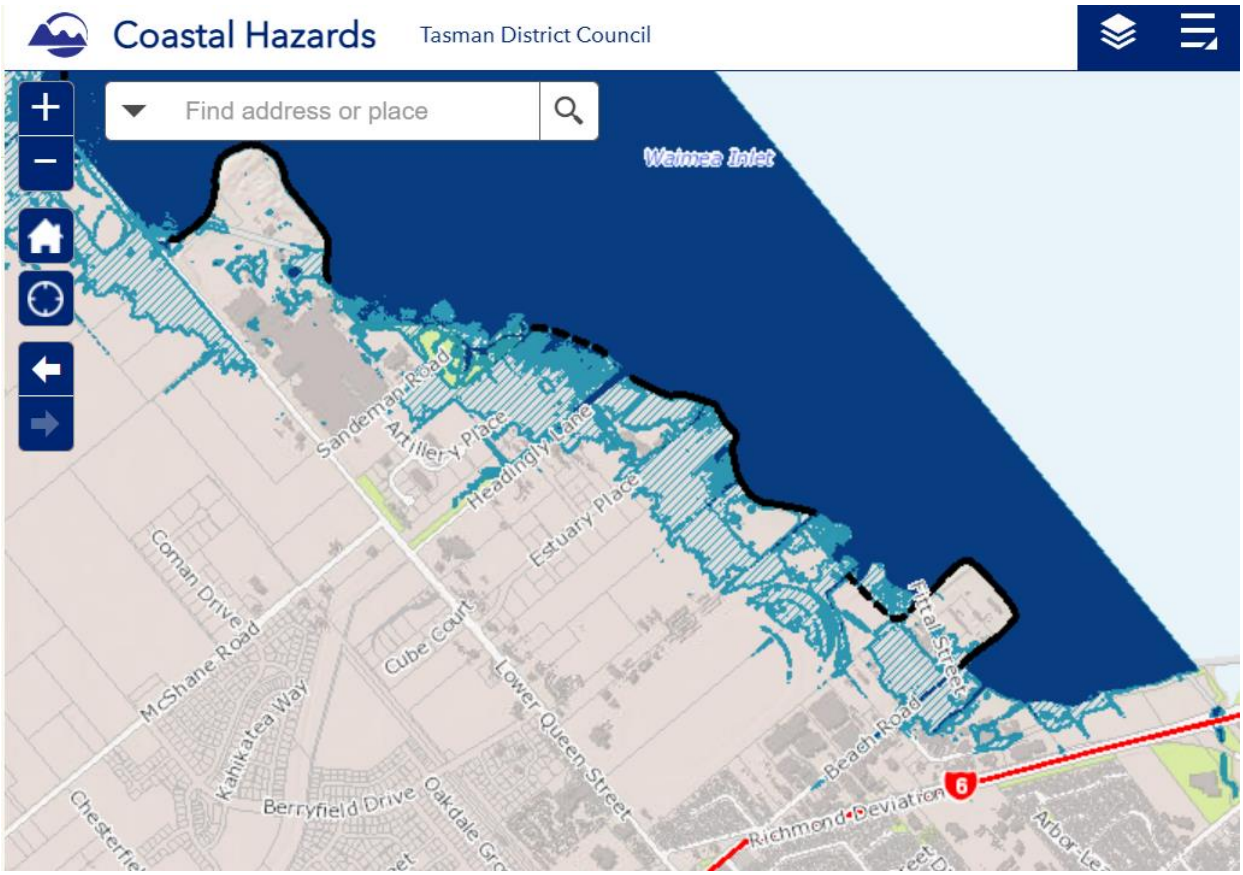
Rising sea levels and increased rainfall will continue to put further strain on the already limited capacity of our networks. Our coastal communities in particular will experience increased risk of flooding, as high tides affect stormwater discharges. Increased rainfall intensities, rising sea level and storm surges will make this issue increasingly more difficult to deal with in future. In some areas the costal fringe land is also subsiding, exacerbating the climate effects.

The expected impact of climate change on flooding will be further investigated with the help of innovative flood modelling techniques. We will follow central Government guidance to develop flood strategies that appropriately respond to these increased flood risks.

In some areas, especially low-lying areas close to the coast, we have to accept that affordable and sustainable solutions may not be available. Our flood strategies will focus on minimising damage to properties and hazard to life, as well as acceptance and adaption to nuisance flooding.

For example, Figure 2 shows how a storm tide on top of 0.5m of sea level rise will impact built up areas in Richmond. Given coastal land settlement is adding ~4mm/year to the effective sea level rise in this area, this coastal inundation scenario may be less than 30 years away and hence within the life of this AMP. The likelihood of a intense rainfall event happening in conjunction with this storm surge is reasonably high and therefore freshwater backup and flooding will probably occur in conjunction with the seawater inundation.

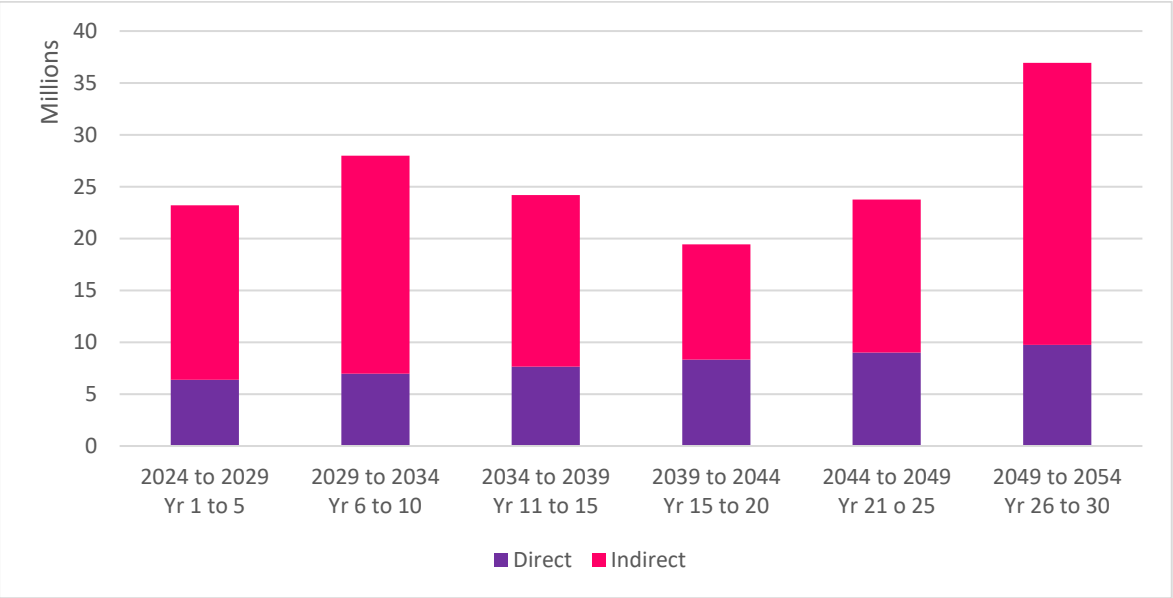
Figure 2 Richmond coastal hazard projection of storm tide with 0.5m of sea level rise.



1.6 Financial summary

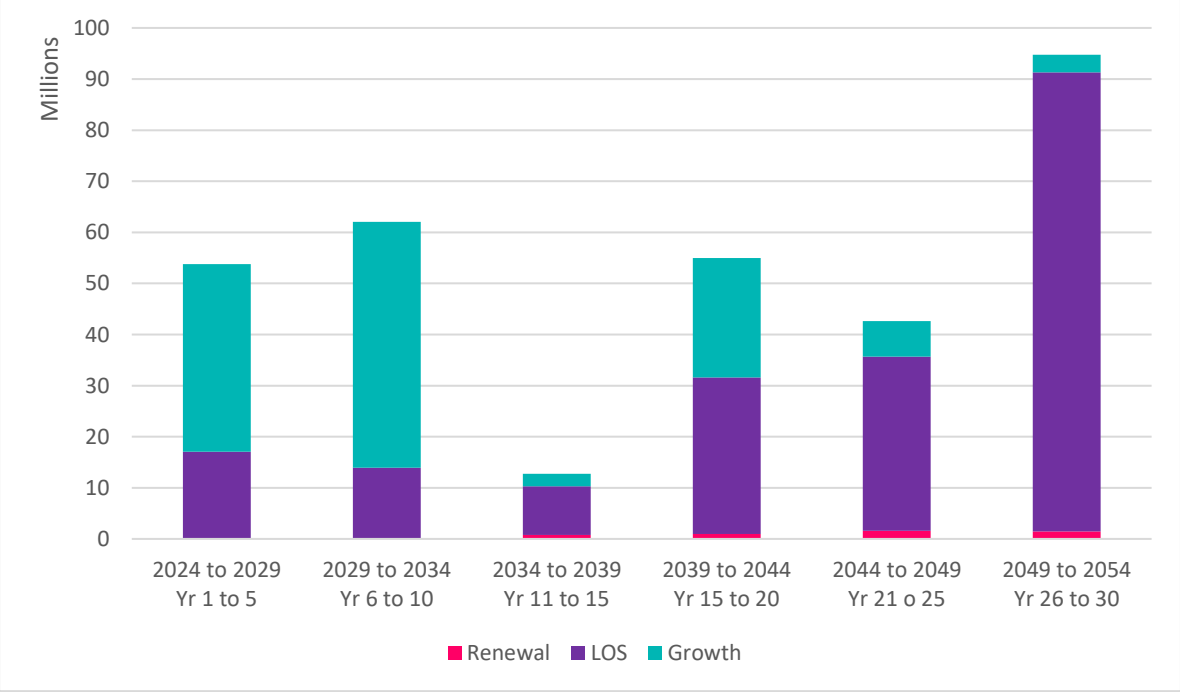
1.6.1 Operational Programme

The operational programme covers all day-to-day activities that are required to manage the stormwater activity. The Council has planned to spend approximately $155 million (inflated) over the next 30 years to operate and maintain its stormwater systems efficiently, shown in the graph below. Detailed Operational Budgets are shown in Appendix A.



1.6.2 Capital Programme

The Council plans to invest approximately $289 million (inflated) over the next 30 years on capital improvements, shown in the graph below. Detailed Capital Budgets are shown in Appendix B.



1.6.3 What we cannot do

There are some operations and maintenance activities and capital projects that have been identified as desirable but funding levels mean they are unable to be undertaken within the next 10 years. These include:

- Fully increasing stormwater capacity in existing urban areas to meet current LoS standards.
- Fully upgrading secondary flow paths to cater for expected storms.
- Retrofitting stormwater quality devices in existing urban areas to achieve NPS-FM ambitions.
- Renewal of non-critical stormwater manholes that have deteriorated faster than expected.

1.6.4 Funding Impact Statement

The Council's Funding Impact Statement (FIS) for this activity is to be included in Appendix C. It summarises in one place how this activity will be funded and how those funds will be applied over the next 10 years.

1.7 Key Programme Risks and Assumptions

- The Central Government's water reforms do not significantly delay programmed works.
- Growth happens as predicted.
- Modelling results give a reasonable indication of likely flood impacts.
- Key secondary flow infrastructure can be installed prior to major flood events.

Appendix D provides more details on Key Risks, Assumptions and Uncertainties

1.7.1 Managing the Risks

The Council aims to provide an affordable and cost-effective stormwater service and categorises the effects of flooding and priorities. These risks will continue to increase in the future with climate change projected to increase the frequency and severity of severe weather events.

Our current budget priorities in the stormwater activity are focused on providing safe and effective stormwater management for new growth areas, to avoid the creation of future, larger issues.

Other projects to improve stormwater levels of service in our existing urban areas have been given less focus. With climate change impacts, this is expected to lead to a gradual deterioration in existing services provided.

In addition, if there is forecast work (operations, maintenance, capital) that cannot be undertaken due to available resources, there may be further erosion of the levels of service for new or existing residents.

The main risk consequences and priority ratings are:

- Hazard to people including loss of life — Top priority.
- Damage to or destruction of built assets — High priority.
- Destruction of natural assets — Medium Priority.
- Flooding nuisance — Medium to low priority.

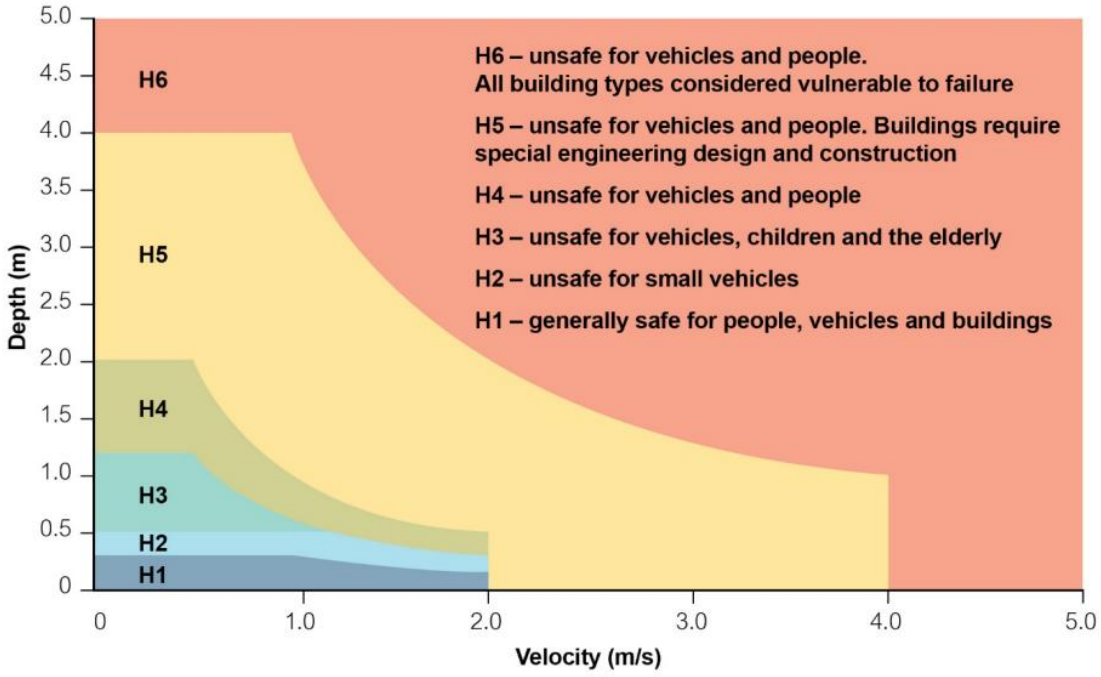
The Council uses stormwater modelling in combination with floor level surveys to investigate and predict the number of properties that may be affected by flooding during extreme storm events.

We will endeavour to manage these risks within available funding by:

- Protection and extension of existing secondary flow paths.
- Public education regarding areas of high risk.
- Integration with Civil Defence Activities.

The majority of the Council's existing primary stormwater network (pipes) are designed to cater for rainfall events that have a 20% to 50% chance of occurring in any year (5-2 year ARI). During more intense rainfall events the capacity of these pipes will be exceeded and stormwater will flow via overland flowpaths towards the nearest stream and/or to the coast. Because upgrading pipes to a higher level of service is not cost effective, the Council's future stormwater management planning is focussed on managing and protecting overland flowpaths. The Council has invested in identification of overland flowpaths, and in the future will increase protection, inspection and enforcement actions with an aim to ensure that protected flowpaths remain free of obstacles.

The presentation of the level of hazard represented by different depths and velocities of secondary flow and floodwaters has varied over time and between documents. Currently the Strategic Policy Team are using the matrix below that has been built up from international experience and codified in various Australian government documents[1] and the new NZ National Flood Modelling Guidelines[2]. Future modelling and public communication around stormwater flooding and hazards, such as through the Catchment Management Plans, will use this H1-6 system, and potential implications to plans and resource consents under the RMA, Building Act, and other documents will be explored.



[1] E.g. Australian Rainfall and Runoff, NSW Department of Planning and Environment Flood Hazard Flood Risk Management Guide FB03, Australian Disaster Resilience Handbook Collection GUIDELINE 7-3 Flood Hazard

[2] Water New Zealand (in Print March 2024)

The Council will invest in minimising flood hazards and damage to property (H2-H6). This means that a level of nuisance flooding (H1) is considered acceptable (if it does not flood house floors), and that nuisance flooding may be experienced more frequently in the future as a result of increased rainfall. The Council will still assist the community in dealing with nuisance flooding in some instances where it deems it necessary and appropriate.

2 Introduction

The purpose of this AMP is to outline and to summarise in one place, the Council's strategic management and long-term approach for the provision and maintenance of its stormwater activity. This is achieved through the planned management of assets, compliance with regulatory requirements, and the funding needed to provide the appropriate levels of service.

2.1 Rationale for Council Involvement

The provision of stormwater drainage to urban areas is something that the Council has always provided. The service provides many public benefits and it is considered necessary and beneficial to the community that the Council undertakes the planning, implementation and maintenance of the stormwater services within the urban areas.

The Council has no statutory obligation to provide for private stormwater runoff, just as it has no obligation to provide protection against wind or other natural events. This is clear in the Local Government Act 2002 where it states that councils do not have to take responsibility for stormwater systems which service only private properties.

The Council does have a duty of care to ensure that any runoff from its own properties is remedied or mitigated. Because most of its property is mainly in the form of impermeable roads in developed areas, this generally means that some level of reticulation system is constructed. The presence of this system then becomes the logical network for private stormwater disposal.

2.2 Asset Management Processes and Practices

The Office of the Auditor General (OAG) uses the International Infrastructure Management Manual (IIMM) as the benchmark against which New Zealand councils measure their activity management practices. There are five maturity levels in the IIMM; Aware, Basic, Core, Intermediate and Advanced. The IIMM sets out what the requirements are for each level against each area of the activity management system.

In 2023, the Council reviewed its Activity Management Policy and adopted an updated version. The Policy sets out the Council's activity management objectives and appropriate levels of practice. For the Stormwater activity the Council has determined that the appropriate level of practice is 'intermediate' with 'advanced level' of practice for demand forecasting, asset register data and asset condition

Further Details of assets management processes are contained in Section 10 of this AMP.

2.3 Description of Assets and Services

2.3.1 Asset Overview

Table 2 provides an overview of the key stormwater assets that are owned and operated by the Council throughout the District.

Table 2: Stormwater Assets Overview

Stormwater		Replacement Value
	15481 property connections Average Age 20 years	$18.9M
	222 km of piped stormwater network Average Age 26 Years	$151.3M
	42 km of maintained open drains and streams	$8.6M
	3208 manholes, Average Age 20 years	$26.0 M
	1126 sumps (an additional 4,424 sumps and catchpits are located in the road reserves and managed through the Transportation activity)	$4.4 M
	11 detention dams	$1.4M
	Other stormwater assets (i.e. culverts, inlets and outlets)	$20.5M
Total Replacement Value		$231.1 M

2.3.2 System overview

There are 15 stormwater Urban Drainage Areas (UDA) within the Tasman District and the residual non-urban area. A system overview describing the key aspects of each UDA is provided in Table 3.

Table 3: Urban Drainage Area System Overview

Urban Drainage Area	System Overview
Richmond	Richmond Urban Drainage Area (UDA) is the most developed and densely populated UDA in the Tasman District. Much of the stormwater flows originate from the Richmond foothills, which slope up from the developed areas towards an elevation of approximately 600m. Significant areas of the foothills are forested and subject to periodic harvesting. There are a number of gullies, which route through stormwater flows into the urban area. The UDA has three major drainage catchments: • Borck Creek • Jimmy Lee Creek (CBD) draining into Beach Road Drain • Reservoir Creek. Much of the stormwater system within the developed area is piped. The major piped stormwater systems convey stormwater along Oxford Street, Queen Street, Salisbury Road and Gladstone Road. Much of the stormwater flows in a northerly direction from its source of origin into the town centre. In many places the existing piped stormwater system is under capacity, which is a result of the continuous development of Richmond originating from the town centre outwards towards the foothills. In some places, detention dams have been constructed to 'control' stormwater flows in strategic places to reduce peak flows and the severity/likelihood of flooding risk further downstream. Future projected Sea Level Rise (SLR) and Vertical Land Movement (VLM) are expected to Significantly impede the discharge of stormwater to the coast from Richmond and cause other direct inundation impacts.
Brightwater	Brightwater is positioned between the Wai-iti and Wairoa Rivers, three kilometres upstream from their confluence. It is situated on a very flat floodplain with several old, shallow river and stream channels crossing it. Brightwater's urban stormwater network is positioned in the centre of these surrounding rivers and stream catchments. The Mt Heslington Stream passes through the Brightwater School then turns eastward to join the Wairoa River. The main urban areas of Brightwater discharge into piped systems either into one of the three streams or into the old river channels that lead into the Wairoa or Wai-iti Rivers. No impacts from SLR and VLM are expected.
Wakefield	Wakefield is a mixture of rural and urban development and lies between two waterways; the Wai-iti River and the Pitfure Stream. All the drainage systems in Wakefield eventually drain to one of these rivers. Most of the stormwater system was built during the late 1980s. No impacts from SLR and VLM are expected.
Murchison	The primary drainage system in Murchison consists of a network of open drains and creeks that drain to the Matakitaki River just south of Murchison. The area of piped stormwater systems is restricted to the central part of town and comprises several small piped systems that collect highway drainage, most discharging into Ned's Creek which has flooded in recent years. Within the UDA, the majority of stormwater from residential dwellings is to ground soakage. No impacts from SLR and VLM are expected.
St Arnaud	St Arnaud is surrounded by the Nelson Lakes National Park and located on the shores of Lake Rotoiti. The steep, glacial terrain surrounding St Arnaud has high

Urban Drainage Area	System Overview
	run off flows. While the majority of drainage within the built up area consists of small streams and roadside open channels, the more recent subdivisions have been developed with piped stormwater systems. No impacts from SLR and VLM are expected.
Tapawera	Tapawera was developed by NZ Forest Service as a forestry headquarters village. There are a limited number of piped stormwater systems within the urban drainage area that discharge into a series of open channels which were collectively built in the 1970s. At a similar time, a cut-off drain was constructed at the bottom of hills on the east side of town to divert flows from this upper catchment. An unnamed stream passes through the UDA, crossing Main Road Tapawera and Tadmor Valley Road, before discharging into the Motueka River. This is the keystone of the Tapawera stormwater system which collects stormwater flows from the open drain and the piped stormwater network. No impacts from SLR and VLM are expected.
Motueka	Motueka is the second largest settlement in the District but is less densely developed than Richmond due to the size of the properties, mostly quarter-acre sections. Stormwater drainage in Motueka is characterised by its low-lying nature, flat terrain, alluvial gravels with high water table, proximity to the Motueka River and Tasman Bay. A considerable amount of stormwater drainage is by soakage to the underlying soils and gravels. The UDA drains to three main areas: • Motueka River in the northwest via Staples Drain. • Enclosed tidal lagoon through the Lammas Drains in the north-east. • Enclosed tidal lagoon in the south, through the Thorp and Woodlands Drains. The tidal lagoons are protected by tidal gates on Wharf Road and Old Wharf Road and are controlled via the Council's telemetry system. The dominant piped drainage direction is from west to east. The bulk of the central area drains to either the Thorp or Woodlands Drains which run north to south between High Street and Thorp Street. The remainder of Motueka is drained via small, piped stormwater systems discharging directly to sea or adjacent open channels. Recent developments between Thorp Street and Motueka Quay have included the construction of detention ponds to enable piped coastal outlets to operate against high tidal levels. Other recent developments have seen the use of soak pits as the primary stormwater discharge system, returning storm flows to ground. Significant impacts from SLR and VLM are expected.
Māpua/Ruby Bay	Ruby Bay area is a coastal strip with relatively recent developed land with a piped network and stormwater detention systems. Māpua is a mixture of urban and semi-urban development with the majority of stormwater from earlier developments going to soakage. Only the more recent developments have included piped stormwater systems, which mostly discharge into open drains and into the Māpua estuary. A tidal gate at the end of the Aranui Road stormwater pipe protects the reticulated piped system from high tide backing up into the system. The catchment upstream of the Coastal Highway and Stafford Drive drains out through the Seaton Valley Stream. This passes through a culvert under Stafford Drive and discharges into the Toru Street inner estuary further downstream. The area draining into the Seaton Valley Stream accounts

Urban Drainage Area	System Overview
	for 65% of the Māpua/Ruby Bay drainage area. Moderate to High impacts from SLR and VLM are expected.
Tasman	Tasman is a small settlement with approximately 150 people, situated close to the south edge of the Moutere Inlet. Surface flows drain from south to north, discharging through the Marriages Stream, into the Moutere Inlet. The stream drains much of the catchment area and picks up open drains from rural land use. The stormwater system in the settlement is limited to some small piped systems although it is predominantly open drained. Moderate to High impacts from SLR and VLM are expected.
Kaiteriteri	The Kaiteriteri Urban Drainage Area (UDA) contains mostly residential and holiday type home development with two significant motor camps. Discharges from either small piped systems or drains are directed towards the beach or into the Kaiteriteri Inlet. Much of the catchment above Kaiteriteri is forested and present at risk of increased runoff flows from logging activities. The Separation Point Granites that locally occur erode easily when exposed and present a risk of creating debris flows. Moderate impacts from SLR and VLM are expected.
Tākaka	Tākaka is situated in the flood plain of the Tākaka River. Stormwater runoff from the township on the Tākaka River side of Commercial Street is piped to the Te Kakau Stream. The areas around Motupipi Street and Abel Tasman Drive drain into the Upper Motupipi River. Many residential properties rely on stormwater soakage into the underlying river gravels and are affected by fluctuating groundwater levels. Lake Killarney is located within the centre of Tākaka and the water level is controlled by surrounding groundwater levels. Low impacts from SLR and VLM are expected.
Pōhara	Pōhara consists of two parts, the main Pōhara settlement area and the Pōhara Valley area. Both areas have been subject to significant recent development. A series of piped stormwater systems have been installed and extended where further development has occurred. Road drainage is mostly open drains in both parts of the UDA and combined with piped stormwater systems. A number of streams drain the large hill catchments above Pōhara and are known to cause flooding. The Separation Point Granites that locally occur erode easily when exposed and present a risk of creating debris flows. Moderate to High impacts from SLR and VLM are expected.
Ligar Bay and Tata Beach	Ligar Bay and Tata Beach are similar settlements, separated by a short distance of coastline. Both are popular holiday retreats and have grown considerably in recent years. The catchments are both covered by forestry and native bush and are steep with numerous gullies, rising to approximately 300m on the ridgeline. Most properties are self-draining into open road drains with a small number of piped systems in place. The main stormwater flows come from the catchment behind the UDA. The Separation Point Granites that locally occur erode easily when exposed and present a risk of creating debris flows. Moderate to High impacts from SLR and VLM are expected.
Collingwood	Collingwood consists of a north facing high ridge bounded by the Aorere River and tidal inlet. This steep sided ridge discharges stormwater to both the east and west sides. Most of the discharge off the high ground is through small road drains and minor open ditches. A small peninsula accommodates the

Urban Drainage Area	System Overview
	commercial area of Collingwood and the public motor camp on the northern tip. This area is low lying and several small pipe systems discharge to the east and west sides of the peninsula. The main open drain passes down Gibbs Road before discharging to sea. Several piped systems discharge into this drain. The remainder of the catchment is mostly served by piped stormwater systems. Moderate to High impacts from SLR and VLM are expected.
Patons Rock	The Patons Rock UDA consists of small independent stormwater pipe systems which drain Patons Rock Road and are located at regular intervals along the length of the beach settlement. There are four beach outlets, and one pipe system outlet which drains to an open stream. Two of the beach outlet pipes have special fittings which help to prevent blockages from sand build-up. Moderate impacts from SLR and VLM are expected.

3 Strategic Direction

Strategic direction provides overall guidance to the Council and involves specifying the organisation's objectives, developing policies and plans designed to achieve these objectives, and then allocating resources to implement the plans.

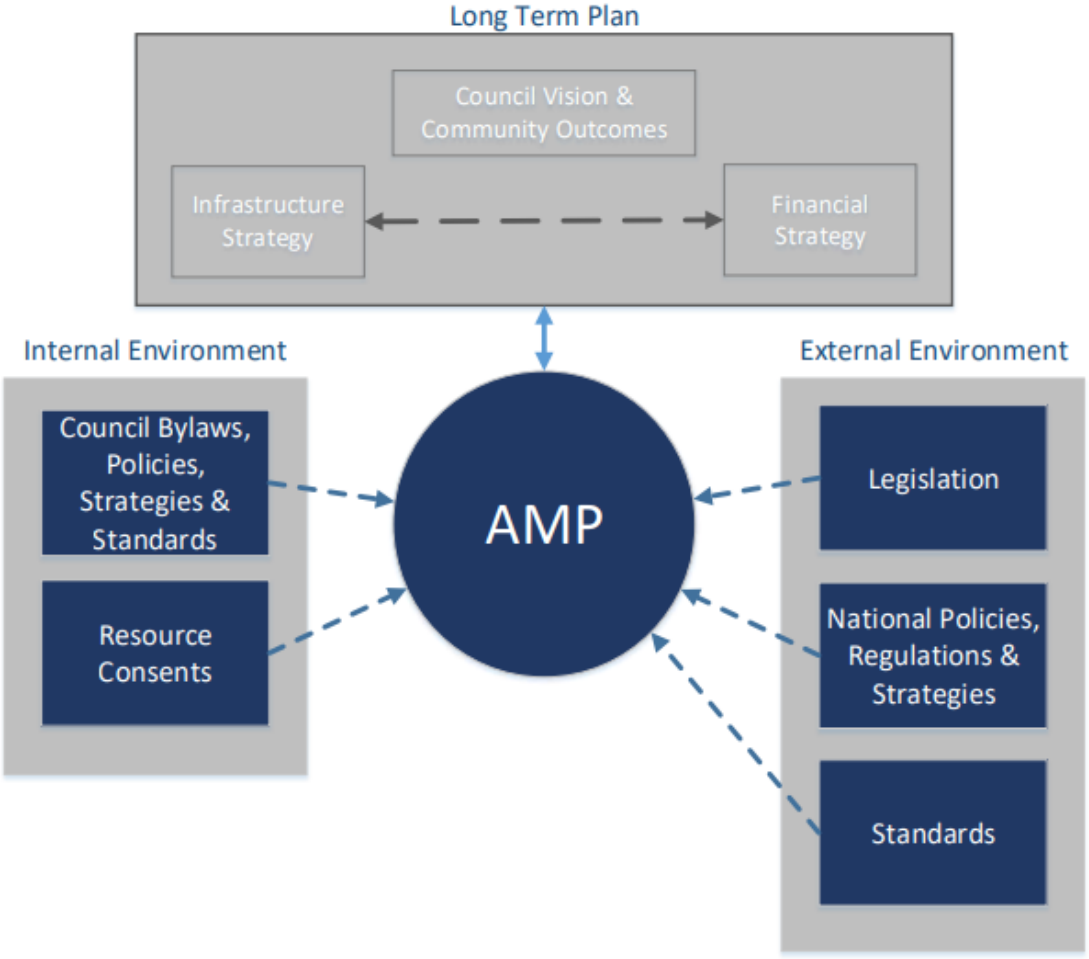
3.1 Our Goal

Activity Goal
We aim to provide cost effective and sustainable stormwater services that reduce flood risk and meet environmental standards.

3.2 Strategic Alignment

This AMP is a key part of Council's strategic planning process. This plan supports and underpins the financial forecasts and work programmes contained in planning documents like Council's Long Term and Annual Plans.

The constraints that influence how the Council manages it's activities can be internal or external and include legislation, policies, strategies and standards:



3.3 Key Linkages

This Plan is to be read with consideration of other Tasman District Council planning documents, including the Activity Management Policy, along with the following key planning documents:

- Tasman District Council Long Term Financial Plan 2024-34
- Tasman District Council Annual Plans
- Tasman District Council Risk Management Policy
- Tasman District Council Infrastructure Strategy
- Tasman Climate Action Plan
- Urban Stormwater Strategy
- Global Discharge Consent

Appendix D describes the key Council plans and policies with linkages to the Stormwater Activity.

3.3.1 Financial Strategy

The Financial Strategy outlines the Council's financial vision for the next 10 to 20 years and the impacts on rates, debt, levels of service and investments. It guides the Council's future funding decisions and, along with the Infrastructure Strategy, informs the capital and operational spending for the Long Term Plan 2024-2034.

3.3.2 Infrastructure Strategy

The purpose of the Infrastructure Strategy is to identify the significant infrastructure issues for Tasman into the future and identify the principal options for managing those issues and implications of those options.

The key priorities in the strategy include:

- Providing services that meet the needs of our changing population
- Planning, developing and maintaining resilient communities
- Providing safe and secure infrastructure
- Prudent management of existing assets and environment.

3.4 Key Legislation and Regulations

This activity is guided by Council Bylaws, Policy Statements and national legislation. Council Bylaws, Legislated Acts and the key National Policies and Standards that apply to the stormwater activity are listed in Appendix D.

3.5 Our Partners and Stakeholders

3.5.1 Partnerships with Te Tauihu iwi

Council is committed to strengthening partnerships with iwi and Māori of Te Tauihu (Top of the South Island) and providing opportunities for Māori involvement in Council decision-making processes in a meaningful way. There are eight iwi that whakapapa and have Statutory Acknowledgements to places within Te Tau Ihu and Te tai o Aorere (Tasman District).

They include representation by the following entities:

- Ngāti Apa ki te Rā Tō
- Ngāti Koata Trust
- Ngāti Tama ki te Waipounamu Trust
- Te Ātiawa o te Waka-a-Māui
- Te Rūnanga a Rangitāne O Wairau
- Te Rūnanga o Ngāti Kuia Trust
- Te Rūnanga o Ngāti Rārua
- Te Rūnanga o Toa Rangatira

Tasman District also covers the northern-western part of the Ngāi Tahu takiwā (tribal area/territory). Murchison is within the Ngāi Tahu takiwā and Ngāti Waewae iwi also have interests in this area.

Iwi Management Plans are lodged by iwi authorities and received by Council under the Resource Management Act 1991. Once lodged with Council, they are planning documents that Council is required to take into account when preparing or changing Resource Management Act Plans. Iwi Management Plans document iwi worldview and aspirations for the management of resources and help Council and staff to better understand those factors.

The Te Tauihu Intergenerational Strategy is also a key strategic document that is influential in determining our community outcomes

3.6 Stakeholder engagement

There are many individuals and organisations that have an interest in the management and operation of the Council's assets and services. The Council works alongside a variety of stakeholders and partners to share knowledge and views, make the most of resources, and achieve shared goals. The Council has a *Significance and Engagement Policy* which is designed to guide the expectations of the relationship between the Council and the Tasman community.

The stakeholders the Council consults with about this activity include:

- Elected members (Council and Community Board members)
- Regulatory (consent compliance, national regulatory bodies)
- Fisheries organisations
- Public Health Service (Nelson-Marlborough District Health Board)
- Heritage New Zealand
- Civil Contractors New Zealand (Nelson - Marlborough)
- Utility service providers (Electricity and Telecommunications)
- Affected or interested parties (when applying for resource consents)
- Other territorial authorities

4 Key Issues and Response

4.1 Key issues

The Council has identified key issues specific to the stormwater activity, which are discussed in Table 4 below. Key issues are interrelated and often, investing in solutions will likely help address other issues to varying degrees.

Table 4: Key Issues

Key Issue	Response
Growth Meeting residential and commercial growth demand is a challenge in some key areas.	Growth is occurring faster than anticipated in the District and our existing networks have insufficient capacity to deal with increased stormwater runoff, restricting future residential and commercial development. Careful planning is required for our future growth areas to manage ongoing flood risks. At the same time, the environmental effects from stormwater discharges need to be managed to avoid further degradation of our natural environment. Environmental effects stem from the fact that urban land uses such as roading, parking, industrial zones and certain building materials and commonly used chemicals generate contaminants that are picked up by stormwater runoff and accumulate in fresh water and marine water receiving environments where they have an adverse effect on ecosystems. The main contaminants of concern are sediments, heavy metals and hydrocarbons, biocides (and temperature). Similarly, construction sites and associated earthworks have the potential to generate high sediment loads which can be discharged into waterways and physically disturb the beds of the waterways and effect aquatic habitat. Other effects of urbanisation include the loss of aquatic habitats due to piping of streams, stream bank erosion and reduced base flows as a result of reduced groundwater recharge. To address the effects of stormwater discharges on our receiving environment The Council has adopted a water-sensitive design approach that is based on the following principles: • Protection and enhancing the values of our natural ecosystems • Addressing the effects from stormwater as close to source as possible • Mimicking natural systems and hydrological processes for stormwater management. Developers are required to follow this approach in accordance with the Land Development Manual. The approach includes requirement of stormwater treatment and protecting stream health through infiltration and detention requirements. Several projects are planned that are driven fully or partially by the need to cater for future growth, primarily in Richmond West and South as well as the Motueka West development area. To enable growth and undertake some of the stormwater capital works that are required to increase runoff capacity, the Council will need to purchase large amounts of land. The Council applies development contributions to growth projects so that developers meet the cost of the growth component of projects, rather than ratepayers.

Key Issue	Response
Climate Change Increased rainfall and rising sea levels results in increased risk of flooding	NIWA has predicted the effects of climate change in the Tasman District for the years 2040 and 2090 (Climate Change and Variability Tasman District, NIWA, August 2015). The anticipated effects from climate change in Tasman District that affect the stormwater activity include: • Extreme rainfall: more frequent and more extreme rainfall events • Rising sea levels, increased wave height, storm surges and groundwater levels. The effects from climate change will put further strain on the already limited capacity of our networks. Discharging stormwater in our coastal communities will become increasingly difficult during high tide and is likely to result in flooding more frequently. In other areas the increase in rainfall will lead to stormwater networks reaching their capacity sooner and drive the need to better manage overland flowpaths to avoid flooding of properties. These impacts are exacerbated in many places by VLM. The expected impact of climate change effects on flooding will be further investigated with the help of innovative flood modelling techniques. Providing solutions to appropriately address the effects of climate change will require significant investments that may not be affordable or cost effective. Due to the long-term nature of climate change predictions and different scenarios that are based on potential future greenhouse gas emissions the magnitude of the effects remain uncertain. The focus in our flood strategies will be on avoiding damage to properties and hazard to life as well as acceptance and adapting to nuisance flooding. Over the longer term in low-lying areas close to the coast and rivers, we expect that affordable and sustainable solutions to avoid flooding will not be available. Therefore, adaption and/or retreat options will need to be implemented.
Network Capacity Our existing primary and secondary networks have insufficient capacity	Many of Tasman's stormwater pipes and drains are too small to cope with the intense rainfall events experienced over the past few years and do not meet current design standards. With current and foreseeable funding, it is not affordable to improve all the existing pipes and drains to current design standards. Therefore the main focus of the capital works is on protecting and improving secondary flowpaths that activate when capacity of the primary network has been exceeded or blocked. The aim of these is to transfer stormwater to discharge points without causing hazards or damage to properties. It is important for the community to realise that overland flowpaths are an essential part of the stormwater network and that any structures within flowpaths may obstruct flows and lead to increased flooding and damage to property. The Council will invest in establishing, protecting and enforcement of secondary flowpaths.

4.2 Key Risks, Assumptions and Uncertainties

Appendix D provides more details on Key Risks, Assumptions and Uncertainties.

5 Levels of Service

The AMPs set out the levels of service (LoS) the Council seeks to provide the community. Stakeholder groups can often have different and sometimes conflicting expectations of acceptable LoS and this need to be managed to achieve the best value overall outcomes for communities.

The LoS set the standards the Council aims to meet when providing a service in support of community outcomes. They are the measurable effect or result of a Council service, and can be described in terms of quality, quantity, reliability, timelines, cost or other variables.

The Council aims to achieve these goals while being aware of the cost implications of any changes. This section defines the LoS provision for the Stormwater Activity, the current performance, and the measures and targets by which these will be assessed. Performance measures that are included in the Long Term Plan (LTP) are assessed annually, and reported through the Annual Report.

LoS can be strategic, tactical or operational. They should reflect the current industry standards and be based on:

- Customer Research and Expectations: Information is obtained from customers and stakeholders on the expected types and quality of service provided.
- Statutory Requirements: Includes the relevant legislation, regulations, environmental standards and Council bylaws that impact the way assets are managed (resource consents, building regulations, health and safety legislation). These requirements set the minimum LoS to be provided.
- Strategic and Corporate Goals: Provide guidelines for the scope of current and future services offered and the manner of service delivery and define the specific levels of service the organisation aims to achieve.
- Best Practice and Standards: Specify the design and construction requirements to meet the LoS and needs of customers.

5.1 Our Levels of Service

Table 5 summarises the LoS and performance measures for the stormwater activity.

Note 1: Blue shaded rows are the LoS and performance measures to be included in the LTP. Unshaded white rows are technical measures that are only included in this AMP

Note 2: Habitable floor refers to a floor of a building (including a basement) but does not include ancillary structures such as stand-alone garden sheds or garages. A flooding event means an overflow of stormwater from Council's stormwater system that enters a habitable floor.

5.2 Level of Service Changes

The Council reviews its LoS every three years, as part of the LTP process. For this cycle, the previous LoS have been retained without any significant changes. Minor changes were made to the stormwater flooding Mandatory Performance Measure (MPM) 1 to move the definitions to footnotes and to MPM 4 simplfy the wording to align with that provided by the Department of Internal Affairs.

Table 5: Levels of Service and Performance Measures

Levels of Service	Performance Measure (we will know we are meeting the level of service if…)	Current Performance 2022/2023	Future Performance Targets			
			Year 1	Year 2	Year 3	By Year 10
			2024/2025	2025/2026	2026/2027	2027 -2034
Stormwater flooding We have measures in place to respond to and reduce flood damage from stormwater to property and risk to the community	The number of flooding events that occur in the District. For each flooding event, the number of habitable floors affected (expressed per 1,000 properties connected to the territorial authority's stormwater system). (Mandatory measure one)	0.70	<1 habitable floor flooded per event, per 1,000 properties	<1	<1	<1
	The median response time to attend a flooding event, measured from the time that council receives notification to the time that service personnel reach the site. (Mandatory measure three) As recorded through the Operations and Maintenance contract	35 minutes	<2 hours	<2 hours	<2 hours	<2 hours
	The number of complaints received by Council about the performance of its stormwater system, expressed per 1000 properties connected to the territorial authority's stormwater system. (Mandatory measure four)	8.2	<20	<20	<20	<20
The environment Our stormwater systems do not adversely affect or degrade the receiving environment.	Compliance with Council's resource consents for discharge from its stormwater system, measured by the number of: a. abatement notices (target ≤1) b. infringement notices (target 0) c. enforcement orders (target 0) d. successful prosecutions (target 0) (Mandatory measure two)	0 0 0 0	≤1 0 0 0	≤1 0 0 0	≤1 0 0 0	≤1 0 0 0

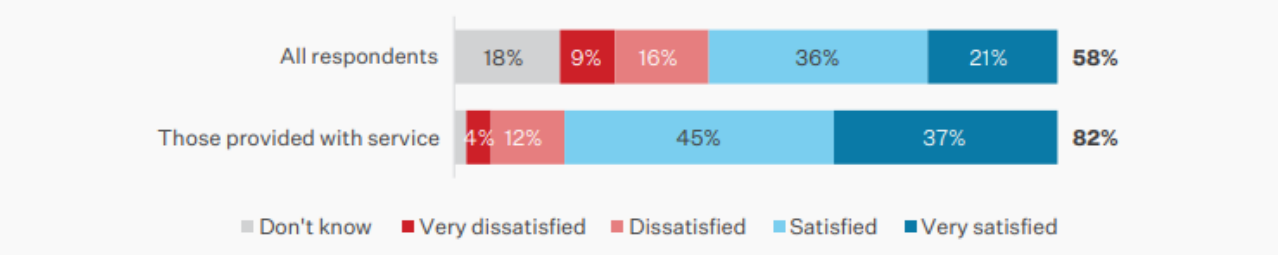
Levels of Service	Performance Measure (we will know we are meeting the level of service if…)	Current Performance 2022/2023	Future Performance Targets			
			Year 1	Year 2	Year 3	By Year 10
			2024/2025	2025/2026	2026/2027	2027 -2034
Customer satisfaction Our stormwater activities are managed at a level which satisfies the community	Percentage of customers (who receive the service) that are satisfied with the stormwater service. As measured through the annual residents' survey.	82%	80%	80%	80%	80%

5.3 Level of Service Performance and Analysis

The Council has achieved all of its Stormwater related Performance Measures in the 2022/23 year. This reflects well on the operating arrangements established by staff and contractors.

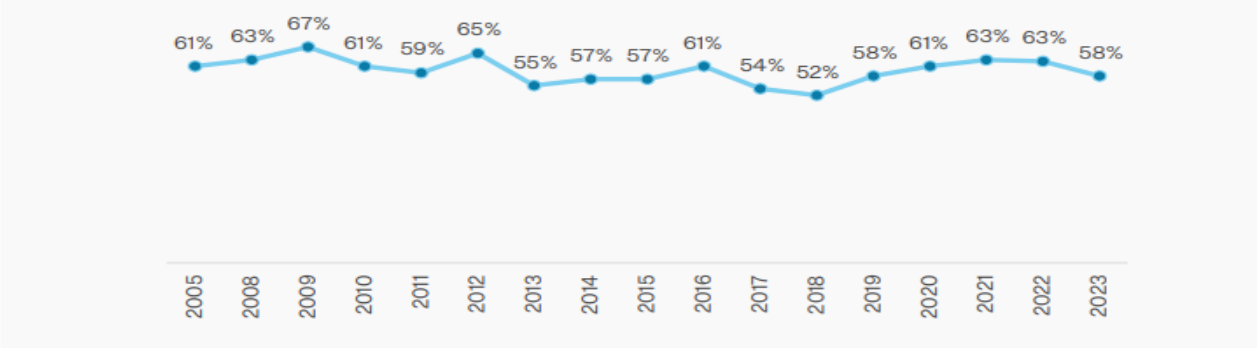
5.4 Customer satisfaction

The most recent residents' survey asked whether residents were satisfied with the stormwater activity and included residents that had a Council service and some that were not on a Council service. The results from this survey are summarised below.



Base: All respondents (n=405); Provided with service (n=197)

Figure 3: Satisfaction with Stormwater Services 2023



Base: All respondents

Figure 4: Satisfaction with Stormwater Services over time

5.5 Risks to achieving Levels of Service

5.5.1 What are the key risks that may keep us from achieving our LoS?

- Rainfall events are changing.
- Lack of resources to implement works programmes.

5.6 What are we doing to mitigate these risks?

5.6.1 Risk Management and Assumptions

This Plan and the financial forecasts within it have been developed from information that has varying degrees of completeness and accuracy, creating some inherent uncertainties and assumptions with the potential to impact on the achievement of the Council's objectives.

5.6.1.1 Our Approach to Risk Management

The potential impact of a risk is measured by a combination of the likelihood it will occur, and the magnitude of its consequences on a Council objective. Significant risks for the Council are managed through Council's *Risk Management Strategy,* policy and registers.

The Council's *Risk Management Framework* is under ongoing development and spans the following areas of activity:

- service delivery
- financial
- governance and leadership
- strategic
- reputation
- legal
- regulatory
- health and safety
- security
- business continuity

Some features of the strategy include:

- table of consequences to help determine the Risk Appetite
- Enterprise Risk Register
- identifying risks
- assessing likelihood and consequence
- documenting controls, actions and escalation
- monitoring and reporting.

The Council has adopted an approach to risk management that generally follows the Australian/New Zealand Standard *ISO 31000:2009 Risk Management – Principles and Guidelines.*

5.6.2 Activity Risks and Mitigation Measures

The key generic risks, assumptions and mitigations and more specific risks relevant to the stormwater activity are summarised in the Executive Summary and discussed in more detail in Appendix D Key Risks, Assumptions and Uncertainties.

6 Current and Future Demand

The ability to predict future demand for services enables the Council to plan ahead and identify the best way of meeting that demand. That may be through a combination of demand management and investing in improvements.

This section provides and overview of key drivers of demand and what demand management measures the Council has planned to implement.

6.1 Demand Drivers

The future demand for stormwater services will change over time in response to a wide range of influences, including:

- changes in demographics
- climate change and vertical land movements
- seasonal factors (rainfall)
- land use change
- changing technologies
- changing legislative requirements
- changing regional and District planning requirement
- environmental awareness.

6.2 Assessing demand

The key demographic assumptions affecting future demand are:

- ongoing population growth over the next 30 years with the rate of growth slowing over time. The overall population of Tasman is expected to increase by 7,400 residents between 2024 and 2034, to reach 67,900.
- An ageing population, with population increases in residents aged 65 years and over. The proportion of the population aged 65 years and over is expected to increase from 23% in 2023 to 28% by 2033.
- A decline in average household size, mainly due to the ageing population with an increasing number of people at older ages who are more likely to live in one or two person households.

These changes are collectively likely to result in the need for additional dwellings and associated urban infrastructure that will generate increased runoff, contaminant and thermal loads.

6.3 Demand Management

Demand management includes both asset and non-asset strategies to manage demand across the stormwater activity. The objective of demand management is to actively seek to modify customer demands for services in order to:

- optimise utilisation/performance of existing assets;
- reduce or defer the need for new assets;
- meet the Council's strategic objectives;

- deliver a more resilient and sustainable service; and
- respond to customer needs.

6.3.1 Asset Strategies to Manage Demand

The Council programmes new assets and upgrades existing assets in order to manage demand. Table 6 provides an overview of some key asset strategies, programmes or projects that the Council has in place to manage demand.

Table 6: Asset strategies to Manage Demand

Projects and Programmes	Demand drivers
Richmond West and South stormwater channel upgrades A programme aimed at providing sufficient stormwater capacity for future development in Richmond West and South, incorporating natural channel design.	Growth, climate change and Environmental effects
Motueka West stormwater discharge A project aimed at providing sufficient stormwater capacity for future development in Motueka West	Growth, climate change
Richmond Central stormwater improvements A programme aimed at reducing flood risk in Richmond Central by upgrading existing stormwater networks	Climate change and re-development
Stormwater quality improvements A programme aimed at improving stream health and water quality affected by the Council's stormwater discharges	Changing legislation, Environmental effects
Overland flow path improvements A programme aimed at identifying, enhancing, and protecting overland flowpaths	Climate change and re-development

6.3.2 Non-Asset Strategies to Demand Management

Table 7: Overview of some key non-asset strategies that the Council has in place to manage demand

Project and Programmes	Demand drivers
Catchment Management Planning Council efficiently manage demand through an integrated urban catchment management approach. The plans will assist the Council in identifying integrated solutions and balancing competing needs.	Population growth, climate change, changing legislation, environmental effects
Stormwater Modelling The anticipated population growth and associated future development is incorporated into our stormwater models. These models help to predict and understand how growth affects stormwater flows and flooding and what mitigation response is required from the Council and/or private developers.	Population growth, climate change
Structure planning Model results will aid the Council in developing structure plans for future growth areas that will guide developers on how to manage stormwater effects on a catchment wide scale rather than on an individual site basis.	Population growth, climate change, environmental effects
Water Sensitive Design Council promotes, educates and champions the implementation of Water Sensitive Design (WSD). This approach focus on reducing or eliminating stormwater runoff generation through source control and utilising natural systems and processes to manage stormwater quantity and quality effects. WSD is inherently a context-specific approach which utilises a combination of conventional stormwater infrastructure, WSD devices (e.g. swales and raingardens), and enhanced natural systems to achieve the best practical stormwater management outcome. This includes the potential to utilise stormwater as a supply for potable water or irrigation. WSD is a design approach based on four guiding principles: • Mimic natural systems and hydrological processes. • Address effects from stormwater as close to the source as possible. • Promote inter-disciplinary planning and design. • Protect and enhance the values and functions of natural ecosystems.	Climate change, environmental effects
Design standards New stormwater infrastructure is designed in accordance with the Nelson Tasman Land Development Manual. Infrastructure is required to be sized to cater for future 10% AEP events (primary networks) and future 1% AEP events (secondary network). Rainfall depth and duration details are obtained from NIWA's High Intensity Rainfall Database (HIRDS) including climate change effects based on a 2°C temperature increase.	Climate change

7 Lifecycle Management

Lifecycle cost is the total cost to the Council of an asset throughout its life including, creation, operations and maintenance, renewal, and disposal. The Council aims to manage its assets in a way that optimises the balance of these costs. This section summarises how the Council plans to manage each part of the lifecycle for this activity.

7.1 Asset Condition and Performance

Asset condition surveys were completed on above ground assets in 2016/2017 and the dataset is considered relatively complete. Default values have been assigned where there is still unknown condition data based on material, age and operational history and are generally Condition Grade 3. This is recorded in Confirm. The overall asset condition of the Three Waters systems has been assessed as reasonable with most assets at Grade 3 or better.

The Council's maintenance contractor undertakes asset condition assessments in accordance with the *Three-Waters Operation and Maintenance* contract as follows:

- Condition of all above ground assets is assessed every three years to confirm or otherwise determine their appropriate condition grading and update asset management systems as required.
- Assessing the condition of below ground assets is difficult due to the cost of excavating and the risk of introducing a contamination risk. Condition data will be progressively captured as part of the contractor's day to day operation and maintenance when excavation of buried assets occurs.
- All new assets (less than six months old) and all assets with a condition grading of one or two are managed and maintained to at least condition Grade 2 or better.
- All other existing assets are managed and maintained to at least condition Grade 3 or better.

The Council undertakes periodic sample audits of the condition assessments data provided by the contractor.

The following sections provide a high-level overview about the condition and performance of the water supply networks. Further details about specific assets is captured in Confirm and ActiveManuals™.

Where condition rating is done, a 1-5 scale is used, as per the NZQA Infrastructure Asset Grading Guidelines, as shown inTable 8.

Table 8: Asset Condition Rating Table

Condition Grade and Meaning	General Meaning
1 Very Good	Life: 10+ years. Physical: Fit for purpose. Robust and modern design. Access: Easy; easy lift manhole lids, clear access roads. Security: Sound structure with modern locks. Exposure: Fully protected from elements or providing full protection.
2 Good	Life: Review in 5 – 10 years. Physical: Fit for purpose. Early signs of corrosion/wear. Robust, but not latest design. Access: Awkward; heavy/corroded lids, overgrown with vegetation. Security: Sound structure with locks. Exposure: Adequate protection from elements or providing adequate protection.
3 Moderate	Life: Review in 5 years. Physical: Potentially impaired by corrosion/wear, old design or poor implementation. Access: Difficult: requires special tools or more than one person. Secure: Locked but structure not secure, or secure structure with no locks. Exposure: Showing signs of wear that could lead to exposure.
4 Poor	Life: Almost at failure, needs immediate expert review. Physical: Heavy corrosion impairing use. Obvious signs of potential failure. Access: Restricted, potentially dangerous. Secure: Locks and/or structure easily breeched. Exposure: Exposure to elements evident e.g. leaks, overheating.
5 Very Poor	Life: O years – broken. Physical: Obvious impairments to use. Heavy wear/corrosion. Outdated/flawed design/build. Access: Severely limited or dangerous. Security: No locks or easily breeched. Exposure: Exposed to elements when not specifically designed to be.

7.2 Asset Criticality

The Council developed an asset criticality assessment framework for water supply, wastewater and stormwater and assessed vulnerability of critical assets to natural hazards and climate change effects. The frameworks is defined by:

- A 'Criticality Score' from one (very low) to five (very high).
- A set of 'Criteria' against which each asset will be assessed and assigned a Score.
- A set of straightforward, logical rules, measures and proxies under each criteria that can be assessed for each asset and enable a Score to be assigned in a spatial (i.e. GIS) context.

For each asset, the criticality has been assessed against the following five criteria:

1. Number of people that would be effected if the asset failed.
2. Asset failure would prevent/impair use of a critical facility.
3. Ease of access/complexity of repair.
4. Asset failure has potential for environmental/health/cultural impacts.
5. Asset failure has potential to initiate cascading failures and/or asset has interdependencies with other assets.

Based on the above, asset criticality has been assessed for all assets across the district and mapped spatially in a GIS viewer.

The vulnerability of critical assets to natural hazards has been identified through the overlay of natural hazards information such as coastal inundation and sea level rise, stormwater and river flooding, fault lines, tsunami risk and liquefiable soils.

7.3 Asset Condition and Performance

The Council needs to understand the condition of its assets as this helps inform asset management decision making. Condition monitoring programmes consider how critical an asset is, how quickly it is likely to deteriorate and the cost of data collection.

The Council's piped network is at capacity in most of the Urban Drainage Areas (UDAs) and does not meet current design standards of 10% AEP (1 in 10 year) or more. Most of the existing pipe assets have a design capacity of 20% AEP (1 in 5 year) or 50% AEP (1 in 2 year). The performance of secondary flowpaths varies and are in many cases affected by blockages.

The following section provides a summary overview of the stormwater networks general condition.

Table 9: General Asset Condition

Urban Drainage Area	Asset condition
Richmond	All pipe assets and non-pipe assets were installed between 1950 and 2024. Generally, the assets in the Richmond Urban Drainage Area (UDA) are relatively young and in good or very good condition. There are no major condition problems that signal the need for renewal expenditure.

Urban Drainage Area	Asset condition
Brightwater	All pipe assets and non-pipe assets were installed between 1964 and 2024. A small stormwater pumping station operates in the Brightwater Underpass but is a roading asset. Generally, the assets in the Brightwater UDA are relatively young and in good condition. There are no major condition problems that signal the need for renewal expenditure.
Wakefield	All pipe assets and non-pipe assets were installed between 1958 and 2024. Generally, the assets in the Wakefield UDA are relatively young and in good condition. There are no major condition problems that signal the need for renewal expenditure.
Murchison	All pipe assets and non-piped assets were installed between 1970 and 2024. Generally, the assets in the Murchison UDA are relatively young and in good condition. There are no major condition problems that signal the need for renewal expenditure.
St Arnaud	All pipe assets were installed between 2000 and 2024. The installation date of non-pipe assets is not recorded in Confirm but assumed to be of the same age. The assets in the St Arnaud UDA are very young and in good or very good condition. There are no major condition problems that signal the need for renewal expenditure.
Tapawera	All pipe assets and non-pipe assets were installed between 1973 and 2024. Generally, the assets in the Tapawera UDA are relatively young and in good condition. There are no major condition problems that signal the need for renewal expenditure.
Motueka	All pipe assets and non-pipe assets were installed between 1962 and 2024. While the stormwater systems in Motueka are older than many in the District, there is not a great deal of knowledge about the system's condition. From inspections carried out under the maintenance contract and local knowledge, it is thought likely that the condition of a number of the older assets is poor. Renewal work is typically preceded by CCTV investigations to identify works that need repair and to scope the severity and extent of the problems.
Māpua/Ruby Bay	All pipe assets and non-pipe assets were installed between 1971 and 2024. Generally, the assets in the Māpua/Ruby Bay UDA are relatively young and in good condition There are no major condition problems that signal the need for renewal expenditure.
Tasman	All pipe assets were installed between 1980 and 2006. Generally, the assets in the Tasman UDA are relatively and in good condition. There are no major condition problems that signal the need for renewal expenditure.
Kaiteriteri	All pipe assets were installed between 1963 and 2024. Generally, the assets in the Kaiteriteri UDA are relatively young and in good condition. There are no major condition problems that signal the need for renewal expenditure.
Tākaka	All pipe assets were installed between 1970 and 2024. Generally, the assets in the Tākaka UDA are relatively young and in good condition. There are no major condition problems that signal the need for renewal expenditure.

Urban Drainage Area	Asset condition
Pōhara	All pipe assets were installed between 1990 and 2024. Generally, the assets in the Pōhara Urban Drainage Area (UDA) are relatively young and in good condition. There are no major condition problems that signal the need for renewal expenditure.
Ligar Bay and Tata Beach	All pipe assets were installed between 1986 and 2024. Generally, the assets in the Ligar Bay and Tata Beach are relatively young and in good condition. There are no major condition problems that signal the need for renewal expenditure.
Collingwood	All pipe assets were installed between 1980 and 2015. Much of the residential developed area has piped stormwater systems. The condition of the existing stormwater infrastructure is not known.
Patons Rock	All pipe assets were installed between 1970 and 2012. Generally, the assets in the Patons Rock UDA are relatively young and in good condition. There are no major condition problems that signal the need for renewal expenditure.

7.4 Operations and Maintenance

Operations include regular activities to provide services. Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating.

7.4.1 Key Operational and Maintenance Themes

The Council's operation and maintenance efforts for the next 10 years is focused on the following key themes:

- Inspection, unblocking and repairs of the stormwater reticulation system.
- Regular inspection and control of vegetation in drains and creeks.
- Removal of deposited gravels or sediment in drains and creeks and erosion protection when required.
- Inspection and general maintenance of detention dams.
- Response to storm events and flooding.
- Operation of the tidal control gates in Motueka.

7.4.2 Maintenance Contracts

The operation and maintenance of the three waters has been incorporated into a performance-based Utilities Maintenance Contract 1065 currently undertaken by Downers. The key outcomes of the contract include:

- A high degree of reliability of all services, systems, network and supply.
- Best value to the ratepayer.
- Consistently meeting regulatory requirements – no breaches of resource consents.
- High levels of customer satisfaction.
- Assets sustainably maintained to meet asset condition ratings.

- Innovations introduced that add value.
- Accurate and timely reporting to meet statutory requirements and contract targets.
- Up-to-date and accurate asset information.

7.4.3 Maintenance Strategies

The following maintenance strategies are in place to ensure that all aspect of the stormwater network are operating efficiently and in accordance with contract requirements:

- Inspection of stormwater assets – obtaining asset information during reactive works or from CCTV and other inspections.
- Pre-storm checks – Ensuring that the more critical and visible components of the stormwater system have been checked and are in good condition ahead of forecast storm events.
- Weather and tidal monitoring – Monitoring of weather forecasts/storm warnings and related tidal levels. In order to predict tidal control requirements and requests for pre-storm checks and checking availability of additional resources.
- Water quality – monitoring and treatment for stormwater quality and prevention and response to illegal discharges.
- Removal of sediments and gravels – checking for and removal of sediments and gravels in detention dams and drains.
- Open watercourses – Open watercourses are in general maintained by property owners apart from the major drains that are maintained on a regular basis by the Council. However, when there has been a significant impact to the watercourse from flooding events then the Council will consider undertaking restoration work.
- Overland flowpaths – Improvement to the provision for and maintenance of overland flowpaths.

7.4.4 Forecast Operations and Maintenance Expenditure

The 10 year forecasts for operations and maintenance costs are shown in Figure 5. For a more detailed programme see Appendix A.

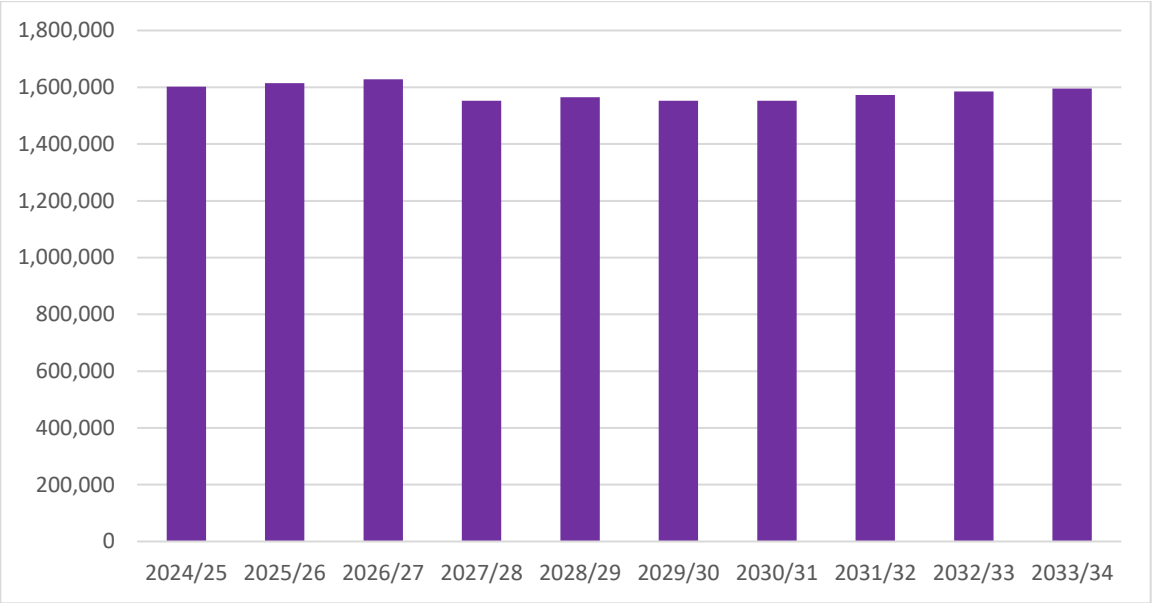


Figure 5: 2024-2034 Direct Operations and Maintenance Expenditure Excluding Inflation

7.5 Asset Renewal/Replacement

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is an new acquisition resulting in additional future operations and maintenance costs.

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 12.

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate or
- To ensure the infrastructure is of sufficient quality to meet the service requirements.

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure, E.g. Critical Assets
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs that becomes uneconomical, and
- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.

The ranking criteria used to determine priority of identified renewal proposals, utilises condition ratings, as detailed in Table 8 above.

7.6 Deferred Renewal

Deferred renewal is the shortfall in renewals required to maintain the service potential of the assets. This can include:

- Renewal work that is scheduled but not performed when it should have been, and which has been put off for a later date (this can often be due to cost and affordability reasons).
- An overall lack of investment in renewals that allows the asset to be consumed or run-down, causing increasing maintenance and replacement expenditure for future communities.

7.6.1 Current deferred renewals

Figure 6 below compares Council's cumulative renewal expenditure and cumulative depreciation for this activity. If the renewals expenditure starts falling behind the accumulative depreciation it can indicate that the assets may not be being replaced or renewed at the rate at which they are being consumed. If this continues unchecked for too long, future communities will inherit a run-down asset, high maintenance costs and high capital costs to renew failing infrastructure.

There is a significant difference between planned renewals and forecast depreciation over 30 years. This divergence is due primarily to the long useful life and age profile of our current assets. Most of our stormwater assets are not due for replacement within the next 30 years. As new assets are constructed, it will also contribute to the divergence between renewals and depreciation. The new assets contribute to higher depreciation but most don't need replacing within the next 30 years. While not shown here, the Council has compared the likely renewal requirements for 100 years with depreciation over the same time. This assessment shows that the gap closes in the long-run.

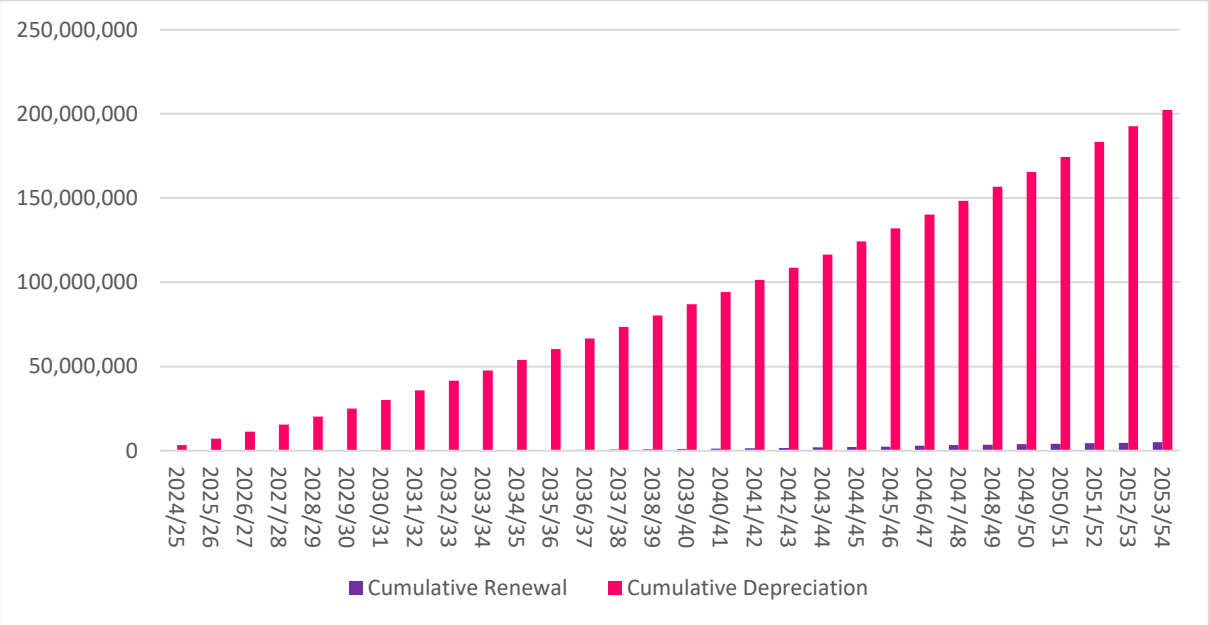


Figure 6: Cumulative Depreciation and Renewal Expenditure Comparison Including Inflation

7.7 Asset Development

Expenditure on new assets and services in the capital works program will be accommodated in the long-term financial plan, but only to the extent that there is available funding. New assets require consideration of how to fund future operations, maintenance and renewal costs, and depreciation also needs consideration when reviewing long term sustainability.

7.7.1 Key Asset Development Themes

Growth is occurring faster than anticipated in some settlements and where capacity is not available, or if the infrastructure does not exist, the Council will need to provide upgraded or new infrastructure to enable growth. The Council plans to improve its primary and secondary network to meet levels of service in areas that are prone to flooding.

7.7.2 Projects to Support Increasing Levels of Service

The Council is planning the following key projects to increase the levels of service:

- Richmond Central Stormwater Project
- Motueka West Discharge System
- Stormwater quality improvements
- Overland flowpath improvements
- Tākaka - Stormwater Improvements around Lake Killarney

7.7.3 Projects to Support Growth

The Council is planning the following key projects and programmes to address growth:

- Motueka West Discharge System.
- Richmond West and South stormwater channel upgrades.
- Māpua Stormwater Detention programme.

7.7.4 Forecast New Capital Expenditure

The capital programme that has been forecast for this activity where the primary driver is classed as New Works (i.e., growth or levels of service) is summarised in section 8.3 below.

7.8 Asset Disposal

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation.

There are currently no significant stormwater assets programmed for disposal.

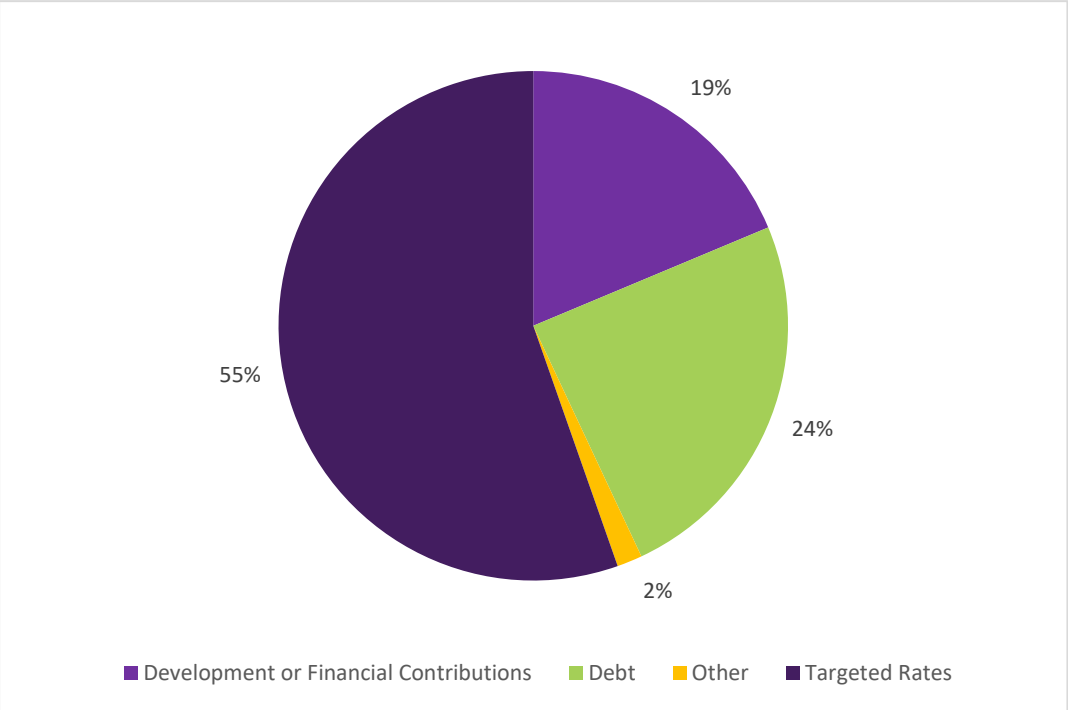
8 Financials

The Council has planned a prudent financial approach to managing its assets and services. This section provides a summary of the total value of the activity and the investment that the Council has planned to make over the next 30 years.

8.1 Funding Sources

This activity is currently funded through a mixture of the sources as shown in the table and figure below:

Nature	10 Years
Development or Financial Contributions	19,088,437
Fees and Charges	0
General Rates	0
Debt	24,846,224
Other	1,638,086
Subsidies and Grants	0
Targeted Rates	56,551,914



8.1.1 Development Contributions

The Council's Development and Financial Contributions Policy can be found on our website at: www.tasman.govt.nz/policy/policies/development-contributions-policy. The next update of the Policy will be adopted in conjunction with the Council's Long Term Plan and will come into effect on 1 July 2024.

The Policy sets out the development contributions payable by developers, how and when they are to be calculated and paid, and a summary of the methodology and rationale used in calculating the level of contributions. The key purpose of the Policy is to ensure that growth, and the cost of infrastructure to meet that growth, is funded by those who cause the need for and the benefit from the new or additional infrastructure, or infrastructure of increased capacity. The applicable charge depends on the relevant catchment as shown in Table 10.

Table 10: Stormwater Development Contribution Charges from 1 July 2024

Catchment	Development Contribution per HUD $ (incl GST)*
Waimea	$ tba
Motueka	$ tba
Golden Bay	$ tba
Rest of District	Nil

HUD = Household Unit of Demand

* The value of the Development Contribution shall be adjusted on 1 July each calendar year using the annual change in the Construction Cost Index.

8.2 Asset Valuation and Depreciation

The Local Government Act 1974 and subsequent amendments contain a general requirement for local authorities to comply with Generally Accepted Accounting Practice ("GAAP").

The Council requires its infrastructure asset register and valuation to be updated in accordance with Financial Reporting Standards and the AMP improvement plan.

The valuations summarised below have been completed in accordance with the following standards and are suitable for inclusion in the financial statements for the year ending June 2023.

- NAMS Group Infrastructure Asset Valuation Guidelines – Edition 2.0.
- New Zealand International Public Sector Accounting Standard 17; Property, Plant and Equipment (PBE IPSAS 17) and PBE IPSAS 21 (Impairment of Non-Cash Generating Assets).

8.2.1 Latest Asset Valuation

Stormwater assets are valued on average every three years. The stormwater assets were last re-valued in 2024 by Marsh. Key assumptions in assessing the asset valuations are described in detail in the valuation report.

Most of the information for valuing the assets was obtained from the Council's Confirm database. The assessment of data confidence is shown in Table 11.

Table 11: *Data Confidence

Asset Description	Confidence	Comments
Stormwater Assets	B - Good	The asset registers provide all the physical assets that make up each scheme. However, attribute information could be more detailed such as pipe and manhole depths, surface types etc.

*Based on NZ Infrastructure Asset Valuation and Depreciation Guidelines (NZIAVDG) – Edition 2, Table 4.3.1: Data confidence grading system.

The Base Useful Lives for each asset type as published in the NZIAVDG Manual were used as a guideline for the lives of the assets in the valuation. Generally, lives are taken as from the mid-range of the typical lives indicated in the Valuation Manual where no better information is available. Lives used in the valuation are presented in Table 12 below.

Table 12: Asset Lives

Item	Life (years)	Minimum Remaining Life (years)
Pipelines		
AC, EW pipe	60	5
Concrete pipe	120	5
CI, DI, PE, PVC, Steel pipe	80	5
Miscellaneous pipework and fittings associated with treatment plants and pump stations	15	2
Valves	50	5
Manholes	120	5
Non-Pipe Assets		
Concrete structures	80	5
Soak pits	80	5
Stormwater channel (open drain)	Not depreciated	
Control cabinets, electrical, telemetry	15	2

8.2.2 Depreciation

Depreciation of assets must be charged over their useful life. The Council calculates depreciation on a straight line basis on most infrastructural assets at rates which will write off the cost (or valuation) of the assets to their estimated residual values, over their useful lives.

The optimised replacement value, optimised depreciated replacement value and the annual depreciation of the stormwater assets are summarised in Table 13.

Table 13: Stormwater Asset Valuation Summary 30 June 2022

	Optimised Replacement Value ($000)	Optimised Depreciated Replacement Value ($000)	Annual Depreciation ($000/yr)
Stormwater Pipes	157,892	107,908	1970
Stormwater Channels	8,662	8,572	90
Stormwater Surface features	11,902	9,616	151
Total	178,456	126,096	2211

8.3 Financial Summary

The Council's Funding Impact Statement (FIS) for this activity is included in Appendix C of this AMP. It summarises in one place how this activity will be funded and how those funds will be applied over the next 10 years.

8.3.1 Project Drivers

All expenditure must be allocated against at least one of the following project drivers.

- Operation and Maintenance: operational activities that do not involve the renewal or upgrade of assets, or work that is necessary in order to provide on-going services at the agreed levels.
- Renewals: significant work that restores or replaces an existing asset towards its original size, condition or capacity.
- Increase Level of Service works to create a new asset, or to upgrade or improve an existing asset, beyond its original capacity or performance.
- Growth: works to create a new asset, or to upgrade or improve an existing asset, beyond its original capacity or performance to provide for the anticipated demands of future growth.

This is necessary for two reasons as follows.

- Schedule 13(1) (a) and section 106 of the Local Government Act require the Council to identify the total costs it expects to have to meet relating to increased demand resulting from growth when intending to introduce a Development Contributions Policy.
- Schedule 10(2)(1)(d)(l)-(iv) of the Local Government Act requires the Council to identify the estimated costs of the provision of additional capacity and the division of these costs between changes to demand for, or consumption of, the service, and changes to service provision levels and standards.

All new works have been assessed against these project drivers. Some projects may be driven by a combination of these factors and an assessment has been made of the proportion attributed to each driver.

8.3.2 Scope Risk and Funded Capital Programme

When developing this work programme, the Council needs to estimate how much to budget for each project. Often, the Council cannot be certain what the actual costs or scope of the project will be because the design is yet to be completed. Typically, the Council has more confidence in the cost and scope of projects that are planned within the first three years. After this, estimates are usually based on simple concept designs.

To address this uncertainty, the Council has incorporated funding of scope risk into capital project budgets. The amount of scope risk included varies from 10% to 40% of the project estimate, depending on the expected complexity of the individual project. Based on history, it is unlikely that all individual projects will need the full amount of allocated scope risk funding, in reality there will be some under and overspending.

8.3.3 Total Expenditure

Overall there is a medium level of activity in the Stormwater Activity forward expenditure programmes over the next ten years. Total Annual Expenditure for years 1 to 10 including inflation is shown in Figure 7 and for the next 30 years in Figure 8.

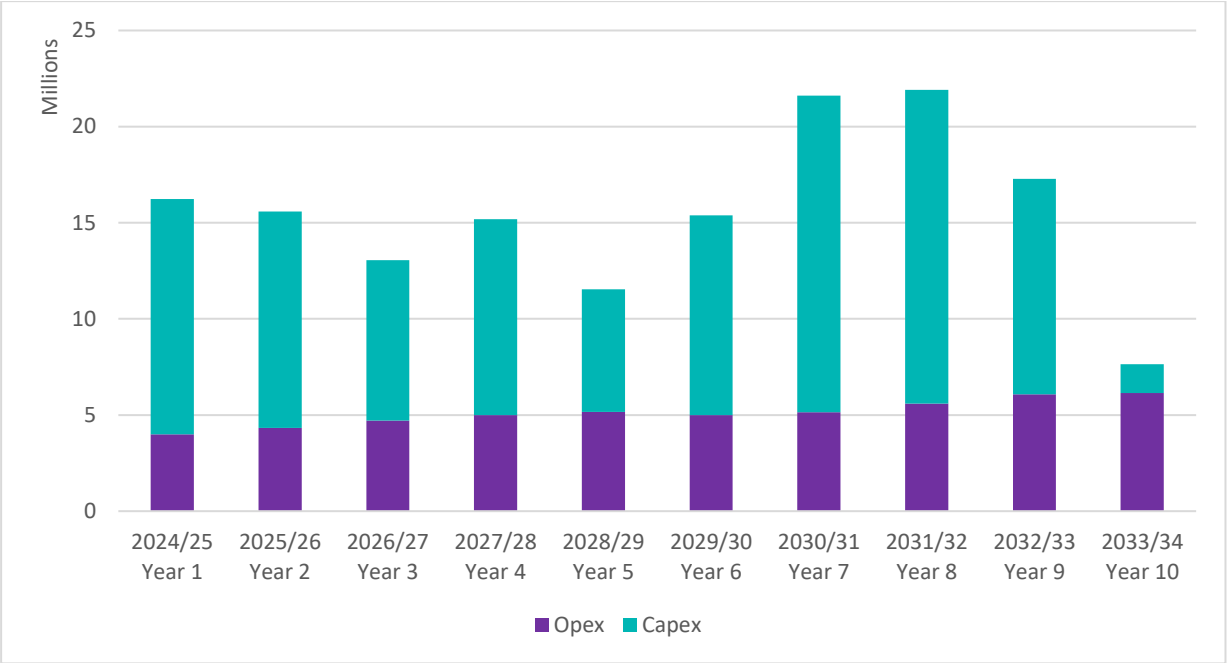


Figure 7: Total Annual Expenditure years 1 to 10 including inflation

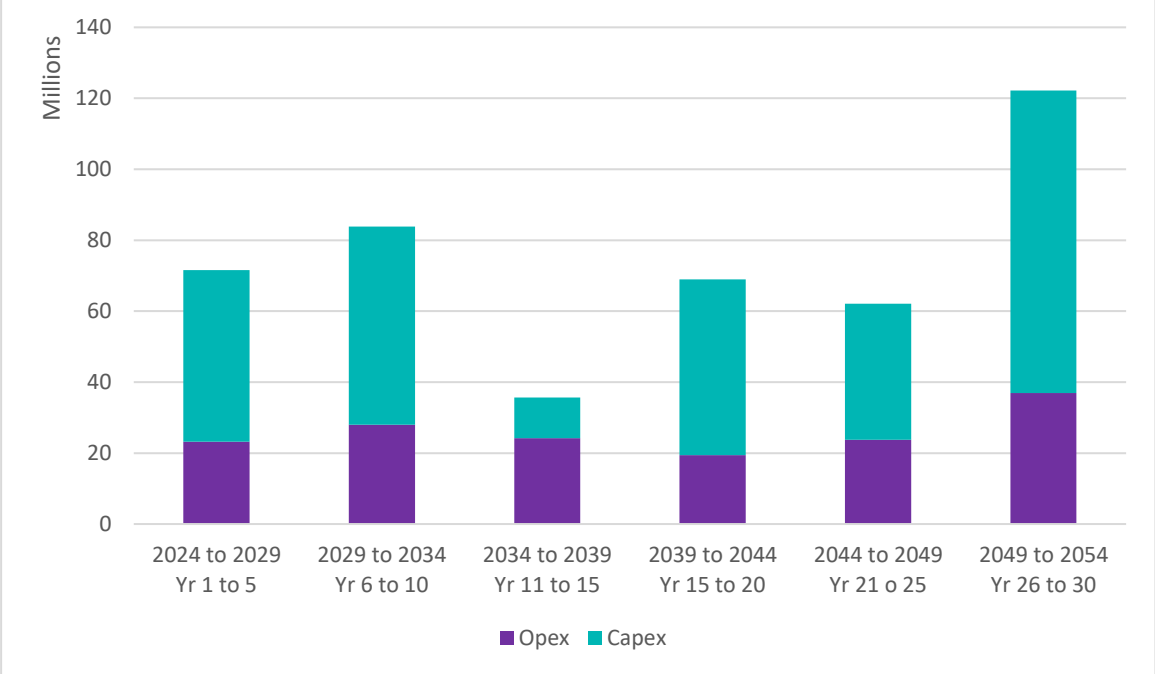


Figure 8: Five Yearly Total Expenditure Years 1 to 30 including inflation

8.3.4 Total Income

The sources of funding for the stormwater activity are shown in section 8.1 above. The total incomes for the next ten years is shown in Figure 9, and for the next 30 years in figure 10.

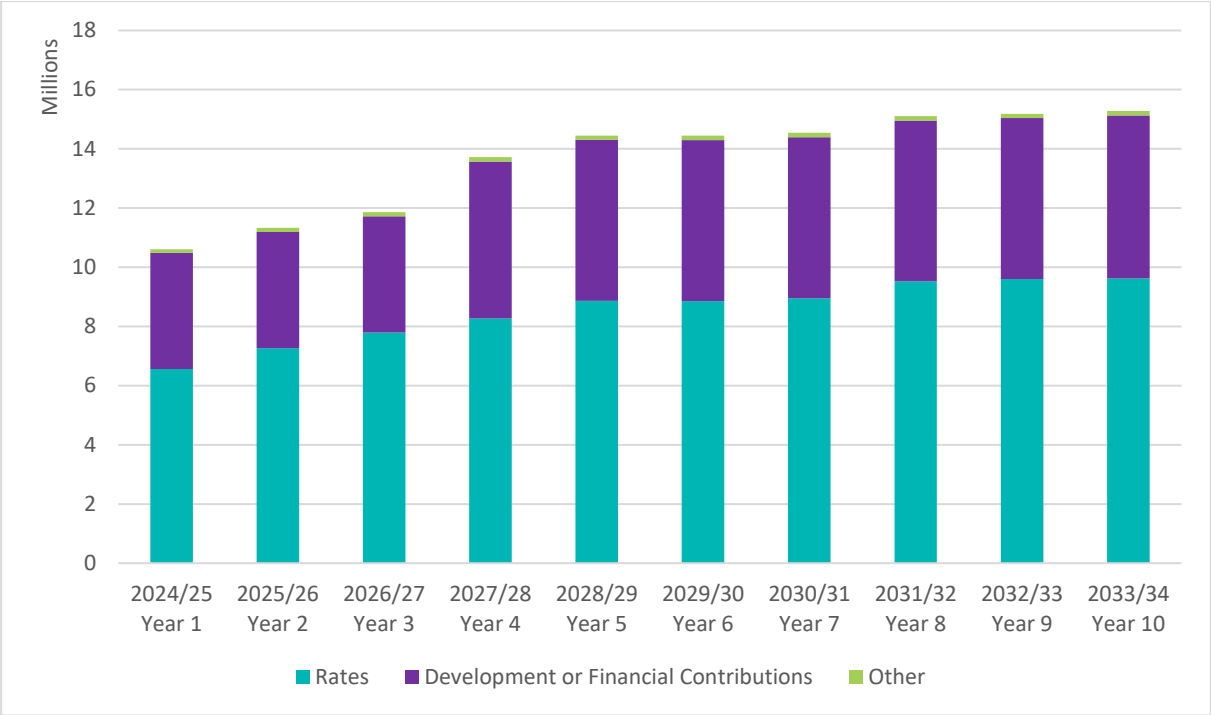


Figure 9: Total Annual Income Years 1 to 10 including inflation

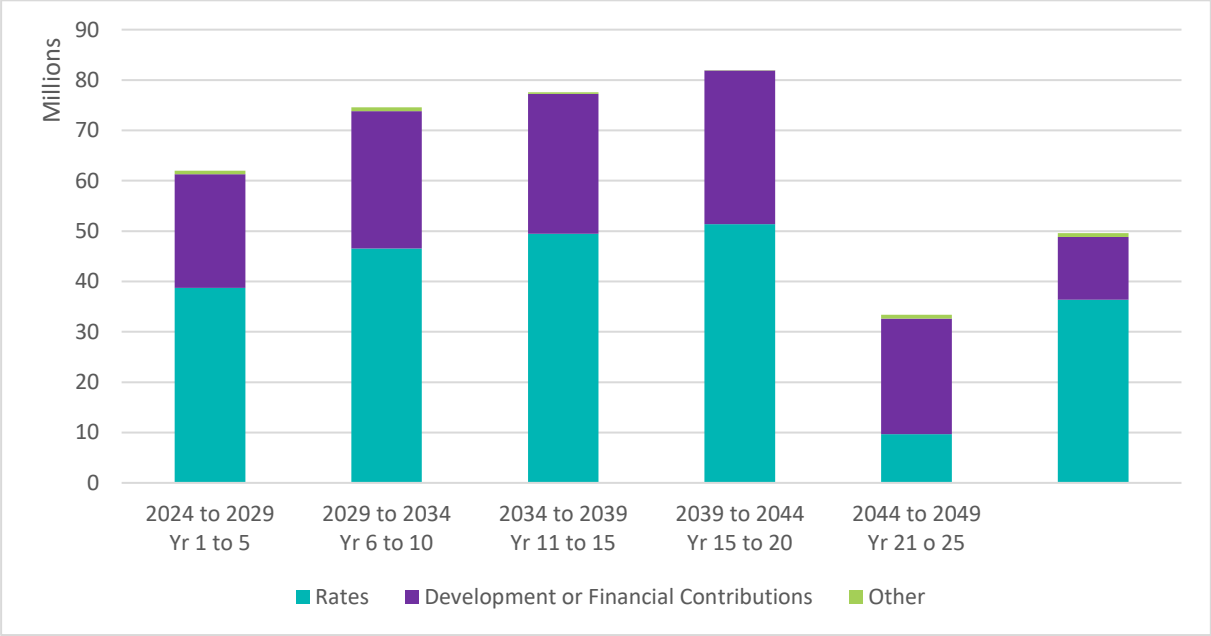


Figure 10: Five Yearly Total Income Years 1 to 30 including inflation

8.3.5 Operational Costs

Key operational items include:

- Maintenance of creeks, drains and pipe networks
- Catchment management plans and associated modelling
- Water quality and compliance monitoring

The full Operational expenditure works list is shown in Appendix A.

Total Annual Expenditure for years 1 to 10 including inflation is shown in Figure 11 and for the next 30 years in Figure 12. Figure 13 shows the 30 years of expenditure uninflated.

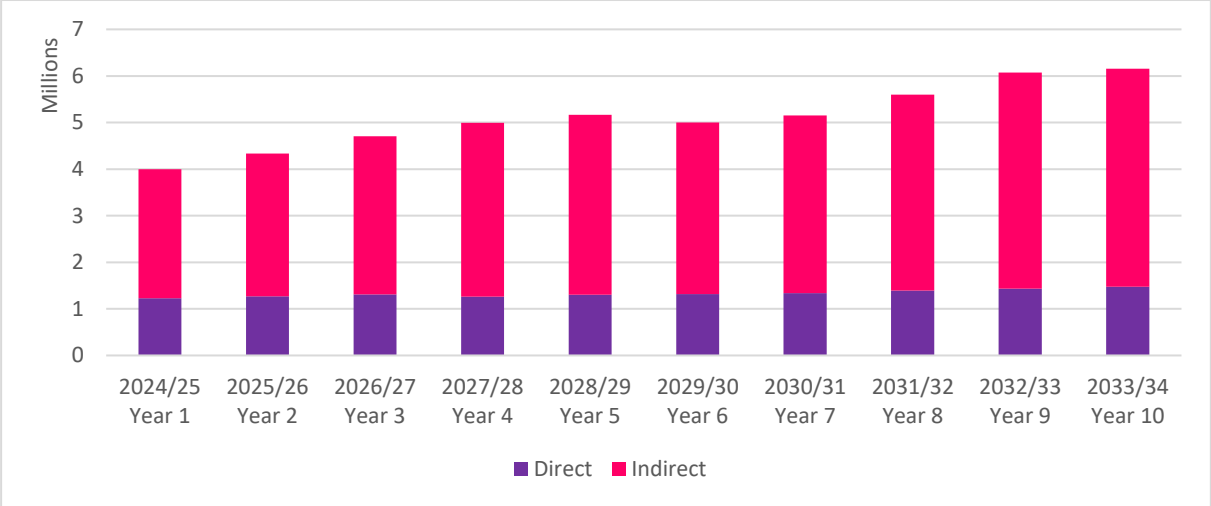


Figure 11: Total Annual Opex years 1 to 10 including inflation

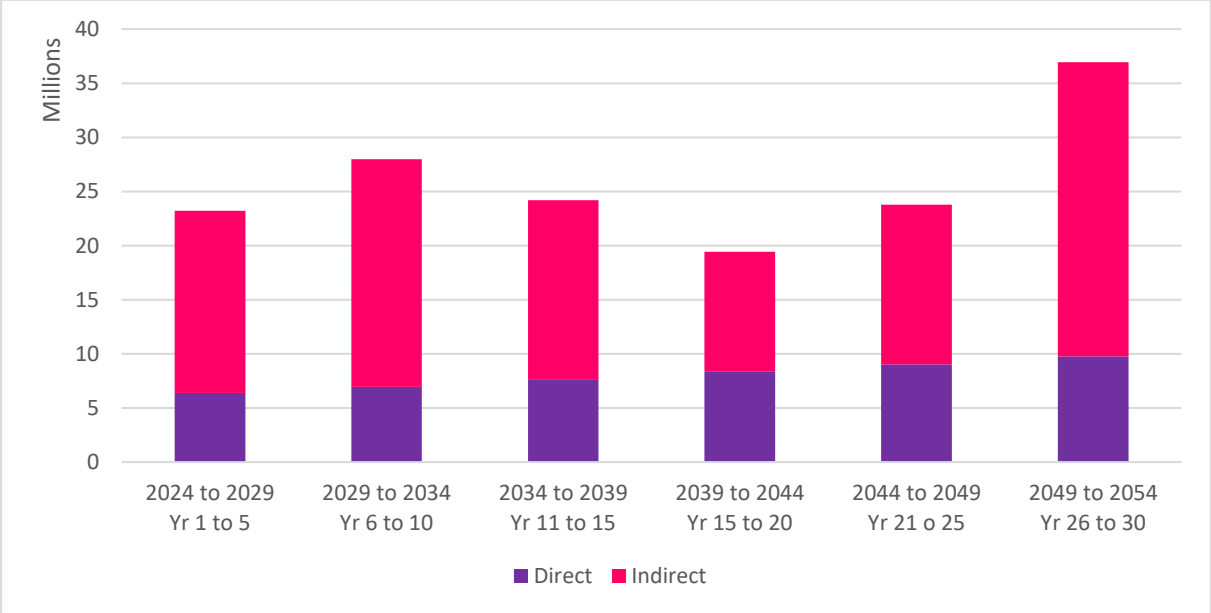


Figure 12: Five Yearly Total Opex Years 1 to 30 including inflation

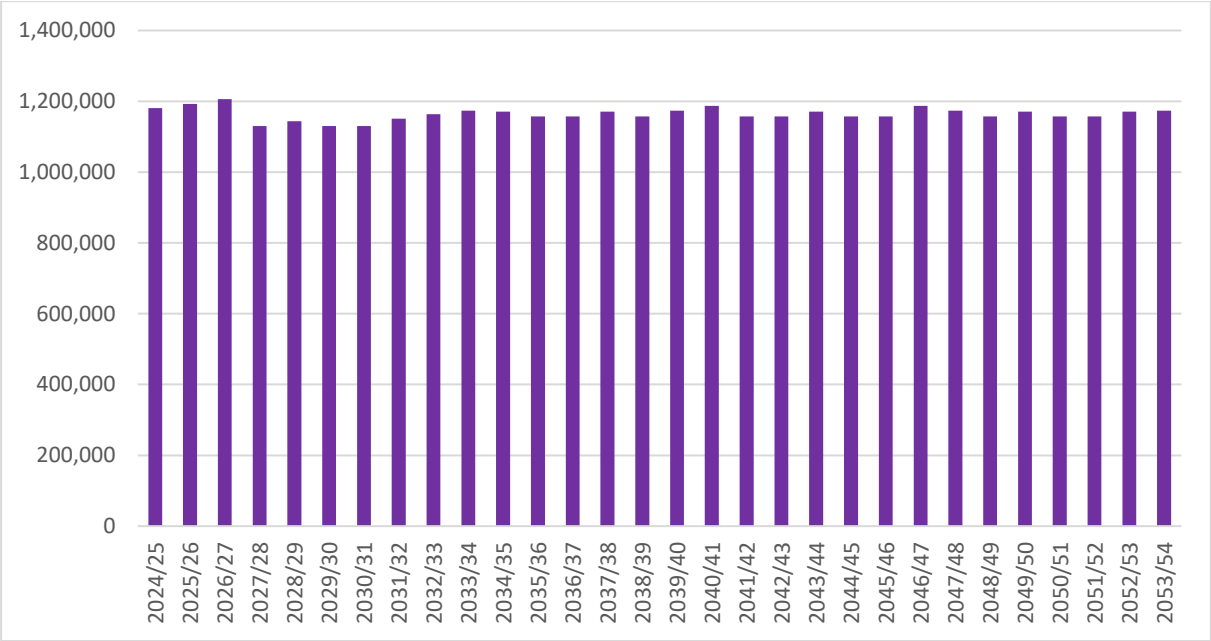


Figure 13: Programmed Opex 2024-2054 uninflated

8.3.6 Capital Expenditure

Key Capital items include:

- Development of Richmond South Stormwater channels including land purchase and bridge upgrading
- Infill capacity upgrades for Richmond, Brightwater, Wakefield & Murchison
- Water quality and secondary flowpath upgrades
- Motueka West discharge capacity upgrade
- Seaton Valley detention upgrade

The full Capital expenditure works list is shown in Appendix B.

Total Annual Expenditure for years 1 to 10 including inflation is shown in Figure 14 and for the next 30 years in Figure 15. Figure 15 shows the 30 years of expenditure uninflated.

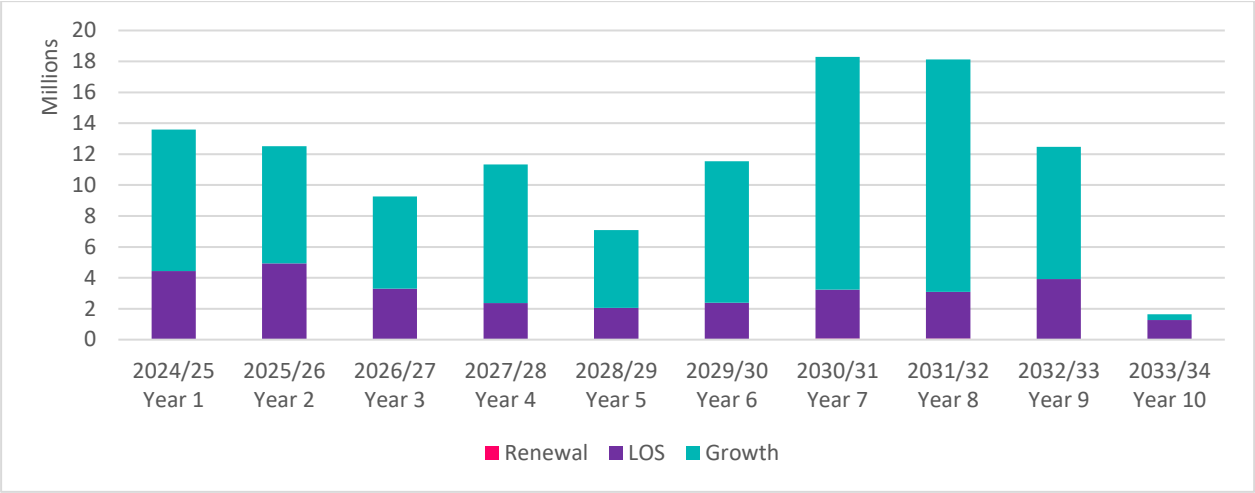


Figure 14: Total Annual Capex years 1 to 10 including inflation

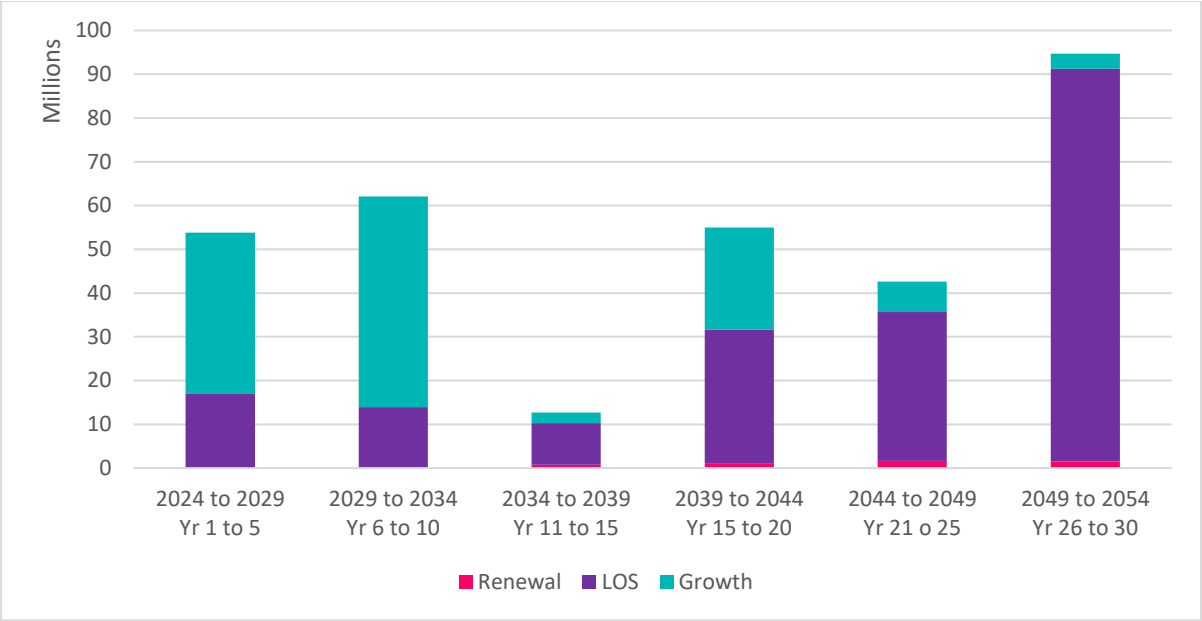


Figure 15: Five Yearly Total Capex Years 1 to 30 including inflation

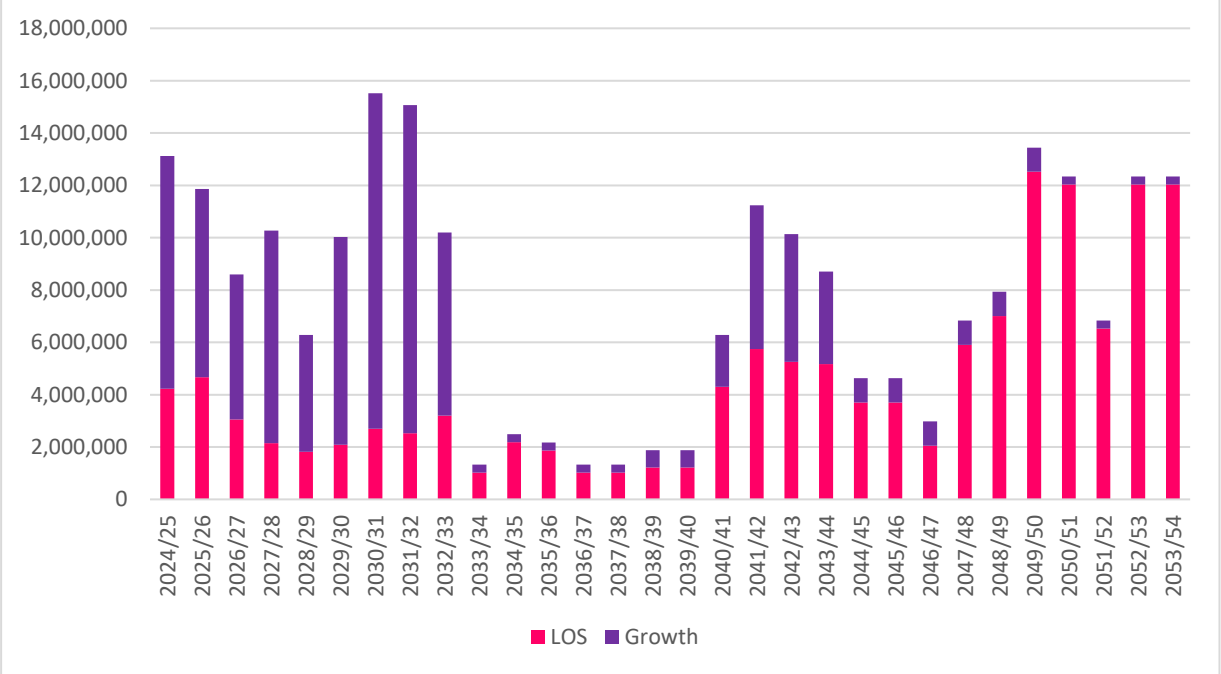


Figure 16: Programmed New Capex 2024-2054 uninflated

8.3.7 Renewal Expenditure

The approach to renewal expenditure is discussed in Section 7. Programmed Annual Renewal Expenditure for the next 30 years uninflated is shown in Figure 17 and as a cumulative expenditure graph in **Error! Reference source not found.**

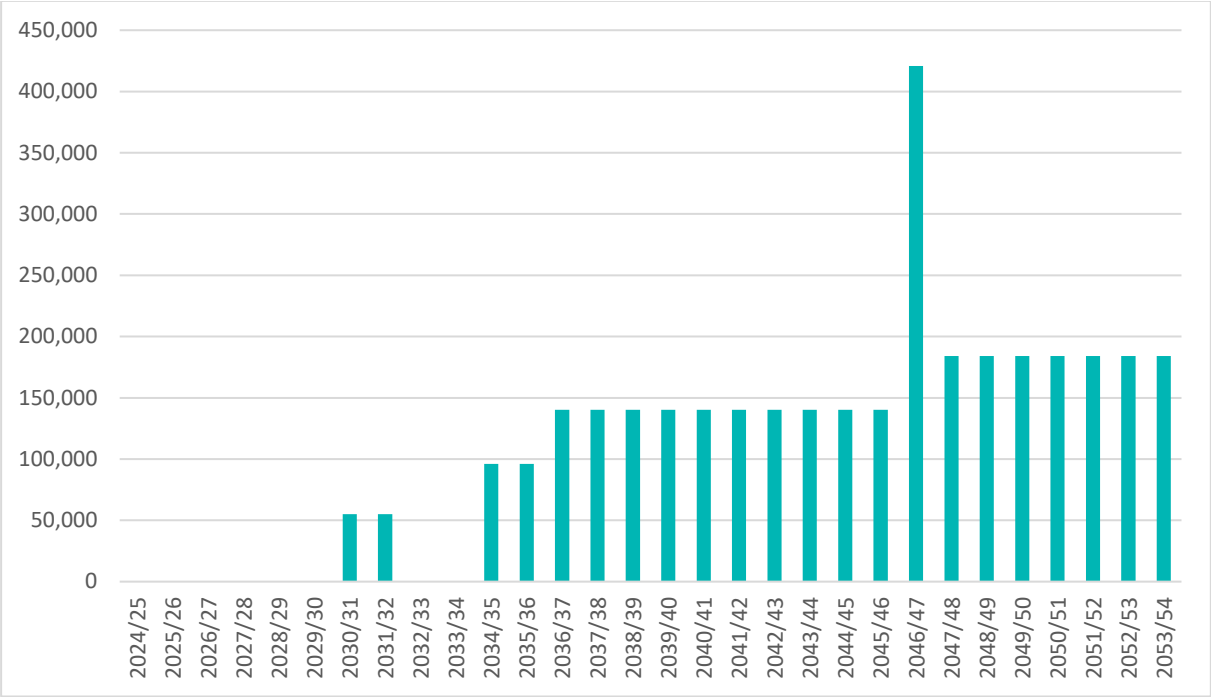


Figure 17: Programmed Annual Renewal Expenditure uninflated

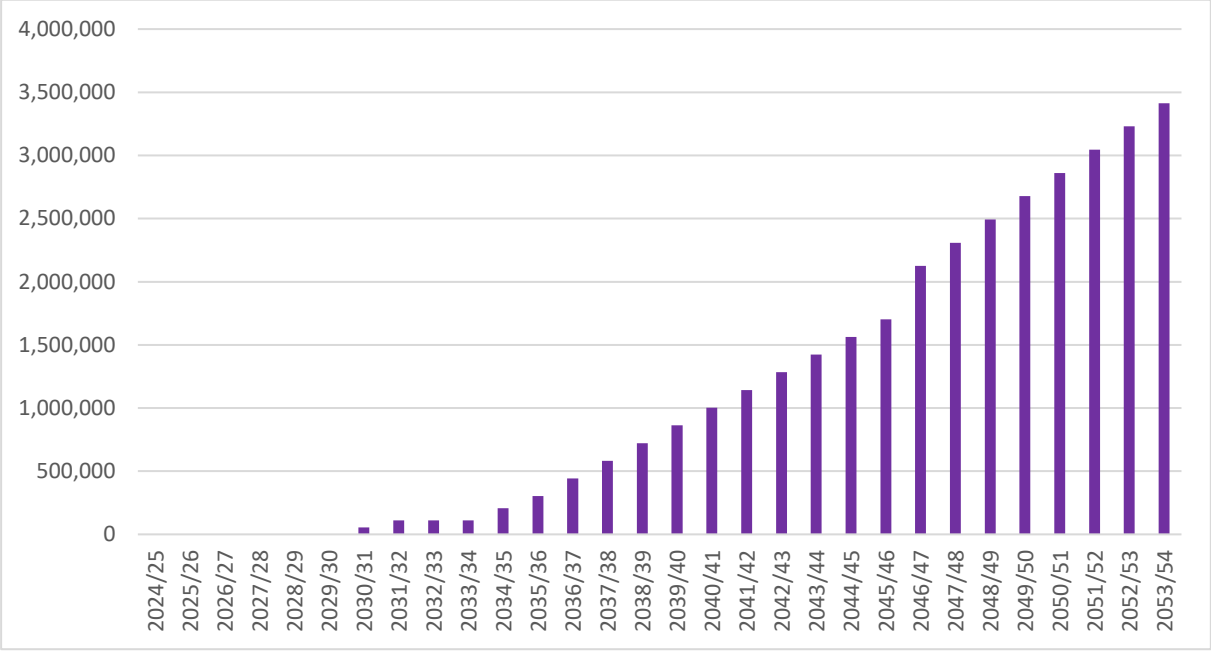


Figure 18: Programmed Cumulative Renewal Expenditure uninflated

9 Climate Change, Natural Hazards, Resilience and Environment

The Tasman region is susceptible to a wide range of natural hazards, some exacerbated by climate change, and the Council needs to plan for these hazards and determine whether adaptation, mitigation, or retreat is appropriate.

The Council needs to ensure it has robust planning in place and provides infrastructure that is resilient. The Council is taking a long term strategic approach by undertaking risk, resilience and recovery planning to provide better information on infrastructure resilience requirements.

The Council will also continue to focus on planning and managing its critical assets and lifelines networks to ensure that the appropriate level of effort is being made to better manage, maintain and renew critical assets.

As well as ensuring its assets are reasonably resilient, the Council has a range of financial provisions to assist with response to and recovery from major damaging events. These include:

- annual emergency funding;
- an established Emergency Fund;
- ability to reprioritise the Council's capital programme;
- insurance cover for recovery of a portion of costs of a catastrophic disaster event;
- Central Government support of up to 60% through the Local Authority Protection Programme; and
- Waka Kotahi subsidy of at least 51% for subsidies towards transportation asset reinstatement.

The Local Government Act 2002 requires local authorities to take a sustainable development approach while conducting their business, taking into account the current and future needs of communities for good-quality local infrastructure, and the efficient and effective delivery of services.

Sustainable development is a fundamental philosophy that is embraced in the Council's Vision, Mission and Objectives, and is reflected in the Council's community outcomes. The levels of service and the performance measures that flow from these inherently incorporate the achievement of sustainable outcomes.

Sustainability is measured against the triple bottom line framework that aims to create a balance between the three dimensions of performance, often referred to as people, planet and profit (3P's).

The Council operates, maintains and improves the Coastal Assets on behalf of its ratepayers. The Council uses its Financial Strategy to guide the development of an affordable work programme. The Council's finances are managed within the set debt limits and rates income rises to ensure economic viability for current and future generations.

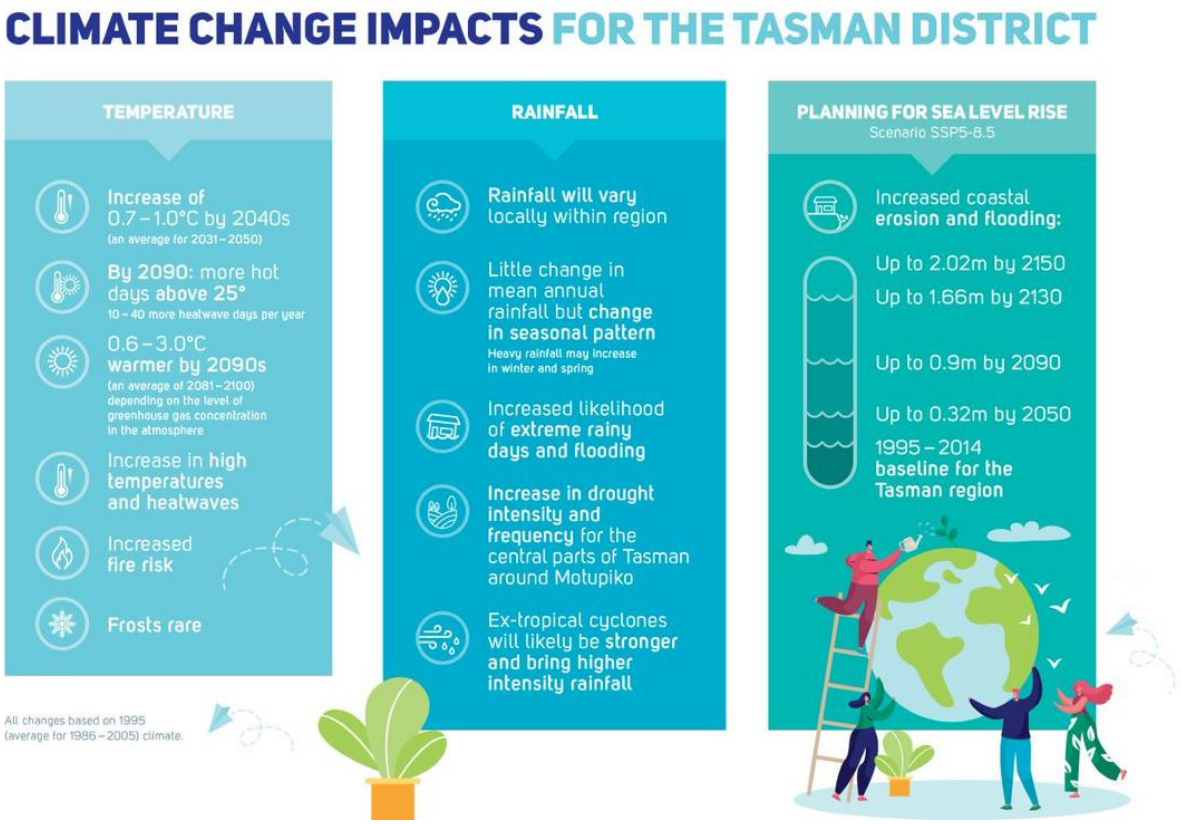
9.1 Climate Change

Embedding climate change, natural hazards and building risk and resilience into core business is an important focus across Council infrastructural activities.

The Council has a key role to play in reducing its own corporate emissions, supporting and providing leadership on mitigation actions across the community, including understanding and accounting for risks and resilience-building associated with climate change and natural hazards, including in the following areas:

- **Sea level rise**: sea level rise is a significant climate challenge as a large proportion of the region's urban infrastructure is coastal or low lying. These areas are likely to become more vulnerable to coastal erosion and inundation over time.
- **Heavy rainfall and flooding events**: higher intensity rainfall events mean Tasman will experience more regular and extensive flooding from streams, rivers and stormwater overflows, with an associated increase in land instability.
- **Droughts and high temperatures**: with a warmer climate, the temperature of the water within our rivers and streams will increase and affect habitats. Droughts will result in a higher risk of fires.

The following infographic summarises climate change impacts for Tasman District.



The Council needs to plan for these hazards and determine whether adaptation, mitigation, or retreat is appropriate, working in partnership with our communities.

Climate Change Assumptions

The following key assumptions have been made regarding the potential impacts of climate change on the Council's stormwater activity (see the Forecasting Assumptions section in the Council's Long Term Plan 2024-2034 for a detailed explanation of each of these assumptions):

- That Tasman's climate will change based on the NIWA-modelled climate change projections for Tasman District.

- That it is not possible to reduce the mid-century warming, due to the amount of greenhouse gas emissions already accumulated in the atmosphere.
- That different climate change scenarios apply depending on the context:
    - For infrastructure planning, subdivision, consenting and similar planning purposes, Council assumes the climate change scenario of RCP 8.5 or (for sea level rise) SSP5-8.5. This represents a "worst-case" scenario for the impacts of climate change, to avoid the risk of having to replace undersized infrastructure or abandon buildings or subdivisions.
    - For other matters, such as planning Council's proposed mitigation actions, a low-emissions scenario such as RCP 4.5 may be used as a baseline. This scenario assumes that global greenhouse gas emissions peak in the next few years and decline rapidly thereafter, leading to a global temperature increase of around 1.5°C by the end of the century.
- That sea levels will continue to rise and are likely to rise at an accelerated rate over time. The Tasman District is particularly vulnerable to sea level rise (SLR) due to its extensive coastline. For low lying coastal land there will be increasing inundation and erosion from SLR and storm surge.

Our plans assume SLR of:

- 0.32m by 2050
- 0.9m by 2090
- 1.66m by 2130, and
- 2.02m by 2150

(using a baseline of 1995-2014 with a mid-point (zero) at ~2005).

This based on the SSP5-8.5 (83rd percentile) in line with the Ministry for the Environment's Interim Guidance on the use of New Sea-level Rise Projections (August 2022) and sourced from the NZ SeaRise: Te Tai Pari O Aotearoa platform https://www.searise.nz

MfE is currently undertaking a full update to the 2017 Coastal Hazards and Climate Change Guidance which is expected to be published in 2024. This information will be used to inform Council work once available.

For coastal subdivisions, greenfield developments and major new infrastructure, Council is planning for 1.66m SLR by 2130, and also factoring in the relevant rate of vertical land movement locally (as per the MfE 2022 guidance). The Tasman coastline is generally subsiding with rates typically in the order of -1.0mm to -4.0mm/year (i.e. -0.10 metres to -0.40 metres per 100 years) which will further exacerbate SLR.

The Council acknowledges that there is a range of potential impacts (environmental, social, economic and cultural) associated with climate change, and that these impacts may vary depending on the specific location within the Tasman District. A regional risk assessment is underway to identify the key areas of vulnerability. The next step will be to develop appropriate strategies and adaptation plans to mitigate these risks.

9.1.1 Responding to Climate Change

9.1.1.1 Tasman Climate Response Strategy and Action Plan

In 2019, the Council adopted the *'Tasman Climate Action Plan'* (Action Plan). The Action Plan is the Council's initial response to the urgent need to take action on climate change, to build climate resilience and reduce greenhouse gas emissions. This document is under review and will be replaced with the '*Tasman Climate Response Strategy and Action Plan'* in mid-2024.

This new Action Plan will guide our transition to a low-carbon, resilient, and innovative Tasman District. It outlines the key areas of focus for our efforts, including reducing greenhouse gas emissions (mitigation3), building climate resilience (adaptation4), leading by example and empowering communities to act. The updated Action Plan will provide more detailed actions and initiatives to achieve these goals. Including strategies for reducing emissions from the Council's operations, as well as measures to enhance the resilience of our infrastructure, communities and ecosystems.

9.1.1.2 Resiliency of Stormwater Assets

How the Council delivers its services will play a key role in meeting emissions reduction targets and building community resilience.

Council is working with Nelson City Council on a regional climate change risk assessment, which will build a comprehensive picture of how climate change will impact the region.

How climate change impacts our assets will vary depending on the location and the type of services provided, as will the way in which we respond and manage those impacts. As a minimum we consider how to manage our existing assets given likely climate change impacts for our region.

Key aspects for stormwater assets are:

- More frequent and more intense storms.
- SLR reducing the efficiency of discharge to the coast or ground soakage near the coast.

Management of impacts and building resilience opportunities identified to date are shown in Table 14 below.

[3] Mitigation includes reducing greenhouse gas emissions and enhancing carbon sinks. The Council is committed to emissions reduction targets for its own activities in line with government targets.

[4] Adaptation is the process of responding to current and future climate related impacts and risks. To manage these impacts and risks, Council is following the Ministry for the Environment guidance and is using the Dynamic Adaptive Pathways Planning (DAPP) approach. This means managing our assets in a way that makes them more resilient, or in some instances, it may mean moving those assets.

Table 14: Managing the Impact of Climate Change on Assets and Services

Climate Change Risk	Projected Change	Potential Impact on Assets and Services	Management
Increased storminess and rainfall	Increased runoff to primary and secondary networks	Detention facilities capacity is overwhelmed sooner with higher volumes of stormwater leading to more frequent use of and higher flows within secondary flowpaths	Increased requirements for detention. Improved identification and protection of secondary flowpaths
	Erosion, transport of pollutants and wastewater overflows increase contaminants	Water quality in receiving environments is permanently reduced	Overall management of system to mitigate flows, sources of pollution, filtering capacity of riparian vegetation
Rising sea levels	Outfalls have diminished efficiency	Backup of flood flows leads to flooding higher in the catchment	Creation of coastal detention basins to absorb stormwater peak flows away from vulnerable areas

9.2 Natural Hazards

The Tasman region is susceptible to a range of natural hazards including:

- Earthquakes, liquefaction, and slope instability
- Flooding, drought, tornadoes and wind; and
- Coastal inundation, erosion, and tsunami.

Natural Hazard Assumptions - Level of Uncertainty: Medium

The following key assumptions have been made regarding the potential impacts of natural hazards on the Council's storm water activity (see the Forecasting Assumptions section in the Council's Long Term Plan 2024-2034 (LTP 24-34) for a detailed explanation of each of these assumptions):

- That there will be damaging natural hazard events during the term of Tasman's LTP24-34. Since 2000, Tasman District has been impacted by at least 10 costly weather-related events of varying scales and it is reasonable to expect the next 10 year period to be similar. The frequency and severity of damaging weather-related events will increase into the future, due to climate change.

- There is a high likelihood of localised damaging events, such as from flooding, slope failure, strong winds, coastal erosion, wildfire etc. occurring within the next 10 years, and some of these will be costly (the 2013 Richmond flood was estimated to cost $45m). There remains a modest chance of larger, more widespread, damaging events – such as flooding across multiple catchments, drought or a damaging regional earthquake (including the Alpine Fault) – occurring over this time, with long-lasting effects such as the damage to the Tākaka Hill roading system after Cyclone Gita.
- The Council assumes that 60% of the repairs to underground assets will be funded by central government and 51% of repairs to roading assets will be funded by Waka Kotahi/New Zealand Transport Agency (NZTA). If the district sustains storm damage, then the current arrangement with Waka Kotahi is that the funding assistance rate increases with the scale of damage.

9.2.1 Responding to Natural Hazards

The Council is responsible for providing stormwater infrastructure that is resilient to events that disrupts 'business as usual'. Examples of stormwater network disruption will likely include:

- Overflows due to intense or prolonged wet weather
- Earthquake or landslide causing blockages or diversions of flowpath
- A major break in stormwater pipes; and
- Sea level rise and coastal inundation that cause assets to fail.

All these types of events can limit our ability to provide adequate and reliable stormwater service to our community.

The investment required to ensure our infrastructure can withstand the effects of climate change and natural hazard shock events is significant. For example, system adaptions to the 2013 Richmond flood have not yet been fully installed and cost increases have delayed progress.

9.3 Resilience

The Council needs to ensure it has robust planning in place and provides infrastructure that is resilient. The Council is taking a long term strategic approach by undertaking risk, resilience and recovery planning to provide better information on infrastructure resilience requirements.

The Council will also continue to focus on planning and managing its critical assets and lifelines networks to ensure that the appropriate level of effort is being made to better manage, maintain and renew critical assets.

As well as ensuring its assets are resilient, the Council has a range of financial provisions to assist with response to and recovery from major damaging events. These include:

- debt headroom
- ability to reprioritise the Council's capital programme
- insurance cover for recovery of a portion of costs of a catastrophic disaster event
- Central Government support towards asset reinstatement.

The Council operates, maintains and improves the stormwater infrastructure assets on behalf of its ratepayers. The Council uses its Financial Strategy to guide the development of an affordable work programme. The Council's finances are managed within the set debt limits and rates income rises to ensure economic viability for current and future generations.

9.4 Environment

9.4.1 Resource Consents

The statutory framework defining what activities require resource consent is the Resource Management Act (RMA) 1991 and subsequent amendments. The RMA is administered locally by the Council, as a unitary authority, through the Tasman Resource Management Plan.

The Council's Engineering Department has over 200 consents to manage. Some consents require active management to ensure reporting and monitoring conditions are met or allow the timely management for lodging new applications before existing consents expire. A register of all active consents including their conditions, compliance actions and expiry dates are managed in Council databases within MagiQ.

The statutory framework defining what activities require resource consent is the Resource Management Act (RMA) 1991 and subsequent amendments. The RMA is administered locally by the Council, as a unitary authority, through the Tasman Resource Management Plan.

9.4.2 Auditing

Regular inspections of key sites are completed and recorded to ensure the Council's maintenance contractor is operating in accordance with a number of key performance indicators including performance measures required under consent conditions or other legislative requirements.

9.4.3 Environmental Reporting and Monitoring

In addition to audit assessments, non-compliance incidents are recorded, notified to the Council's Compliance Monitoring team and mitigation measures put in place to minimise any potential impacts.

9.4.4 Council's Annual Report

The extent to which the Council has been able to meet all of the conditions of each permit is reported in its Annual Report.

9.4.5 Property Designations

Designations are a way provided by the RMA of identifying and protecting land for future public works. The Council has designated areas in the Richmond urban area to ensure that improvements can be made to existing Borck Creek System including extensions towards the hills above SH6.

9.4.6 Potential Negative Effects

Schedule 10 of the Local Government Act 2002 requires an outline of any significant negative effects that an activity may have on the local community. Potential negative effects associated with the stormwater activity are outlined in Table 15.

Table 15: Negative Effects

Effect	Description	Mitigation Measures
Flooding	Loss of Life: Either through extreme flood flows or debris flow, injury and death may result from storm events. Social/ cultural: Localised flooding may occur in	Catchment management planning stormwater

Effect	Description	Mitigation Measures
	built up areas and cultural sites due to under capacity of the stormwater system and affect the well-being of the community. Economic: Localised flooding can have significant immediate and ongoing economic consequences on local business. Environmental: Sediments, oils, greases, metals and organic material can be washed into natural water courses.	modelling Secondary flowpath mapping, protection and enhancement Capital works to increase network capacity and detention
Untreated stormwater discharges	Environmental: The discharge of untreated stormwater has an adverse effect on the quality of the receiving environment, e.g., stormwater runoff from contaminant generating surfaces such as road and carparks contains contaminants such as metals, oils and sediment. Some building materials such as unpainted zinc or copper roofs can also be a source of contaminants. In rural areas, runoff may be contaminated with sediment, herbicides, pesticides, fertilisers and animal waste. Social / Cultural: Discharges have adverse effect on the quality of receiving environments and how these can be used by the community.	Catchment management planning. Resource consenting and compliance monitoring Capital works. Tasman Erosion and Sediment Control Guidelines (2014)
Erosion of streambanks and loss of aquatic habitat	Environmental: Increased stormwater flows can cause erosion of streambanks and loss of aquatic habitat. Social/ Cultural: Discharges have adverse effect on the quality of receiving environments and how these can be used by the community.	Land Development Manual
	Cultural: Physical works may have an adverse effect on sites. Uncontrolled stormwater may erode sites.	Record of known heritage sites. Consultation prior to works. Monitoring of erosion near sites.

9.5 Potential Positive Effects

Potential positive effects are outlined in Table 16.

Table 16: Positive Effects

Effect	Description
Access and Mobility	The stormwater system maximises access during and after storm events. Stream corridors are widened and integrated with walk and cycle paths.
Amenity and recreation	The Council's policies promote the enhancement of recreational and environmental amenity value when developing new assets through water sensitive design.
Economic Development	The Council maintains stormwater collection to minimise damage to private and public assets.
Environmental Protection	The Council enhances the quality of the receiving environment through the development of natural stream channels such as Borck Creek. Fish passage and aquatic life is considered when implementing capital projects and often improved.
Safety and Personal Security	The Council maintains stormwater collection to minimise disruption to normal community activities and risk to life.

9.6 Environmental Management

9.6.1 Resource Consents

The statutory framework defining what activities require resource consent is the Resource Management Act (RMA) 1991 and subsequent amendments. The RMA is administered locally by the Council, as a unitary authority, through the Tasman Resource Management Plan.

The Council's Engineering Department and Environment and Planning Group have over 200 consents to manage. Some consents require active management to ensure reporting and monitoring conditions are met or allow the timely management for lodging new applications before existing consents expire. A register of all active consents including their conditions, compliance actions and expiry dates are managed in Council databases within MagiQ.

9.6.2 Global Network Discharge Consent

The Council needs to demonstrate compliance with the Tasman Resource Management Plan and, in particular, Part VI of that Plan: Discharges, Chapter 36. The Council has a legal obligation to manage adverse effects from stormwater discharges from its network. The Engineering Department obtained a set of District-wide Stormwater Discharge Consent in 20?? (RM191015) that authorises stormwater discharges from the Council's network subject to meeting the conditions of consent. These are summarised in Table 17.

Table 17 District-wide stormwater consent details

Consent	Duration	For
RM191015		Allows use and operation of existing public urban stormwater network infrastructure in, on or under specific land locations
RM191016	20 year	Combined land use and coastal permit to: Occupy coastal area with existing public urban stormwater network infrastructure and for any associated maintenance, repair, replacement or removal. And to undertake maintenance, repair, replacement or removal of public urban stormwater network infrastructure and any associated disturbance of land, foreshore or seabed.
RM191018	20 year	**Combined discharge permit and coastal permit** to discharge water, including contaminants, to land, air, coastal water and freshwater for maintenance, repair, removal and replacement activities related to the public urban stormwater network infrastructure.
RM191019	20 year	**Combined discharge permit and coastal permit** to discharge stormwater, including associated contaminants, from public urban stormwater network infrastructure to land, coastal water and fresh water

The development of catchment management plans (CMPs) for all Urban Drainage Areas (UDAs) is be required by conditions of consents. Progressive improvement in stormwater quality from urban discharges is expected to be achieved by a works programme that is directed by the CMPs. Outcomes will be monitored through regular reviews of the CMPs and required efforts will be adjusted accordingly to ensure compliance with the global discharge consent.

9.6.3 Discharges and Diversions

Any new stormwater discharges or water diversions require resource consent, unless it is in rural or open space zones. Resource consent will be required for significant water diversions including bunds and the situations where natural streams have been piped as part of an urban reticulation system.

Subdivision developments may involve new stormwater discharges or extensions to the existing network of stormwater assets that require resource consent that the Council will become responsible for when the new stormwater assets are transferred from the developer to the Council. Generally these specific assets consents are dealt with by Council operational compliance with the District wide consents.

9.6.4 Inlet and Outlet Structures

Structures on or extending onto or over river or stream beds, or on a shoreline, may require resource consent. Inlet structures are usually installed where natural streams flow into piped systems. The provisions of Part IV of the Tasman Resource Management Plan: Rivers and Lakes, determine what resource consents are required for structures in river and stream beds.

9.6.5 Detention Dams and Ponding Areas

Detention dams and ponding areas can be used to manage peak flood flows within specific stormwater catchments, especially where urban development increases the rate of run-off. The Council now has responsibility for multiple detention dams and ponding areas within urban localities around the District. Structures used for the damming of water may require consent under the Tasman Resource Management Plan, the Building Act or both.

9.6.6 Channel Widening and Other Works in Waterways

Capital works to modify stream beds usually require resource consent. However, maintenance work is generally covered under the River Protection and Maintenance Works Resource Consent (under the jurisdiction of the Rivers activity).

9.6.7 Auditing

Regular inspections of key sites are completed and recorded to ensure the Council's maintenance contractor is operating in accordance with a number of key performance indicators including performance measures required under any consent conditions or other legislative requirements.

9.6.8 Environmental Reporting and Monitoring

In addition to audit assessments, non-compliance incidents are recorded, notified to the Council's Compliance Monitoring team and mitigation measures put in place to minimise any potential impacts.

9.6.9 The Council's Annual Report

The extent of any exceptions to Council meeting all of the conditions of consents/permits are reported in its Annual Report.

9.6.10 Property Designations

Designations are a way provided by the RMA of identifying and protecting land for future public works. The Council has designated three areas in the Richmond urban area to ensure that improvements can be made to existing stormwater systems.

The following in Table 18 stormwater activity designations have a duration of 20 years (until 2029) for which to be 'given effect'. Once 'given effect', a designation remains valid for the life of the Tasman Resource Management Plan or until the requiring authority removes of alters the designation. Alterations to some designations (eg, boundaries) and outline plans for proposed work may be required from time to time. Designations do not negate the ongoing need for regional type resource consents (eg, watercourse and discharge) required for the designated site or purpose (refer to section 10.3.1 above).

Table 18: Property Designations

ID	Location	Site Name/Function	Purpose of Designation
D247	Waimea Inlet to Main Road Hope and Hill Street St South, Richmond	Borck Creek and related drains (Eastern, Hills, Bateup, Whites, Reed/Andrews)	Stormwater management and associated recreation opportunities
D248	Richmond South	Bateup Drain detention ponds (2)	Stormwater detention
D249	Richmond West	Poutama Drain	Stormwater management

10 Asset Management Processes and Practices

Good quality data and asset management processes are the heart of effective planning. This section outlines our approach to asset management, our processes, and provides an overview of our data management systems and strategies that underpins the stormwater activity.

10.1 Appropriate Practice Levels

The Office of the Auditor General (OAG) uses the International Infrastructure Management Manual (IIMM) as the benchmark against which New Zealand councils measure their activity management practices. There are five maturity levels in the IIMM; Aware, Basic, Core, Intermediate and Advanced. The IIMM sets out what the requirements are for each level against each area of the activity management system.

In 2023, the Council reviewed its Activity Management Policy and adopted an updated version. The Policy sets out the Council's activity management objectives and appropriate level of practice is 'intermediate' with 'advanced level' of practice for demand forecasting, asset register data and asset condition.

10.2 Service Delivery Reviews

10.2.1 Activity and asset management teams

The Council has an organisational structure and capability that supports effective asset management planning. Multiple teams across the Council have responsibility for the different aspects of activity and asset management. The focus of the teams ranges from a strategic focus at a Long-Term Plan/Infrastructure Strategy level, which involves a cross-Council team, through to a focussed delivery of the capital projects programme and a detailed, operational focus at the Operational team level.

The activity management planning function is managed by the Strategic Planning team, Operations are the responsibility of the Utilities and Transportation teams, while Projects and Contracts are managed by the Programme Delivery team.

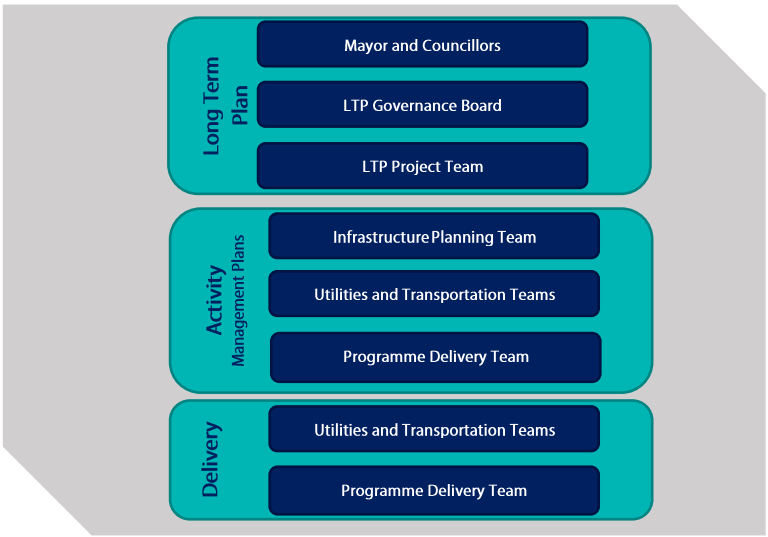


Figure 19: Teams Involved in Activity and Asset Management

The Infrastructure Planning team prepares the update of the Activity Management Plans and oversees implementation of the improvement plan. The draft plans are reviewed internally and released for consultation, then amended as required and adopted by the Council for implementation.

10.2.2 Staff Training

The Council allows for continued development of staff to ensure that best practice is maintained, and that the Council retains the skills needed to make improvements in asset management practices.

10.2.3 Professional Support

The Council has a need to access a broad range of professional service capabilities to undertake investigation, design and procurement management in support of its significant capital works programme, as well as support with activity management practice. There is also a necessity on an as-needed basis to access specialist skills for design, planning and policy to support the in-house management of the Council's networks, operations and maintenance.

10.2.4 Procurement Strategy

The Council has a formal Procurement Strategy that it follows to engage contractors and consultants to assist the Council. This strategy has been prepared in part to meet NZ Transport Agency's requirements for expenditure from the National Land Transport Fund, and it considers the procurement environment that exists within the Tasman District. It principally focuses on Engineering Services activities and is framed in the NZTA procurement plan format, which is consistent with whole-of-government procurement initiatives.

10.2.5 Service Delivery Reviews

In 2014, Section 17A was inserted into the Local Government Act which requires the Council to review the cost effectiveness of its current arrangements for providing local infrastructure, services, and regulatory functions at regular intervals. Reviews must be undertaken when service levels are significantly changed, before current contracts expire, and in any case not more than six years after the last review.

Table 19 below summarises the reviews that have been completed to date and when the next review is required for this activity.

Table 19: Summary of Reviews

Scope of Review	Summary of Review	Review Date	Next Review
Three Waters Operations and Maintenance Contract	An initial review found that current operations and maintenance contract arrangements were appropriate and that the new contract would be procured on a similar basis. A full review is to be conducted in collaboration with Nelson City Council at a later date.	2022	2027

In addition to the Section 17A reviews, the Council is reviewing its current capability and capacity against the requirements of the future programmes of work set out in its AMPs. To enhance the Council's ability to deliver the capital and operational works programme a review and enhancement of the project management workload, systems and staff capacity was undertaken during 2021-23 period.

10.3 Asset Management Systems and Data

10.3.1 Information Systems and Tools

The Council has a variety of systems and tools that support effective operation and maintenance, record asset data, and enable that data to be analysed to support optimised life-cycle management. These are detailed in Figure 20 below. There is a continual push to incorporate all asset data into the core asset management systems where possible; where not possible, attempts are made to integrate or link systems so that they can be easily accessed.

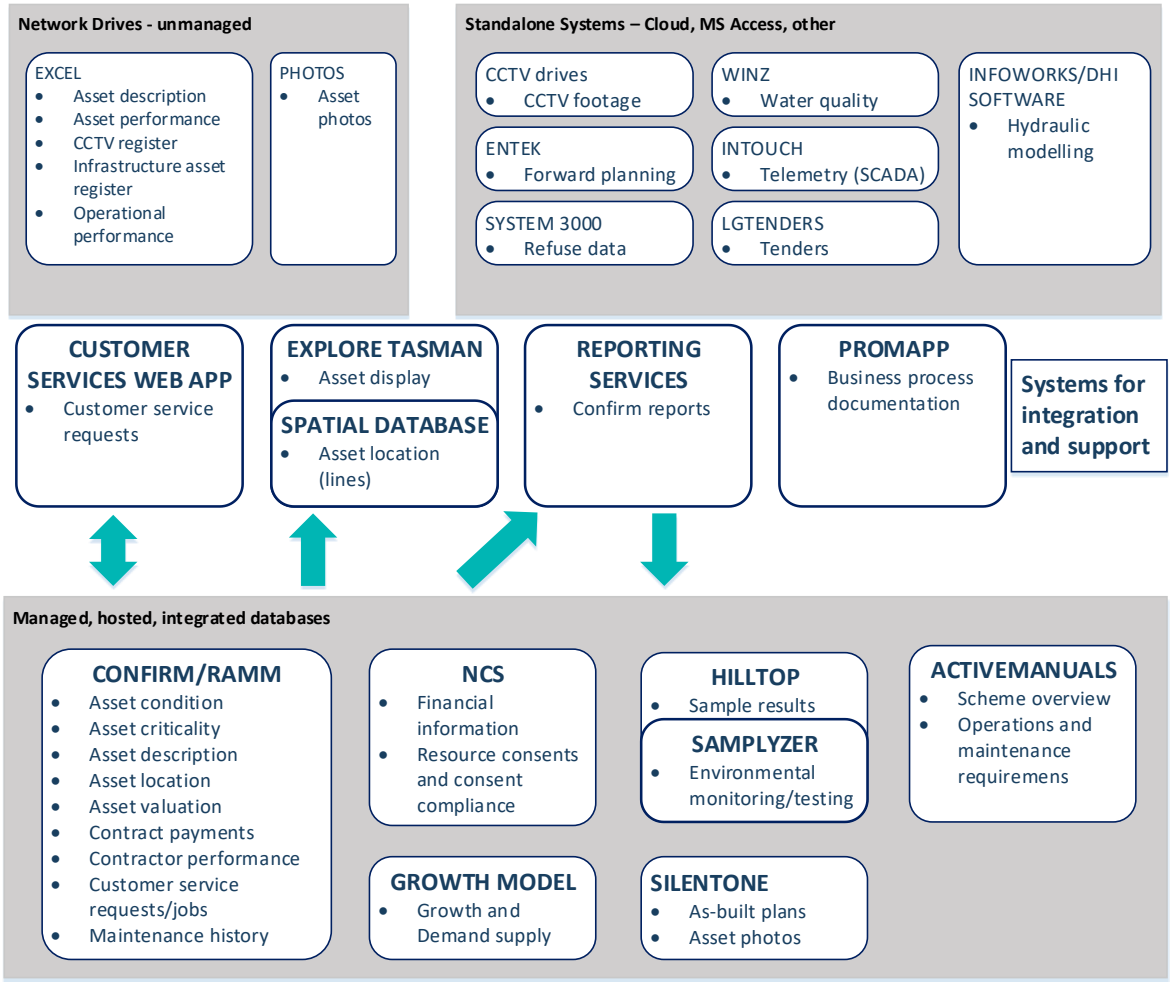


Figure 20: Council's Information Systems and Tools

10.3.2 Asset Data

Appendix D summarises the various data types, data source and how they are managed within the Council. It also provides a grading on data accuracy and completeness where appropriate. The Council is implementing a staged alignment to the NZ Asset Metadata Standards.

10.4 Critical Assets

Knowing what's most important is fundamental to managing risk well. By knowing this, the Council can invest where it is needed most, and it can tailor this investment to the right level. This will avoid over investing in assets that have little consequence of failure, and will ensure assets that have a high consequence of failure are well managed and maintained.

For infrastructure, this is knowing Tasman's critical assets and lifelines. These typically include:

- arterial road links including bridges;
- water and wastewater treatment plants;
- trunk mains;
- main pump stations;
- key water reservoirs;
- stopbanks; and
- detention dams.

The *Nelson Tasman Lifelines Report* summarises all lifelines within Nelson and Tasman. Within the report there was a number of actions identified to improve the Region's infrastructure resilience.

The Council also recently developed an asset criticality assessment framework as described in section 7.2 of this AMP.

The asset criticality framework will help to ensure that the appropriate level of effort is being made to manage, maintain and renew them, and will extend to ensuring that the Council has adequate asset data to enable robust decisions to be made regarding the management of those assets.

10.5 Quality Management

The Council has not implemented a formal Quality Management system across the organisation. Quality is ensured by audits, checks and reviews that are managed on a case-by-case basis. Table 20 below outlines the quality management approaches that support the Council's asset management processes and systems.

Table 20: Quality Management Approaches

Activity	Description
Process documentation	The Council uses Promapp software to document and store process descriptions. Over time, staff are capturing organisational knowledge in an area accessible to all, to ensure business continuity and consistency. Detailed documentation, forms and templates can be linked to each activity in a process. Processes are shown in flowchart or swim lane format, and can be shared with external parties
Planning	The Long-Term Plan (LTP) and associated planning process are formalised across the Council. There is a LTP project team, LTP governance team, and Asset Management Plan (AMP) project team that undertakes internal reviews prior to the Council approval stages. Following completion of the AMPs, a peer review is done, and the outcomes used to update the AMP improvement plans.

Activity	Description
Programme Delivery	This strictly follows a gateway system with inbuilt checks and balances at every stage. Projects cannot proceed until all criteria of a certain stage have been completely met and formally signed off.
Subdivision Works	Subdivision sites are audited for accuracy of data against the plans submitted. CCTV is performed on all subdivision stormwater and wastewater assets at completion of works and again before the assets are vested in the Council. If defects are found, the Council requires that they are repaired before it will accept the assets.
Asset Creation	As-built plans are reviewed on receipt for completeness and adherence to the Engineering Standards and Policies. If anomalies are discovered during data entry, these are investigated and corrected. As-built information and accompanying documentation is required to accompany maintenance contract claims.
Asset Data Integrity	Monthly reports are run to ensure data accuracy and completeness. stormwater, water, wastewater, coastal structures, solid waste and streetlight assets are shown on the corporate GIS browser, Explore Tasman, and viewers are encouraged to report anomalies to the Engineering Data Management team.
Operations	Audits of a percentage of contract maintenance works are done every month to ensure that performance standards are maintained. Failure to comply with standards is often linked to financial penalties for the contractor.
Levels of Service	Key performance indicators are reported annually via the Council's Annual Report. This is audited by the Office of the Auditor General.
Reports to the Council	All reports that are presented to the Council by staff are reviewed and approved by the Executive Leadership Team prior to release.

11 Improvement Planning

The activity management plans have been developed as a tool to help the Council manage their assets, deliver on the agreed levels of service and identify the expenditure and funding requirements of the activity. Continuous improvements are necessary to ensure the Council continues to achieve the appropriate level of activity management practice along with delivering services in the most sustainable way while meeting the community's needs.

Establishment of a robust, continuous improvement process ensures that the Council is making the most effective use of resources to achieve an appropriate level of asset management practice.

11.1 Assessment of our Activity Management Practices

In 2021 the Council undertook an asset management maturity review and targets were developed in consultation with Waugh Infrastructure Management Ltd based on the IIMM.

Figure 21 shows that focus areas for improvements were Asset Register Data, Asset Condition, Decision Making, Risk Management, and Operational Planning. Improvements have been incorporated and previously identified gaps have been addressed. Further improvements will be needed to be implemented over the next couple of years to meet the target and actions have been included in the Improvement Plan.

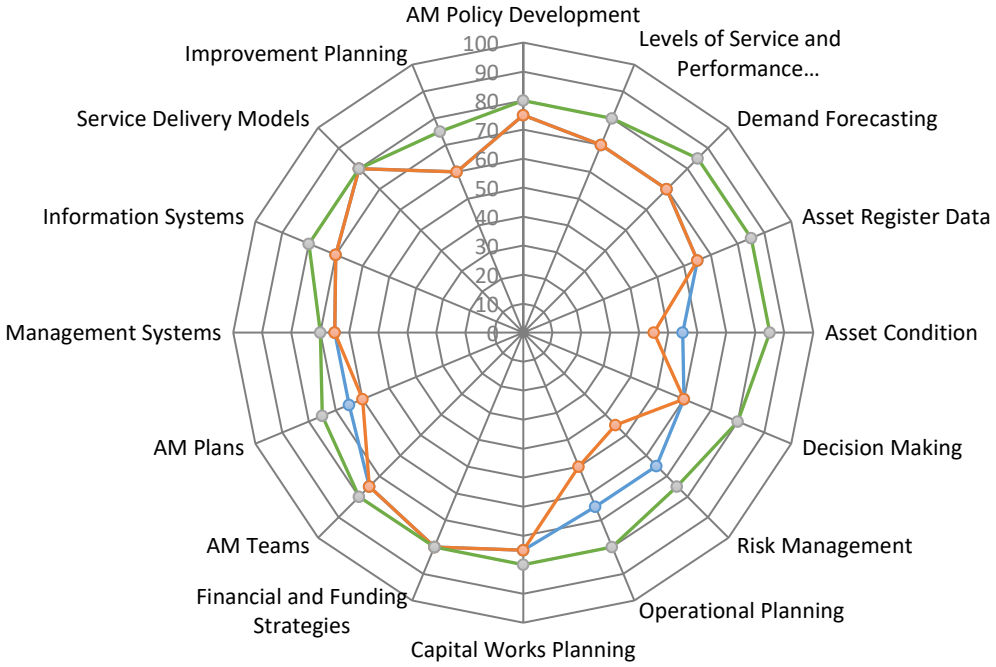


Figure 21: Stormwater AMP Maturity Levels

11.2 Peer Reviews

The Council staff reviews and prioritises the feedback received in the peer review reports and incorporates improvements in the activity management plan where possible.

11.2.1 Utility NZ 2021 review

The Council engaged Utility NZ to review the 2021 consultation versions of the Three Waters and Transportation Activity Management Plans (AMPs). The review focussed on the strategic purpose of activity planning and its application within the AMPs. The four recommended actions were incorporated into a new template that this AMP is built upon.

11.3 Planning Improvements

The continuous improvement process includes:

- identification of improvements;
- prioritisation of improvements;
- establishment of an improvement programme;
- delivery of improvements; and
- ongoing review and monitoring of the programme.

All improvements identified are included in a single improvement programme encompassing all activities. In this way opportunities to identify and deliver cross-activity or generic improvements can be managed more efficiently, and overall delivery of the improvement programme can be monitored easily.

11.4 Summary of Recent Improvements

Based on the peer review and internal evaluations and reviews, the Council has made improvements to its AMP and specific asset management processes.

Some of the Council's key achievements in the asset management processes over the previous three years include:

- asset criticality framework has been implemented for the critical infrastructure
- developers and Council officers are operating in accordance with the updated Nelson Tasman Land Development Manual; and
- CMP for Motueka completed and Brightwater and Wakefield well underway.

11.5 Summary of Planned Improvements

A list of the planned stormwater activity specific improvement items is in Table 21, and a list of general across-activity improvement items is given in Table 22.

Table 21: Specific Improvement Items

Improvement Item	Further Information	Need for Improvement	Priority	Status	% Complete	Expected Completion Date	Cost/Resource Type	Comments
Stormwater quantity and quality monitoring for model calibration and consent monitoring	Modelling	Improve reliability of stormwater modelling results and monitor effectiveness of stormwater improvements	Medium	Started	95%	June 2024	Consultants and staff time	WQMP is complete. 3 Water Q sensors and 1 water level sensor installed in Richmond. Motueka yet to be purchased and installed
Summarise Council and private ownership responsibilities of stormwater assets	Impacts Transportation (road drains) and River activities	Improve public understanding of stormwater maintenance responsibilities	Medium	Not started	N/A	June 2024	Staff time	
Reporting and analysis of rainfall events in relation to their AEP, known flood events and complaints received	Rain gauges / Hill top	Improved understanding of extreme rainfall occurrences across the district is required	Medium	Started	N/A	Dec 2024	Staff time	Currently done in an ad hoc way. Need for a database of "events" with complaints received etc.

Table 22: General Activity Management Improvement Items

Improvement Item	Further Information	Need for Improvement	Priority	Status	Expected Completion Date	Cost/Resource Type
Provide data confidence ratings for groups of assets within the valuation for each activity.		In the valuation reports data confidence is only assessed across the activity and not for the different types of asset groups. It is likely that data confidence varies considerably between buried assets and above ground assets, and this is not reflected in the reports.	Medium	Not started	June 2025	Consultants and staff time Budget $33,500 in 2024/2025
Consider how levels of service options are presented to the community	Consider how to better engage the community in agreeing appropriate levels of service through specific work streams (e.g. Risk, Resilience, and Recovery Planning).	Engagement is required to determine an appropriate level of service	Medium	Not started	2025	Staff time
Capture and track maintenance data	Historical costs should be analysed to calculate forward budgets	Improve the consistency and confidence when planning operations and maintenance budgets	Medium	Not started	Ongoing	Staff Time

Appendix A Detailed Operating Budgets

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ID	Name	Description	Total Budget	Financial Year Budget ($)										Total Budget	
			2024-54	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	3030/31	2028/29	2029/30	3030/31	2034-44	2044-54
62001	Stormwater Modelling	Develop UDA models and model scenarios to identify cost effective solutions to reduce flood risks	584,953	33,522	33,522	33,522	20,951	20,951	20,951	20,951	19,642	18,414	17,263	172,632	172,632
62003	Legal Fees	Procurement of legal advice	157,140	5,238	5,238	5,238	5,238	5,238	5,238	5,238	5,238	5,238	5,238	52,380	52,380
62004	Consultants	Professional Services, one-off modelling work and SW development support	1,099,935	36,665	36,665	36,665	36,665	36,665	36,665	36,665	36,665	36,665	36,665	366,645	366,645
62006	Operation and Maintenance Contract Tender	Retender allowance	145,665	0	16,185	16,185	0	0	0	0	0	16,185	16,185	32,370	48,555
62009	Catchment Management Plans	Mapua/Ruby Bay, Brightwater/ Wakefield and combination of smaller CMPs	760,465	73,329	73,329	73,329	26,189	26,189	26,189	26,189	23,383	20,878	18,641	186,410	186,410
62013	Valuations	Valuations 3-yearly reviews	129,480	0	12,948	0	0	12,948	0	0	12,948	0	0	51,792	38,844
62016	Drains and Creeks Operation and Maintenance		1,912,000	56,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	640,000	640,000
62017	Detention Dams Operation and Maintenance		150,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	50,000	50,000
62018	Other Operation and Maintenance		62,850	2,095	2,095	2,095	2,095	2,095	2,095	2,095	2,095	2,095	2,095	20,950	20,950
62019	Richmond Central Business Case	Develop programme business case to identify programme of works in central Richmond to improve levels of service	63,186	63,186	0	0	0	0	0	0	0	0	0	0	0
62021	Reticulation Contract Routine		450,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	150,000	150,000
62022	Drains and Creeks Contract Routine		8,950,228	287,234	298,724	298,724	298,723	298,724	298,723	298,724	298,724	298,724	298,724	2,987,240	2,987,240
62029	Reticulation Contract Reactive		4,500,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000	1,500,000	1,500,000
62030	Drains and Creeks Contract Reactive		750,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	250,000	250,000
62031	Detention Dams Contract Reactive		450,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	150,000	150,000
62033	Electricity		48,000	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	16,000	16,000
62034	Insurance	Annual Allowance	12,210,000	407,000	407,000	407,000	407,000	407,000	407,000	407,000	407,000	407,000	407,000	4,070,000	4,070,000
62035	Rates and Water	Rates - District Wide	7,894,800	263,160	263,160	263,160	263,160	263,160	263,160	263,160	263,160	263,160	263,160	2,631,600	2,631,600
62036	General Operations		190,620	6,354	6,354	6,354	6,354	6,354	6,354	6,354	6,354	6,354	6,354	63,540	63,540
62037	SCADA/ Telemetry		158,850	5,295	5,295	5,295	5,295	5,295	5,295	5,295	5,295	5,295	5,295	52,950	52,950
62039	Consent Monitoring	Consent Monitoring	6,767,970	146,666	173,334	200,001	200,000	200,001	200,000	200,001	212,122	224,978	238,613	2,386,128	2,386,128
	Third Party Recoveries		150,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	50,000	50,000

Appendix B Detailed Capital Budgets

ID	Name	Description	Project Driver %			Total Budget	Financial Year Budget ($)										Total Budget	
			Growth	IncLOS	Renewals	2024-54	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	3030/31	2028/29	2029/30	3030/31	2034-44	2044-54
66001	Borck Creek Widening - Reed Andrews to SH6	Final section of Borck Creek to be upgraded	94	6	0	9,568,000	0	0	0	0	0	0	750,000	4,409,000	4,409,000	0	0	0
66007	Motueka West Discharge System	Growth areas north of King Edward Street and to the east of SH60 require a stormwater system in place to convey stormwater from the development area across High Street, into the existing drain and beyond.	89	11	0	2,133,000	2,133,000	0	0	0	0	0	0	0	0	0	0	0
66008	Motueka - Tidal Gate Renewal	Renewal of gates, hydraulics, control cabinets and telemetry at Woodlands Drain and Wharf Road	0	0	100	236,738	0	0	0	0	0	0	0	0	0	0	0	236,738
66009	Eastern Hills Drain Upgrade	Reallignment of Eastern Hill drain and confluence into Borck Creek	41	59	0	500,000	500,000	0	0	0	0	0	0	0	0	0	0	0
66013	Bateup Drain Upgrade Stage 1	Widening of Bateup Drain with environmental improvements	89	11	0	914,000	914,000	0	0	0	0	0	0	0	0	0	0	0
66016	Reed / Andrews Drain Upgrade	Increase capacity of Reed/Andrews drain to cater for increased flows in Bateup Drain.	94	6	0	4,139,000	0	0	400,000	3,739,000	0	0	0	0	0	0	0	0
66017	Pipe and Manhole Renewals	District wide budget for renewal of pipes and manholes in poor condition	0	0	100	2,466,477	0	0	0	0	0	0	0	0	0	0	1,013,018	1,453,460
66018	Bateup Drain Upgrade Stage 3	Widening of the existing drain and construction of environmental strip along Bateup Drain from Arizona Development to Hill Street	87	13	0	3,800,000	800,000	1,500,000	1,500,000	0	0	0	0	0	0	0	0	0
66022	Secondary Flowpath Improvements	District wide improvements as derived from overland flow path mapping	0	100	0	8,700,000	150,000	150,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	3,000,000	3,000,000
66023	Stormwater Outlets, Inlets and Valves Renewals	District wide budget to replace outlets, inlets and valves that are in poor condition	0	0	100	600,000	0	0	0	0	0	0	0	0	0	0	300,000	300,000
66031	Stormwater Quality Improvements	Implementation of measures to improve the quality of stormwater runoff at strategic locations	0	100	0	2,250,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	75,000	750,000	750,000
66039	Minor Stormwater Improvements	District wide minor stormwater improvements for isolated level of service improvements	0	100	0	7,500,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	2,500,000	2,500,000
66041	Motueka West Discharge System stage 2		64	36	0	17,837,918	0	0	0	0	0	0	0	0	0	0	17,837,918	0
66044	SH6 Richmond Deviation Stormwater Improvements	Improve conveyance of stormwater under the deviation towards coast to prevent flooding. Upgrade the existing and construct a new culvert under SH 6 Richmond Deviation.	19	81	0	2,312,322	0	0	0	0	0	0	55,055	55,055	2,202,212	0	0	0
66046	Lower Queen Street Bridge Capacity Upgrade	Increasing the span of the existing bridge over Borck Creek to match the new width of the creek bed.	60	40	0	7,279,000	250,000	5,229,000	1,800,000	0	0	0	0	0	0	0	0	0
66047	Borck Creek SH60 Bridge Capacity upgrade	The existing culvert needs to be replaced with a bridge spanning the increased width of Borck Creek.	94	6	0	6,954,000	0	0	250,000	3,352,000	3,352,000	0	0	0	0	0	0	0
66048	Reed/Andrews Drain: SH6 Culvert and Network Tasman drain upg	Upgrade the Reed/Andrews drain and replace the existing culvert under SH6 with a bridge to match the increased flow capacity of the drain.	94	6	0	16,653,000	500,000	0	0	0	0	6,517,000	6,100,000	3,536,000	0	0	0	0
66049	Bateup Drain Paton Road Culvert Upgrade	Replacement of the existing culvert to provide increased capacity associated with adjacent developments.	93	7	0	2,054,000	0	0	0	0	0	200,000	1,854,000	0	0	0	0	0
66050	Cemetery dam Upgrade	Cemetery Detention Dam upgrade from temporary to permanent infrastructure. Transformation from dry pond to wetland/ amenity space	0	100	0	1,101,106	0	0	0	0	0	0	0	0	0	0	1,101,106	0
66051	Borck Creek Widening - Headingly Lane to Estuary	Upgrade the capacity of Borck Creek between Lower Queen Street and the estuary	64	36	0	5,171,000	4,171,000	1,000,000	0	0	0	0	0	0	0	0	0	0
66056	Motueka flood mitigation	Green corridor and pipe upgrades to reduce flood risk in Greenwood/ Clay/ Moffatt Street Area.	0	100	0	60,010,280	0	0	0	0	0	0	0	0	0	0	0	60,010,280
66057	Borck Creek Widening - SH60 to Reed/Andrews	Upgrade the capacity of Borck Creek between SH60 and Reed/Andrews for future flows.	94	6	0	5,026,000	0	0	0	0	0	0	500,000	2,263,000	2,263,000	0	0	0
66058	Whites Drain Upgrade	Widen the existing drain and construct an environmental strip from the connection with Reed/Andrews Drain and Paton Rd.	92	8	0	1,659,000	0	0	0	0	0	0	1,659,000	0	0	0	0	0
66059	Richmond Stormwater Land Purchase	Land purchase to enable construction of new stormwater assets	60	40	0	14,533,857	3,059,857	2,600,000	1,479,000	1,479,000	1,479,000	1,479,000	1,479,000	1,479,000	0	0	0	0
66061	Hunt Street Stormwater Extension	Collecting flow from the general Hunt Street area and diverting it to Gladstone - Poutama Link.	0	100	0	908,412	0	0	0	0	0	0	0	0	0	0	908,412	0
66071	Richmond - Detention Dam Consent Renewals	Consents renewals - expiry date 31 May 2030 (Bill Wilkes, Washbourn, Lodestone, Eden)	0	0	100	110,110	0	0	0	0	0	0	55,055	55,055	0	0	0	0
66073	Bateup Drain Upgrade Stage 2	Increase capacity of Bateup Drain to provide for increased flows between the Paton Rise Development and Paton Road	91	9	0	1,303,000	0	0	1,303,000	0	0	0	0	0	0	0	0	0
66077	Richmond flood mitigation Reservoir Creek catchment		0	100	0	6,606,636	0	0	0	0	0	0	0	0	0	0	2,202,212	4,404,424
66078	Richmond flood mitigation Eastern Hill Catchment		0	100	0	6,606,636	0	0	0	0	0	0	0	0	0	0	6,606,636	0
66079	Richmond South Whites Rd Area		56	44	0	2,202,212	0	0	0	0	0	0	0	0	0	0	2,202,212	0
66080	Richmond South - upper Borck creek		56	44	0	7,707,742	0	0	0	0	0	0	0	0	0	0	1,101,106	6,606,636
66083	Stormwater detention Jefferies Road Growth Area	Stormwater detention Jefferies Road Growth area	95	5	0	2,202,212	0	0	0	0	0	0	0	0	0	0	2,202,212	0
66090	Richmond South Stormwater Channel Programme		54	46	0	3,000,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000	1,000,000
66093	Motueka Sump Upgrade Programme		0	100	0	3,000,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000	1,000,000
66094	Motueka High Street at Wratt Street Overland Flowpath Improv		0	100	0	300,000	0	0	300,000	0	0	0	0	0	0	0	0	0
66095	Seaton Valley Integrated Stormwater Solution		87	13	0	4,000,000	0	0	0	0	0	500,000	1,500,000	2,000,000	0	0	0	0
66097	Richmond Intensification Stormwater Capacity Upgrades (FDS T		50	50	0	13,500,000	200,000	200,000	200,000	200,000	200,000	500,000	500,000	500,000	500,000	500,000	5,000,000	5,000,000
66098	Capacity Upgrade for Intensification - 8 Hickmott Place Motu		55	45	0	300,000	0	300,000	0	0	0	0	0	0	0	0	0	0
66099	Brightwater Capacity Upgrade for Intensification (FDS T-002,		58	42	0	605,000	0	255,000	100,000	250,000	0	0	0	0	0	0	0	0
66100	Brightwater Business Area Capacity Upgrades (FDS T-105 and T		51	49	0	300,000	0	0	0	0	0	0	300,000	0	0	0	0	0
66101	Wakefield Church Land Capacity Upgrade for Development (FDS		64	36	0	120,000	0	120,000	0	0	0	0	0	0	0	0	0	0
66102	Wakefield Capacity Upgrades for Intensification (FDS T-029)		64	36	0	850,000	0	0	0	425,000	425,000	0	0	0	0	0	0	0
66103	Edward Street Development Area Stormwater Upgrade (FDS T-107		100	0	0	268,000	0	0	268,000	0	0	0	0	0	0	0	0	0
66104	Murchison Greenfield Growth Capacity Upgrades (FDS T-020 and		0	100	0	175,000	0	0	175,000	0	0	0	0	0	0	0	0	0
	Capital Programme Scope Risk Adjustment	Capital Programme Scope Risk Adjustment	0	100	0	-23,746,366	-1,320,286	-1,187,900	-860,000	-1,027,000	-628,100	-1,002,100	-1,557,711	-1,512,211	-1,019,921	-132,500	-4,872,483	-8,626,154

Appendix C FIS Statement

Stormwater

Funding Impact Statement

Actual 2023 $000		Plan 2023/24 $000	Plan 2024/25 $000	Plan 2025/26 $000	Plan 2026/27 $000	Plan 2027/28 $000	Plan 2028/29 $000	Plan 2029/30 $000	Plan 2030/31 $000	Plan 2031/32 $000	Plan 2032/33 $000	Plan 2033/34 $000
	SOURCES OF OPERATING FUNDING											
0	General rates, uniform annual general charges, rates penalties	0	0	0	0	0	0	0	0	0	0	0
4,914	Targeted rates	5,662	6,564	7,266	7,794	8,266	8,862	8,852	8,951	9,526	9,605	9,618
0	Subsidies and grants for operating purposes	0	0	0	0	0	0	0	0	0	0	0
0	Fees and charges	0	0	0	0	0	0	0	0	0	0	0
0	Internal charges and overheads recovered	0	0	0	0	0	0	0	0	0	0	0
132	Local authorities fuel tax, fines, infringement fees, and other rec	101	115	142	142	143	143	143	144	144	145	145
5,046	**Total operating funding**	**5,763**	**6,679**	**7,408**	**7,936**	**8,409**	**9,005**	**8,995**	**9,095**	**9,670**	**9,750**	**9,763**
	APPLICATIONS OF OPERATING FUNDING											
2,206	Payments to staff and suppliers	1,858	1,959	2,019	2,095	2,063	2,126	2,158	2,206	2,277	2,339	2,402
922	Finance costs	1,095	1,194	1,182	1,214	1,306	1,133	899	705	472	260	83
380	Internal charges and overheads applied	470	844	1,136	1,399	1,627	1,909	1,947	2,239	2,848	3,470	3,668
0	Other operating funding applications	0	0	0	0	0	0	0	0	0	0	0
3,508	**Total applications of operating funding**	**3,423**	**3,997**	**4,337**	**4,708**	**4,996**	**5,168**	**5,004**	**5,150**	**5,597**	**6,069**	**6,153**
1,538	**Surplus/(deficit) of operating funding**	**2,340**	**2,682**	**3,071**	**3,228**	**3,413**	**3,837**	**3,991**	**3,945**	**4,073**	**3,681**	**3,610**
	SOURCES OF CAPITAL FUNDING											
0	Subsidies and grants for capital expenditure	386	0	0	0	0	0	0	0	0	0	0
2,673	Development and financial contributions	2,377	3,951	3,951	3,951	5,344	5,482	5,482	5,482	5,469	5,469	5,551
888	Increase (decrease) in debt	(512)	280	261	(1,417)	(2,842)	(3,396)	(3,628)	(3,654)	(4,386)	(3,166)	(4,849)
0	Gross proceeds from sale of assets	0	0	0	0	0	0	0	0	0	0	0
0	Lump sum contributions	0	0	0	0	0	0	0	0	0	0	0
0	Other dedicated capital funding	0	0	0	0	0	0	0	0	0	0	0
3,561	**Total sources of capital funding**	**2,251**	**4,231**	**4,212**	**2,534**	**2,502**	**2,086**	**1,854**	**1,828**	**1,083**	**2,303**	**702**
	APPLICATIONS OF CAPITAL FUNDING											
	Capital expenditure											
4	- to meet additional demand	33	0	0	0	0	0	0	0	0	0	0
47	- to improve the level of service	110	489	500	674	689	704	719	799	815	3,456	778
5,256	- to replace existing assets	10,420	11,750	10,754	7,669	9,503	5,666	9,658	15,671	15,494	7,764	707
(208)	Increase (decrease) in reserves	(5,972)	(5,326)	(3,971)	(2,581)	(4,277)	(447)	(4,532)	(10,697)	(11,153)	(5,236)	2,827
0	Increase (decrease) in investments	0	0	0	0	0	0	0	0	0	0	0
5,099	**Total applications of capital funding**	**4,591**	**6,913**	**7,283**	**5,762**	**5,915**	**5,923**	**5,845**	**5,773**	**5,156**	**5,984**	**4,312**
(1,538)	**Surplus/(deficit) of capital funding**	**(2,340)**	**(2,682)**	**(3,071)**	**(3,228)**	**(3,413)**	**(3,837)**	**(3,991)**	**(3,945)**	**(4,073)**	**(3,681)**	**(3,610)**
0	**Funding balance**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Appendix D Strategic and Legislative Links

Table D-1: Links between Infrastructure Strategy and Activity Management Plan

Section	Section Overview	Connection to AMP
Executive Summary	A short, consolidated summary of the current situation, investment priorities, key actions and total level of investment.	This section is intended to provide an outline of the Strategy to the reader. It does not have a direct connection to individual activity management plans.
Strategic Direction	• Examines the context and issues surrounding the provision of infrastructure services. • Sets the direction for infrastructure management and investment priorities. • Sets out how the Council will: • respond to growth or decline in demand; • manage the renewal or replacement of existing assets over their lifetime; • manage planned increases or decreases in levels of service will be allowed for, • public health and environmental outcomes will be maintained or improved; and • Natural hazard risks will be addressed in terms of infrastructure resilience and financial planning.	This section provides direction to the Council staff who prepare activity management plans for the relevant infrastructure activities. Each activity management plan is expected to consider the key priorities and identify actions that are in alignment with those priorities. It also provides a consolidated summary of this information from within the Activity Management Plans.
Activity Summaries	For each activity: • Provides an overview of the assets and their condition and performance; • Outlines the levels of service; • Considers the options to address key issues/priorities and identifies the preferred option; • Summarises investment in the activity for the next 10 and 30 years; • Lists the key assumptions and uncertainties.	This section provides a concise summary of the activity management plan for the topics listed in this table.

D.1 Catchment Management Plan Framework

Urban catchment management planning is an efficient and effective way of co-ordinating efforts to address multiple stormwater issues i.e. flood management, freshwater management, aquatic habitat management and amenity values within urban stormwater catchments.

Catchment Management Plans (CMPs) will assist the Council in identifying integrated solutions to address existing issues and the ability to avoid or minimise risks for the future. Once in place they will also assist in cross Council alignment, collaboration and efficiency improvements. Although the focus of the catchment management plans will be on the urban areas, the catchments will have up and downstream rural areas that need to be taken into account.

The Council has an obligation to manage adverse effects from stormwater discharges from its network. The CMPs will clarify how the Council will manage these effects and form the basis for implementation authorisation of the set of 4 District-wide operation and discharge consents.

The stormwater Catchment Management Framework consists of three key components:

- Urban Stormwater Strategy.
- Global (District-wide) urban stormwater operational and discharge consents.
- CMPs.

The contents of the framework provides direction to other Council processes and legal documents such as the LTP, AMPs, NTLDM and the TRMP. It is important that these documents, including this Strategy, will be reviewed as and when required to ensure alignment. Figure D-1 shows the different components of the strategy and how they interact together. The Catchment Management Framework and the three separate components are developed in close collaboration between the Council and iwi. Stakeholder consultation and public feedback is sought separately at appropriate times during development of the CMPs.

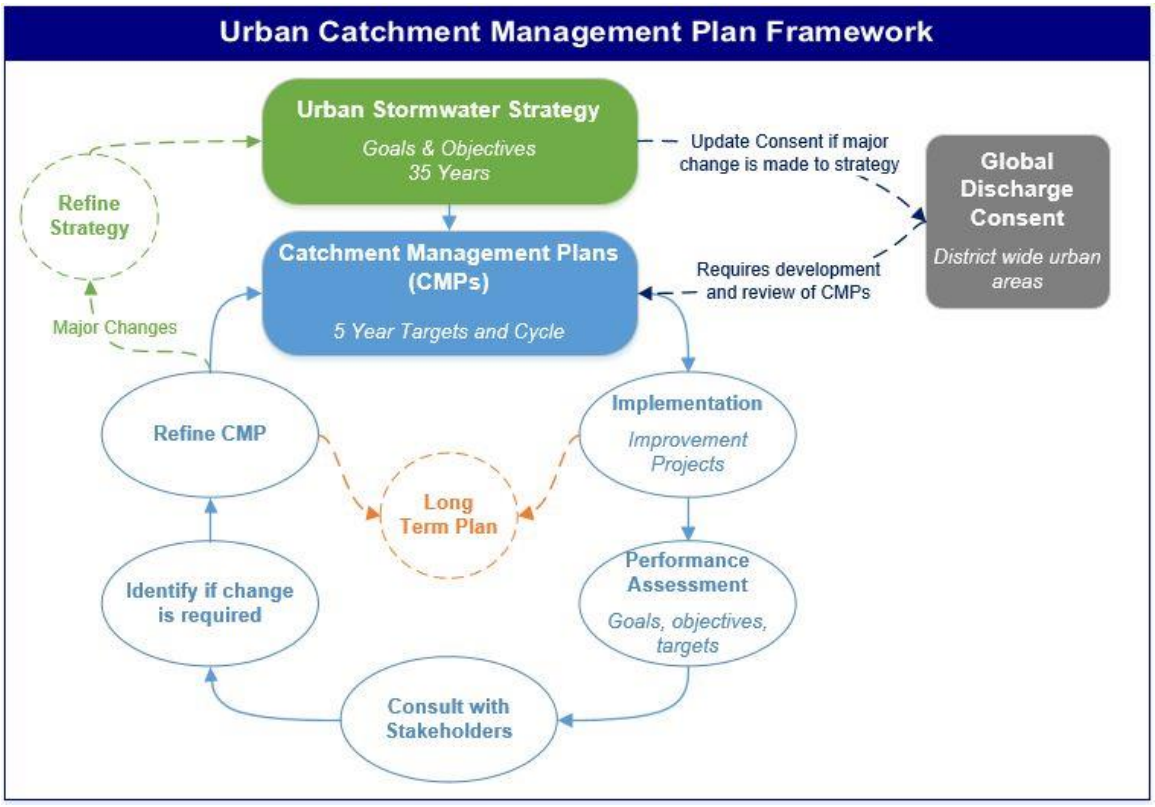

Figure D-1: Urban Catchment Management Plans framework

D.2 Urban Stormwater Strategy (USS)

The Council adopted an *Urban Stormwater Strategy*[5] in August 2019. The purpose of the Strategy is to provide direction to the development of urban stormwater CMPs in the Tasman District to support the analyses, planning and management of stormwater, consolidated in urban catchment management plans and to support the development of other strategic documents.

The USS will provide the framework against which the assessments in the CMPs will be undertaken. It is anchored on our vision to protect and enhance the mauri of wai / life force of water and to provide for:

- Te Hauora o Te Wai – the health of the water.
- Te Hauora o Te Taiao – the health of the environment.
- Te Hauora o Ngā Tangata – the health of the people.

Prudent stormwater management will contribute to this vision through an integrated and sustainable approach that supports economic vitality, desirable lifestyle and ecological health.

This USS has identified a range of goals and objectives and identifies the following long term aspirations for stormwater management:

- Our urban streams, aquatic habitats and coastal marine environment are healthy and accessible.
- Stormwater discharges do not degrade water quality and ecosystem health of our streams and estuaries.
- Stormwater flooding does not create a hazard to our community or cause damage to properties.
- We enable water sensitive growth for future generations.

[5] https://www.tasman.govt.nz/my-council/key-documents/more/environment-reserves-and-open-space/urban-stormwater-strategy/

- We manage stormwater in a holistic, efficient and cost effective manner.

D.3 CMPs

Urban catchment management planning is an effective way of co-ordinating efforts to address multiple stormwater issues i.e. flood management, freshwater management, aquatic habitat management and amenity values within urban stormwater catchments.

CMPs will assist the Council and communities in identifying integrated solutions to resolve existing issues and the ability to avoid or minimise risk for future issues. Once in place they will also assist in cross Council alignment and efficiency improvements. Although the focus of this USS and the CMPs will be on the urban areas, the catchments may have up and downstream rural areas that need to be taken into account. Hence, there will be some overlap with the River Management Plans to be prepared under the Rivers Activity.

The Council will be able to use the CMPs to implement water quality objectives of the NPS-FM within its urban areas.

CMPs are being developed for each UDA, providing an overview of the current state of our network, objectives, issues and solutions. Each CMP will be developed around the following key themes and aspirations as set out by the USS.

The CMPs will establish a specific work programme for each township grouped around separate themes such as flooding, growth, water quality and stream health. The work programme is aimed at avoiding, remedying and mitigation of effects from stormwater discharges from our network in an integrated manner. The CMPs shall be presented in a digital spatial format (ESRI Story Map format or similar) with supporting documents. This application forms an interactive and user friendly tool with links to underlying data and documents where appropriate.

The Richmond CMP was finalised and adopted by the **Council** on 1 August 2019. The Motueka CMP was completed in 2022. The Brightwater/Wakefield CMP is currently being developed and is aimed to be finalised in 2024/25.

D.4 District Wide Urban Stormwater Consent

The third component of the Catchment Management Planning framework consists of the Tasman District Wide Urban Stormwater Consent that was granted on 26 May 2021. This consent authorises the Council to discharge stormwater from its networks, provided that stormwater is managed in accordance with CMPs that are to be developed by the dates as set out in Table D-2. The consent also requires the Council to monitor progress and review and amend its planning as required.

Table 23: Catchment planning development date

Urban Drainage Area	Catchment Management Plan Completion Date
Richmond	Completed 2019
Motueka	Completed 2022
Brightwater / Wakefield	June 2024 – Underway
Tākaka	June 2025
Māpua / Ruby Bay	June 2025
Kaiteriteri	June 2025

Urban Drainage Area	Catchment Management Plan Completion Date
Tasman	June 2025
Ligar Bay / Tata Beach	June 2026
Collingwood	June 2026
Patons Rock	June 2026
Tapawera	June 2027
St Arnaud	June 2027
Murchison	June 2027

The condition states that the Consent Holder may choose to change the order in which individual CMPs are being developed to allow for changing priorities, provided that the same number of plans are developed in any year and the last CMP is completed by June 2027.

D.5 Related Legislation

Legislation is continually being amended and replaced, so for the current Act information, refer to https://www.legislation.govt.nz/

D.6 Local Government Act

The Local Government Act (LGA) requires local authorities to prepare a ten-year Long Term Plan (LTP) and 30-year Infrastructure Strategy, which are to be reviewed every three years. The Act requires local authorities to be rigorous in their decision-making by identifying all practicable options and assessing those options by considering the benefits and costs in terms of the present and future well-being of the community. This AMP provides information to support the decisions considered in the LTP.

The LGA empowers District councils to provide public drains. It also empowers the Council to cleanse, repair and maintain their drainage infrastructure as necessary for effective drainage. The Council also has powers under the Land Drainage Act (1908), Rivers Boards Act (1908), and Soil Conservation and Rivers Control Act (1941). The Engineering and Environment and Planning Departments deliver the service provider roles enabled through these Acts.

These statutes empower, but do not require, the Council to provide drainage works. However, once the Council does provide or take over control of systems, which enable and protect developments, there is an ongoing duty to continue this protection.

D.7 Resource Management Act

In relation to stormwater, the Resource Management Act (RMA) 1991 deals with:

- The control of the land use for the purpose of the maintenance and enhancement of the quality of water in water bodies and coastal water.
- Discharges of contaminants into water and discharges of water into water.

The control of the taking, use, damming and diversion of water, including:

- The setting of any maximum or minimum levels or flows of water.
- The control of the range, or rate of change, of levels or flows of water.

The RMA requires the Council to sustain the potential of natural and physical resources to meet the reasonable foreseeable needs of future generations.

The Environment and Planning Department is responsible for the regulatory functions of a regional council to control the use, development and protection of land, discharges etc, and they do this through provisions and rules in the TRMP.

The Engineering Department is responsible for complying with those rules in the management of public stormwater systems.

The RMA also requires the Council to take into account the principles of the Treaty of Waitangi.

Central Government had initiated a process to replace the RMA, however, this is now under review and subject to considerable uncertainity as to the final outcome.

D.8 Freshwater National Environment Standard

The Freshwater NES came largely into force as per September 2020 and sets requirements for carrying out certain activities that pose risks to freshwater and freshwater ecosystems. Anyone carrying out these activities will need to comply with the standards.

The standards are designed to:

- protect existing inland and coastal wetlands
- protect urban and rural streams from in-filling
- ensure connectivity of fish habitat (fish passage)
- set minimum requirements for feedlots and other stockholding areas
- improve poor practice intensive winter grazing of forage crops
- restrict further agricultural intensification until the end of 2024
- limit the discharge of synthetic nitrogen fertiliser to land, and require reporting of fertiliser use.

In many cases, a resource consent from council is required to continue carrying out regulated activities.

D.9 Building Act

This Act requires that buildings and site works are constructed to protect people and other property from the adverse effects of surface water. The Environment and Planning Department is responsible for the enforcement of the Building Code which is enabled through the Building Act.

The Building Code requires that:

- Urban runoff from a Q10 rain event is disposed of in such a way as to avoid likelihood of damage or nuisance to other property.
- Surface water from a Q50 event does not enter residential and communal buildings.
- Secondary flowpaths are taken into account.

D.10 Te Tiriti o Waitangi – Treaty of Waitangi

The Treaty of Waitangi is an agreement between Māori and the Crown. Under Section 4 of the LGA 2002 local authorities are required to 'recognise and respect the Crown's responsibility to take appropriate account of the principles of the Treaty of Waitangi and to maintain and improve opportunities for Māori to contribute to local government decision-making processes'. Further sections of the Act, particularly 77 and 81, detail the scale of requirement for local authorities to seek contributions and involvement from Māori in consultation and decision-making processes.

D.11 The Climate Change Response Act 2002 and Climate Change Response (Zero Carbon) Amendment Act 2019

The effects of climate change has been identified as one of the key issues for how we manage stormwater in the district. Climate change legislation and our Tasman Climate Action Plan (see Section 9) focus on mitigation by greenhouse gas reduction and climate change adaptation. stormwater management in the Tasman District is primarily focused on ways to respond to our changing climate (adaptation).

The Climate Change Response Act 2002 puts in place a legal framework to enable New Zealand to meet its international obligations under the United Nations Framework Convention on Climate Change and the Kyoto Protocol.

The Act includes powers for the Minister of Finance to manage New Zealand's holdings of units that represent New Zealand's target allocation for greenhouse gas emissions under the Protocol. It enables the Minister to trade those units on the international market. It establishes a registry to record holdings and transfers of units. The Act also establishes a national inventory agency to record and report information relating to greenhouse gas emissions in accordance with international requirements.

In 2019, the Act was amended by the Climate Change Response (Zero Carbon) Amendment Act. These amendments provide a framework by which New Zealand can develop and implement clear and stable climate change policies that:

- Contribute to the global effort under the Paris Agreement to limit the global average temperature increase to 1.5 degrees Celsius above pre-industrial levels.
- Allow New Zealand to prepare for, and adapt to, the effects of climate change.

D.12 Proposed the Affordable Waters reforms

The Proposed Affordable Waters Sector Reform has prompted new legislation[PW1] as follows:

- Taumata Arowai–the Water Services Regulator Act 2020: which established Taumata Arowai–the Water Services Regulator and provides for its objectives, functions, and governance.
- Waters Services Act 2021: which established drinking water standards and regulates all persons and organisations that supply drinking water.
- The WSE Act 2022: which established the new water services entities so they are ready to provide services from their 'go live' dates. The WSE Act was amended by the Water Services Entities Amendment Act 2023 to establish the 10 water services entities based on existing regional boundaries, and introduce a staggered timeframe for their establishment.

With the change of government there is uncertainty on what will remain of the above reforms as the ***incoming coalition government has signalled a new policy of "Local Water Done Well" and that the Water Services Entities Act 2022, Water Services Legislation Act 2023, and Water Services Economic Efficiency and Consumer Protection Act 2023 will be repealed.*** The legislative landscape may be clarified by the time the AMP is delivered in final form.

What is certain is the following:

- The level of stormwater infrastructure investment that is required in the future will represent a significant challenge in terms of costs for councils and their ratepayers.
- There is an increasing expectation that stormwater treatment improvements are required to meet iwi and community expectations with regard to stormwater discharges, alongside improving environmental outcomes for water quality.
- The reduction of wastewater overflows is an ongoing work programme that is important for ensuring that the stormwater network is not overwhelming the wastewater system.

D.13 National Policy Statement: Freshwater Management 2020

National policy statements are issued by central government to provide direction to local government about how they carry out their responsibilities under the RMA 1991 when it comes to matters of national significance. The matter of national significance to which the National Policy Statement for Freshwater Management 2020 (NPS_FM) applies is the management of fresh water through a framework that considers and recognises Te Mana o te Wai as an integral part of freshwater management.

The NPS_FM directs regional councils, in consultation with their communities, to set objectives for the state of fresh water bodies in their regions and to set limits on resource use to meet these objectives. Some of the key requirements of the NPS_FM are to:

- Manage freshwater in a way that gives effect to Te Mana o te Wai.
- Improve degraded water bodies, and maintain or improve all others using bottom lines defined in the NPS.
- Avoid any further loss or degradation of wetlands and streams, map existing wetlands and encourage their restoration.
- Identify and work towards target outcomes for fish abundance, diversity and passage and address in-stream barriers to fish passage over time.
- Set an aquatic life objective for fish and address in-stream barriers to fish passage over time.
- Monitor and report annually on freshwater (including the data used); publish a synthesis report every five years containing a single ecosystem health score and respond to any deterioration.

D.14 Industry Guidelines and Standards New Zealand

The primary documents that guide standards for stormwater drainage management and flood protection services are shown in Table D-3 24 **Error! Reference source not found.**(refer to http://www.standards.co.nz).

Table D-3 24: New Zealand Standards

Number/Source	Title
NZS 4404	Land development and subdivision
AS/NZS 1254	PVC pipes and fittings for stormwater and surface water applications

Number/Source	Title
AS/NZS1260	uPVC Pipes and fittings for drain waste and vent applications
NZS7643	CoP for the installation of unplasticised PVC pipe systems
AS/NZS 2032	Installation of PVC pipe systems
AS/NZS 2566	Part 1:1998 Buried flexible pipelines – Structural design and Supp 1 Commentary Part 2 – Buried flexible pipelines – Installation
NZS 3109	Concrete construction
NZS 3121	Specification for water and aggregate for concrete
AS/NZS 3725	Design for installation of buried concrete pipes
AS/NZS 4058	Pre-cast concrete pipes for (pressure and non-pressure)
NZS 4442	Welded steel pipes and fittings for water, sewage, and medium pressure gas
NZS 7643	Plastic Pipe
Ministry of Business, Innovation & Employment	NZ Building Code – E1 and B2 and associated acceptable solutions and verification methods.
AS/NZS 3917:2013 Fixed Term Contract Management	Specifies requirements intended for use when contracts are let for maintenance or other building or engineering works where the contract is intended to run for a defined period of time, as opposed to a contract for a defined scope of work.

D.16 Regional and Local Bylaws, Policies, Regulations and Strategies

D16.1 Tasman Documents

The Council also has several planning policy and/or management documents detailing its responsibilities under the legislative drivers listed above. The Council has two key statutory planning documents implementing its responsibilities under the Resource Management Act 1991 being:

- Tasman Regional Policy Statement (TRPS) operative 2001 which is an overview of significant resource management issues with general policies and methods to address these.
- Tasman Resource Management Plan, which is a combined regional and District plan with statements of issues, objectives, policies, methods and rules addressing the use of land, water, coastal marine area and discharges into the environment.

These documents guide the processing of resource consent applications for stormwater discharge to land and water bodies, and land disturbance or waterway interferences that may be associated with stormwater reticulation. They may impact on the location and method of stormwater disposal including quality requirements and the location, design and construction of reticulation networks. The plan also specifies requirements for onsite disposal.

D16.2 Local Bylaws

The Council does not have a bylaw specific to stormwater, however the wastewater Bylaw has a direct reference to stormwater where it sets out requirements to prevent inflow and infiltration of stormwater into the wastewater network. The Wastewater Bylaw (2015) applies to all users of the wastewater system and includes trade waste and protection of the wastewater infrastructure.

D16.3 Nelson Tasman Land Development Manual (NTLDM)

The purpose of the NTLDM is to outline standards and good practice matters for land development and subdivision in the Nelson and Tasman Districts. The stormwater section of the manual aims to achieve flood management, environmental and amenity expectations in an effective and efficient matter. In all situations the provisions of the NTLDM are also subject to the applicable Resource Management Plan.

The performance outcomes for the design and construction of stormwater systems sought by the standards and good practice matters in the NTLDM document are as follows:

- A management solution that is based on a holistic catchment-based assessment, including consideration of topography, soil, slope, vegetation, built development, existing drainage patterns, freshwater resources, stormwater network infrastructure, natural values and natural hazards.
- An integrated design approach to stormwater management, which accommodates stormwater functions including access for maintenance and operations, as well as amenity, recreation and ecological values.
- A network that manages stormwater flows to a standard that minimises people and property from harm or damage and nuisance effects, especially from risk to safety, health and well-being.
- A management approach that aims to improve water quality.
- Devices and design solutions that are robust, durable and easily maintained.
- A whole-of-life operations, maintenance and replacement or renewal programme that is clearly described, costed, and can be afforded.
- A stormwater system design that accounts for the foreseeable demands of future development.
- A resilient network infrastructure that performs well against the risk of geotechnical, seismic, flood hazards and coastal hazards (erosion and inundation).
- A design that maintains or improves values associated with freshwater resources, including riparian management and in-stream habitat values.
- Stormwater assets that have high amenity value, and shared use of open-space areas where practicable and agreed to by Reserves and Facilities Manager.
- A network that maintains a high visual amenity that enhances the value of adjoining property and neighbourhood values as a whole.

Appendix E Key Risks, Assumptions and Uncertainties

Table E.1: Key Risks

Risk Event	Mitigation Measures
Catastrophic failure of a stormwater structure.	Current: • routine maintenance is included in the stormwater structures budgets. • reactive inspection following extreme weather events. • maintain a complete inventory of the Council owned stormwater structures and their current condition.
Premature deterioration or obsolescence of an asset.	Current: • maintain the number of routine inspections and scheduling of maintenance programme.
Failure to adequately prepare for climate change and failure to respond to changing coastline.	Current: • reactive inspections and maintenance/repairs following extreme weather events. • Confirmation of the Coastal policy statement which says what the Council is prepared to protect. Proposed: • development of a comprehensive climate adaption planning work programme
Customer perception of the Council not doing enough to protect private property and public assets.	Current: • development and implementation of Catchment Management Plans. • management of resource consents and CSRs.
Failure to manage erosion of public land.	Current: • routine inspections. • resource consent management. • maintain the number of annual routine inspections and scheduling of maintenance programme.

Table E-2: Generic Assumptions and Uncertainties

Type	Uncertainties	Assumption	Discussion
Financial	Unless stated, it can be unclear whether financial figures include inflation or not, as well as whether GST has been included or not.	That all expenditure has been stated in 1 July 2023 dollar values and no allowance has been made for inflation and all financial projections exclude GST unless specifically stated.	The LTP will incorporate inflation factors. This could have a significant impact on the affordability of each activity if inflation is higher than allowed for. The Council is using the best information practically available from Business and Economic Research Limited (BERL) to reduce this risk.
Asset Data Knowledge	The Council has inspection and data collection regimes in place for assets. These regimes do not allow for entire updated coverage at all times. The Council's aim is to strike the right balance between adequate knowledge and what is practical.	That the Council has adequate knowledge of the assets and their condition so that planned renewal works will allow the Council to meet the levels of service.	There are several areas where the Council needs to improve its knowledge and assessments, but there is a low risk that the improved knowledge will cause a significant change to the level of expenditure required.
Growth Forecasts	Growth forecasts are inherently uncertain and involve many assumptions. The Council commissioned population projections for the LTP 2024-2034 as the basis for its growth planning. However, growth will vary depending on net migration, births and death rates.	That the district will grow or decline as forecast in the Council's Growth Model. The overall population of Tasman is expected to increase by 7,400 residents between 2024 and 2034, to reach 67,900. The District will experience ongoing population growth over the next 30 years but the rate of growth will slow over time. Based on these assumptions, the Council is planning a further 4,200 dwellings and 13 hectares of business land will be required by 2034.	Growth forecasts are used to determine infrastructure capacity and when that capacity will be required. If actual growth varies significantly from what was projected, it could have a moderate impact on the Council's plans. If growth is higher than forecast, additional infrastructure may be required quicker than anticipated. If growth is lower, the Council may be able to defer the delivery of new or additional infrastructure.

Type	Uncertainties	Assumption	Discussion
Project Timing	Multiple factors affect the actual timing of projects e.g.: ○ Consents ○ Access to and acquisition of land ○ Population growth ○ Timing of private developments ○ Funding and partnership opportunities	That projects will be undertaken when planned.	The risk of the timing of projects changing is high due to factors like resource consents, third party funding, and land acquisition and access. The Council tries to mitigate these issues by undertaking the investigation, consultation and design phases sufficiently in advance of when construction is planned. If delays occur, it could have an impact on the levels of service and the Council's financing arrangements.
Project Funding	The Council cannot be certain that it will receive the full amount of anticipated subsidy or contribution. It depends on the funder's decision making criteria and their own ability to raise funds.	That projects will receive subsidy or third party contributions at the anticipated levels.	The risk of not securing funding varies and depends on the third party involved. If the anticipated funding is not received it is likely that the project will be deferred which may impact levels of service.
Accuracy of Cost Estimates	Project scope is often uncertain until investigation and design work has been completed, even then the scope can change due to unforeseen circumstances. Even if the scope has certainty there can be changes in the actual cost of work due to market competition or resource availability.	That project cost estimates are sufficiently accurate enough to determine the required funding level.	The risk of large underestimation is low; however, the importance is moderate as the Council may not be able to afford the true cost of the project. The Council tries to reduce this risk by undertaking reviews of all estimates and including an allowance for scope risk based on the complexity of the project.
Land Access and Acquisition	Land access and acquisition is inherently uncertain. Until negotiations commence, it is difficult to predict how an owner will respond to the request for	That the Council will be able to secure land and/or access to enable completion of projects.	The risk of delays to projects or changes in scope is high due to the possibility of delays in obtaining access. Where possible, the Council undertakes land negotiations well in advance of construction to minimize delays

Type	Uncertainties	Assumption	Discussion
	access or transfer.		and scope change. If delays do occur, they may affect the level of service that the Council provides.
Legislation Changes	Often Central Government changes legislation to respond to emerging national issues and opportunities. It is difficult to predict what changes there will be to legislation and their implications for the Council.	The Council assumes that it will be affected by changes to Government legislation. However, as the nature of these changes is not known no financial provision has been made for them except where noted elsewhere in the LTP 2024-2034 forecasting assumptions.	The risk of major changes that impact the Council is moderate. If major changes occur, it is likely to have an impact on the required expenditure. The Council has not planned expenditure to specifically mitigate this risk. It may be necessary for the Council to reprioritize planned work to respond to future legislation.
Emergency Reserves	It is impossible to accurately predict when and where a natural hazard event will occur. Using historic trends to predict the future provides an indication but is not comprehensive. The effects of climate change are likely to include more frequent emergency events.	That the level of funding reserves combined with insurance cover and access to borrowing capacity will be adequate to cover reinstatement following emergency events.	Funding levels are based on historic requirements. The risk of requiring additional funding is moderate and may have a moderate effect on planned works due
Network Capacity	The Council uses a combination of as built data, network modelling and performance information to assess network capacity. The accuracy of the capacity assessment is based on the accuracy of asset and performance data.	That the Council's knowledge of network capacity is sufficient enough to accurately programme works.	If the network capacity is higher than assumed, the Council may be able to defer works. The risk of this occurring is low, however it should have a positive impact on the community because the level of service can be provided for longer before requiring additional capital expenditure. If the network capacity is lower than assumed, the Council may be required to advance capital works projects to provide the additional capacity sooner than anticipated. The risk of this

Type	Uncertainties	Assumption	Discussion
			occurring is low, however it could have a significant impact on expenditure.
Climate change	Continued greenhouse gas emissions will cause further warming and changes in all parts of the climate system. The level of continued emissions of greenhouse gases and the effectiveness of worldwide efforts to reduce them are not known. The full extent of the impacts of climate change and the timing of these impacts are uncertain.	The Council uses the latest climate predictions that have been prepared by NIWA for the Tasman District. The Council assumes that it is not possible to reduce the mid-century warming, due to the amount of carbon dioxide already accumulated in the atmosphere–i.e. that the projections for mid-century are already 'locked in'. As a consequence of climate change, natural disasters will occur with increasing frequency and intensity. The weather-related and wildfire events the District has experienced in recent years are consistent with predictions of climate change impacts. For low lying coastal land there will be increasing inundation and erosion from sea level rise and storm surge. Adaptation can help reduce our vulnerability and increase our resilience to natural hazards. It is assumed that sea levels will continue to rise and are likely to rise at an accelerated rate over time. Our plans assume a sea level rise (SLR) of up to 0.32m by 2050, 0.9m by 2090 and 1.66m to 2130 and 2.02m by 2150 (metres above 1995-2014 baseline), in line with the	It is likely that risk of low lying land being inundated from the sea, and damage to the Council property and infrastructure from severe weather events, will increase. The Council will need to monitor the level of sea level rise and other impacts of climate change over time and review its budgets, programme of work and levels of service accordingly. The Council will continue to take actions to mitigate its own greenhouse gas emissions, to work with the community on responses to climate change and show leadership on climate change issues.

Type	Uncertainties	Assumption	Discussion
		Ministry for the Environment's Coastal Hazards and Climate Change Guidance (2017). For coastal subdivisions, greenfield developments and major new infrastructure, we are planning for 1.9m SLR based on the RCP8.5H+ scenario set out in the Ministry for the Environment guidance (2017).	

Appendix F Data Types and Information Systems

Table F-1: Data Types and Information

Data Type	Information System	Management strategy	Data Accuracy	Data Completeness
As-built plans	DORIS (Digital Office and Record Information System)	As-built plans are uploaded to DORIS, allowing digital retrieval. Each plan is audited on receipt to ensure a consistent standard and quality.	2	2
Asset condition	Confirm	Assets are inspected by a consultant or staff and the inspection information is entered directly into Confirm using the Connect mobile application.	N/A	N/A
Asset criticality	Confirm	When a new asset is created, the staff will make an assessment on criticality. Criticality of asset can be modified by authorized users should circumstances change.	4	3
Asset description	Confirm/spreadsheets	All assets are captured in Confirms Site and Asset modules, from as-built plans and maintenance notes. Hierarchy is defined by Site and three levels of Asset ID (whole site, whole asset or asset). Assets are not broken down to component level except where required for valuation purposes. It is also possible to set up asset connectivity but this has not been prioritised for the future yet. Detail on some datasets held in spreadsheets relating to Utilities Maintenance Contract 1065; work is in progress to transfer this detail to Confirm as resourcing allows.	2	2
Asset location	Confirm (point data) / GIS (line data)	Co-ordinates for point data completely (NZTM) describe spatial location. Line data links to GIS layers that describe the shape.	2	2
Asset valuation	Confirm	Valuation of assets done based on data in Confirm and valuation figures stored in Confirm.	2	2

Data Type	Information System	Management strategy	Data Accuracy	Data Completeness
Contract payments	Confirm	All maintenance and capital works contract payments are done through Confirm. Data on expenditure is extracted and uploaded to NCS.	N/A	N/A
Contractor performance	Confirm	Time to complete jobs is measured against contract KPIs through Confirms Maintenance Management module.	N/A	N/A
Corporate GIS browser	Local Maps (Tasman ArcGIS Portal)	Selected datasets are made available to all Council staff through this internal GIS browser via individual layers and associated reports.	N/A	N/A
Customer service requests	Customer Services Application / Confirm	Customer calls relating to asset maintenance are captured in the custom-made Customer Services Application and passed to Confirm Enquiry module or as a RAMM Contractor Dispatch.	N/A	N/A
Environmental monitoring / testing	Hilltop / spreadsheet	Laboratory test results performed on monitoring and testing samples (from treatment plants and RRCs) are logged direct into Hilltop via an electronic upload from the laboratories. Due to historical difficulties in working with Hilltop data, it is duplicated in spreadsheets.	2	2
Financial information	NCS Database	The Council's corporate financial system is NCS, a specialist supplier of integrated financial, regulatory and administration systems for Local Government. Contract payment summaries are reported from Confirm and imported into NCS for financial tracking of budgets. NCS also holds Water billing information, while asset details and spatial component are recorded in Confirm and cross-referenced.	N/A	N/A
Infrastructure Asset Register	Spreadsheet	High-level financial tracking spreadsheet for monitoring asset addition, disposals and depreciation. High-level data is checked against detail data in the AM system and reconciled when a valuation is performed.	2	2

Data Type	Information System	Management strategy	Data Accuracy	Data Completeness
Forward planning	Spreadsheets, GIS Mapping	Forward programmes for Council's activities are compiled in excel, These are loaded onto GIS based maps for information and in order to identify clashes and opportunities.	N/A	N/A
Growth and Demand Supply	Growth Model	A series of linked processes that underpin Council's long term planning, by predicting expected development areas, revenues and costs, and estimating income for the long term.	2	2
Hydraulic modelling	Infoworks / DHI Software /Waterride	Models have been developed for a number of schemes and catchments. Copies of the models are held on the Council's network drives. Except Waterride Files which are currently (2024) on an external drive.	2	4
Maintenance history	Confirm	Contractor work is issued via Confirms Maintenance Management module. History of maintenance is stored against individual assets. Prior to 2007 it was logged at a scheme level.	2	2
Photos	Network drives / DORIS (Digital Office and Record Information System)	Electronic photos of assets are mainly stored on the Council's network drives.	N/A	N/A
Processes and documentation	Promapp	Promapp is process management software that provides a central online repository where Council's process diagrams and documentation is stored. It was implemented in 2014 and there is a phased uptake by business units.	2	5
Resource consents and consent compliance	NCS	Detail on Resource Consents and their compliance of conditions (e.g. sample testing) are recorded in the NCS Resource Consents module.	2	2
Reports	Confirm Reports	Many SQL based reports from Confirm and a few from RAMM are delivered through Confirm Reports. Explore	N/A	N/A

Data Type	Information System	Management strategy	Data Accuracy	Data Completeness
		Tasman also links to this reported information to show asset information and links (to data in DORIS and NCS).		
Tenders	GETS (NZ Government Electronic Tendering Service)	Almost all New Zealand Councils use this system to advertise their tenders and to conduct the complete tendering process electronically.	N/A	N/A

Table 25: Data Accuracy and Completeness Grades

Grade	Description	% Accurate
1	Accurate	100
2	Minor Inaccuracies	+/- 5
3	50 % Estimated	+/- 20
4	Significant Data Estimated	+/- 30
5	All Data Estimated	+/- 40

Grade	Description	% Complete
1	Complete	100
2	Minor Gaps	90 – 99
3	Major Gaps	60 – 90
4	Significant Gaps	20 – 60
5	Limited Data Available	0 – 20