

# 2018 - 2048

# INFRASTRUCTURE STRATEGY

Supporting Document for Long Term Plan Consultation Document 2018-28



**NAPIER**  
CITY COUNCIL  
*Te Kaunihera o Ahuriri*

# CONTENTS

<b>Executive Summary</b> .....	<b>1</b>
<b>Introduction</b> .....	<b>2</b>
2.1 Purpose	2
2.2 Strategy Layout	2
2.3 Napier City Council Strategic Assets	3
<b>What is Napier City</b> .....	<b>3</b>
3.1 Context	3
3.2 Linkage with other documents	6
<b>What Assets Do We Have and What Are They Used For</b> .....	<b>8</b>
4.1 Transportation	8
4.2 Three Waters	9
4.3 Open Spaces: Parks & Reserves and Sportsgrounds	12
4.4 Buildings and Property	14
<b>Anticipating the Future</b> .....	<b>15</b>
5.1 Assumptions	15
5.2 Population Growth	15
5.3 New Technologies	17
5.4 Changing Government Priorities and Legislative Environment	19
5.5 Climate Change	19
5.6 Seismic Impacts	20
5.7 Infrastructure Resilience	21
<b>Organisation wide challenges relating to Infrastructure</b> .....	<b>22</b>
6.1 Sustainability of Levels of Service	23
6.2 Capacity of Organisation to Deliver Capital Projects	24
6.3 Environmental Sustainability	24
6.4 Accessibility to City services for all	25
6.5 Development of south-eastern suburbs	25
6.6 Provision of retirement and social housing	25
<b>Thirty Year Strategy</b> .....	<b>25</b>
7.1 The Organisation's Priorities for Managing of Its Assets	25
7.2 Asset and Service Management Strategy	26
7.3 Cost Effective Delivery of Services	26
7.4 Assessing Resilience Needs	27
7.5 Evidence Base	27
8.1 Transportation	30
8.2 Three Waters	34
<b>Financial Estimates and Impacts</b> .....	<b>57</b>
9.1 Total Expenditure	58
9.2 Financial Impacts of the Infrastructure Strategy	60

# 1. Executive Summary

Napier is a compact urban city on the east Coast of New Zealand. This 30-year strategy covers the city's main strategic assets of Transportation, Water Supply, Wastewater, Stormwater, Parks, Reserves and Buildings.

This strategy builds on the previous strategy prepared in 2015 and, in particular, it reflects a change from the traditional approach, where a small group of experts applied their knowledge within their area of expertise to determine what needed to be done, to a collaborative and strategic approach across the entire council organisation.

Considerable asset knowledge has been built up over time. The new approach is now adding a new, more disciplined approach to the collection and analysis of asset data and this is enabling the previous knowledge and asset assumptions to be reviewed and challenged in order for Council to take a more strategic approach to its asset planning and work programming. In addition this strategy recognises that additional work is needed to better understand the possible impacts of climate change and natural disasters so that this can be incorporated into the city's network planning.

The previous 2015 Strategy identified that, in general, Napier's assets are in good condition. A 2014 asset lifecycle report by Waugh consultants on transportation and the three waters, found that Council had no observable backlog of renewals and that the City's assets were able to deliver the current levels of service. The renewals levels for wastewater, water, and stormwater were not expected to require any substantial increase until 2030. Council has its own internal depot that provides operational support and knowledge around its network, and has condition assessment information on the network through the use of CCTV cameras over time.

The asset portfolio is in a condition that exceeds expectations based on the relative age of assets and the performance of infrastructure is very good. This is evidenced by recent historical extensions of expected lives driven by condition assessments at that time and subsequent to that. This is also evidenced in terms of sound network performance and low network failure rates and that we consistently meet DIA performance measures. Council has only incurred one significant wet weather wastewater overflow over the last 10 years. The roading network condition statistics for smooth travel are above the national average and demonstrate very good condition. As a result of the Havelock North water Inquiry, and proposed changes to the NZ Drinking Water Standards, Council have responded with a comprehensive programme of work including treatment of the Napier water supply.

Sufficient funding has been provided in Council's 2018-28 LTP to meet the asset expenditure requirements in this strategy and Council's Financial Strategy ensures that Council has the capacity to fund the asset expenditure needs in years 11 to 30 in this strategy

The initial years of this strategy propose an emphasis on improving the organisations asset management practices to enable a more strategic approach to be taken to forward planning for expenditure on the city's network assets. This will ensure that each individual project will provide council with the best long-term value and will contribute towards the most efficient overall network performance.



## 2. Introduction

This is Napier City Council's second Infrastructure Strategy. It has been prepared from Council's 2018 suite of underlying documents including the Activity Management Plans and the Long Term Plan of which it forms a part.

Recent events in New Zealand including earthquakes, water borne illness, and health and safety requirements has heightened the awareness and interest in the quality of infrastructure services provided by Councils. As a result, resilience, future-proofing, and levels of service expectations.

Napier City is responding as quickly as possible to the change in service requirements, and undertaking reviews of the performance of its networks as part of this process. We are focused on ensuring our infrastructure services meet both current and future requirements.

This approach is evidenced by Council's proactive implementation of Water Safety projects that have been developed in response to the Havelock North Water Inquiry

and the legislative changes that are anticipated as a result of that process.

The issues discussed within this document reflect the current legislative environment and the communities' priorities across the city.

The financial forecasts are estimates and while the reliability of the forecasts

decreases beyond ten years, they are indicative of current thinking within Council and of the direction in the medium to long term

### 2.1 Purpose

The Infrastructure Strategy is a legislative requirement under the 2014 amendments to the Local Government Act 2002. The aim of the strategy is to identify:

- the key infrastructure issues facing the Council,
- the implications of the identified issues, and
- the principal options for managing these issues.

### 2.2 Strategy Layout

Strategy Section	LGA 2002 (Section 101B)
1 Executive Summary	
2 Identifies the purpose of the Infrastructure Strategy and the core infrastructure included in this strategy	2(a) and 6
3 Describe the district/city and illustrate the linkage between strategic documents	2(a)
4 Describe the core infrastructure, its condition and performance while recording the significant assumptions, risks and mitigation	2, 3(e), 4 (c) & (d)
5 Discuss the emerging issues that will impact on the core infrastructure assets	3 (b) to 3(e)
6 Discuss Council's response to the emerging issues and the significant decisions to be made during the term of this strategy	2(b), 4(b)
7 Identifies the response options for the significant issues and documents the benefits, cost, when and funding source	2(b); 3(a) to (e) & 4(a) to (c)
8 Identifies the costs associated with the actions proposed	4(a)
9 Discusses the impacts on Council's finances and links to the Financial Strategy	

### 2.3 Napier City Council Strategic Assets

The Napier City Council is a local government authority created and empowered by Act of Parliament (and subsequent amendments). One of its legislated roles, which is endorsed by the Council’s identified Community Outcome: Infrastructure is to provide “Excellence in infrastructure and public services for now and into the future”.

The Council’s Asset Management Policy identifies assets within the scope of ‘asset management’ as:

“All land and improvements owned by council including physical assets such as: property, buildings and associated plant, public toilets, roads, footpaths, bridges, pipes, pumps, water detention and storage facilities, water treatment facilities, parks, reserves, sports grounds, cemeteries, the Inner Harbour physical infrastructure, and Council-owned leases and lease-hold properties.”

The assets described above are essential to the Council’s ability to sustainably deliver important services to the community of Napier City and includes the entirety of the assets listed in the council’s Significance and Engagement Policy.

A summary of the assets are listed in section 3.2.1

**Table 2.1: Napier City Council Strategic Assets**

Asset	Replacement Value	Percentage of Total
Transportation	\$365,452,428	26.6%
3 Waters	\$661,650,890	48.1%
Parks, Reserves & Sportsgrounds	\$168,768,850	12.3%
Strategic Buildings and Properties	\$178,438,030	13.0%
<b>Total</b>		<b>\$1,374,310,198</b>

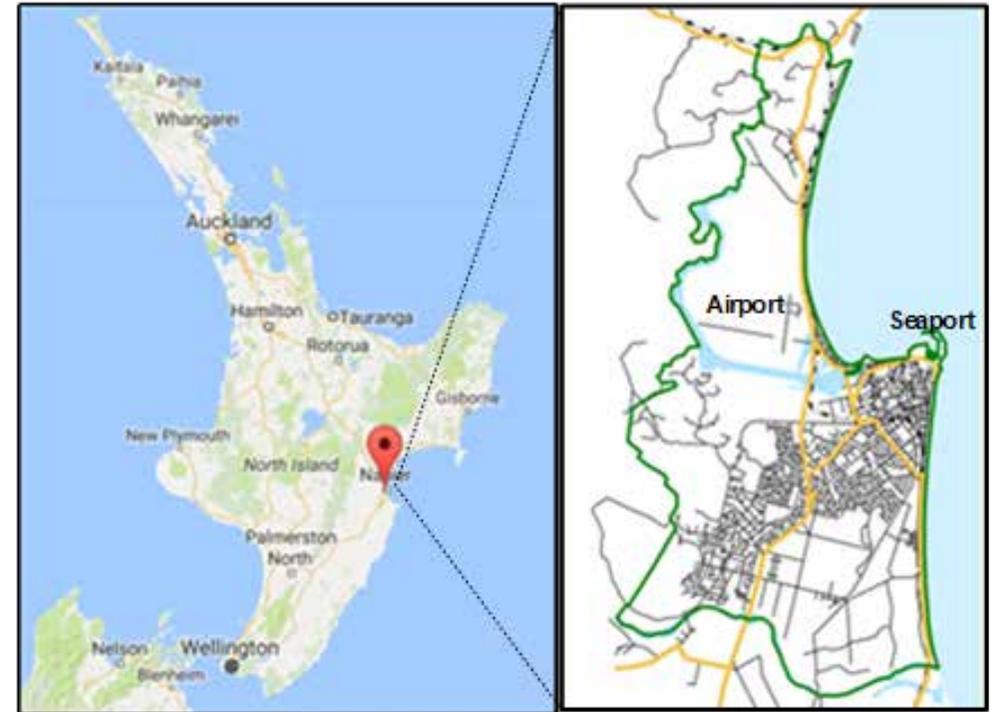
## 3. What is Napier City

### 3.1 Context

#### 3.1.1 Location and Geography

Napier City is situated on the Hawke’s Bay coastline.

**Figure 3.1 Location Map**



Napier encompasses both the seaport and the airport that service the wider Hawke’s Bay and East Coast regions. On the land side it is bounded in all directions by the Hastings District, and both Napier City and Hastings District are located within the area of the Hawke’s Bay Regional Council.

Napier is located in a seismically active area adjacent to the Hikurangi Subduction Zone and has experienced a number of large magnitude large earthquakes in known history. The most recent substantial event was in 1931 which resulted in destruction of large parts of the city and the up-thrust of large areas of the former estuary. This event provided additional land into which the city has grown and on which the airport is now located. The presence of the subduction zone and potential for megathrust earthquakes also poses a known tsunami risk to the City and wider coastal region.

Napier contains suburbs which are built on hill formations including; Hospital and Bluff Hill, parts of western Taradale, Poriati and Heipipi (above Bay View), however

approximately 90% of the city by developed area is low-lying and very flat ranging in elevation from at or just below sea level at in some foreshore suburbs, to about 5m above sea level at the base of the northern and eastern parts Hills. Developments in this flat area are built on a mixture of alluvial gravels, former swamp, and the portion of the former lagoon bed that was lifted in the 1931 earthquake and subsequently drained to convert the swamp to useable land. As such the low lying suburbs not directly adjacent to the waterfront are vulnerable to both ground-water level rise and liquefaction (see Figure 3.3).

Figure 3.3 Ground Level Map

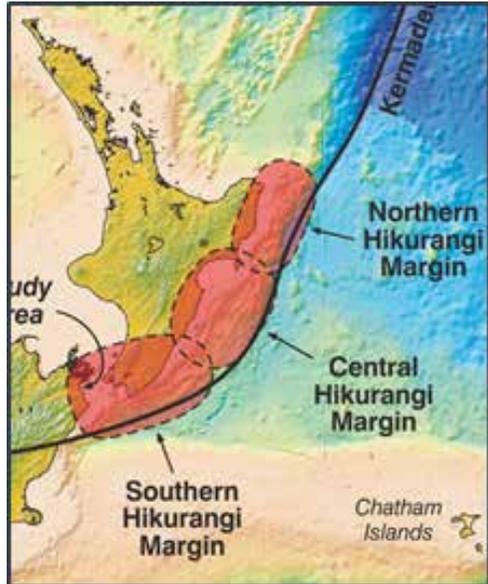
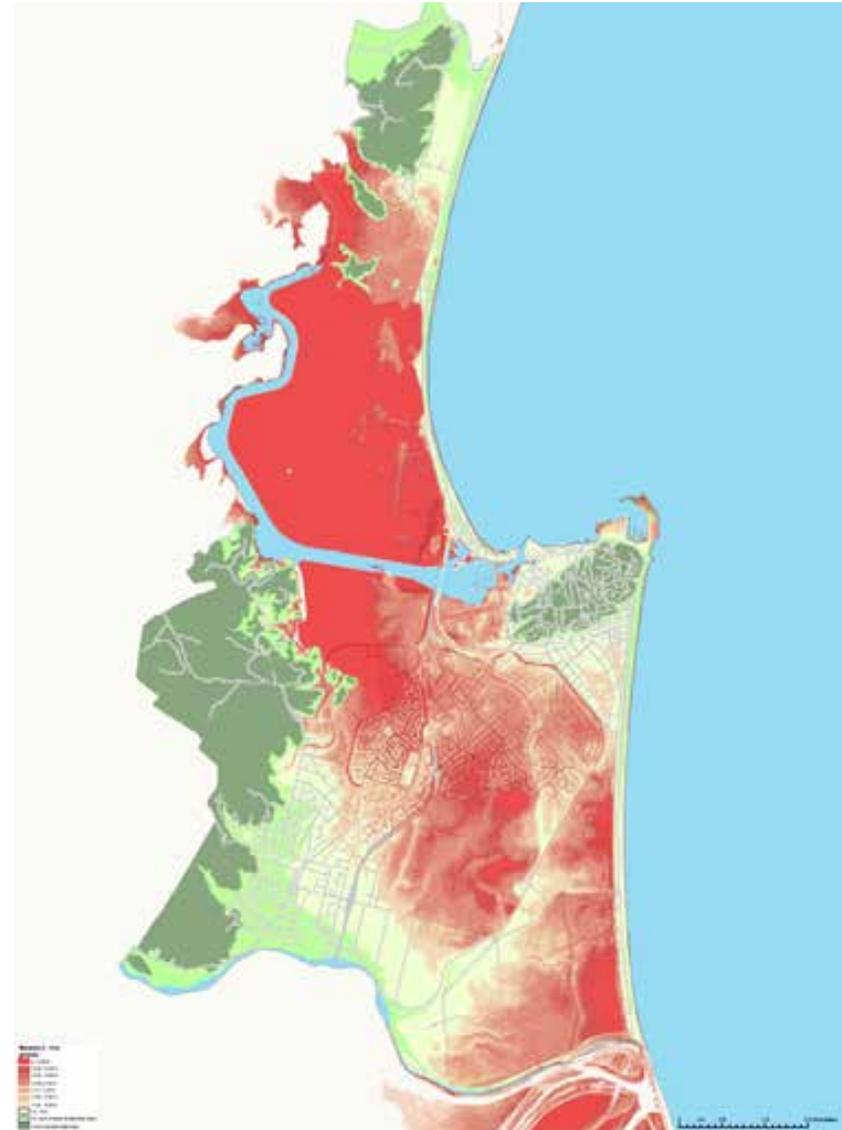


Figure 3.3 illustrates the extent of low lying land in Napier, where mean sea level (sea level at half tide) is set to 10 metres in elevation and the red shaded areas show land up to 12 metres in elevation (i.e. up to 2 metres above mean sea level).



### 3.1.2 Climate

Napier, Hawke’s Bay has a temperate marine coastal climate that is by global standards mild with no dry season, and warm summers. Heavier precipitation occurs during the mild winters which are dominated by mid-latitude cyclonic weather patterns (lows).

The average annual temperature is 14.3 degrees Celsius. Average monthly temperatures vary by 10.3 °C. Total annual Precipitation averages 809.7 mm which is equivalent to 809.7 litres/m<sup>2</sup>. On average, there are 2281 hours of sunshine per year.

	Spring	Summer	Autumn	Winter
Average High	18°C	22.7°C	18.7°C	13.7°C
Average Low	9°C	13.7°C	10°C	4.7°C



### 3.1.3 Population Growth

Napier has experienced a steady level of growth since 2001 increasing in population from 53,661 (2001 census) to 57,240 (2013 census). The 2017 population estimate supplied from the Council’s statistical consultant, Economic Solutions Limited, is 61,100 and is projected to rise to approximately 71,000 by 2048 (an increase of 18.9% over the next 30 years).

A comparison of Napier’s population statistics against national averages:

**Table 3.1**

Population Aspects	Napier	National Average
Average Age	41.6%	38.0%
Greater than 65yrs of age	18.6%	14.3%
Less than 15yrs of age	20.2%	20.4%
Medium income	\$26,000	\$28,500
Income greater than \$50,000	22.1%	26.7%
One family households	65.7%	68.3%
One person households	28.0%	23.5%
Average Household size	2.4 people	2.7 people
Dwellings privately owned	65.6%	64.8%
Average rent	\$260	\$280

### 3.1.3.1 Ethnicity

83.2 percent of people in Napier City belong to the European ethnic group, compared with 74.0 percent for New Zealand as a whole.

19.2 percent of people in Napier City belong to the Māori ethnic group, compared with 14.9 percent for all of New Zealand.

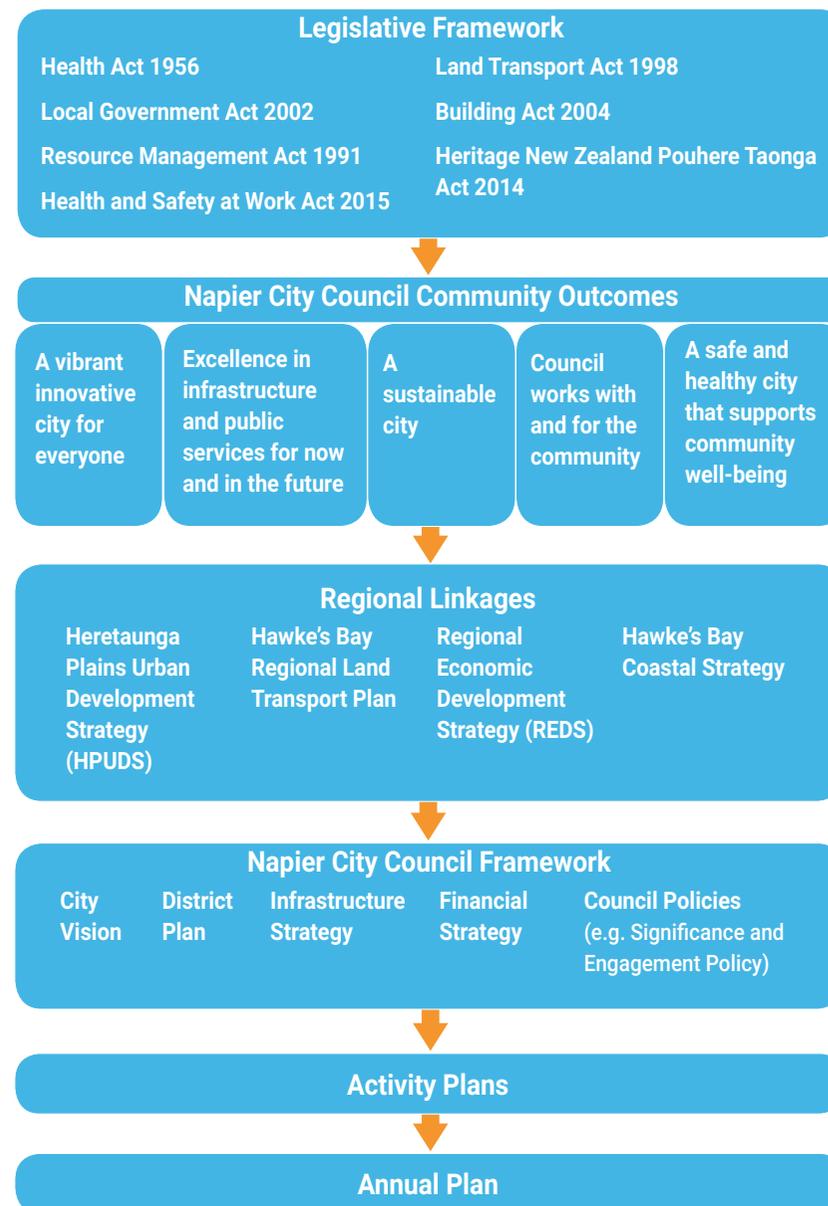
Ethnic groups in Napier City and New Zealand 2013 Census		
Ethnic group <sup>1</sup>	Napier City (%)	New Zealand (%)
European	83.2	74.0
Māori	19.2	14.9
Pacific peoples	3.1	7.4
Asian	3.5	11.8
Middle Eastern, Latin American, African	0.5	1.2
Other ethnicity		
New Zealander	2.1	1.6
Other ethnicity nec*	0.1	0.0
Total other ethnicity	2.1	1.7

<sup>1</sup> Includes all people who stated each ethnic group, whether as their only ethnic group or as one of several. Where a person reported more than one ethnic group, they have been counted in each applicable group. As a result percentages do not add up to 100.

\*Note: nec = not elsewhere classified

Source: Statistics New Zealand

### 3.2 Linkage with other documents



### 3.2.1 Significance and Engagement Policy

The Significance and Engagement Policy provides the criteria to determine significance and the approach to determine the appropriate level of engagement with the Community on matters related to strategic assets. As such it provides an initial guide as to what assets are regarded as important to the City.

The NCC Significance and Engagement Policy identifies the following physical assets to be strategic assets:

Strategic Asset	Link to Outcomes
Share of Hawke's Bay Airport Ltd	Sustainability
Commercial property investments	
Kennedy Park Resort (land only)	
Cemeteries	Health and Well-being
Sewage conveyance, treatment and disposal system, including the sewer network, pump stations and treatment works	
Water supply distribution systems, including reservoirs, pump stations and reticulation	
Land drainage system, including the storm water pipe network, waterways, and retention areas and pump stations	
Refuse transfer station	
Share of Omarunui landfill	
Bay Skate (grandstand only)	
Swimming pool facilities	
Rental housing (as a whole)	Infrastructure
Roading network	
Sportsgrounds and reserves	
Inner harbour	

Strategic Asset	Link to Outcomes
Literary collections held by the Libraries (as a whole)	Vibrancy and Innovation
Marine Parade Attractions (as a whole)	
McLean Park (land and buildings)	
Napier Municipal Theatre (building only)	
MTG Hawke's Bay (building only)	
Napier Conference Centre (building only)	
Napier I-Site (building only)	
National Aquarium of New Zealand	Engagement
Civic Building	



## 4. What Assets Do We Have and What Are They Used For

### 4.1 Transportation

We own, maintain and develop the local transportation network. The city's road network provides accessibility to Napier residents and visitors within a safe, clean and aesthetic environment. The activities within this group include the installation and maintenance

of the physical components; roads, footpaths, traffic and pedestrian bridges and structures, street lighting, drainage, traffic services and safety (e.g. street furniture, traffic lights, signage), as well as the planning, management and amenity and safety maintenance to ensure the system is clean, safe and able to cope with future needs.

The contribution that the Transportation activity and group of assets makes towards Community Outcomes is summarised in the following table.

Community outcomes	Transportation contribution as an Activity	Assets
Excellence in infrastructure and public services for now and in the future	Infrastructure is provided and maintained at optimal whole of life cost. Transportation planning ensures that the network can respond to the future needs of the community and economy	301km of urban roads and footpaths 56km of rural roads
A vibrant, innovative city for everyone	Opportunities for use of transport corridors to provide high quality public space are embraced. Infrastructure is developed to facilitate the sustainable growth of the city and provide safe and convenient access to facilities and services. Council provides on and off street parking facilities to efficiently support economic and community needs	45km of cycle paths 15,607 streetlights 3,400 amenity lights 8 vehicle bridges 10 pedestrian bridges
A safe and healthy City that supports community well-being	Council provides a transport system that is safe and efficient and enables users to move around effectively Provision of safe, accessible facilities and networks for walking and cycling. Provision of infrastructure to support passenger transport services. Effective support for active travel modes provides opportunities for improved health and community connectivity	61 Culverts larger than 900mm in diameter 480km of kerb and channel 5,441 sumps and manholes 1,369 culverts less than 900mm in diameter
A sustainable city	Enabling and supporting environmentally efficient travel modes. Manages stormwater effectively. Minimise the need to travel.	15,822m of traffic islands 6,374 safety barriers and railings
Council works with and for the community	Transport services are planned and provided through meaningful engagement with the community and stakeholders.	5,902 street trees 6,885 street signs 24 bus shelters

## 4.2 Three Waters

### 4.2.1 Drinking Water Supply

Council has a legal obligation under the Health Act 1956 to improve, promote, and protect public health within the City. The Health (Drinking Water) Amendment Act 2007 places a further obligation on Council to comply with the Drinking Water Standards for New Zealand.

Section 11a of the Local Government Act states “that, in performing its role, a local authority must have particular regard to what its core services, including network infrastructure, contribute to the community”.

The Council considers the provision of reliable and safe drinking water to the community as a major contribution to the community’s well-being and the City’s economy.

Water is drawn from the Heretaunga Plains aquifer which has sufficient capacity to supply present and next 30 year demand in Napier. Water is reticulated to the Napier urban area and to Bay View.

The long term goals Council has identified for this activity are:

- Provide and maintain an adequate and safe supply of potable water to consumers meeting the New Zealand Drinking Water Standards
- Supply water for fire-fighting purposes
- Provide affordable service to the community.

The contribution that the Water Supply activity and group of assets makes towards Community Outcomes is summarised in the following table.

Community outcomes	Drinking Water Supply contribution	Assets
Excellence in infrastructure and public services for now and in the future	Infrastructure is provided and maintained at optimal whole of life cost. Asset Management Planning ensures that the network can respond to the future needs of the community and economy.	417km of Water Mains 11 Storage Facilities 18 Pumpstations
A vibrant, innovative city for everyone		
A safe and healthy City that supports community well-being	The provision of reliable and safe drinking water to the community. Supply water for fire-fighting purposes.	
A sustainable city	Manage the usage of water, a precious natural resource, to minimise wastage and shortages.	
Council works with and for the community	Water Supply services are planned and provided through meaningful engagement with the community and stakeholders.	



## 4.2.2 Wastewater

Under the Local Government Act 2002, the Resource Management Act 1991 and the Building Act 2004, Council is obliged to provide a sewerage service, which collects, transports and disposes of household wastewater.

Council aim to protect human health and the environment and are best placed to provide this ‘public good’ service. Section 11a of the Local Government Act states “that, in performing its role, a local authority must have particular regard to what its core services, including network infrastructure, contribute to the community”.

The Council considers the provision of safe, effective and efficient domestic sewage collection, treatment and disposal system as a major contribution to the community’s well-being and the City’s economy.

The long term goals the Council has identified for this activity are:

- To provide and maintain an adequate wastewater collection, treatment and disposal system
- To protect community health
- To minimise adverse environmental effects



The contribution that the Wastewater activity and group of assets makes towards Community Outcomes is summarised in the table below.

Community outcomes	Wastewater contribution	Assets
Excellence in infrastructure and public services for now and in the future	Infrastructure is provided and maintained at optimal whole of life cost. Asset Management planning ensures that the network can respond to the future needs of the community and economy.	
A vibrant, innovative city for everyone	Enabling businesses and industries to grow by providing safe disposal of trade waste.	380km of Wastewater pipes 44 pumpstations
A safe and healthy City that supports community well-being	Minimising the health risk to the community by safe collection, treatment and disposal of wastewater.	Milliscreen Plant Treatment Facility 1.5km Marine Outfall
A sustainable city	Minimising the risk of wastewater overflows into the environment.	
Council works with and for the community	Wastewater services are planned and provided through meaningful engagement with the community and stakeholders.	

### 4.2.3 Stormwater

Council have a statutory responsibility to ensure stormwater is managed through ownership and management of its own stormwater drainage network. Council are the only viable provider of this 'public good' service for the well-being of the community.

Council provide and maintain a stormwater disposal system for Napier with the aim to minimise the effects of flooding. The system, serving approximately 97% of the city's population, consists of open drains, stormwater mains and pump stations with about 75% of Napier reliant on pumped systems for stormwater drainage.

The long term goals the Council has identified for this activity are:

- Provide and maintain an adequate stormwater system
- Protect community health and property
- Minimise adverse environmental effects



The contribution that the Stormwater activity and group of assets makes towards Community Outcomes is summarised in the following table.

Community outcomes	Stormwater Services contribution	Assets
Excellence in infrastructure and public services for now and in the future	Infrastructure is provided and maintained at optimal whole of life cost. Asset Management Planning ensures that the network can respond to the future needs of the community and economy.	222km of pipes and culverts
A vibrant, innovative city for everyone	Enabling new developments by providing flood protection and stormwater disposal facilities	4,818 manholes
A safe and healthy City that supports community well-being	Minimising the health risk to the community by safe collection, treatment and disposal of stormwater.	2 detention dams 46km of open waterways
A sustainable city	Providing controlled disposal of stormwater minimising pollution of receiving environments.	10 Pumpstations
Council works with and for the community	Stormwater services are planned and provided through meaningful engagement with the community and stakeholders.	

### 4.3 Open Spaces: Parks & Reserves and Sportsgrounds

#### 4.3.1 Parks & Reserves

The Reserves portfolio of Napier City exists to enhance the quality of life of Napier's citizens, by providing high quality passive and recreational facilities throughout the city.

Napier is fortunate to have a wide range of parks, reserves and public gardens

uniformly located throughout the urban environment. The Reserves assets support a large number of tourism events and local events, delivering highly maintained grounds and gardens ranging in location from coastal foreshore to formal botanical gardens.

The contribution made by the Parks and Reserves activity and group of assets towards Community Outcomes is summarised in the following table.

Community outcomes	Parks and Reserves contribution	Assets
A vibrant innovative city for everyone	Provision and promotion of a wide range of quality facilities and attractions Council provides a sufficient number and range of safe parks and reserves to satisfy the needs of the community	
Excellence in infrastructure and public services for now and in the future	Facilities and infrastructure will support community and visitor needs, focussing on excellent service and accessibility Provision of water, sewer, stormwater and building infrastructure which supports excellent service delivery of core services within parks and reserves.	46 Greenbelt Reserves 36 Neighbourhood Reserves 9 Foreshore Reserves
A sustainable city	Our natural resources are renewed and enhanced. Council sustainably manages the development and use of reserves as a natural recreational resource for both local residents and visitors	9 Public Gardens
A safe and healthy City that supports community well-being	Council sustainably manages the development and use of reserves as a natural recreational resource for both local residents and visitors The provision of services and facilities which support social and recreation opportunities.	32 Playgrounds



### 4.3.2 Sportsgrounds

Council provides and maintains 15 sports grounds throughout Napier equating to an area of 213 hectares of land set aside for sports purposes across the city.

Napier's sports grounds range from facilities of regional and national significance; for example, McLean Park, Nelson Park and Park Island, to grounds principally serving local club demand; for example, Petane War Memorial Reserve, Bledisloe Park and Whitmore Park.

The Sportsgrounds portfolio of Napier City exists to enhance the quality of life of Napier's citizens, by providing high quality sport and recreational facilities throughout the city.

Napier's sportsgrounds range from facilities of regional and national significance to grounds principally serving local club demand. Council's sports grounds and associated facilities provide for the majority of the city's sporting demand, although increasing pressure from population growth, diversification of sport, crossover between seasons and more extreme weather events is making it increasingly challenging to meet all demands.

In a rapidly changing local sports environment, and a highly competitive market for major events, Council needs to be nimble in its response to pressure points and changes in demand. Council's provision of sports facilities needs to respect traditional aspects of sport (for example, club structures), while ensuring decisions now are sufficiently flexible to respond to changing future demand.

The contribution that the Sportsgrounds activity and group of assets makes towards Community Outcomes is summarised in the following table.

Community outcomes	Sportsgrounds contribution	Assets
A vibrant, innovative city for everyone	<p>Council provides and promote a wide range of quality sports grounds, facilities and attractions.</p> <p>Council provides a sufficient number and range of sports and recreation facilities to satisfy the needs of the community</p>	
Excellence in infrastructure and public services for now and in the future	<p>Facilities and infrastructure will support community and visitor needs, focussing on excellent service and accessibility</p> <p>Provision of water, sewer, stormwater and building infrastructure supporting excellent service delivery of core services.</p>	<p>15 Sportsgrounds, including 2 premier sports facilities:</p> <ul style="list-style-type: none"> <li>- McLean Park</li> <li>- Park Island</li> </ul>
A safe and healthy City that supports community well-being	<p>Council provides services and facilities which support social and recreation opportunities.</p> <p>Provision of a wide range of sports and recreation facilities to meet community needs.</p> <p>Programmes to encourage the use of social and recreational facilities are provided.</p>	<p>13 neighbourhood sports grounds</p>
A sustainable city	<p>Enabling and ensuring the development and use of sportsgrounds are environmentally sustainable.</p>	

## 4.4 Buildings and Property

### 4.4.1 Buildings

The building assets consists of 85 buildings, 374 rental units, 7 Memorials, 12 pools and various plant and equipment.

Napier city has an extensive portfolio of properties and buildings used to accommodate staff and to provide services to residents and visitors. This Activity comprise the owning and managing of the property and building assets on behalf of the community of Napier City. The Activity ensures that the buildings are maintained for their specific purposes throughout their life cycle.

Community outcomes	Buildings and Property contribution	Assets
Excellence in infrastructure and public services for now and in the future	Efficient and effective property management to provide buildings that are safe to use, accessible and well maintained and support housing with a focus on retirement and social need that is supportive of resident health and well-being.	Buildings, grounds and facilities relating to:
A vibrant, innovative city for everyone		Refuse Transfer Station
A safe and healthy City that supports community well-being	Provision of technical expertise to guide the future development of the B&P estate to deliver outcomes in the most effective means possible.	Lagoon Farm, McLean Park
A sustainable city	The Building Asset Management Team provide a Core service to ensure buildings are safe to use, accessible and well maintained through good Facilities Management practices.	Wastewater Treatment Plant (buildings only) Soundshell, Colonnade and Veronica Sunbay.
	As part of ongoing improvement program to move through Intermediate to Advanced servicing, the building team will develop sustainability initiatives and implementation.	Swan Memorial Colonnade Bay Skate, Austin Street Depot, Taradale Library. Napier Aquatic Centre, Marine Parade Pools, Austin Street Dog Pound, National Aquarium of NZ, Par2 Mini Golf, Napier Conference Centre,
Council works with and for the community	As described above	Napier Municipal Theatre, Napier i-Site Kennedy Park Resort Faraday Centre – Leased Buildings MTG Buildings Napier Public Library 9 Halls/ Sports Centres Retirement Village 376 Residential Rental Units

## 5. Anticipating the Future

### 5.1 Assumptions

In order to plan for the long term it is imperative to make assumptions about various aspects in the future. The significant assumptions made about the future form an important part of the planning framework.

Schedule 10 of the Local Government Act 2002 requires that the Council identifies the significant forecasting assumptions and risks underlying the financial information set out in the LTP. Where there is a high level of uncertainty the Council is required to state the reason for that level of uncertainty and provide an estimate of the potential effects on the financial assumptions. The level of uncertainty is determined by reference to both the likelihood of occurrence and the financial materiality.

The significant planning assumptions are listed in Appendix A.

### 5.2 Population Growth

Projected total City population growth over the ten years of the LTP is 3,750 (5.98%). The projections are halfway between Medium and High Statistics NZ projections.



Year (ending 30 June)	Total Napier City	Annual Growth Rate
2018	62,700	
2019 (year 1 of LTP)	63,100	0.64%
2020	63,500	0.63%
2021	63,900	0.63%
2022	64,300	0.63%
2023	64,700	0.62%
2024	65,050	0.54%
2025	65,400	0.54%
2026	65,750	0.54%
2027	66,100	0.53%
2028	66,450	0.53%
Projections for years 11 to 30		
2033	67,950	0.45%
2038	69,050	0.32%
2043	70,000	0.27%
2048	70,900	0.26%

Variations in the projected population growth will impact the growth of households and the demand for community facilities over time. Changes may require acceleration or slow-down of growth related projects. Council's Financial Strategy outlines how such projects are to be funded. Impacts on individual ratepayers will not be significant unless growth is significantly above that forecast.

Any impacts from the changing demographics of Napier's population during the term of this LTP is not considered significant.

Napier's population will also continue to age and ethnic diversity will increase.

The projected total City household growth over the next ten years is 1,800 (7.03%) The projections are halfway between Medium and High Statistics NZ projections.

Year (ending 30 June)	Total Household Numbers	Development Split		
		Infill	Greenfield	Rural
2018	25,600	20,095	4,670	835
2019 (year 1 of LTP)	25,790	20,177	4,773	841
2020	25,980	20,258	4,875	846
2021	26,170	20,340	4,978	852
2022	26,360	20,422	5,080	858
2023	26,550	20,504	5,183	864
2024	26,720	20,577	5,275	869
2025	26,890	20,650	5,367	874
2026	27,060	20,723	5,458	879
2027	27,230	20,796	5,550	884
2028	27,400	20,869	5,642	889
Projections for years 11 to 30				
2033	28,150	21,192	6,047	912
2038	28,600	21,385	6,290	925
2043	29,200	21,643	6,614	943
2048	29,550	21,794	6,803	954

Based on historic data and the growth assumptions in this LTP an allowance of 0.30% per annum has been included for additional rates revenue as a result of growth in the rating base.

It is possible that the rate of growth will differ materially from the above projections. This would impact the revenue from Development Levies/ Financial Contributions and Consents.

Council will carefully monitor growth and adjust the timing of growth related projects based on revised market demand and revenue timing. The financial implications are largely mitigated by Council's policies for the funding of growth.

The current level of growth is evident in subdivision developments occurring including those in Te Awa and multiple sites in the Western Hills near Puketitiri Road and Puketapu Road. These developments are being serviced by the existing infrastructure

networks with no immediate risk to continued levels of service. Various network models currently being developed and/or updated will inform Council on the impacts of future development on these networks.

### 5.2.1 HPUDS Updated Projections and Forecasts 2015 – 2045

Napier City Council is a participant of the Heretaunga Plains Urban Development Strategy (HPUDS) which has shaped its approach to managing urban growth since the adoption of this regional strategy by the Council in 2010.

HPUDS considers the following growth drivers and the relative demands they place on land in both Hastings and Napier:

- Commercial and Industrial
- Retirement sector
- Rural Residential development
- Urban residential development
- Intensification (infill)
- Affordability and sustainability

In the move towards more compact urban form for the Heretaunga Plains sub-region, an increasing proportion of the residential growth has been identified to take place through intensification, by redevelopment within existing residential and rural residential areas,

Development is expected to transition from current development allocation levels to the following by 2045:

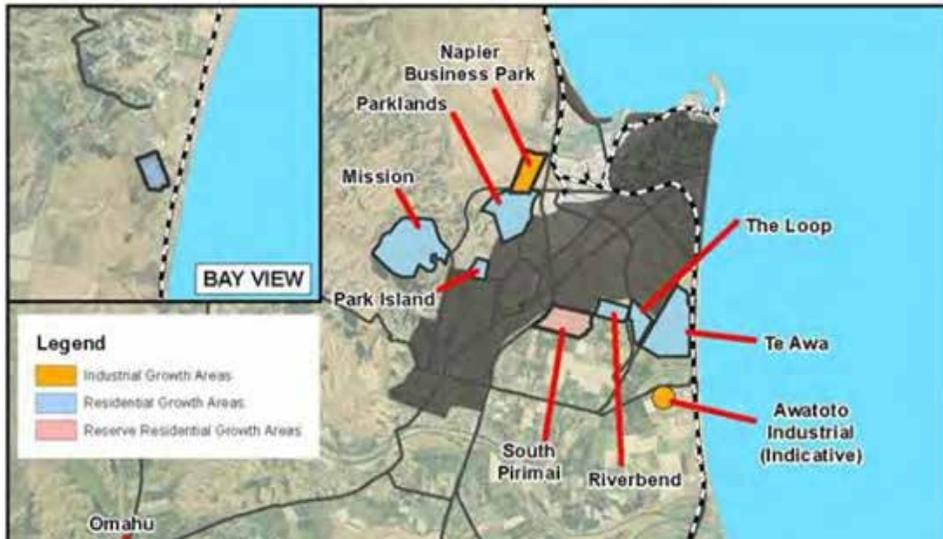
- a) 60% intensification (10 – 20% intensification of brownfields)
- b) 35% greenfield
- c) 5% in rural areas.

To achieve the intensification targets above, HPUDS aspires to a general residential density target of 15 households per hectare for greenfields/suburban development,

and 20-30 households per hectare for intensification areas by the end of the Strategy period.

During this period the majority of new greenfield developments have been limited to the areas indicated in Map 3 below (note that this does not include greenfields sites already within the urban boundary which are not included in HPUDS).

*Map 3 Heretaunga Plains Settlement Pattern*



Emerging Issues to be investigated in the near future including liquefaction potential, Sea Level Rise and related impacts on Ground Water levels and affordability/sustainability considerations will all inform future revisions of HPUDS.

### 5.2.1.1 Understanding growth impacts on the 3-Waters and Transport Networks

As residential and commercial greenfield developments continue in line with the HPUDS, and greater amounts of infill are also sought in established suburbs, increasing demands will be placed on the 3-waters and Transportation networks.

Although there is no immediate risk to services, in order to understand the impacts

of future connections and what infrastructure upgrades will be required to facilitate growth, an improved set of 3-water network models are being acquired.

Funding has been allocated in the first year of the LTP for this important addition to Council's network planning toolkit.

The output of the new models will then focus the effort over the two-to-four year time frame to determine where the critical points are on the networks most in need of renewal or upgrade in order to facilitate the planned development of the city.

The new models when complete will also allow for:

- Enhanced level of detail over traditional methods
- Faster response to complex service queries from major developers
- Ability to do rapid scenario planning enhancing planning for critical assets and resilience
- Improved communication through diagrams, graphs and charts of technical information

Council's Transport Network model is currently being upgraded to better understand the impacts of planned growth on the Transportation network.

The aspects of resilience, future-proofing, and potentially changing levels of service expectations will also need to be considered when assessing the performance of Transportation and 3 waters networks, to ensure that infrastructure services meet both current and future requirements.

In addition to the above population related growth, Tourism related growth is also expected to drive additional demand for Council's infrastructure related services. As with other Councils including Auckland and Wellington, Napier City Council will investigate opportunities to fund growth within the sector e.g. an accommodation bed levy, over the next 3 years.

### 5.3 New Technologies

Popular and main stream discussion around new technologies suggest that there will be a considerable social shift over the coming years as emerging and future technologies affect what work is done, how it is done, and then how this flows on to

affect economic and social paradigms. A variety of studies have been carried out but as yet no definitive guidance is available as to what the future may hold or when any changes might occur, or how the City intends to respond to the various scenarios. Consideration of the following issues should be clearly articulated as part of the City's strategic development plan.

### **5.3.1 Transportation**

Technologies such as electric driverless vehicles have potential to alter transport patterns, particularly if coupled with an 'on demand' service models such as Uber and an increase in social tolerance to ride-sharing and automated route optimisation.

The increasing uptake of 'smart', connected technology in vehicles will enable a far greater understanding of travel behaviours including route choice, trip purposes, journey times and responses congestion and weather. Such data, if made available, may facilitate much more informed decision making for maintenance and capital investments in the network.

### **5.3.2 Workplace and Marketplace**

It is possible that the coming decades will see a continuance of a shift toward intellectual service economies and the associated workers offering services to multiple employers as opposed to the traditional model of working for one organisation. It is also being proposed that the historical concept of organisations owning dedicated large central workplaces / office spaces will potentially be replaced by small satellite office spaces operating in partnership with other organisations on a time-share basis and / or an increase in 'work-from-home' type arrangements.

In the retail and public services sector the economic commentary is also suggesting a shift away from physical face-to-face interactions for many transactions and services towards an on-line model (e.g. for banking services, routine administration tasks, and routine purchases).

This suggests that the traditional concept of the CBD is coming under pressure to evolve toward a new use for traditional 'brick and mortar' outlets as they seek to redefine their relevance to emerging future workplace and commercial trends. This brings an associated shift in the concept of the traditional city model economy of a CBD surrounded by industrial areas supported by urban residential satellites suburbs.

Future investment in infrastructure is going to require consideration of a need to facilitate and encourage ongoing commercial and retail activity within existing parts of the city while managing any pressures to increase accessibility of shared communal work places and conveniences in the satellite hubs about town.

It is not the role of this strategy to determine the likelihood of these changes, however future infrastructure planning needs to inform and be informed by the District Plan and associated city planning inputs such as City Vision and a number of yet to be developed Community strategies.

### **5.3.3 Waste Diversion**

Advances in green technology to assist with diverting solid waste from landfills towards other uses such as recycling or energy production mean the costs of such diversion is steadily declining. At the same time the costs of constructing and monitoring landfill sites to increasingly higher environmental standards keeps increasing. If this trend continues it is likely that diversion (recycling or alternative disposal such as energy generation or composting) is likely to become the preferred approach for waste management as reducing waste to landfill will achieve the lowest cost through extending the useful life of the landfill.

As a contributing shareholder to the Hawke's Bay landfill, Napier City Council should maintain an awareness of the relative costs and benefits of landfills versus alternative streams and potentially seek to partner with suitable organisations when it appears cost effective to process solid waste in a more sustainable manner.

### **5.3.4 Three Waters**

The traditional concept of city wide networks collecting and treating wastewater is now being challenged by new approaches. The improving economics and environmental outcomes able to be achieved by smaller local or on-site treatment facilities embedded throughout the urban area as opposed to a single large treatment facility also increase the overall network redundancy and thus reliability and resilience.

While these approaches are currently being applied in smaller scales in smaller urban or semi-rural contexts, or in sectors such as the maritime sector, the principles are transferable and it is only a question of if and when the economics make these approaches viable in larger scale format suitable for deployment as part of a city network.

These options could be further explored for large scale greenfield developments, as opposed to conveying to a centralised treatment facility. There is a potential for Napier to utilise on-site rainwater and grey water catchment and reticulation, and local area stormwater and wastewater treatment to manage future demand for 3-waters services and associated costs and environmental benefits.

The Council will explore the available low cost green infrastructure solutions to promote stormwater management in new developments and incorporate these solutions in public stormwater system where practicable. Green infrastructure concept is; interconnected network of open spaces and natural areas, such as greenways, wetlands, parks, forest preserves and native plant vegetation, that naturally manages stormwater, reduces flooding risk and improves water quality

### **5.3.5 Community Recreation**

As population growth continues, it is possible that increasing pressure will be placed on the use of existing open spaces to accommodate this growth.

Synthetic and hybrid turf technology has made significant advances in recent years in response to a shift in the ways sports are now being played. This technology will enable more games to be played on the same ground without compromising the quality of the playing surface. Council's development of McLean Park and Park Island Sporting facilities seek to embrace this shift.

This may in term enable more efficient use of existing greenspace but may exacerbate pressure being placed on green space for alternative land use.

Council are currently developing a Parks and Reserves Strategy and will update Reserve Management Plans to ensure a coordinated, contemporary approach to the management and development of Napier's open spaces. This process will include the consideration of emerging technology on a case by case basis.

## **5.4 Changing Government Priorities and Legislative Environment**

Any significant unannounced change in regulatory or legislative environment poses a risk to Council. The only change council is currently in the process of assessing is the change to Financial and Development contributions and how these can be calculated

and collected.

The findings of the Havelock North Water Inquiry are expected to result in legislative changes relating to potable water. Council have already commenced the implementation of a significant programme of work (see section 8.2) in anticipation of these changes and has done so on the basis of having a low tolerance to health risk and taking all reasonable and practicable steps in doing so.

## **5.5 Climate Change**

As a key work stream forming part of the Climate Change Response Project NCC is participating as part of the LGNZ Climate Change Project – Natural Hazards Decision Making Legal Toolkit Working Group to produce a practical toolkit that provides councils with up-to-date resources (legal opinions and guidance notes) to assist them with factoring climate change into, and addressing climate change via, decision making. LGNZ is investigating the ability of local authorities to limit or stop the provision of services and related infrastructure in areas that might be affected by climate change and natural hazards and risks. This is work in progress and will lead into the toolkit.

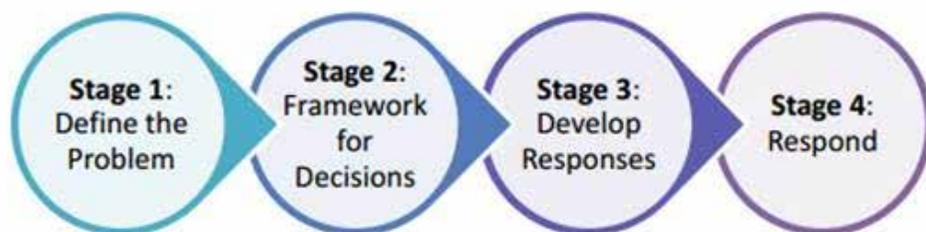
### **5.5.1 Sea Level Rise, Ground Water Rise and Flooding risk**

Although there is still contention about the degree and rate of climate change and the related magnitude and rate of sea level rise, there is a large degree of consensus that both are happening. Sea level rise is addressed as a regional issue in the 'Clifton to Tongio Coastal Hazard Strategy' which identifies a potential 1m sea level rise by 2115 and sets out a methodology for the participant councils to address the issues of foreshore erosion and inundation of adjacent coastal environments.

The Coastal Hazard Strategy has been developed with input from Living at the Edge. Key members of this group were co-authors of the MFE Guidance to local authorities on how to best plan for climate change and particularly the impacts it may have on coastal hazards. The Strategy was developed generally in accordance with this guidance despite it not being officially released until December 2017.

- Coastal Hazards Strategy 2120
- Napier City Council, Hastings District Council and Hawke's Bay Regional Council together with local Treaty Settlement Groups are jointly developing

a Strategy for adaptation to coastal hazards along the Hawke's Bay coastline between Clifton and Tangoio. To date the project has completed the technical work to identify and quantify the hazards and their associated risks up to the year 2120 (including coastal erosion, inundation from the sea, and tsunami).



This strategy work is now entering the response stage.

Napier is more vulnerable to issues from rising groundwater than many other New Zealand cities being that its flat suburbs typically have water table levels of less than 2m below ground level. Any rise in groundwater levels will affect the low-lying suburbs by reducing the amount of clearance between built assets and the water table.

Napier's southern boundary is bounded by a major river (the Tutaekuri River) while much of its primary urban area is bounded by the Ahuriri Estuary with the city boundary being the Esk River. While the Tutaekuri River has stop-banks, over-topping or failure of these would affect the adjacent south eastern suburbs. The Ahuriri estuary currently receives around 70% of the stormwater discharge from the city.

Increasing sea-levels will inherently impede the ability of these waterways to discharge high catchment flows to sea thus the risk to parts of the city from flooding will inherently increase as sea-levels rise.

Napier is therefore vulnerable to any notable increase in sea-level which impacts on the ability for floodwater and storm water to move out of the catchments and into the sea. The flooding risk is further increased should the predicted increase in severity and frequency of high-rainfall events eventuate.

As a city located at the coastal interface of two catchments, Napier has a driving need to understand the impacts of: sea level rise, climate change weather patterns, and

groundwater levels and the interrelated increase in flooding risk.

As such it will continue to be in the forefront of the discussion around these issues and seeking to quantify to a meaningful point the risks to the city so that it can then identify what the most appropriate infrastructure responses should be and whether an increased focus needs to be made toward.

## 5.6 Seismic Impacts

The city is in an area likely to experience earthquakes of magnitude up to MM8. The primary consequences of these earthquakes that are of significance to Napier are related to ground level changes, liquefaction and lateral spread, and tsunami.

An overarching programme of work to understand the detail of seismic impacts on core service infrastructure and how to manage these impacts has not been undertaken to date. Such investigations will need to be undertaken in conjunction with Community Resilience Initiatives and are discussed in section 5.7. Any such work should also encompass resilience with respect to Tsunami, Volcanic Ash, Human Pandemic and Flooding events, the top five hazards likely to be experienced in Hawke's Bay.

Significant modelling is currently being undertaken on such issues by GNS and insurance companies. Council will seek out advice and implement learnings from this research where appropriate.

### 5.6.1 Ground Level Changes

Although the 1931 earthquake resulted in a rise in ground levels across the flat parts of Napier, Recent geological research indicates that over the long term the ground levels in the area have also gone down during earthquakes of similar or greater intensity. While not deemed to be an imminent threat, Council needs to consider the consequences of this and what the appropriate infrastructure responses are to be to this risk.

### 5.6.2 Liquefaction

Liquefaction is a known risk across all the low lying suburbs, and has recently been re-evaluated as part of the Hawke's Bay Liquefaction Hazard Assessment Report released in November 2017. The findings and implications for Napier City Council in relation to this most recent report, have yet to be properly considered and thus in the

short term of this Infrastructure Strategy there are unlikely to be significant changes or decisions made relating to how the Council considers liquefaction in relation to assets.

It is noted in the report that the liquefaction risk is amplified by the presence of high groundwater levels, as is the case in the flat parts of Napier. This situation which is likely to be aggravated by forecast sea-level rises.

### **5.6.3 Lateral Spread**

Lateral spread is an issue that will effect ground conditions in close proximity to Napier's extensive open drain network. Recent works undertaken in relation to open drains has involved the construction of gravel curtains flanking open drains where space is available as well as the installation of box culverts where circumstances dictate. Further requirements relating to the management of lateral spread risk will be considered as part of Council's review of its Engineering Code of Practice.

### **5.6.4 Tsunami**

As a coastal city located in a seismically active area, Napier's low lying suburbs are considered to be vulnerable to a major tsunami. The HB Civil Defence planning and Community Services Directorate have identified the need for the development of suitable evacuation routes throughout the city that are resilient to a severe earthquake. This may require the development of strategic overland corridors as well as vertical evacuation routes (i.e. earthquake and tsunami resilient structures) for residents of suburbs more remote from hills to evacuate to.

These overland and vertical evacuation routes will require strategic consideration, and likely collaboration between different public and / or private sector stakeholders to enable cost effective provision of the capability.

### **5.6.5 Lessons Learned From Christchurch and Kaikoura**

Napier City Council has not undertaken a specific review of the lessons learnt as a

result of the experience in Christchurch and/or Kaikoura following these Earthquakes. However consulting engineers providing specialist advice to Council in fields such as geotechnical engineering and structural design have incorporated lessons learnt into their advice.

Council will consider lesson learnt from recent seismic events with regard to alternative technology and/or service solutions when reviewing its Engineering Code of Practise in 2018/19.

## **5.7 Infrastructure Resilience**

### **5.7.1 Liquefaction, Ground Level Changes and Lateral Spread**

More recent seismic events in Canterbury and the Kaikoura/Marlborough Regions have taught Emergency Management and Infrastructure professionals that resilience to earthquakes and other significant natural hazards is not solely an Infrastructure matter.

Resilience to Seismic and other significant natural hazards is now considered to be a matter of multi-faceted, Community Resilience, of which Infrastructure resilience is a part of. This recognises that it is impractical and unaffordable to build network wide infrastructure that can withstand significant seismic events.

The communities of the Hawke's Bay and Napier in particular are at the beginning of the journey to develop robust community resilience. Napier City Council and Hawke's Bay Emergency Management are partners in this regard and have the benefit of the learnings of the Canterbury and Kaikoura events.

Progress towards Community Resilience will involve community education (underway with Hawke's Bay Civil Defence Emergency Management Group), planning related initiatives (building Act/RMA/District Plan) and infrastructure augmentation. These initiatives are identified by the Council and the community to enhance effective resilience within a realistic cost model. To determine the most effective and practical actions for each of these aspects investigations into likelihood of disruption events

and relative timeframes of inoperability of core infrastructure.

Insurance Companies and GNS are starting to work with Councils in this space. Council anticipate utilising their modelling knowledge to better assess Napier's challenges with a view to making Napier as resilient as it can be.

A programme of work to commence such investigations will need to be developed in the next 3 year period, for funding allocation through the next Long Term Plan Process.

### 5.7.2 Single Points of Failure / Critical Infrastructure

All Infrastructure networks inherently contain Single Points of Failure. Single Points of Failure are typically represented by specialist process related assets and/or high cost assets that have historically been considered unaffordable to replicate for what are considered to be very unlikely events.

To improve its knowledge and ultimately mitigate its risk, Council have completed a criticality study of their 3 Waters networks and have documented their critical assets. These include (but are not limited to):

- Awatoto Wastewater Treatment Plant
- Enfield Reservoir water rising main
- Trunk sewer main into the Wastewater Treatment Plant
- Stormwater Pump Stations
- Water Reservoirs

Building on Council's existing knowledge base, further work is required over the next three year period to identify specific plans incorporating operations, maintenance and renewal approaches for each of the critical assets identified, in order to improve the resilience of the city networks to operate when events may occur. This work will also need to consider what level of resilience is required of these assets to enable an appropriate level of service to be delivered in the wake of a significant disruption event.

The criticality analysis undertaken to date has focused on assets owned and operated by Council. It has been identified that Council's ability to provide infrastructure related services is to some degree reliant on the availability of assets and/or services delivered

by third parties, such as electrical and communications services. Another example is the reliance on Hawke's Bay Regional Council's assets to discharge stormwater.

Understanding the interdependences of council and non-council assets and what actions are necessary to provide a greater level of assurance of such critical enabling services being available during/following disruption events will form a key component of the future work programme.

Council recognises that this will require working together with many organisations including energy and telecommunications companies, and GNS to complete this work. Wellington City has recently completed this exercise for the region and this will provide a framework for other Councils as they undertake similar reviews.

## 6. Organisation wide challenges relating to Infrastructure

Events such as the Canterbury Earthquakes and Havelock North Water Enquiry, together with significantly higher expectations associated with Health and Safety has significantly increased the interest in the quality of infrastructure services provided by Councils and highlights the importance of integrated Infrastructure Management in relation to these services.

Such events have driven significant changes levels of service expectations, particularly from a regulatory perspective. The need for Infrastructure Management to incorporate resilience, future-proofing, and optimised decision making has never been greater. Napier City is responding as quickly as possible to the change in service requirements, and undertaking reviews of the performance of its networks as part of this process. We are focused on ensuring our infrastructure services meet both current and future needs.

In response to changing needs, standards and/or regulatory requirements Council is now undertaking reviews of the performance of the infrastructure in line with changing expectations in legislation. This includes ensuring data, system and processes and organisational knowledge is well documented so that we are able to be more agile and responsive for these changing requirements

The following initiatives are common themes in all Activity Plans:

- Implementation of a Corporate wide AM project
- Data capture and validation
- Asset condition and performance assessment strategy
- Develop business rules on data management and financial controls
- Development of Risk Schedules
- Perform asset criticality assessment and apply to operation and maintenance schedules
- Investigate and implement Sustainability initiatives

Council will continue to focus on ensuring levels of service are appropriate and meet the current and future needs of the community. Benchmarking against other Councils will help to ensure that services are delivered at an appropriate level. Council will utilise the Local Government Act Section 17a service delivery reviews and activity reviews to progressively assess the delivery of various services to identify what if any actions are required to ensure that services are delivered in the most cost effective and efficient manner.

A schedule of reviews has been developed by assessing the priority of each activity against a set criteria, as well as other factors, including opportunities for shared reviews and/or services with other councils, resourcing and capability considerations. See Table 6.6 Programme of s17A reviews.

### 6.1 Sustainability of Levels of Service

Council must balance level of service sustainability and affordability - a challenge in a world with increasing expectation and service demands and a widening gap between perceived and actual Levels of Service. In general, with any level of service change, there is an increase in associated costs to meet the new the requirements.

- Significant changes to levels of service and contract renewals can trigger a review at any time
- An opportunity to undertake a shared review with another Local Authority can also affect the timing of when a review will start

**Table 6.1: Programme of s17A reviews**

Activity	Notes	Status	Programmed Start	Programmed Completion
Transportation	Includes Carriageways, Drainage, Bridges + Structures, Lighting, Traffic Services + Safety, Amenity + Safety Maintenance, Capital and Asset Management. Excludes Paths and Sweeping + Cleaning	Completed	1/05/17	3/08/17
Waste Minimisation	Includes from collection to the transfer station, and Oamaru landfill	Completed	1/05/17	1/09/17
Stormwater, Wastewater, Water Supply	Some drains owned by the regional council but the depot maintains them. Also check what service is covered in Bayview, as some is with-in the HDC boundary. Includes "Environmental Solutions" & "Utilities Operations"	Scheduled	1/07/18	30/12/18
Sportsgrounds (McLean Park & PGA only)	McLean, Nelson Park	Scheduled	5/03/18	31/08/18
Napier Aquatic Centre		Scheduled	1/06/18	20/12/18
Marine Parade Pools	Ocean Spa	Completed	9/11/17	28/2/18
Reserves (includes Sportsgrounds other than McLean Park & PGA)	All parks, Wildlife Reserve, buildings, land, play ground equipment, monuments, ponds, nursery (plants), Park Island, other sports grounds and council buildings (some buildings are owned by the sports that are played there i.e. Napier City Rovers own the venue)	Scheduled	5/03/18	31/08/18

Table 6 1: Programme of s17A reviews continues

Activity	Notes	Status	Programmed Start	Programmed Completion
Inner Harbour	Leasing of about 90 berths and dredging of the harbour	Scheduled	1/07/21	30/12/21
Libraries		Scheduled	1/07/18	30/12/18
Napier Municipal Theatre		Scheduled	1/01/21	30/06/21
MTG Hawke's Bay Museum Theatre Gallery		Scheduled	1/01/20	30/06/20
Housing (Retirement and Rental)		Completed	1/10/17	30/01/18
Cemeteries		Scheduled	1/07/20	30/12/20
Public Toilets	Review of number, location etc. Re-view does not include cleaning	Scheduled	1/07/21	30/12/21
National Aquarium of NZ	Includes the National Kiwi Breeding facility	Scheduled	1/06/18	20/12/18
i-SITE and Par2 MiniGolf		Scheduled	1/01/21	30/06/21
Kennedy Park		Scheduled	1/01/20	30/06/20

## 6.2 Capacity of Organisation to Deliver Capital Projects

Council's current approved staffing levels have been modelled to be able to deliver a \$40m/year capital works programme across council. The Capital programme in the LTP indicates that staffing levels may need to be adjusted to deliver a \$50m/year programme. Where the annual programme is projected to exceed this figure, or when the skills required are not available in-house, the additional effort required will be outsourced to consultants.

## 6.3 Environmental Sustainability

Society's understanding of issues associated with the natural environment has significantly increased in the last decade. Consequently public awareness and sensitivity to the impact that every day activities have on the quality of the natural environment has also increased.

Historic practises in relation to environmental management, particularly with regard to the activities and services that Council manage and deliver on behalf of the community, are no longer adequate.

Council, through its Environmental Solutions group are dedicated to improving Council's understanding of how infrastructure related activities adversely impact on the environment and what options are available to mitigate these impacts.

Opportunities in Transportation (see section 8.1), Stormwater (see section 8.2.5) and Wastewater (see section 8.2.3) activities will be explored to ensure programmes of work are identified and implemented to deliver a step change improvement in the quality of the natural environment affected by Council lead activities.



## 6.4 Accessibility to City services for all

Council has a desire to improve the accessibility of Napier's services to ensure that people of all ages and stages of mobility are able to partake in these services.

Council are in the process of developing a Disability Strategy that will inform the process of assessing the accessibility of current environment and identifying what work might be required to deliver on this goal.

The disability strategy is expected to drive increased emphasis on accessible design.

Once completed, this process will inform future editions of the Infrastructure Strategy and Long Term Plan in terms of required projects and funding needs.

## 6.5 Development of south-eastern suburbs

HPUDS (section 5.2.1) identifies areas for growth related development to occur within Napier.

Council's programme of network modelling (new and updated models) will provide for a robust analysis of existing and future capacity requirements to service growth, either in the areas already identified or in the assessment of other potential growth areas.

The availability and/or cost of infrastructure will need to be considered in tandem with requirements for resiliency and risk of natural hazards and then be assessed for affordability.

## 6.6 Provision of retirement and social housing

Council provides 376 housing units across 12 villages, the majority (304) being retirement flats. This housing supports people with special housing needs, low assets and a low income.

Some of the current housing stock is coming to the end of its useful life. There is limited accessibility, space and facilities and some stock is not fit for purpose. Some villages do not use all of the land effectively.

Income from rents is used to maintain the units and provide the service. The service is likely to become financially unsustainable within the next 10 years due to maintenance and development needs. Maintenance costs could be paid for by increasing the rents,

but this could result in unaffordable housing and would not address the need for re-development.

Demand for affordable rentals for older people is predicted to increase, due to our ageing population coupled with future decreases in home ownership. Council's preference is to continue to provide community housing for older people. There is a gap in this provision with only one other provider operating in Napier. The government is responsible for providing social housing both through Housing New Zealand and also through contracts with Community Housing Providers (CHP).

In January 2018, Council completed a review of Social Housing Delivery that recommended further investigation into two options – enhanced status quo (keep retirement housing with or without improvements) or delivery through a partnership with a community housing provider.

Council will investigate these options, and we will consult with the community in late 2018 on possible options.

Once completed, this process will inform future editions of the Infrastructure Strategy and Long Term Plan in terms of required projects and funding needs.

# 7. Thirty Year Strategy

## 7.1 The Organisation's Priorities for Managing of Its Assets

This 30-year Infrastructure Strategy identifies how Council plans to continue to transition from a traditional approach to providing infrastructure where a small group of experts applied their knowledge within their own area of expertise to determine what needed to be done, to a collaborative and strategic approach across the whole council organisation. This will ensure a well-informed understanding of stakeholder requirements obtained through appropriate engagement and will be supported by data-based analysis of asset condition and performance data, and will result in the provision of appropriate and effective assets to the community in the most efficient means practicable. This exercise will be the focus during the next two LTPs.

An organisation-wide focus will enable a better understanding and definition of stakeholders' expectations and requirements of council provided assets through a programme of development and alignment of key overarching strategies.

Improvements to the Asset Management framework and Asset Management Information Systems are also being undertaken.

Napier City is also introducing additional guidance on estimating the cost of infrastructure and projects with the deployment of the Estimate Categories and Estimate Levels Guideline. This is an initiative to improve budget formulation for all Council projects and improving the transparency around confidence levels of project estimates through the project lifecycle. Application of this guideline will be progressively implemented as new projects are initiated and existing projects progress through defined project gateways.

## 7.2 Asset and Service Management Strategy

The drive to improve the Council's strategic management encompasses infrastructure and activities across the whole of the organisation. Specific initiatives associated with Infrastructure include (but is not limited to):

- The development and implementation of best practise Asset Management Strategy and Framework aligned with ISO 55000 applied to the whole organisation building on the existing asset management approach
- The development and implementation of a fit for purpose Project Management Framework and associated documentation.
- Improved Health and Safety policy with respect to contractor engagement and management with respect to capital projects
- Development and implementation of Project reporting software for improved visibility of project progress and integration with financial systems
- Development of a comprehensive Parks and Reserves Strategy
- Development of Reserve Management Plans
- Development of an Environmental Sustainability Strategy
- Process development and documentation

These strategies will further inform our needs in both the short and longer term, and how we set our priorities in conjunction with affordability.

In the short term strategic timeframe (0-6 years) the asset management strategy is to maintain the existing assets at established historic levels of service (LoS) and address the known or identified major issues (e.g. high risk or regulatory compliance). Improvements to the Level of Service will occur to the water supply system to meet recommendations of the Havelock North Inquiry. Council is also undertaking the preparatory work for improving the environmental impact of our stormwater system. During this time non-urgent capital projects that are not likely to directly impact on the Council's LoS in the short to medium term will be deferred.

Clearly, work identified in response to the Havelock North Water Enquiry is considered urgent and will be implemented within this period.

Council will seek to clearly separate and define the requirements for service delivery as a separate function from asset management and project delivery and clearly allocate accountability and responsibility for those functions to specific roles within the organisation. It is envisaged this will give a sharper focus on ensuring appropriate service delivery supported by appropriate assets.

In the medium term, (6-18 years) it is expected there will be an increased level of investment required to deliver outcomes identified through the investigation of issues identified in this strategic plan.

The most significant long-term strategic issue facing Napier is the potential for inundation of the low-lying parts of the city via either: a tsunami, a sudden lowering of the ground-level (effectively reversing the up thrust of the 1931 earth quake), or more likely by sea level rise.

It is therefore imperative that Napier starts to think about how it wishes to manage these threats to its long term viability in order to inform the capital programme going out past 30 years.

## 7.3 Cost Effective Delivery of Services

Section 17A of the Local Government Act ('LGA') places an obligation on local authorities to undertake routine service delivery reviews to assess the cost effectiveness of current service arrangements. Council will undertake reviews of services every 6 years as required by the Local Government Act.

## 7.4 Assessing Resilience Needs

As discussed in section 5.7 of this document, Council will need to further consider criticality of assets in relation to single points of failure and the need to improve resilience. How assets fail under various adverse events will be an important consideration to improving resilience of services.

## 7.5 Evidence Base

Improving Council's evidence base to support optimised decision-making is an ongoing activity. Asset knowledge is variable across asset groups, and currently there is a significant focus on a consistent approach to registering and maintaining asset information to ensure it is fit for purpose and trusted.

Table 7.1

Asset Class	Information System
Transportation	RAMM
Water	Accela, SCADA Historian
Waste Water	Accela, SCADA Historian
Stormwater	Accela

Ongoing improvements to asset knowledge is a priority focus for Council in the next 3 years. The following initiatives have been programmed:

- Development of a Transport Strategy
- Update Council's Transportation network micro simulation model
- Continued targeted traffic monitoring to calibrate the traffic model
- Targeted annual pipe condition assessment programme
- Annual CCTV inspection programme for Wastewater and Stormwater
- Pumping electrical and control system assessment programme
- Critical asset targeted condition assessment programme
- Building network models for 3 waters



## 8. Significant Infrastructure Issues and Options

Asset / Activity	Significant Infrastructure Issues	Principal options for managing the issue	Implications of the options	Table of projects	What Council is consulting on
Water supply	Changes to the Drinking Water Standards, report on the Havelock North Water Inquiry and recommendation to move to a chlorinated water supply	<p>Doing nothing is not an option due to public health.</p> <p>The option proposed is a combination of: Improving the existing bores, explore options for new bores, implement water treatment plants with or without dechlorinated water stations.</p> <p>This work is driven by a change in standards the only viable alternative would be a refinement of the proposed work program.</p>	The LTP proposes work on improvements to existing bores, new water treatment plants and additional bores. Increased costs associated with the capital investment and an increased service offering with the operation of water treatment plants will require additional rates funding.	Table 8.2	Dechlorinated taps - options
Transportation	Road runoff related stormwater compliance issues	Do nothing due to environmental impacts not an option. Alternative options include good design and effective solutions installed to existing road reserves	Increased costs associated with compliance related costs which will increase stormwater quality.	Table 8.1	Ahuriri Masterplan
	Port access vs amenity related to Ahuriri Masterplan	Change traffic flows requiring purchase of land, working with Kiwirail on implementing improvements within their corridors, and upgrading roads and design of network	Additional requirement from NZTA, and purchase of land to meet overall objective	Table 8.1	Ahuriri Masterplan
Inner Harbour	Asset age and condition - a detailed condition assessment has been carried out including an underwater assessment, noting areas of potential failure	Do nothing and allow asset failure not an option due to personal safety. Remove non critical assets at risk of potential failure, close areas to public for fixed assets at risk of potential failure, upgrade where appropriate, create and work to Ahuriri Masterplan to maximise spend for current and future benefits	Cost may impact on future opportunities with area, however, will work with Central government on regional funding opportunities, NZTA on maximising opportunities, and utilise	8.2.7.1	Ahuriri Masterplan

Asset / Activity	Significant Infrastructure Issues	Principal options for managing the issue	Implications of the options	Table of projects	What Council is consulting on
Stormwater	Improvements to the quality of stormwater discharged to the Ahuriri estuary and impact on sea life	Do nothing is not an option due to environmental impacts. Alternative options include water discharge management through improvements through strategy - divert stormwater away from estuary	Increased costs associated with compliance and improvements to the quality of the aquatic environment.	Table 8.4	Ahuriri Masterplan projects
Swimming Pools	Demand for service ie availability of pool space by residents not currently being met. The existing asset age and location of the Onekawa pool on old dump site will impact on options	Build new fit for purpose pool at existing site and deal with contamination, or build new fit for purpose pool at new greenfield site, or do nothing and reduce service offering.  The proposed option is a new 25m x 25m pools and play facility at a new site.	Increased cost associated with larger service offering, offset by efficient design, an expected increase in patronage and user charges and growth related rates income	Section 8.2.7.3	Pool options
National Aquarium of New Zealand	Existing service offering requires an upgrade	Do nothing Upgrade existing only, or Extend facility with full redevelopment, increasing tourism numbers to region, and partnering with universities for research	Increased cost associated with larger service offering, however offset by central government funding, corporate funding and projected growth in visitor numbers and revenues. Increased job and research opportunities for region	Section 8.2.7.3	Expansion vs Refurbishment
Civic and Library Building	Building earthquake prone	Upgrade both buildings, Upgrade one building that can accommodate all staff, or Build new, lease, buy own operate transfer model, or continue to lease existing premises in multiple locations	Increased rates associated with all options to provide a fit for purpose building that can accommodate council staff	Section 8.2.7.3	Options to be developed and further consultation to be undertaken

## 8.1 Transportation

### 8.1.1 Developing a Transportation Strategy

Napier is a small compact city that has not traditionally had a specific strategy for Transportation and this will be developed to ensure the network meets current and future needs in a consistent and affordable manner. Work over recent years to improve the road logistics link from point of production to the Port of Napier and to the Hawke's Bay Airport to enable their forecast growth needs to be augmented by consideration of the ripple effect these improvements have had on the wider network and general public usage particularly in regards to safety (traffic calming), as well as considering the impact on the amenity value of public and private activities adjacent to the Transportation Assets.

A greater level consideration needs to be given to the impacts of technology on changing nature of 'business' activity in the city centre and how this might alter the balance between commercial and residential usage in that part of the city and how this will then impact on the need for transportation infrastructure into and within the CBD over the 30+ year period.

Consideration also needs to be given to changing technologies (driverless cars, Uber, etc) and the need to improve connectivity between the city's open spaces and the south-eastern suburbs which are the areas with the most potential for infill. Development of a Transportation Strategy is a key objective of the 0-3 year time frame of this strategy.

### 8.1.2 Bridge and Retaining Structures

The quantity and quality of data relating to Council's 18 bridges, 61 large culverts and 450+ (mixed ownership) large retaining structures has been identified as an area that can be significantly improved in order to better understand the future renewal requirements for these critical key assets.

This will be addressed through the conduct of an intensive programme of asset condition assessments and a concurrent review of what data is available (including how it is managed) over the initial 0-6 years of this strategy in order to better inform the renewals programme as will need to be refined in future Long Term Plans.

(Note: there are a number of retaining structures in non-transportation public spaces that also need to be assessed for condition and renewals planning, and it may be

that these are consolidated in with the programme of work to be undertaken in the Transportation activity).

### 8.1.3 Extracting Full Value from Road Surfaces

The NZTA One Network Road Classification scheme has enabled a greater level of scrutiny nationally of the investment patterns of road controlling authorities. The data made available through this process has demonstrated areas where RCAs can deliver greater value for money from investments.

A more comparative funding process has also provided incentives to analyse investment processes around maintenance and renewal activities. For Napier, these processes have assisted in identifying opportunities to increase the life of some surface types on lower classification roads.

Council has identified areas of the work programme where a greater degree of risk can be accommodated in an effort to maximise the value benefit of surfacing investment (e.g accepting that potholes may form on low volume roads where the failure consequences are not high).

This approach will take several years to refine, but with improved asset data collection occurring over the same period, there is potential for significant cost benefits with minimal Level of Service risks.

### 8.1.4 Addressing Road Run-off Quality Issues/Stormwater Impacts

The transportation activity indirectly affects the quality of the natural environment by way of sediment laden stormwater discharged from the cities roads to the estuary and ocean at multiple points.

Council will be investigating opportunities and implementing solutions to improve the environmental performance of all activities. From a transport perspective this will include:

- strengthening regulatory controls and enforcement with regard to managing spills and/or
- strengthening regulatory controls and enforcement to restrict sediment deposits onto roads,

- retrofitting devices in the stormwater network to remove contaminated sediment
- Integrating environmentally sustainable practices into construction standards and road design.

Specific opportunities associated with renewal of Inner Harbour assets will also present opportunities to deliver concepts associated with Council's Ahuriri Master Plan.

### 8.1.6 CBD Improvements

In order to thrive and attract new investment, the CBD must be a place which supports business, their customers and the wider community. Napier's position as a destination for global tourists further promotes the need for the central city to be an attractive, safe, logical, convenient and walkable place. Significant gains have been made in the last few years but some streets are not yet delivering these outcomes. A series of investments are proposed to leverage off the work already completed to continue to revitalize the CBD.

### 8.1.7 Local Area Traffic Management

Local Area Traffic Management (LATM) schemes provide traffic calming across neighbourhoods to improve the safety of all road users, with a focus on the young and the vulnerable. LATM schemes are developed with the community, to ensure that works are addressing the needs of the community. The proposed 10 year programme includes Marewa, Pirimai, Maraenui, Jervoistown, Onekawa, Greenmeadows and Tamatea. Much of this work will be eligible for NZTA funding assistance.

### 8.1.8 Puketitiri Road Upgrade

Puketitiri Road, from Church Road to Quarry Ridge, suffers from narrow carriageways, poor alignment, inadequate retaining structures and limited edge protection. It is seeing an increase in heavy and light traffic volumes through rural residential development and logging operations outside the City boundaries.

Puketitiri Road also performs as a State Highway diversion route, providing an alternative when access to SH2/SH5 between Watchman Road and Eskdale is constrained or unavailable.

Heavier, longer trucks are affecting the integrity of the pavement structure and heavy maintenance/road reconstruction will be required in the short to medium term to maintain the current level of service.

Improvement works, including realignment and widening are required to improve user safety and journey time reliability.

### 8.1.9 Intersection Improvements and Urban Corridor Improvements

A programme of corridor and intersection improvements has been identified to address safety and capacity issues at a number of locations around the city.

These improvements are developed and prioritised following crash reduction studies and traffic modelling and will include lighting improvements, island installation, redesignation of corridor space and priority changes.

The programme consists of between \$100,000 and \$250,000 per year for intersections and \$10,000 and \$760,000 for corridors. Much of this work will be eligible for NZTA funding assistance.

### 8.1.10 Walking and Cycling - Citywide

Napier is fast becoming one of the best places in New Zealand to ride a bike, in line with the 'Pedal Power' principle in the City Vision statement. Significant development of the on and off road cycle network has resulted in a much improved network, but this must be continued for cycling to become a safe and attractive option for a wider cross section of journey types and users to and from most destinations.

This work will be complemented by improvements delivered at intersections, through corridor improvements and LATM schemes. Much of this work will be eligible for NZTA funding assistance.

### 8.1.11 Inner Harbour

The Inner Harbour supports a diverse range of activities, from Coastguard facilities, and boat ramp launches to commercial fishing operations, sailing and fishing club facilities, and a range of water-based activity including recreational fishing, waka ama, yachting and kayaking. This is a high use area both commercially and recreationally which will only grow in popularity over time.

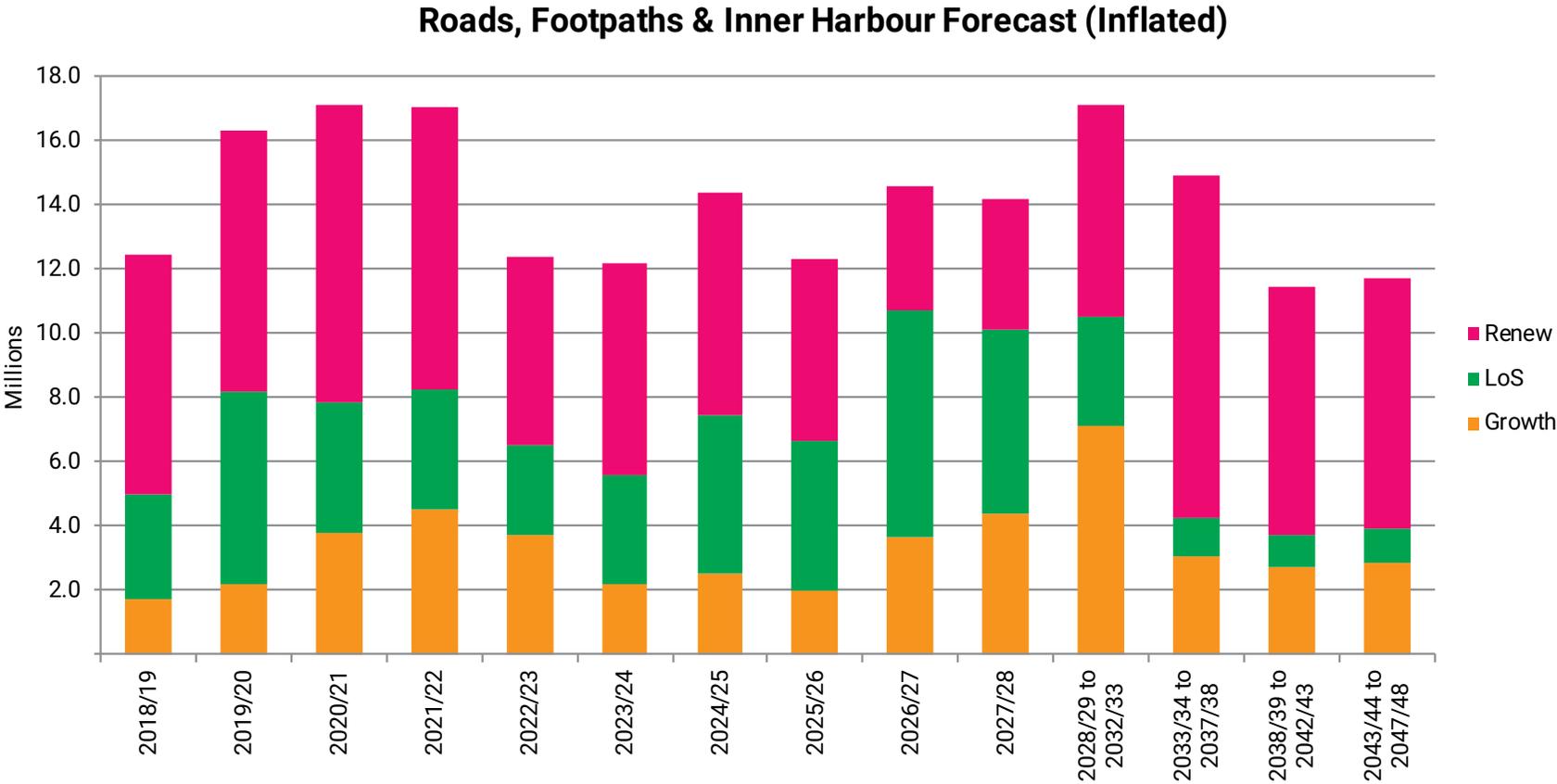
**Table 8.1 Programme of Significant Transportation Investment\*\***

Project	Reasons	Principal Alternatives	Assumptions	Cost (2018)	Year(s)	
Stormwater Quality / Ahuriri Master Plan - Thames Severn Stormwater Management	To achieve Compliance with Stormwater discharge consents	Various design options and locations will be considered when determining how best to achieve outcomes	Effective solutions can be installed in existing road reserve.	\$500,000	2021 - 2024	
Ahuriri Master Plan - Ahuriri Laneways	Delivery of projects to implement the vision defined in the Ahuriri Estuary masterplan.	Projects are defined to outcome level. Alternative means of delivering these outcomes will be assessed during project development.	Dependent upon West Quay land purchase / Third party developments	\$980,000	2028 - 2031	
Ahuriri Master Plan - Bridge Street Pedestrian facilities			NZTA and KiwiRail support the implementation of improvements within their corridors.	\$4,230,000	2025 - 2028	
Ahuriri Master Plan - Meeanee Quay Upgrade			The transport function of this corridor can be reduced in favour of amenity without significant displacement of effects elsewhere on the network.	\$120,000 \$1,200,000 \$1,200,000	2022/23 2024/25 2026/27	
Ahuriri Master Plan - Pandora Road Upgrade					Outside 10 years	
Ahuriri Master Plan - Pandora Bridge Gateway					\$60,000 \$900,000	2026/27 2027/28
Ahuriri Master Plan - West Quay Upgrade					\$45,000 \$750,000	2019/20 2020/21
Ahuriri Master Plan - West Quay Car Park			Provide safe public parking facilities for Ahuriri growth.		Land is released by OTS and is available for purchase.	\$1,000,000 \$1,500,000
CBD Development	Rejuvenation of the CBD to remain competitive for business and visitors.	Retain and maintain existing streetscapes.		\$13,265,000	2019 - 2025	
Puketitiri Road	To improve user safety and cater for growth in heavy and light traffic	Retain current LoS and continue reactive maintenance.		\$8,625,000	2019 - 2024	
Walking & Cycling	Improve accessibility and modal choice			\$8,590,000	All Years	

\*\* This table is a summary of investment highlights and excludes business as usual and routine renewal

The following shows projected annual capital expenditure associated with the roads and footpaths for the first 10 years followed by the average annual spend for each 5-year period from 2028 to 2048.

Figure 8 1: Projected Capital Expenditure – Roads, Footpaths, and Inner Harbour



(Sources: Transportation Activity Plan 2018, Inner Harbour Activity Plan 2018)

Council has engaged marine structures professionals to assess the current state of the assets including the moorings, pontoons, retaining walls, boat ramp and related structures. This has identified that many of these assets are overdue for significant maintenance and renewal and that there are some assets which are at the point of failure, notably the Jull Wharf structures (now closed to the public) which abut State Highway 50 and the railway line, both of which are critical links to the Port of Napier. Council is working closely with NZTA to ensure that the critical link structures to the Port are addressed over the next year.

The Ahuriri Master Plan will ensure that Council focuses on meeting the current and future needs of the community for any proposed work being undertaken. Funding has been allocated for the immediate requirements over the next three years. A detailed design proposal will be consulted on in the future.

### Significant Current Decisions

The key decisions relating to traditional transportation in the early years of the LTP have already been made. Of significance to the Transportation portfolio is the Ahuriri Master Plan which sets out a 30 year plan for a thriving and resilient estuary and coastal edge. It guides the use of land to support sustainable development that allows for commercial and residential growth while protecting the environment:

The recommended option is to execute the whole plan which includes the significant transportation projects highlighted in Table 8.1 below. In addition, there are \$6.6m worth of projects in the stormwater portfolio, specifically focused on improving the environmental outcomes of the stormwater network.

The other option is to address only the stormwater projects to deliver the environmental outcomes, but does not realise the full potential of the area.

The Ahuriri Master Plan has developed projects at a concept level, and does not present multiple options for each component at this stage.

## 8.2 Three Waters

### 8.2.1 Ageing Infrastructure

The 3-waters portfolio is generally in a condition that exceeds requirements and is performing well. This is evidenced through:

- Drinking water supply compliant with New Zealand Drinking Water Standard for 17/18
- Sound performance against DIA measures
- Waugh Report 2014 indicating that there was no backlog in renewal investment
- Relatively young age of a high percentage of infrastructure

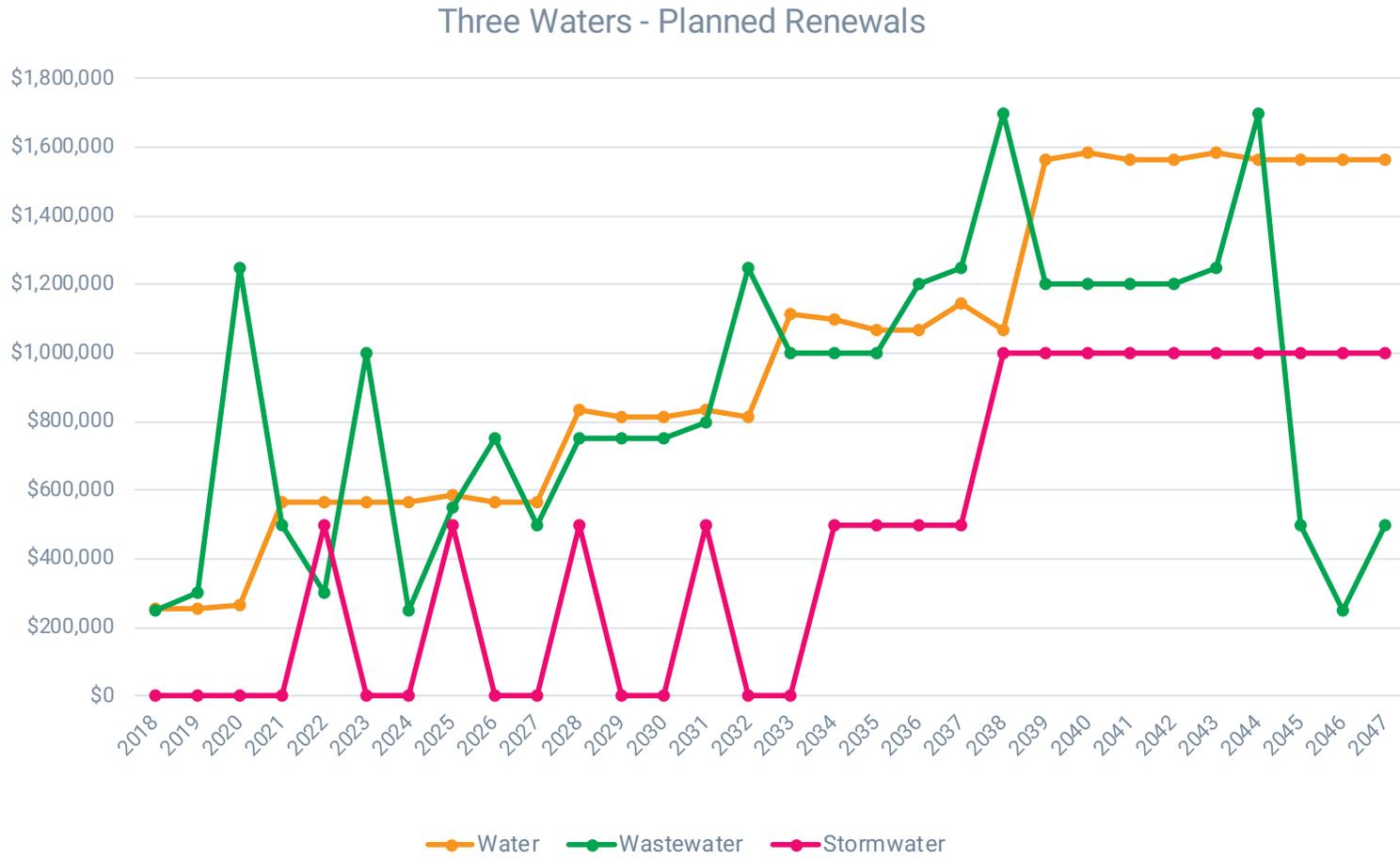
Stepped increases in renewal levels have been programmed throughout the next 30 years as illustrated in figure 8.2.

As the volume of renewals increases as a percentage of the asset base, additional focus will be placed on programming of replacements based on condition and performance assessment to optimize our investment. This work is supported by our focus on improving our asset management framework and information systems to align with ISO 55000.

The capital budget proposed for the next 30 years for asset renewals are as follows:

- Water asset replacements - \$44 million
- Wastewater asset replacements - \$61.5 million
- Stormwater asset replacements - \$18.5 million

Figure 8.2 3 Waters - Planned Renewals



### 8.2.2 Control and Telemetry

Council operates a SCADA and telemetry control system for water, wastewater and stormwater systems to inform and alert staff of operating issues and risks. The existing SCADA system has reached its end of life and requires a complete replacement or upgrade. The telemetry radio networks and microwave networks utilises older technology and equipment impacting on system reliability, stability, performance and confidence.

The Council has undertaken a study to review the existing system, council needs, and industry best practises and provide recommendations. Based on the recommendations of this study, a road map will be prepared to upgrade or replace the existing system, while maintaining existing operations. The cost estimate is approximately \$1 million for a complete upgrade of the system. Funds for this project have been proposed in the first three years of 2018-28 LTP.

### 8.2.3 Drinking Water / Water Supply

#### 8.2.3.1 Anticipated Changes to Drinking Water Requirements following the Havelock North Contamination Incident

The most significant implications from the Havelock North Inquiry Report no.2 for Napier water are the recommendations for compulsory chlorination of water and loss of groundwater security. While the NCC has already undertaken a significant body of work to enable it to chlorinate water temporarily following a series of very low-level contamination results early in 2017, the network was never configured for large scale permanent chlorination.

Council has proactively implemented a number of Water Safety projects developed in response to the Havelock North Water Inquiry and the legislative changes that are anticipated as a result of that process, on the basis of having a low tolerance to health risk and taking all reasonable and practicable steps in doing so.

A degree of community resistance to permanent chlorination is possible so there will be a requirement for the Council to consider if it should provide non-chlorinated supply to those who wish to 'opt out' of chlorination, and how this could be most practicably achieved. A project to install two treatment plants has been proposed in the 2018 – 28 LTP in the years 2018 and 2019 at a cost of \$2.5 million.

In addition to this work, the following projects are planned to ensure that Napier's water supply network is being managed appropriately:

- Replacement of four underground bores with above ground bores
- Provision of separate inlet and outlet pipes at reservoirs, to improve water quality and maintain chlorine levels
- Network optimisation to improve water quality outcomes

#### 8.2.3.2 Water Source Capacity

Napier has a 'Mediterranean' climate which typically experiences hot and dry summers. It has also traditionally enjoyed an ability to access large volumes of artesian water and transport it around the network relatively cheaply without treatment. The result is that the community of Napier is one of the highest per-capita water consumers in New Zealand, with an average consumption of 507 litres/person/day versus the national average of 300 litres/person/day.

Considering anticipated growth and current rates of water consumption across the city, the drinking water supply network will reach its maximum permitted peak allocation in 30 years' time (assuming that any large wet industry will have their own water sources as is historical practise).

To avoid infrastructure costs as a result of continued high demand, a better outcome is to reduce demand and push out capital investment related to providing additional capacity.

Council have an opportunity to reduce demands on the drinking water network by seeking to develop irrigation bores at its major parks, reserves, and sportsgrounds sites; however, this will require investment in the appropriate infrastructure. The Council has a water conservation strategy which aims to conserve water through operations and maintenance practices and improved public awareness of water conservation.

There is currently a wider regional discussion about capping the total amounts of water drawn from the aquifers and rivers. As the region's population grows, and the regional economic activity with it, it is likely that the City will need to be much more proactive in demand management of its water supply. A response to this issue needs to be developed in the first three years of this strategy to reduce the City's drinking water

consumption and water consumption over all, which can then start to be delivered in the next LTP programme.

In the immediate term the Activity needs to determine where in the city most of its consumption occurs and as a result a project has been proposed in the LTP to establish district water zones and monitor the water usage in these zones.

### **8.2.3.3 Groundwater and Water Source Quality**

The aquifer Napier draws its water from is fed from the Hastings District. As such Napier needs to investigate means to assure itself of the protection of the upstream aquifer and the safety of the water source. Council will also need to allow for changes in groundwater quality and aquifer levels that may result from other environmental factors outside Napier's ability to control.

### **8.2.3.4 Water Bores**

Several of Council's current water bores have well heads located below ground level and located within the urban area and close to wastewater infrastructure. This situation has been identified as a high risk for the safety of the water supply. A project to replace the vulnerable bores with new bores at a safer and convenient location for water treatment has been included in the LTP. The estimated cost of this project is approximately \$2 million.

### **8.2.3.5 Water Reservoirs**

The existing suite of reservoirs have sufficient capacity for 24 hour storage during average demand only. During peak demand, reservoir levels experience significant draw down, putting significant pressure on 24 hour storage and firefighting capacity allocations. A new reservoir will be commissioned in 2018 which will improve this situation.

Enfield reservoir is one Napier's critical reservoirs and will need replacement within next 15 years due to structural vulnerability. A project is proposed in the LTP in years 2022 to 2025 to replace this reservoir at an estimated cost of \$10 million.

A new reservoir project has been proposed in the LTP to service future growth in western hills. The project cost is estimated at \$2 million.

### **8.2.3.6 Water Reticulation Network**

Recent modelling of the water network has confirmed that there is no significant capacity issue in the existing network and its ability to cater for 30 year growth projections. However, a project has been proposed in the LTP to install an additional supply main from the Taradale bore field to the Taradale reservoir as part of the network reconfiguration. This pipe will provide for optimised control of water flow within the network and additional resilience in a critical element of the water supply. The estimated cost is approximately \$7 million.

Extension of the water network to Awatoto, Meanee and further extension in Bay View are planned beyond 2030 at an estimated cost of \$3.5 million.

### **Significant Current Decisions**

The major investment being made into the water supply network over the first five years is based on decisions already made and compliance with the New Zealand Drinking Water Standard. That is to provide a barrier to pathogens through treatment via chlorination and to no longer rely on secure bore status as a single barrier.

We are also consulting on the provision of de-chlorinated water stations. As our water meets all health and aesthetic water quality requirements of the New Zealand Drinking Water Standard there is no regulatory requirement to provide for alternative and more costly water supplies. The options being considered are:

- No dechlorinated water stations- no additional costs- Recommended option
- Four de-chlorinated water stations across Napier. \$132,000 Capital/ \$60,000 p.a. Operating per year
- Four de-chlorinated water stations across Napier- user pays at the station

**Table 8.2 Programme of Significant Water Supply Investment\*\***

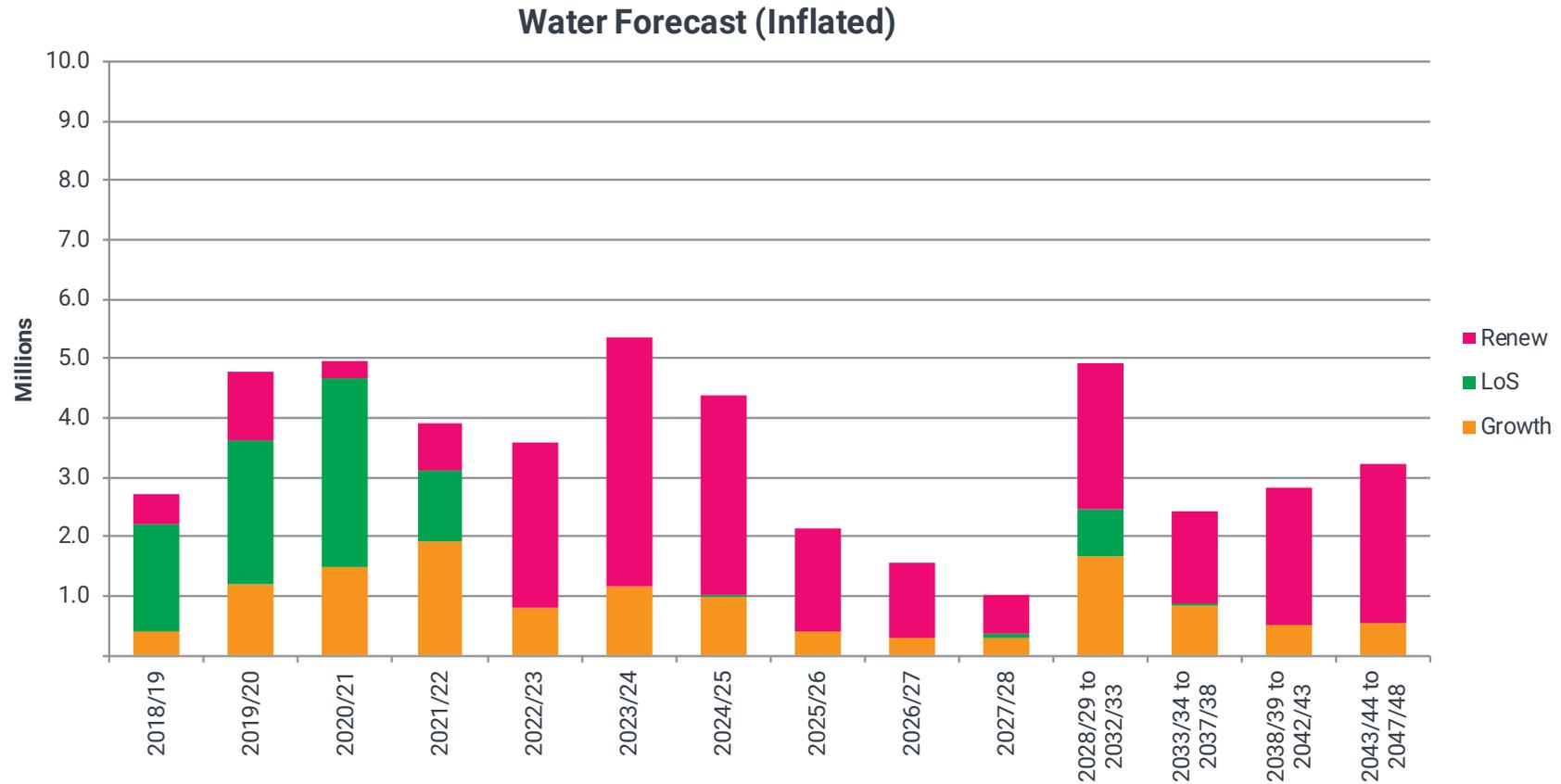
Project	Reasons	Principal Alternatives	Assumptions	Cost (2018)	Year(s)
Citywide Water Supply monitoring system	Improve monitoring of system performance and management of water losses	Monitoring gross production only	Practicality of installing monitoring equipment at the selected locations	1,000,000	2018/21
Improve existing bores*	Reduce the risk of public health due to water contamination	Improvement of existing bores	Risk of water contamination can be reduced in some of the existing bores without relocating Catchment risk will be managed effectively through collaboration approach with other stakeholders	250,000	2018/19
New bores in Awatoto	Additional bores for improved supply, network resilience and growth	Increasing existing bore capacities and upgrading of reticulation pipework	Sufficient capacity available in the aquifer in Awatoto area	1,050,000	2,019/22
New Taradale bore field and pipe upgrades*	Replace existing vulnerable bores Facilitate centralized treatment (maximum 2 locations)	Installation of treatment systems at each existing bore location	Sufficient capacity available in the aquifer in Awatoto area	8,100,000	2019/22 and 2028/30
New reservoir in Western Hills	Improve storage capacity and facilitate growth	A new reservoir in alternative location	HPUDS growth occurs as projected	2,000,000	2020/22
New water treatment plants*	Reduce public health risk from water and compliance with drinking water standards	No water treatment continues with existing emergency chlorination system	Water treatment will be mandatory in future	1,700,000	2018/20
Optimise Church Rd booster pump station*	Improve operational efficiency of the pump station	Do nothing accept the risk	Church Rd pump station will remain critical to replenish Enfield reservoir or future replacement reservoir	400,000	2018/20
Replacement of Enfield reservoir	Remove structural vulnerability of this reservoir in seismic events Improve water quality in the reservoir	Do nothing, accept the risk	No significant change to the existing water reticulation system in future	10,300,000	2021/26
Reservoir inlets and outlets improvements*	Improve water quality in reservoirs	Do nothing, accept the risk	Selected reservoirs will not be replaced within next 10 years	880,000	2019/21
Thompson reservoir upgrade	Improve functionality of the reservoirs	Replace existing reservoirs with new reservoir system	The reservoirs will not be replaced within next 10 years	1,100,000	2018/20
Urban growth projects	Facilitate urban growth	Restrict the development Accept a lower level of service	HPUDS growth occurs as projected	4,800,000	2030/34
Water meter installation	Reduce water wastage Help manage water losses	Public education on water usage	Politically and socially acceptable	2,500,000	2028/33

\*Projects developed in response to the Havelock North Water Enquiry

\*\* This table is a summary of investment highlights and excludes business as usual and routine renewals (Source: Water Activity Plan 2018)

The following shows projected annual capital expenditure associated with the water infrastructure assets for the first 10 years followed by the average annual spend for each 5-year period from 2028 to 2048.

Figure 8 2: Projected Capital Expenditure - Water



(Source: Water Supply Activity Plan 2018)

## 8.2.4 Wastewater (Sewerage)

### 8.2.4.1 Wastewater Disposal

The consent for the wastewater disposal via the treatment facility and ocean outfall is due to expire in 2037. It is anticipated that there is likely to be a tightening of consent conditions in relation to treatment standards however as yet it is not clear what these might be. Added to this the treatment plant and outfall are a single point of failure vulnerable to a seismic hazard. Consequently replacing or upgrading of the outfall is planned in the years 2026 to 2029.

Work is underway to identify options for wastewater treatment which will lift the quality of the wastewater discharge, reduce demand on that particular outfall, and increase the resilience of the City's wastewater system in the event of a natural disaster. The estimated cost of outfall works is \$9.75 million. Upgrading of the treatment plant is planned in 2028 to 2031 at an estimated cost of \$8 million. All these upgrades will take into account future growth aligned with HPUDS growth predictions. An amount of

\$0.6 million (total) has been allocated in the first four years of the LTP to initiate the requisite feasibility studies that may then be deemed necessary to facilitate a consent renewal. The estimates of treatment plant and outfall capital works will be refined following the feasibility studies.

### 8.2.4.2 Infiltration

Napier wastewater system is a conventional system comprising a network of pump stations, gravity and pumping mains. This system has some advantages and disadvantages. One of the main disadvantages of the system is high inflow and infiltration during wet weather.

This is a challenge faced by most Council's and has proven to be a difficult issue to resolve.

Napier has a large area of flat terrain and the groundwater table is high. This situation has contributed to high level of infiltration into the wastewater reticulation network.

It is expected that as aged assets are replaced over time, and as the discharge issues are addressed as above, the council will increasingly be able to bring this situation under control, however this may require prioritisation of some wastewater asset replacements ahead of what would have been their 'age and condition based replacement periods.

As the programme of condition and performance assessments rolls out in the 0-6 year time frame of this strategy and hydraulic network modelling studies are completed, the Council will become better informed on the next steps. The capital expenditure proposed to address known infiltration issues in the first five years of the LTP is \$2.15 million.

### 8.2.4.3 Capacity of Network to meet forecast demand

When the planned hydraulic modelling project in 2019 is completed, a more accurate upgrade programme and understanding of future system capacity issues will be included in the 2021-31 LTP.

In the short term, Council will seek to address known capacity issues including the elimination of known infiltration sources and specific pump station capacity upgrades. In addition, Council will need to restore the Pandora Industrial wastewater pipeline to service so that trade waste can be managed appropriately with respect to the treatment process.

## Significant Current Decisions

There are no significant decisions for consultation over the next 3 years. As described above, the key activities are:

- Planning and definition of options for future major upgrades to the Wastewater Treatment Plants (WWTP) and ocean outfall and diffuser
- Completion of the network computer model and associated infrastructure planning to set out a detailed investment plan and possible options over the next LTP period.

**Table 8.3 Programme of Significant Wastewater Investment\*\***

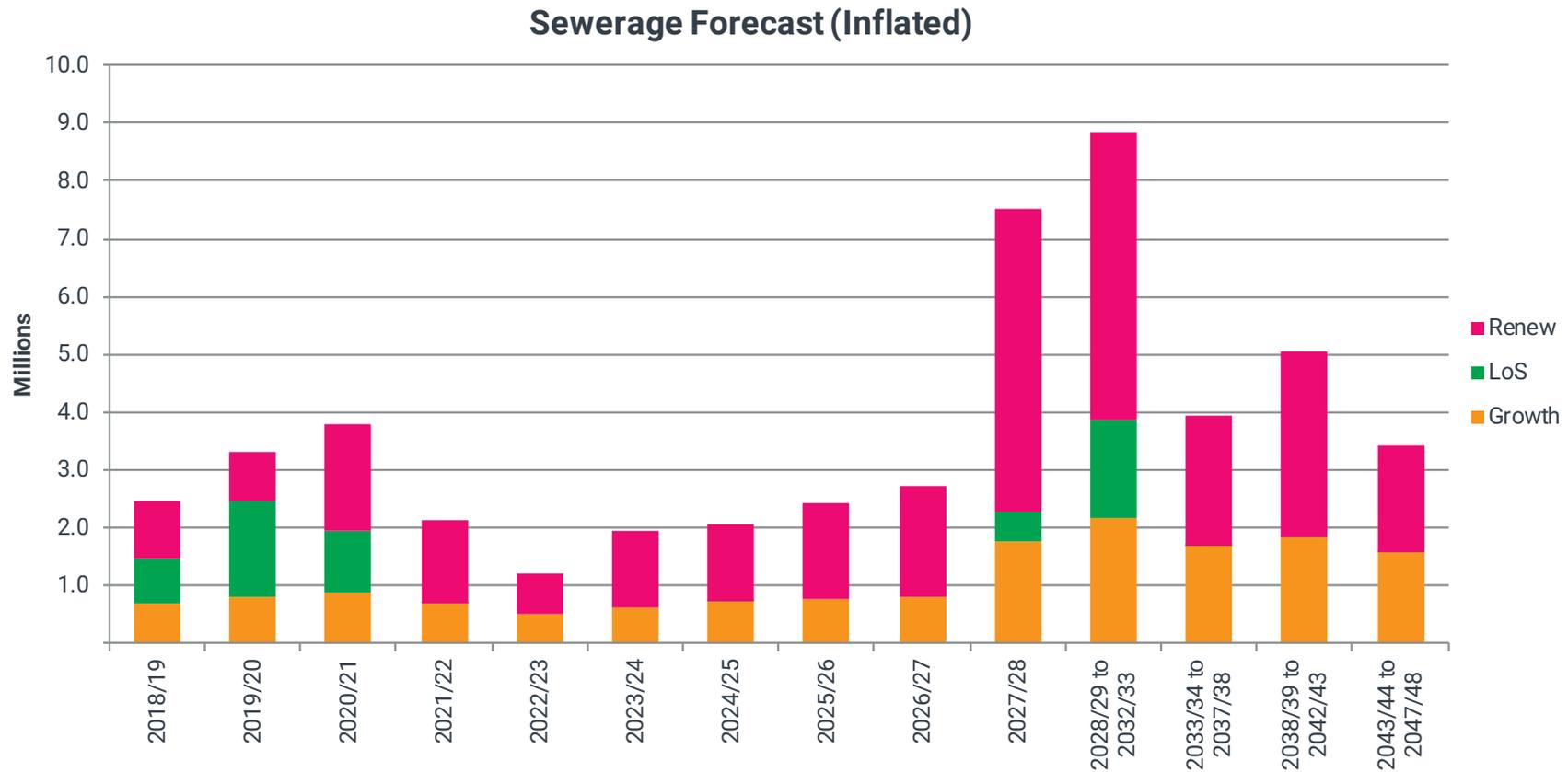
Project	Reasons	Principal Alternatives	Assumptions	Cost (2018)	Year(s)
Pump station upgrades	Reducing wastewater overflows	Do Nothing Reducing inflow and infiltration	HPUDS growth predictions are reasonably accurate	\$7,290,000	2018/48
Improvements to Pandora industrial wastewater trunk main.	Reduce pipe blockages and tradewaste overflows	Divert industrial wastewater into domestic wastewater reticulation	No significant increase in industrial waste volumes in Pandora industrial zone	\$1,400,000	2018/21
Wastewater pumping main from Bay View	Accommodate future demand and reduce odour issues	Increase storage and odour control measures	Hydraulic modelling will confirm pipe upgrade requirements	\$1,100,000	2028/30
SCADA upgrade	Improve operational capabilities and reduce risk of control and communications failures	Manual controlling of the wastewater system	No significant changes to the wastewater system in the next 20 years	\$1,540,000	2018/21
Taradale wastewater diversion	Reduce wastewater overflows	Substantial wastewater pipe upgrades	Hydraulic modelling will confirm the project is viable	\$1,100,000	2018/21
Wastewater treatment plant and outfall upgrades	Meet future growth and resource consent requirements	Different treatment technology and disposal systems	HPUDS growth is accurate and future resource consent allows continued discharge into sea at the same location	\$19,850,000	2025/30

\*\* This table is a summary of investment highlights and excludes business as usual and routine renewals



The following shows projected annual capital expenditure associated with the wastewater infrastructure assets for the first 10 years followed by the average annual spend for each 5-year period from 2028 to 2048.

Figure 8 3: Projected Capital Expenditure – Sewerage



Source: Wastewater Activity Plan 2018)

## 8.2.5 Stormwater

### Stormwater

Napier's flat and low lying nature requires that approximately 75% of stormwater requires pumping with about 70% of stormwater discharging via the Ahuriri Estuary. The Council's goal with respect to flood protection is to provide protection to houses, business and commercial buildings from a rain event with a 50 year return period. At present, due to lower standards in the past this target cannot be met in localised areas already developed within the city. The following standards apply to stormwater and flood protection

- Piped network is designed using a 1:10 storm allowing for climate change
- Overland flow is designed to a 1:50 event
- Flood mitigation provided by HBRC- river flood levee banks 1:100

At present, the Council is developing a modern computerhydraulic model to use as a tool for assessing and analysing the stormwater system. The development of a stormwater hydraulic model has been prioritised and funds have been allocated in the first year of the LTP. This model will then be used to:

- Produce flood hazard maps and system performance maps;
- Asses upgrade options and need for new assets taking into account growth and future climate changes;
- Identify minimum floor levels to inform new development.

In providing stormwater solutions to the city, the Council will promote low impact design concepts by updating (in 2018) the Council's code of practice for new developments and will be supported through the review of Council's District Plan (2020).

In 2018-28 LTP, stormwater projects to the value of \$36 million (see table 8.4) have been proposed from year 4 to year 30 to address stormwater issues. This programme will be reviewed prior to 2021 using the network model and updated programme will be included in the 2021-31 LTP.

### 8.2.5.1 Regional Council's Drainage Network

There is a historical interaction between Napier City and the Hawke's Bay Regional Council around management of the stormwater and land drainage networks.

Regional Council own and maintain assets associated with the Heretaunga land Drainage Scheme. This scheme was once entirely rural and thus provides a rural Level of Service catering for 1 in 5 year rainfall events and is configured to alleviate impacts of surface flooding. Today components of this scheme are located within the urban environmental where 1 in 10 year rainfall events must be catered for.

The management of assets in the scheme has evolved over time on a largely ad-hoc basis and what was once primarily a rural scheme now caters for the developed city environment with different elements of the stormwater network being owned by NCC and HBRC.

This situation needs to be addressed primarily by lifting the level of service of the drainage scheme were its services urban areas and by clarifying roles and responsibilities in relation to operations, maintenance and capital investment. This initiative will need to be progressed in the 2018/19 financial year.

### 8.2.5.2 Discharge Quality

The majority of stormwater from Napier is discharged into Ahuriri Estuary which is ecologically and culturally a very sensitive environment. The quality of the water in the Estuary is greatly influenced by the quality of stormwater discharge from both Council networks and from activities undertaken upstream of the city boundaries.

The Council is developing a major programme of work to improve the quality of stormwater discharged into the receiving water bodies over the next 30 years. In the first 3 years of the 2018-28 LTP, funds have been proposed to do a study and prepare a master plan for Ahuriri Estuary. The 2018-28 LTP includes a funding of \$6 million for the delivery of stormwater quality improvements over the next 30 years. This budget will be reviewed following the finalisation of the Ahuriri Master Plan.

The Council's approach to stormwater quality improvement is multi-faceted.

- Reducing the contamination at the source is a priority and can achieve though

public education and awareness programme

- Citywide stormwater catchment management plan focussing on stormwater quality and control
- Reviewing of District Plan and Engineering Code of Practice to include measures to control contamination from new developments
- Reviewing of the Stormwater Bylaw to include strict measures to facilitate enforcement

### Significant Current Decisions

Of significance to the Stormwater portfolio is the Ahuriri Master Plan which sets out a 30 year plan for a thriving and resilient estuary and coastal edge. It guides the use of land to support sustainable development that allows for commercial and residential growth while protecting the environment:

- The recommended option is to execute the whole plan which includes significant projects in transportation and reserves portfolios in addition to \$6.6m worth of projects in the stormwater portfolio, specifically focused on

improving the environmental outcomes of the stormwater network.

- The other options is to deliver only the \$6.6m of stormwater projects to deliver the enviornmental outcomes, but does not realise the full potential of the area.
- The Ahuriri Master Plan has developed projects at a concept level, and does not present multiple options for each component at this stage.
- A number of “Deferred Capital” works identified in the 2015 and preceding Asset Management Plans have not been carried forward into the current plan framework. These works were identified where roads did not meet the contemporary design standards for their classification. Non-compliance with a specific code does not necessarily mean that the road layout creates an unacceptable risk to users or the asset. Capital works programmes going forward will be evidence-based and prioritised against supported criteria. The Transportation Strategy, citywide traffic model and ongoing network monitoring will support the identification and development of the criteria and work programme.



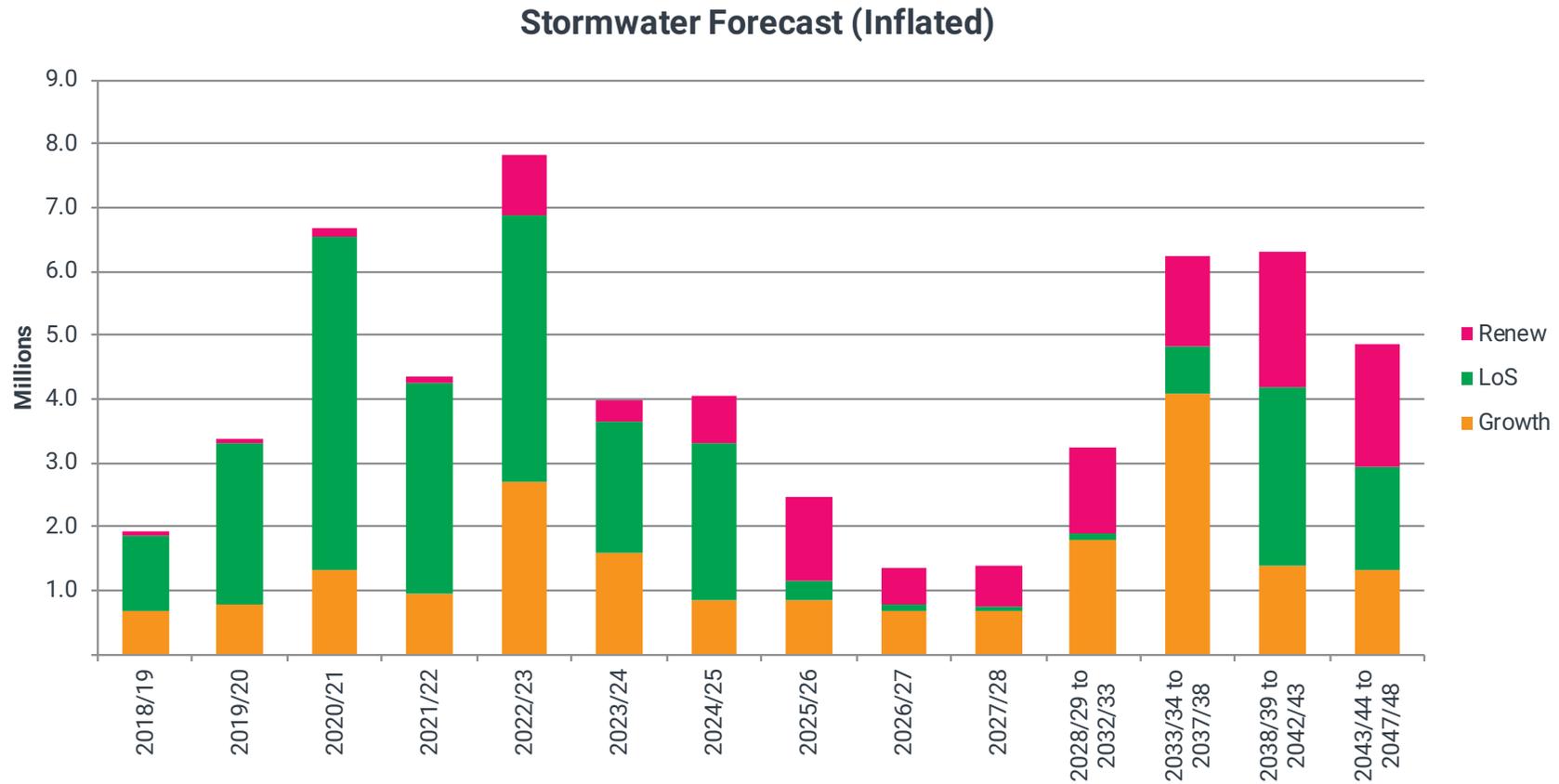
**Table 8.4 Programme of Significant Stormwater Investment\*\***

Project	Reasons	Principal Alternatives	Assumptions	Cost (2018)	Year(s)
Ahuriri Master Plan – water quality improvement projects	Improve and maintain water quality in Ahuriri Estuary	Divert stormwater away from Estuary	Project aligns with overall stormwater management strategy	\$13,000,000	2017/20
CBD stormwater upgrades	Reduce risk of flooding in CBD	Divert stormwater away from CBD	Work can be carried out with roading work to minimize disruption in CBD	\$1,000,000	2019/20
Climate change associated stormwater upgrades	Reduce the risk of inundation and flooding risks due to climate change	Retreat from high risk areas	Work can be carried out with roading work to minimize disruption in CBD	\$7,500,000	2039/45
New pump stations	Reduce the flooding risk and enabling infill development	Retreat from high risk areas	Some measures will be in place to restrict developments in high risk zones	\$8,800,000	2019/24
Stormwater outfall improvements	Reduce flooding risk	Restrict development	Reviewed District Plan will support low impact designs for stormwater	\$1,225,000	2019/48
SCADA upgrades	Improve operational capabilities and reduce risk of control and communications failures	Installation of additional outfalls	No significant negative effect from climate change in the next 30 years	\$300,000	2018/20
Stormwater pipes and pump station upgrades	Reduce the flooding risk and allow for growth	Reduce the level of service and restrict growth	HPUDS growth predictions are accurate enough. Regional Council stormwater drain system is upgraded as necessary.	\$19,130,000	2018/48

\*\* This is a table of investment highlights and excludes business as usual and routine renewals

The following shows projected annual capital expenditure associated with the stormwater infrastructure assets for the first 10 years followed by the average annual spend for each 5-year period from 2028 to 2048.

Figure 8 4: Projected Capital Expenditure – Stormwater



(Source: Stormwater Activity Plan 2018)

## 8.2.6 Open Spaces

### 8.2.6.1 Parks and Reserves

The Reserves portfolio of Napier City exists to enhance the quality of life of Napier's citizens, by providing high quality passive and recreational facilities throughout the city. Napier is fortunate to have a wide range of parks, reserves and public gardens uniformly located throughout the urban environment. The Reserves assets support a large number of tourism events and local events, delivering highly maintained grounds and gardens ranging in location from coastal foreshore to formal botanical gardens.

Some of the main issues facing Council for the Parks and Reserves Activity include an absence of data on the parks and reserves asset condition and no single system for data storage and reporting, there are no existing levels of service measures in the existing Reserve Management Plan or existing Asset Management Plan and Council have limited data from stakeholders to make any real conclusions on 'needs and wants'. Very little is known in terms of provision and demand for parks and reserves and how these relate to levels of service and the provision and size guidelines as set out in the NZRA guidelines.

Council increased its focus on strategic planning, asset data capture and development, while maintaining day to day service delivery. Strategic planning and data capture is crucial to set a good foundation for future management and development of our Parks and Reserves Asset and also will help further define Levels of Service. Council has recently joined a nationwide parks benchmarking tool 'yardstick' which will enable Napier to consider its levels of service and provision of parks and reserves in comparison to other similar local authorities in New Zealand and abroad and national guidelines set by the NZRA. Council has some data on various parks and reserves and this data will be gathered and entered into an asset management system.

Coastal Erosion in the Westshore area has been identified as a key issue in several strategic documents. A number of projects have been identified within Council Foreshore Reserves and funding has been allocated for these initiatives. Stage 1 of the Anderson Park Destination Playground is due for completion in 2018, it is anticipated that Stage 2 will be completed in 10 years subject to consultation and Council approval. The Ahuriri Master Plan has been initiated by City Strategy and place holder funding has been allocated based on notional projects identified in the plan.



**Table 8.5 Programme of Significant Parks and Reserves Investment\*\***

Project	Reasons	Principal Alternatives	Assumptions	Cost (2018)	Year(s)
Ahuriri Estuary Projects	Implementation of Masterplan	N/A	N/A	\$22,740,000	2018 - 2038
Coastal Erosion	Implementation of the Clifton to Tongio Coastal Hazard Strategy	Various erosion protection options and timings of interventions considered in the Strategy	Inundation adequately addressed across the isthmus	\$2,000,000	2018 - 2025
Westshore Erosion and Inundation Remediation	To Address historical erosion currently threatening Westshore	Options to address this issue effectively are under consideration	This issue will require periodic redress	\$9,600,000	2023 - 2043
Westshore Nearshore Restoration				\$2,000,000	2019 - 2044
Whakaririe Ave Rock Revetment	Implementation of Consent	Multiple alternatives considered throughout the consenting process. the current option is required by consent	N/A	\$2,200,000	2018 - 2020
Anderson Park Destination Playground	Stage 2 of Masterplan	Various alternatives will be considered throughout the design process.	N/A	\$1,100,000	2025

\*\* This table of investment highlights excludes business as usual and routine renewals

### 8.2.6.2 Sportsgrounds

The Sportsgrounds portfolio of Napier City exists to enhance the quality of life of Napier's citizens, by providing high quality sport and recreational facilities throughout the city. Napier's sportsgrounds range from facilities of regional and national significance to grounds principally serving local club demand. Council's sports grounds and associated facilities provide for the majority of the city's sporting demand, although increasing pressure from population growth, diversification of sport, crossover between seasons and more extreme weather events is making it increasingly challenging to meet all demands. In a rapidly changing local sports environment, and a highly competitive market for major events, Council needs to be nimble in its response to pressure points and changes in demand. Council's provision of sports facilities needs to respect traditional aspects of sport (for example, club

structures), while ensuring decisions now are sufficiently flexible to respond to changing future demand.

Some of the main issues facing Council for the Sportsgrounds Activity include an absence of data on the Sportsground asset condition, limited information on 'needs and wants' and the fact that very little is known in terms of provision and demand for sportsgrounds and facilities and how these relate to levels of service as set out in the NZ Recreation Association guidelines. The existing Reserve Management Plan which sets the direction for the future management and development (which covers all Sportsgrounds) is also outdated (2000) and requires review.

Council has increased its focus on strategic planning, asset data capture and development, while maintaining day to day service delivery. Strategic planning and

data capture is crucial to set a good foundation for future management and development of our Sportsgrounds Asset and also will help further define Levels of Service. Council has recently joined a nationwide parks benchmarking tool 'yardstick' which will enable Napier to consider its levels of service in comparison to other similar local authorities in New Zealand and abroad. Council has some data on sportsground asset (not utilisation) and a programme of gathering existing data and identifying and filling gaps is programmed. This will inform future decisions and help set levels of service.

A Sport and Recreation Strategy is planned which will focus on utilisation and any new technologies. This will sit alongside the Parks and Reserves Strategy and guide the

### 8.2.6.3 McLean Park

While Council have added new features to the park over time (e.g. the Graeme Lowe Stand), the rest of the park needs redevelopment so it can continue to attract international and national events and remain viable. These improvements will also allow us to open up the Park for other events, such as concerts and community events, thus increasing the overall utilization of the asset.

Alongside major drainage and turf works being completed this year, Council are developing an overall strategy for the park to take it into the future.

The following projects have been identified in the Long Term Plan to deliver expected Levels of Service or implement ongoing improvements to Park.

Reserve Management Plan process.

Master planning has been undertaken for Park Island and this LTP allocates significant funding for implementation of the Master Plan initiatives. McLean Park has been identified as a priority for renewals and funding has been allocated for this purpose.



**Table 8.6 Programme of Significant Investment at McLean Park\*\***

Project	Reasons	Principal Alternatives	Assumptions	Cost (2018)	Year(s)
Development of Practise Nets facility	To enable venue to continue to secure 1st class and international cricket	Options in location, scope and design will be explored	Availability of land	\$100,000 \$800,000	2018/19 2018/19
Light Tower Upgrades	Ensure sports field lighting standards are met	New technology will be considered		\$3,000,000	2036/37
McLean Park Returf (part fund)	To enable venue to continue to secure 1 <sup>st</sup> class and international cricket	Various turf technology, drainage and irrigation options were considered		\$1,100,000	2018/19
Install additional big screen	Improved levels of service	Size and location to be considered		\$250,000	2025/26
Turf Farm Development	To support McLean Park hybrid turf system as it approaches time when it will need renewal. Full feasibility of this is required			\$1,000,000	2027/28
McLean Park Harris Stand Upgrade	Planned renewal of the Harris Stand with increased capacity. Full feasibility of this project is required			\$45,000,000	2047/48

\*\* This table of investment highlights excludes business as usual and routine renewals

(Source: Sportgrounds Activity Plan 2018)

#### 8.2.6.4 Park Island Master Plan

A Master Plan for Park Island was originally developed in 2013. Council have recently updated the plan (2017) and have proposed to rearrange the Northern Sports Hub (along Orotu Drive) and the residential development to achieve better connectivity for sports activities.

With the benefits of artificial turfs, Council are able to reduce the overall number of fields required.

In addition, The Hawke's Bay Rugby Union is planning to relocate to the park and develop a high performance training centre in the Northern sports hub.

The Central and Southern Sports Hub are essentially unchanged from the original Master Plan except for two additional artificial turf fields outside the Bluewater Stadium, one each for rugby and football.

The following projects have been identified in the Long Term Plan to deliver the intent of Master Plan.

**Table 8.7 Programme of Significant Investment at Park Island\*\***

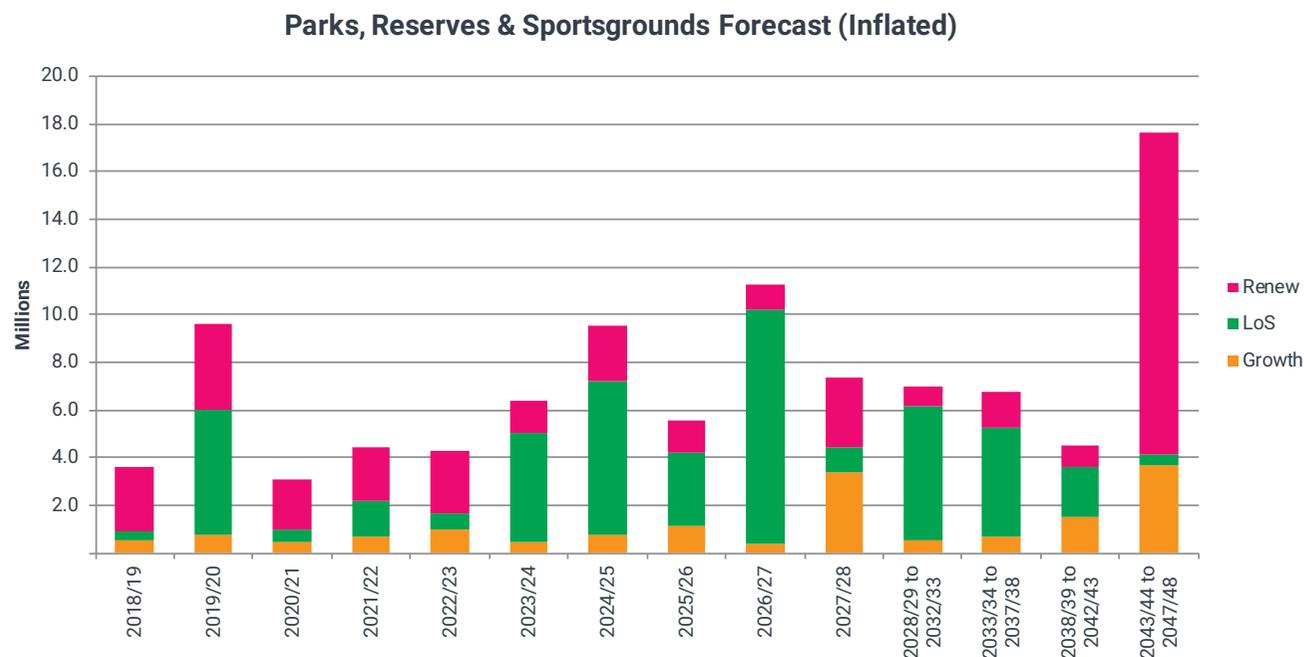
Project	Reasons	Principal Alternatives	Assumptions	Cost (2018)	Year(s)
Installation of Footbridge	To improve accessibility of sports fields from Westminster Ave	Various design concepts will be considered	Obtaining consent	\$150,000	2018/19
				\$800,000	2019/20
North Hub Redevelopment				\$4,184,000	2018/28
Southern Hub Redevelopment				\$15,937,000	2020/37
Central Hub Development				\$10,300,000	2027/42

\*\* This table of investment highlights excludes business as usual and routine asset renewals

(Source: Sportgrounds Activity Plan 2018)

The following shows projected annual capital expenditure associated with the Open Spaces infrastructure assets for the first 10 years followed by the average annual spend for each 5-year period from 2028 to 2048.

**Figure 8.5: Projected Capital Expenditure – Open Spaces**



(Sources: Reserves Activity Plan 2018, Sportgrounds Activity Plan 2018)

## 8.2.7 Buildings and Property Portfolio

Significant issues include:

- Building Asset Management of existing buildings
- Three major building projects:
  - Library Building Upgrade to become the new Civic Administration Building (Business case to be developed)
  - National Aquarium of New Zealand Expansion
  - Aquatic Centre

### 8.2.7.1 Asset Management of Existing Buildings

#### a. Deferred Maintenance

Previous plans have followed a strategy of deferring non-critical capital maintenance works in order to manage capital expenditure, instead managing the effects of this through performing operational maintenance on an as-required basis. A recent condition survey of high importance facilities has shown that this is not a viable strategy going forward, and further there is a large amount of maintenance that is now identified as required to be conducted to protect the capital value of these assets and ensure they are able to continue to deliver the required levels of functional performance necessary to deliver the services associated with them.

Council has recently undertaken an asset condition assessment by specialist consultant SPM across all of its building assets. A programme of work was developed as a result of this assessment with priorities set based on the assessed condition assessment for timing. Urgent and critical works will be carried out as soon as practical, with the remainder of the work being undertaken per the programme recommended by SPM. A preventative maintenance programme has also been implemented across these assets

#### b. Earthquake and Asbestos Regulatory Requirements

There is a moderate level of knowledge and awareness of the new regulatory requirements relating to these hazards. Although some consideration has been given to developing a programme to meet the appropriate compliance levels, this programme has yet to be fully scoped and funded. There is a risk that council may need to accelerate funding or breach compliance requirements.



Table 8.8 Programme of Significant Investment in Property and Buildings\*\*

Project	Reasons	Principal Alternatives	Assumptions	Cost (2018)	Year(s)
Aquatic Centre	To provide increased swimming provisions for the local community as well as visitors to Hawke's Bay. Current demand for pool space not being met	25x25m complex located at existing site or along Prebensen Drive  A 50m pool complex, however, this option would need to be considered in conjunction with a proposed plan from Hastings Regional Park to develop a 50m pool	Have assumed Prebensen Drive as preferred location (site not contaminated) with the cost effective pool of 25x25m. Assumed cost would be similar to Christchurch pool	\$41.3m	2018, 2019, 2020
Library Building	The existing building is currently seismic prone, and the library has moved to a temporary location at the MTG Hawke's Bay. A library strategy is currently in development to determine the future needs of libraries. Once completed, this will inform options on the best location for the library going forward	Return to the existing building once seismic strengthening/upgrade complete or move to greenfield site (will be determined once Library Strategy complete)	There are currently no assumptions regarding site, however, have assumed that the building requirements can be met from the capital project funding provided either going to Greenfield or back to the existing building.	\$15m	2019, 2020, 2021
National Aquarium of New Zealand	The National Aquarium is looking tired and requires an upgrade as well as providing for new and refreshed exhibits. The current Minister of Regional Economic Development is keen to see this project being undertaken and supported via the Regional Development Fund. They have indicated they would be looking to contribute \$20-\$25m to this project. This would achieve a far greater outcome than what could be achieved if we were undertaking the project alone. The project will be partnered with Weta Workshop, Waikato University, Air New Zealand and others.	Council could choose just to fund the renewals and upgrade the exhibitions or work with Central government as a source of funds and expand the facility to increase visitors to the region due to the increased level of service achieved from additional funding	We have assumed that Council would receive the funding from Government, together with external funding sources from grants and sponsorship, and that Council will be limited to a fixed contribution of \$10.5m	\$51m (of which Napier City Council's contribution is \$10m)	2018, 2019, 2020

Project	Reasons	Principal Alternatives	Assumptions	Cost (2018)	Year(s)
Earthquake	Implementation of Council's Policy on Earthquake Prone and Insanitary Buildings.	Legislative requirement under Building (Earthquake-prone Buildings) Amendment Act 2016.	No further changes to the Legislation will not occur during the period	\$150,000 (opex) \$450,000 \$150,000 \$150,000	2018 to 2021 2018/19 2019/20 2020/21
	Implementation of seismic restraints assessment strengthening as appropriate.		Legislative requirement under Building Code but not retrospective to existing buildings.		
Building Compliance	Implementation of future plan to perform risk assessments and identify high risk areas for public safety in buildings via gap and fire analysis.	Hold further study under existing policy pending TA direction.		\$75,000 \$75,000 \$75,000 \$50,000 \$50,000	2018 2019 2020 2021 2022
Deferred Maintenance	Following an estate condition survey, data collected identifies there are areas of deferred maintenance.	Hold addressing issues and respond during service failure events.	SPM Data is correct and no further reports are required.	Budgeted @ \$1.5m from SPM*	2018 to 2023

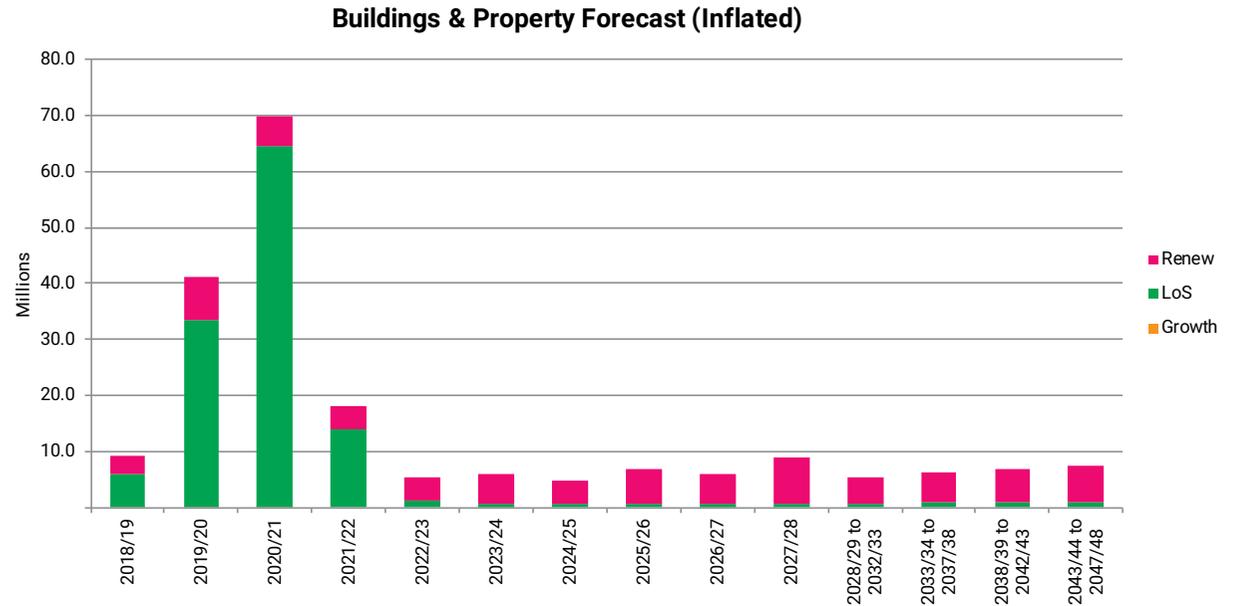
\* Pending further assessment

\*\* This table of investment highlights excludes business as usual and routine asset replacement



**Figure 8 6: Projected Capital Expenditure – Buildings and Property**

This shows projected annual capital expenditure associated with the Buildings and Property infrastructure assets for the first 10 years followed by the average annual spend for each 5-year period from 2028 to 2048.



(Source: Property Assets Activity Plan 2018)

### 8.2.7.3 Significant Current Decisions

There are 3 significant decisions to be made around the Library, National Aquarium and Aquatic Centre. These are detailed below.

#### 1. Library Building Upgrade to become new Civic Building

The Council’s administration buildings were vacated late last year after a detailed seismic assessment identified both the Library and Civic Building as earthquake prone. As a result of the move, some 230 staff are now spread across three central city locations. Council have found that a reconfigured Library building could fit all of the displaced staff into one space as well as the Library service.

Further investigations into the Library Building have found that to achieve this fit, Council must fully upgrade the building to provide for an open plan, working environment. This includes replacing all electrical and mechanical systems, seismic strengthening work and exterior work.

A business case is currently being prepared to look at various options with regards to Council’s requirements. These option may include adaptive reuse of the existing building; demolish then new build, and options on alternative sites.

#### 2. National Aquarium of New Zealand Expansion

Our National Aquarium is due for an upgrade. There are essential replacements (plant and equipment) needed and at the same time we could do some cosmetic refurbishment of the current facility with no change to exhibits, areas or size.

Or, we have the opportunity to create a marine centre of excellence by committing \$10million (10.2 million inflated cost) of Council funds, combined with up to \$41 million (\$42.8 million inflated cost) of external funding and sponsorship for a significant expansion to the facility.

#### The expansion project

This expansion will tell the story of our relationship with the land and sea, encouraging

us to care for our natural environment through marine science research, education and conservation programme while being an unforgettable aquarium experience. Being bold and visionary is important to the project's success.

This project is an initiative of Matariki: Hawke's Bay's Regional Economic Development Strategy and aims to increase regional growth through increased tourism and job opportunities. It is set to attract significant partnerships, external funding and sponsorship. It also closely aligns with the government's new Provincial Growth Fund given the considerable benefits it would deliver for the region and to the whole of New Zealand.

We are working with Iwi, the renowned Weta Workshop, the University of Waikato and Air New Zealand to deliver a conservation centre of excellence and eco-tourism offering that will attract local, national and international visitors.

The project is in its initial stages of development with an indicative business case completed. We have financial support from the government to complete a full business case. Following this, we would seek further community feedback on the proposal and secure the external funding.

### **Proposed Option**

A significant expansion of the facility and its programmes. A capped contribution of \$10.2 million is proposed, with up to \$42.8 million of non-Council funding for this \$53 million project (inflated cost).

### **Other Option**

Complete essential plant and equipment replacement and cosmetic refurbishment to existing facility. This work will not attract any external funding and will need to be fully funded by Council. Refurbishment and Replacement is due to cost \$11.5 million funded by loans with total operating expenditure of \$700,000 per year, to be funded by rates and user charges.

## **3. Aquatic Facilities**

### **Napier Aquatic Centre Development**

The demand for aquatic facilities in Napier already outstrips our current supply. We

expect demand will continue to grow. Aquatic facilities around the country are becoming multi-use facilities for leisure, recreation, rehabilitation, sport and fitness training. Creating a multi-use facility here in Napier future proofs the complex as our community and preferences change.

Historical issues with the Onekawa site and its previous use as a refuse facility must also be considered. There is a centrally located, Council-owned, site on the Prebensen and Tamatea Drive corner that could accommodate a new development, while still allowing for increased water space in the future.

### **Proposed Option**

25m x 25m Pools and Play (new location) has a capital cost of \$41.3 million (\$40 million in 2018 dollars) which will be funded through \$34.3 million in loans and \$7 million from reserves. Total operating expenditure per year will be \$3.3 million, and funded through rates and user charges.

A new pool complex to be located at the site on Prebensen Drive location that would include the following:

- 25m x 25m pool
- 25m x 12m learners' pool
- 20m x 8m programme pool
- Two spa pools, a gymnasium, a café, and a water play area featuring an accessible pool, bomb pool, hydroslide, and splash pad and water toys

This would meet the needs of a high proportion of users, and would cater for the high interest in leisure play, plus, it will provide more lane space, modelled on the QEII complex being constructed in Christchurch.

There is the opportunity with this option to extend the 25m pool to a 50m pool if there is demand in the future. Lifespan: 30 years.

### **Other Options**

- a. New Pools and Play at the new location, which includes an Olympic sized pool, 50m x 25m, and this option has a capital investment of \$51.7 million to be sourced with \$43

million in loans, and \$7.1 million from reserves. The total operating costs per year will be \$6.4 million, and funded through rates and user charges.

This pool complex would also be at the Prebensen location and include these features:

- Three new pools (a 50m x 25m pool, a 25m x 12m learners' pool and a 20m x 8m programme pool)
- Two spa pools, a gymnasium, a café, and a water play area featuring an accessible pool, bomb pool, hydroslide, splash pad and water toys.

The 50-metre Olympic sized pool is most suitable for competitive swimmers, however, there is less flexibility of use than a 25 metre pool and costs more to heat and operate. Lifespan: 30 years

- b. Existing Pool Extension of existing facilities in Onekawa. The capital cost will be \$20.2 million and funded with \$13.1 million in loans, and \$7.1 million in reserves. The annual operating expenditure to be \$2.8 million which is funded through rates and user charges.

The facilities and features for this option include the following:

- One new 25m x 25m pool to replace the existing 25m pool
- One new 12.5m x 8m learners' pool
- A new gymnasium

The water slides, spa pools and splash pad would remain. Access to the facility would be limited during construction of the new pools. Lifespan: 15 years (This is when current facilities will need refurbishment.)

## 9. Financial Estimates and Impacts

The Local Government Act 2002 Section 101B – Infrastructure Strategy states:

(4) The infrastructure strategy must outline the most likely scenario for the management of the local authority's infrastructure assets over the period of the strategy and, in that

context, must—

“(a) show indicative estimates of the projected capital and operating expenditure associated with the management of those assets—

“(i) in each of the first 10 years covered by the strategy; and

“(ii) in each subsequent period of 5 years covered by the strategy

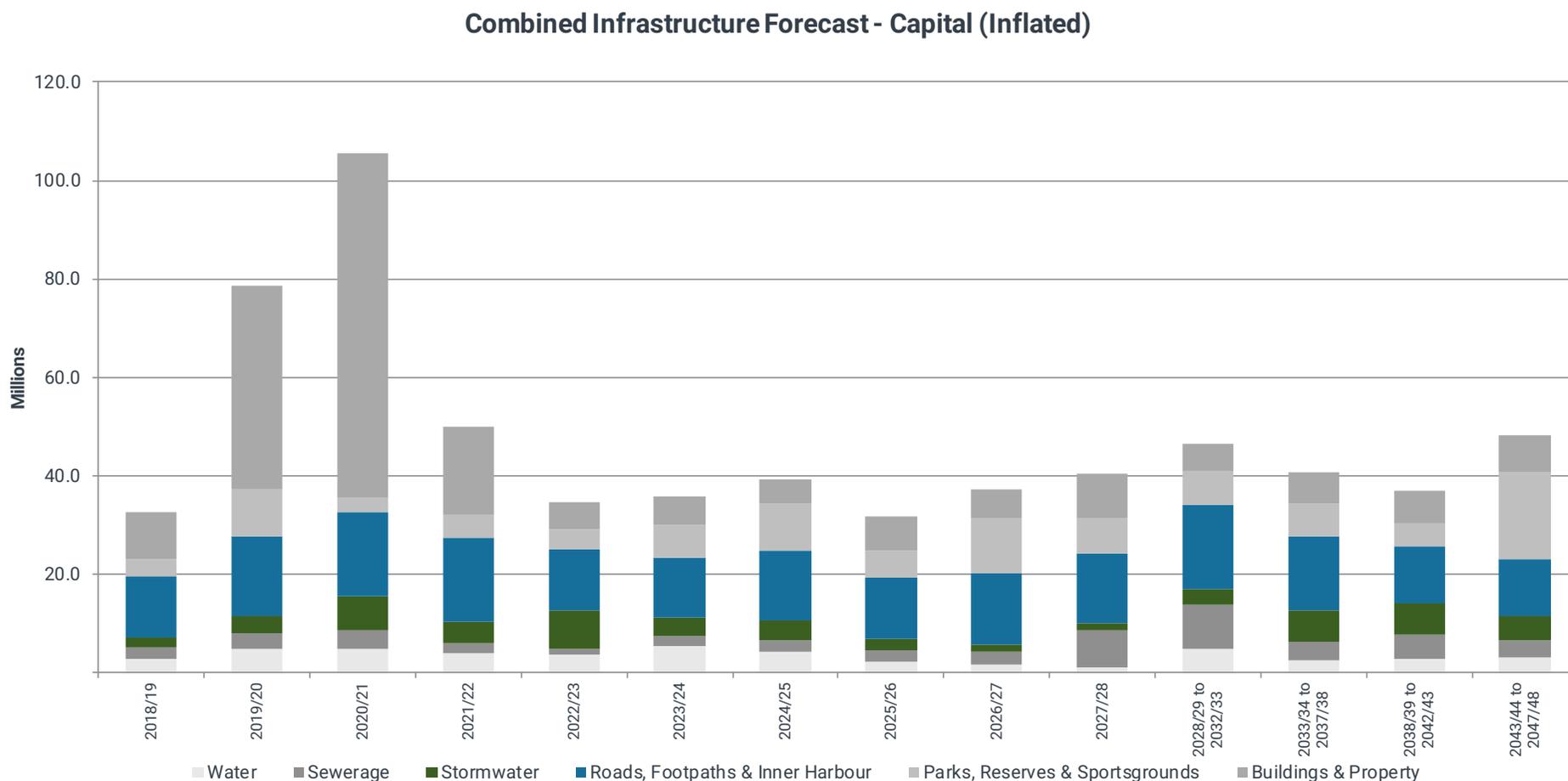
Therefore, it is important to note that each year is shown for the first twelve years and then the average for each five-year period within the graphs below. This aligns the projections with three yearly LTP periods.



## 9.1 Total Expenditure

The following shows projected annual capital expenditure associated with the significant infrastructure assets for the first 10 years followed by the average annual spend for each 5-year period from 2028 to 2048.

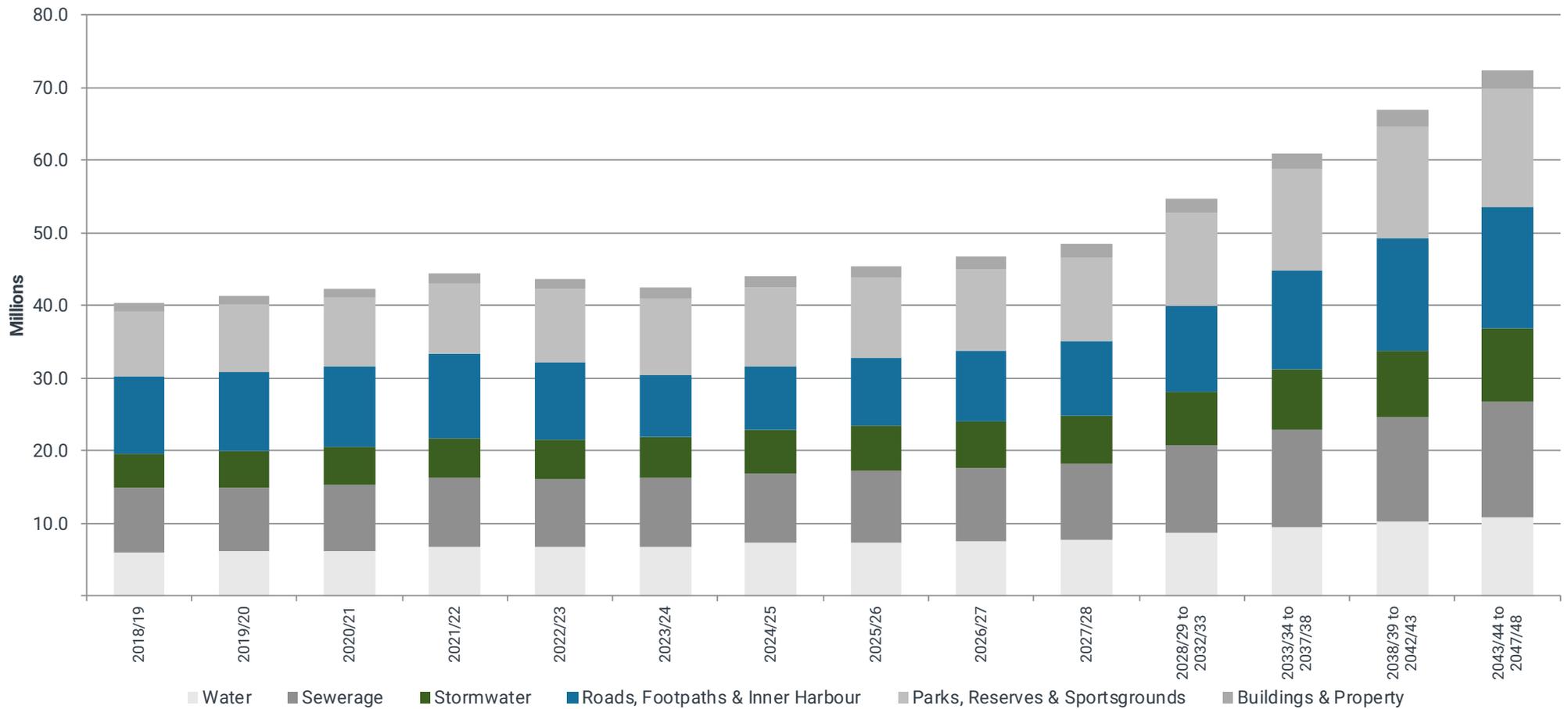
Figure 9 1: Projected Capital Expenditure- Infrastructure Assets



The following shows projected operational expenditure associated with the significant infrastructure assets for the first 10 years followed by the average annual spend for each 5-year period from 2028 to 2048.

Figure 9 2: Projected Operational Expenditure- Infrastructure Assets

### Combined Infrastructure Forecast - Operations & Maintenance (Inflated)



## 9.2 Financial Impacts of the Infrastructure Strategy

The Infrastructure Strategy, alongside the Financial Strategy demonstrates how Napier City Council plans to manage its assets prudently and sustainably through periods of growth, changes in standards, and improving its resilience for the future. Council currently does not have any external debt, which is a strong foundation and platform for the capital programme outlined in the Strategy. As Council only generates approximately 50% of its total revenue from rates funds which assists with the overall resilience framework for Council. Having significant funding from other streams such as fees and charges, and property development, Council is in a good position to respond to financial pressures relating to resilience (e.g. earthquake response). It has utilised non rates funding as sources of funding for large scale projects such as the proposed Aquatic facilities, Aquarium expansion and proposed new Library.

Although the 10 year plan sees Council incurring up to \$30m of external debt to deliver the projects as discussed in the strategy, these debts are able to be fully repaid by the end of the 10 year – leaving Napier City in equally a strong position as it started out in this plan.

Ensuring that Council continues to have capacity to fund any future expenditure needs is a key component of Council's Financial Strategy. Each year Council will collect sufficient revenues to fund its expenditure needs, including the depreciation on our large asset base. By balancing its budget in this way Council ensures that the current ratepayers are contributing enough to maintain the assets in their current condition.

In practice Council's actual funding requirements for the renewal of assets can vary significantly from year to year. Asset renewals are driven by the age and condition of the assets rather than the "straight line" approach as represented by the depreciation expense. The aim is to only renew assets at the time that asset data indicates that the renewal of the asset is the most cost effective solution to maintaining service life in the long-term. Where the funds collected to cover the depreciation expense exceed the amount needed for asset renewals Council will use the funds to either retire debt, fund new capital or invest the funds to meet future expenditure requirements. This ensures that Council maintains the capacity to fund asset renewals as they arise in the future.

Combined Infrastructure Capital Funding (Inflated)

