

# Infrastructure Strategy 2021-2051

This Infrastructure Strategy is part of **Section 4** of **Manawatū District Council's 10 Year Plan (2021-31).** 



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# Infrastructure Strategy Te Rautaki Pūnahahanga

#### Background

The Infrastructure Strategy sets out the requirements for the long term management of our assets to ensure they continue to deliver on levels of service over the next 30 years. The strategy identifies significant issues relating to the District's infrastructure, and the principle options for managing those issues, including the implications of those options.

This strategy has been prepared based on the Asset Management Plans. These plans set out a 30-year programme for the management of each group of the core network assets (roading and water infrastructure). These plans ensure that assets are managed in an affordable, efficient and effective manner to minimise the financial impact on ratepayers and residents. The Strategy has also been based on the Forecasting Assumptions, and should be read alongside the Financial Strategy. For more information about the services Council provides, including through infrastructural assets, see also the Activity Statements in Section 5.

In developing the Infrastructure Strategy, our strategic goal is 'to provide the Manawatū community with resilient infrastructure in a cost-effective way, meeting both current needs and future growth and demand.' Infrastructure decision-making requires a balance between facilitating growth, and meeting community expectations and agreed levels of service within debt limits and at a rate that the community and industry can afford.

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Below shows the assets covered by this strategy.

#### Assets covered by this strategy

- Roads and footpaths
- Water supplies
- Wastewater (sewage treatment & disposal)
- Stormwater

#### What the strategy outlines for all assets

- Requirements for renewing and replacing existing assets.
- How Council will respond to changes in demand for services.
  - How Council will allow for planned increases and decreases.
- Planned changes in levels of service provided through these assets.
- How Council will maintain or improve public health and environmental outcomes, or mitigate adverse effects.
- How Council will provide for the resilience of infrastructure by identifying and managing risks relating to climate change and natural hazards.

Note: In addition to the assets outlined above, Council also provides other community infrastructure such as the library, aquatic centre, parks, solid waste infrastructure and community buildings and facilities. These activities and assets are outlined in Section 5 of the 10 Year Plan.

#### The Manawatū District today – where are we now?

The economic, social, demographic and geographic characteristics of the District all impact on the delivery of our infrastructure assets. More information on this context can be found in Our District Snapshot, Section 2, but a brief background is included here.

The Manawatū District stretches from the Pacific Coast in the west to the Ruahine Range in the east. To the south, it shares a boundary with Palmerston North City. It is bound to the north and south by two major rivers – the Rangitikei and the Manawatū. The District boasts a diversity of geographic features, including hill country to the north and east and extensive flood plains to the west. Further to the west lies the broadest band of dunefields anywhere in the country. The Ōroua River runs from the Ruahine Range to the northeast of the district, skirting around Fielding before making its way through the floodplains and then converging with the Manawatū River at Rangiotū.

The District has an excellent roading network, including four state highways, linking the District to Wellington City and port to the south and Auckland, Tauranga and other cities and ports to the north. The main trunk railway, which passes through Feilding, enhances connectivity, particularly for freight. Primary industry (agriculture and forestry) comprise our biggest economic sector, making up nearly 18% of District GDP. Manufacturing and defence (primarily the Ōhakea Airbase) also contributes strongly to the local economy.<sup>1</sup>

Increases in population, dwellings and rating units, as described in Forecasting Assumptions, all have implications for our infrastructure services. These factors can affect the capacity of our assets to deliver services to the community and the timing of capital projects. For example, population growth generally leads to an increase in the volume of traffic using the roading network, placing increasing pressure on our roads and other infrastructure, such as stormwater. It is therefore essential that we ensure our asset management is sustainable and anticipates future growth and change in the District.

In managing its infrastructure, Council needs to balance quality and reliability of service with affordability. This will become all the more important as the proportion of older people in our District increases.

Further details about how we aim to keep our rates affordable while providing acceptable levels of service are described in the Financial Strategy in Section 4.

#### Our assets - Service performance and condition

We have approximately \$1.008 billion invested in infrastructure assets in our District (see table below). Infrastructure accounts for over half of our annual operating expenditure. Overall, our assets are in average to good condition, and continue to deliver the expected levels of service to our communities. We continue to invest in the ongoing maintenance and replacement of assets to ensure that the provision of services to our residents and businesses is maintained. We currently spend almost \$15 million annually on the maintenance and operations of these assets. Over the past 10 years we have spent on average of approximately \$10.3 million on renewal of assets across our infrastructure network each year.

#### Renewals 2011-2020

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
Stormwater	220,235	530,998	578,906	383,625	18,662	1,835	11,126	26,213	245,304	10,864	202,777
Water supply	3,066,543	572,396	1,725,925	1,094,613	1,466,105	3,303,913	1,183,297	546,805	865,502	1,267,794	1,509289
Wastewater	1,996,798	2,543,703	3,417,514	1,832,765	1,881,267	719,024	387,708	1,180,635	623,397	273,975	1,485,679
Roading	6,015,811	5,621,788	7,788,972	9,761,913	4,792,827	7,204,846	6,192,168	7,396,806	8,492,456	7,989,713	7,125,730

#### Valuation Report 2019

Our assets and their value are set out below:

Infrastructure asset	Description	Replacement value \$	% of total
Roads and footpaths	1001 km sealed roads	700,389,840	69
	367 unsealed roads		
	149 km footpaths		
	241 Bridges including 100 major culverts		
	3625 street lights		
	Road signage, markings, drainage, railings/structures, berms and vegetation		
Water supply	9 water treatment plants <sup>2</sup>	120,018,675	11.9
	346.9 km water mains		
Wastewater treatment	8 waste water treatment plants <sup>3</sup>	119,543,793	11.86
	247 km reticulated wastewater network (pipes)		
	2180 manholes		
	214 pumping stations		
Stormwater	106 km stormwater mains	68,294,000	6.77
Total		1,008,246,308	100

<sup>3</sup> These are in Feilding, Rongotea, Sanson, Halcombe, Kimbolton, Awahuri, Hīmatangi and Cheltenham.

<sup>&</sup>lt;sup>2</sup> These are made up of five urban water treatment plants (Feilding, Sanson, Rongotea, Hīmatangi Beach and Kimbolton) and four rural (Waituna West, Stanway/Halcombe, Kiwitea and Ōroua). (The Kiwitea and Ōroua Water supplies are not managed by the Manawatū District Council.)

Like most Councils around the country, part of Council's water and wastewater networks were constructed the early 1900s so accurate information on these older assets is not available. Consequently there are some gaps in the data resulting from poor information in the asset database.

However, Council has made a considerable investment in renewing the water and wastewater networks in recent years and our critical assets are routinely maintained and monitored. Council considers the risk of critical asset failure to be minimal.

In the 2018–28 Long Term Plan the expenditure required to deliver the asset renewal profile was projected to contribute to Council exceeding its debt cap. As a result of this, Council decided to reduce the water and wastewater renewals programme by \$10 million over the 2018–28 period. Council re-positioned its risk profile, prioritising critical parts of the network that would have widespread impacts in the event of failure.

Council will continue with its focus on the renewal of critical assets or parts of the network for Years 1–3 of this 10 Year Plan (2021-31), with increased renewal investment planned across the infrastructure network for years 4–10.

In years 1-3 of the draft 10 Year Plan 2021-31 the shortfall for theoretical based renewals as shown in the Assetfinda database is \$19M. This includes above ground assets at the Manawatū Wastewater Treatment Plant and the Armadale Water Treatment Plant, some of which have already been renewed through the implementation of the Feilding Water Strategy. This theoretical renewal expenditure will not be required, and the asset data verification will be completed in the implementation of the asset data improvement plan. Renewal expenditure of \$8M is planned for Water Supply assets in years 4-10. This increase will provide the ability to renew additional assets that are identified in Council's ongoing condition assessment which will be added to the targeted renewals programme.

The Assetfinda data of renewals that are due on or before years 4-10 will be reviewed as part of our ongoing condition assessment to see if they are in need of renewal or if we can increase the expected useful life. The targeted renewals programme for years 4-10 will contain the assets that are identified in the condition assessment as a priority for renewal. Condition assessment will provide higher confidence around current low-quality data which is expected to reduce the assets due for renewal in the next 10 years.

Continuing with a reactive approach to asset renewal rather than a proactive approach during Years 1–3 means that maintenance costs could increase. However, it is difficult to quantify this potential additional cost of maintenance as it will be dependent on the specific asset and the extent of any given failure. There may be no increase in maintenance costs if the asset does not fail.

Council has budgeted for the assumption that it will have both the internal and external resources required to achieve 85% to 105% of its reduced annual capital works programme over the life of the 10-year Plan. If the availability of resources are such that less than 85% of the programme can be completed, there may be an impact on levels of service over time.

To mitigate these risks and to support the completion of the capital works programme, significant contracts have been entered into by council and internal resourcing has been boosted by building the in-house project management and engineering expertise. Factors that may affect delivery are the availability of specialist engineering expertise and external contractors (including prequalification requirements for contractors), the capacity of Regional Council to process resource consent applications within statutory timeframes, landowner negotiations and the ability to procure products and equipment from offshore. An additional risk is elevated demand due to the large capital works programmes of both neighbouring Councils and central government in the region. Opportunities are being sought to bundle projects together to gain efficiencies and enable the completion of aligning projects across the region.

#### **Confidence in Condition data**

Council has recognised where there are some gaps in asset information and has implemented a maintenance and monitoring programme to inform a targeted renewals programme. As part of the improvement plan contained within the three waters asset management plan, the data contained in the asset management system will be assessed and updated accordingly.

The data confidence was evaluated and peer reviewed as part of Infrastructural Assets Valuation Reports 2019 for the Water, Wastewater and Stormwater Assets as at 1 July 2019.

Cor	ifidence Grade	Description
A.	Highly Reliable	Data based on sound records, procedure, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate + 2%.
Β.	Reliable	Data based on sound records, procedure, investigations and analysis, documented properly but has minor shortcomings, for example some data is old, some is documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate + 10%.
C.	Uncertain	Data based on sound records, procedure, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially completed but up to 50% is extrapolated data and accuracy estimated + 25%.
D.	Very Uncertain	Data based on unconfirmed verbal reports and/or cursory inspection and analysis. Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy + 40%.
E.	Unknown	None or very little data held.

#### Three Waters Asset Condition – breakdown

At Manawatū District, the confidence for asset attributes that would materially impact on the valuation (i.e quantity, age, size, replacement, costs etc) has been assessed for each asset class as follows:

Asset Class	Water	Wastewater	Stormwater	Comments
Pipelines	10% A 80% B 10% C	20% A 80% B	10% A 70% B 20% C	Since 2010: High accuracy in terms of quantities, descriptions, location and initial recognition of costs 2000-2010: Good accuracy in terms of quantities, descriptions and location Pre 2000: Good accuracy in terms of location and quantities but average descriptions
Points	40% A 60% B	40% A 60% B	20% A 70% B 10% C	See comments for Pipelines above
Plant & equipment	20% B 60% C 20% D	10% B 60% C 30% D		Since 2010: Average accuracy. Components described at a high level only 2000-2010: Good accuracy. Adequate component descriptions, but initial purchase costs not recorded Pre 2000: Average accuracy, little supporting documentation
Pump Stations		30% A 60% B 10% C	60% A 40% B	
Three Waters Overall confidence	В	С	В	

#### How does Council assess the condition of assets?

In order to assess the condition of underground assets, Council considers a range of factors including the date of installation and the material used (cast iron, asbestos cement, PVC, and PE). If there are questions surrounding the reliability of installation dates, the materials used provide a greater level of certainty around the date of construction and predicted useful life. This is combined with other factors such as the condition of other local underground assets, service history and recorded failures to ensure that Council can paint a representative picture of the condition of an asset.

For full list of assumptions relating to infrastructure, see the Forecasting Assumptions in the 10 Year Plan and the Asset Management Plan.

#### **Network condition**

Grade	Condition	Description	Expected Proportion of network (%)
1	Very Good	Asset is structurally sound and in excellent physical condition. No work required	75%
2	Good	Asset is structurally sound and in acceptable physical condition. Minor work required (if any)	11%
3	Fair	Asset is structurally sound but shows deterioration. Moderate work required to return asset to agreed level of service	13%
4	Poor	Asset failure likely in the short term. Significant work required now to return asset to agreed level of service	0.5%
5	Very Poor	Asset has failed/is about to fail. Renewal/Replacement required Urgently	0.5%

## Critical assets condition

Asset Type	Grade	Condition	Network Percent %
Water Reticulation	1	Very Good	45
Water Plant	1	Very Good	59
Sewer Pump Stations	1	Very Good	2
Sewer Pump Stations	3	Average	0.5
Wastewater Plant	1	Very Good	20
Wastewater Reticulation	1	Very Good	1
Wastewater Reticulation	2	Good	1
Stormwater Pump Stations	1	Very Good	100
Stormwater Reticulation	1	Very Good	32
Stormwater Reticulation	2	Good	0.5



#### **Roading network condition**

A high proportion (>91%) of the network's pavements and surfaces are considered to be in an acceptable condition, based on the objective analysis at the expected Level(s) of Service. Figure 1 below highlights the proportion of the sealed road network within, approaching and beyond the expected performance threshold(s):





Figure 2 below highlights the 85th Percentile roughness measure throughout the sealed network. This measure shows that the Manawatū District road network enjoys smoother roads in general than those of other NZ rural districts, the Manawatū-Whanganui Region and the nation as a whole (source: ONRC performance measures reporting tool).





The most recent 'smooth travel exposure' data for the District is presented in Figure 3 below, and exhibits a slight downward trend across all road classifications over time. This general deterioration is because of increasing traffic volume(s) and recent changes in usage (source: ONRC performance measures reporting tool):





#### **Roading Asset Data Confidence**

It is important to note the underpinning data that is used and maintained in the RAMM database can have a degree of error. This is mostly due to the origin of some data which was imported into RAMM in the 1990's from the data sources of the time. Information in some of the lower value data sets has been maintained but not validated. There is improvement over time but some errors remain.

The RAMM software system has also evolved from a linear based system where assets were related to measured reference points on the road, to a GPS based Geographical Information System (GIS) which requires a higher level of positional accuracy.

The Road Efficiency Group (REG) is an arm of Waka Kotahi NZ Transport Agency who undertake analysis of Local Authority information for reporting and benchmarking purposes. RAMM data is analysed by REG using automated scripts and annual reports are generated for each council, multiple measures are aggregated to give an annual score. The system for scoring was implemented in 2017/18 when the MDC annual score was 47, in 2018/19 the score increased to 75 with a further increase to 85% in 2019/20. These increases are due to focused data improvement work undertaken by the MDC Asset Management Team.

Data improvements are ongoing and MDC is progressively undertaking verification of its assets recorded in the RAMM database. All new data entered by MDC staff and contractors is audited on a monthly basis.

Asset Class	Component	Data Confidence
Berm	Berm	С
Bridge	Bridge (Deck)	A
	Bridge (Culvert)	A
Crossing	Crossing	С
Drainage	Drainage	В
	Drainage Wall	A
Feature	Feature	A
Footpath	Footpath	В
Island	Island	С
Marking	Marking (RRPM)	С
	Marking (Painted Markings)	D
Railing	Railing	С
Retaining Wall	Retaining Wall	В
Shoulder	Shoulder	С
Sign	Sign	В
Streetlight	Streetlight (Bracket)	A
	Streetlight (Light)	A
	Streetlight (Pole)	A
SW Channel	SW Channel	С
Traffic Facility	Traffic Facility	С
Treatment Length	Formation Rural O L	В
	Formation Rural O P	В
	Formation Rural S L	В
	Formation Rural S P	В
	Formation Urban	В
	Pavement 1st Coat	A
	Pavement R k-Depth	A
	Pavement R u-D <2000	С
	Pavement R u-D >2000	С
	Pavement U k-Depth	А
	Pavement U u-D <2000	С
	Pavement U u-D >2000	С
	Pavement Unseal	В
	Surface Structure	A

The improvement plan in the AMP allows for improving the confidence in condition data, particularly for critical assets and to reach a minimum rating of 'C' for all assets within the next AMP cycle.

#### Service Delivery Approach

Council's procurement policy requires us to deliver services from our infrastructure in-house (using Council staff and resources). Maintenance is also done in-house by the Reticulation and Treatment teams. All construction work (for upgrades etc) is outsourced.

#### The Manawatū tomorrow – Where are we going?

Our vision for the Manawatū is that it is a place that people want to live, work and play. We want people to bring their business, skills and families to the District. Our message to the rest of New Zealand (and beyond) is that 'We are open for business'.

In this context, our infrastructure must continue to meet the needs of our community while providing for future needs and growth. It directly links to Council's strategic priorities, as set out in Section 2: The Big Picture. The Infrastructure Strategy provides a strategic roadmap for the next 30 years. It provides the direction on what decisions needs to be made, and when, in order to get to where we want to be in 2051.

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#### Key drivers and responses

As a community we face a range of external factors that can influence our decision making. As part of our long-term plan we have identified four drivers that have an impact across all of our activities. (Further details on how these impact on each asset group and our response are described in the individual asset sections of this Strategy.)

As well as these key drivers, this table sets out the 'most likely scenario' in relation to each driver in the context of the District, impacts of the driver/most likely scenario four our District's infrastructure and our strategic response. Note that 101B(4) of the Local Government Act 2002 states that: '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.'

DRIVER	MOST LIKELY SCENARIO FOR OUR DISTRICT	IMPACT ON INFRASTRUCTURE	OUR RESPONSE
RESILIENCE	The effects of climate change will increase the likelihood of more frequent severe weather events such as storms, floods and droughts, and may affect infrastructure capacity in areas. Resilience in the face of earthquakes is an ongoing concern, but unlike extreme weather events, the frequency and magnitude of earthquakes is likely to remain relatively constant over time.	More frequent severe weather events will put pressure on our infrastructure, and may require improved capacity and capability to cope with these events and support community recovery following such events. No allowance has been made for the replacement of damaged infrastructure but rather to ensure we fund the replacement of our assets as it is needed. We have included budgets of around \$10.54 million per annum for the renewal of our assets. By completing the renewal programme and providing additional infrastructure we are improving the resilience of our current network, assets and services.	Our infrastructure will support or improve public health benefits. Our infrastructure will support or improve environmental outcomes. We will maintain our current assets to maintain levels of service. We will provide for the replacement of critical assets at the end of their useful life. We will improve the resilience of the three-waters networks through new works and renewals by using resilient design materials and pipe- laying techniques.
GROWTH AND DEMAND	We are forecasting that our population will increase by about 34.5% by 2051. Over this period, there is projected to be a significant increase in the number of residents aged 65+ (from about 17% to about 21%).	Population growth and increased urban growth will increase demand for infrastructure services in Feilding. Ageing population increases demand for accessibility and changes the way in which infrastructure assets and services are used, but also has implications for affordability. We have included projects to a total value of \$31.4 million to provide for growth in our district.	We will plan for sustainable growth and manage demand, which aligns with land use. We will provide additional capital and operational expenditure over the next 30 years. We will ensure that the capacity, quality and connectivity of the infrastructure is sufficient to enable the District to achieve its growth potential (i.e., infrastructure will be an enabler of growth).

COMPLIANCE	<ul> <li>Increased level of central and regional government direction particularly regarding public health and environmental outcomes. A particular source of uncertainty at the moment relates to the potential reform of the three waters sector, including the possibility of centralisation.</li> <li>Coupled with this is higher iwi/ hapū and community expectations in relation to environmental impacts and health outcomes, especially in respect of water.</li> <li>The National Policy Statement on Urban Development 2020 requires councils to plan for growth and ensure a well-functioning urban environment, including providing for its community's future housing needs. Infrastructure is a central consideration in this planning.</li> </ul>	This will impact on how we manage our infrastructure to ensure we protect and support public health and environmental outcomes. It is expected that this will require increased investment –however, the cost of implementing future changes to regulations and legislation is unknown.	We will comply with national standards. We will be responsive to administrative and regulatory change (for example, in response to possible reforms of the three waters sector). We will be innovative in our application of technology and other methods to meet increased community expectations.
AFFORDABILITY	The median household income for our District is \$121,000 (2019), slightly higher than the New Zealand mean average household income (which was \$111,470 in 2019). Over this period, there is projected to be an increase in the number of residents aged 65+ (from about 17% to about 21%). With the increase in the ageing population, we are also forecasting that there will be a higher proportion of single income or fixed income households.	The ageing population and moderate growth places a cap on the ability of our community to pay for infrastructure assets and services.	We will optimise our investment and apply asset management practices to our planning. We will smooth our costs where possible over time. Non-critical assets will be run to failure and only replaced if there is still a demand and requirement for the asset.



#### **Response to drivers**

#### Resilience - natural hazards and climate change

As outlined in 'Climate Change', Section 2, we are already seeing the effects of climate change both globally and in New Zealand. However, it is not yet clear how climate impacts will play out in the Manawatū District and what implications climate change will have for our communities, economy and infrastructure, particularly in terms of existing natural hazards such as flood risk. What we do know is that there is likely to be more extreme weather – more frequent and intense rainfall events on the one hand, with a higher likelihood of drought events on the other.

As noted in in Section 2, a significant proportion of the District is vulnerable to flooding, even without taking into account climate change projections. To mitigate this risk, the District's major infrastructural assets, including the Manawatū Wastewater Treatment Plant, have been located outside the area likely to be affected by a one in 200-year flood event. In addition to this, Council is working with Horizons Regional Council on the Reid's Line spillway flood protection scheme to minimise any flood risk to Feilding.

The following paragraphs relate to natural hazards and climate change impacts and responses for roading and the three-waters networks respectively.

#### Roading - impacts and response

The roading network in our District has a significant level of exposure to flood hazard (the second highest level in the Manawatū–Whanganui Region, even without taking into account the exacerbating effects of climate change), encompassing an estimated 226 km of road exposed to flooding (19% of the region's flood-exposed roads are in Manawatū). Overall, the length of road exposed to flooding is significantly higher than road exposed to coastal inundation.<sup>4</sup>

Roading infrastructure is also particularly at risk from slips and landslides associated with heavy rainfall. Although there is no quantitative data regarding exposure to slips in the District (or wider region), heavy rainfall events are likely to increase in intensity. Therefore, it is likely that the parts of the region which already have geology susceptible to slips and landslides may be more at risk in the future.  ${}^{\scriptscriptstyle 5}$ 

A resilience plan is in place and operational for roading infrastructure. The plan includes preventative actions to mitigate against moderate scale events that could interrupt customer journeys.

#### Three-waters infrastructure - impact and response

Generally, the District is well-placed in terms of exposure of water infrastructure to inundation as a result of the range of sea level-rise scenarios, and in terms of current projected flood risk (i.e., not taking into account climate change).<sup>6</sup> As noted above, while a significant proportion of the District is vulnerable to flooding, Council has mitigated this risk by placing key assets outside the area likely to be affected by a one in 200-year flood event. Flood protection for the Feilding area will also be enhanced through the Reid's Line spillway flood protection works.

Forward planning for maintenance and renewal budgets have factored in the effects of climate change. Council will be working to identify where current and future assets and level of service are at risk from the effects of climate change, including the probability of higher intensity rainfall, extended droughts, and sea level rise.

The resilience of three-waters networks is undergoing continual improvement as part of new works and renewals by using resilient design materials and pipe laying techniques. The level of investment is highest for critical infrastructure. Lifelines and assets of strategic importance are prioritised for renewal over other assets of a similar age to increase resilience and reduce our risk profile.

Increased frequency and intensity of rainfall events results in infiltration and inflows that increase wastewater volumes to be treated. Programmes to address this, including leak detection and stormwater works, are underway. Council has committed to a wastewater centralisation project for the villages (see Key Project 3, below), which will remove the discharge of treated wastewater to 103 km of streams and waterways across the District. Utilising the Manawatū Wastewater Treatment Plant on Kawakawa Road will see a significant

<sup>4</sup> NIWA, 2019, "Climate change implications for the Manawatū-Whanganui Region" (Report commissioned by Horizons Regional Council), accessed from https://www.horizons.govt.nz.

5/6 NIWA, 2019.

volume of treated wastewater irrigated to land, and we are initiating work on a constructed wetland to remove the direct discharge of treated water to the Ōroua River over the winter/non-irrigation months.

In terms of potable water supplies, Feilding currently has adequate supply both under its current system (Almadale Water Treatment Plant and the Campbell Road/ Newbury Line bores) and under Council's future plans to extract more of the town's drinking water supply from groundwater (see Project 4: Upgrade of Feilding Water Supply), which will place less pressure on the Ōroua River. However, rural communities, which rely solely on rainwater, will be more vulnerable to the impacts of climate change, especially drought. Some communities have already experienced water supply issues in recent years (for example, during the 2019/20 drought). Water supply for fire-fighting is also an area of vulnerability for these communities. Council will be working with these communities and other relevant organisations such as Fire and Emergency New Zealand (FENZ) to help ensure that these communities are well-positioned to meet foreseeable demands for both drinking and general/ firefighting water supplies, taking into account the likely impacts of climate change in the District.

#### Growth and demand

As outlined in the drivers table, we are forecasting that our population will increase by about 34.5% by 2051. Based on past growth, infrastructure capacity, regional and central policy and likely plan changes (which will limit growth – or the scale of growth – to certain areas of the District), it is projected that approximately 60% of that growth will occur in Feilding, while the remainder will occur in rural and village areas.

In addition to this projected population growth, the Ōhakea Airbase expansion is likely to have an impact on housing demand over the short term. The expansion is to include four new hangers, office space, operations and training centres, along with upgrades to existing taxiways. It is expected that 280 staff, along with their families, will relocate from Whenuapai to Ōhakea between 2022 and 2023. Some of the relocated families are expected to settle in Feilding. In addition, it is forecast that more than 2,000 jobs will be sustained during the construction phase.

Other developments that may impact on demand include the KiwiRail Regional Freight Hub, which is

set to be located west of Railway Road between the Palmerston North Airport and Bunnythorpe. Although located within Palmerston North City boundaries, both the construction of the hub and its ongoing operation will create employment, bringing more people to the Manawatū District. It is expected that about 300 jobs will be created during the construction phase alone.

Planning for the growth of Feilding is set out in the Feilding Framework Plan, which identified a number of growth precincts in the medium and long term.

Precinct 4 is envisioned to provide for the majority of Feilding's residential growth over the next 20 years. In total the projection is that Precinct 4 will be fully developed by 2043 with 1,788 additional lots (2,058 households in total, including those already built as of 2021).

Planning for three waters infrastructure within Precinct 4 includes capacity for higher density housing pockets, such as for retirement villages and smaller unit housing.

Growth Precincts 1–3 have Deferred Residential Zone status. No infrastructure investment is budgeted for these precincts in the short-medium term and therefore the developer must pay for all necessary infrastructure extensions to connect to Council's roading, stormwater, wastewater and water supply network.

This approach aligns well with the National Policy Statement on Urban Development (2020), which requires that Council is open to 'out of sequence' development. This means that although Precinct 4 remains the focus of residential development for the foreseeable future, Council will work constructively with private developers who wish to progress proposals to develop in precincts 1, 2 or 3.

Precinct 5 was re-zoned as an Industrial Zone in 2015. The development of the industrial growth precinct at Kawakawa Road will provide an estimated 97 hectares of land for future industrial land use, with 24 hectares initially accessible from the planned Turners Road extension.

Precincts 6 and 7 were identified in the 2013 Feilding Framework Plan as possible future residential growth areas. These will be re-evaluated as part of the next future development strategy.

#### Figure 4: Feilding Growth Precincts 1-7



The National Policy Statement on Urban Development establishes growth monitoring requirements including the preparation of a housing and business development capacity assessment. Council will also review the Feilding Framework Plan to ensure it meets requirements of a Future Development Strategy as set out in the National Policy Statement.

Another consideration to note in respect to growth and demand in the District is that the Urban Development Act 2020 gives the recently established government housing development agency Kainga Ora significant powers, including the ability to compulsorily acquire land in relation to any Urban Development Project, the ability to overrule District Plan provisions, and to fast-track urban development.<sup>7</sup> This may have implications for Council's ability to plan for future growth.

<sup>7</sup>See https://www.hud.govt.nz/assets/Urban-Development/Urban-Development-Bill/Summary-of-Powers-available-to-Kainga-Ora-v2.pdf

#### **Regulatory and Compliance**

#### Stormwater

New developments within the Precinct 4 residential area are required to demonstrate that they achieve stormwater neutrality so that their stormwater discharges do not cause or exacerbate flooding of any other property. A Stormwater Management Plan is to be prepared for all subdivision development within Precinct 4. This Plan is in addition to a Comprehensive Development Plan already required by the proposed District Plan provisions.

#### Wastewater

Council is proposing to utilise existing capacity at the Manawatū Wastewater Treatment Plant in Feilding (of both the plant and land) for the land-based discharge of treated wastewater from the villages through a new piped network. This will mean that Council is only responsible for managing and consenting two wastewater treatment plants, including the Hīmatangi Wastewater Treatment Plant (which already has a 100% land-based discharge regime). All of the remaining existing village treatment plants will be de-commissioned when the wastewater centralisation project has been completed.

#### Drinking water

Council is committed to providing an urban potable water supply that complies with the national Drinking Water Standards. All drinking water supplies in the District are currently chlorinated. Council is assessing additional treatment options for schemes that utilise secure water (i.e., a water supply that meets national drinking water standards) in anticipation of further strengthening of the drinking water standards and associated treatment requirements.

#### Three Waters Reform

On 24 August 2020, Council signed a Memorandum of Understanding (MoU)<sup>8</sup> with the Crown to work constructively together to explore future service delivery options to improve three waters services to communities. The MoU also sets out government funding arrangements that will support investment in three waters infrastructure as part of the COVID-19 economic recovery.

It is expected that the regulatory framework for Taumata Arowai (the new Water Services Regulator established under the Taumata Arowai–the Water Services Regulator Act 2020) will be in place by the end of June 2022, with implementation to begin after that. This reform process creates a level of uncertainty around how drinking water and wastewater services will be delivered to the community in the future (including by what agency). However, this Strategy and the Financial strategy assumes the status quo (Council ownership and delivery).

#### Affordability

Demographic change will also have an impact on infrastructure planning. Over the 2021–51 period, there is projected to be an increase in the number of residents aged 65+ (from about 17% to about 21%). This may mean an increased proportion of residents on fixed incomes, making the consideration of affordability crucial to all infrastructure planning.

The Financial Strategy outlines funding models that address affordability issues, including:

- using loans to spread payments over a longer period of time (intergenerational)
- harmonising costs so the burden for new infrastructure does not lie with one community that does not have the ability to pay.

Levels of service are reviewed with each 10 Year Plan and Annual Plan. Increases in levels of service are balanced against rating impact and affordability.

<sup>8</sup> The Memorandum of Understanding can be viewed on the Department of Internal Affairs' website: https://www.dia.govt.nz/diawebsite.nsf/ Files/Three-waters-reform-programme/\$file/Memorandum-of-Understanding-%E2%80%93-Three-Waters-Services%20Reform-%E2%80%93to-sign.pdf

#### Significant issues

This section identifies and outlines the significant issues in relation to infrastructure within the District over the next 30 years. The identification of significant issues lies at the heart of the Infrastructure Strategy. Section 101B(2) of the Local Government Act sets out that:

The purpose of the infrastructure strategy is to-

- a. identify significant infrastructure issues for the local authority over the period covered by the strategy; and
- b. identify the principal options for managing those issues and the implications of those options.

In this Strategy, the principal options for managing these issues are set out under Key Projects. For easy reference, this section identifies which key projects address each significant issue(s).

#### **Roads and footpaths**

#### Issue 1: Safety of our roads

The District's roading network sees a high level of crashes that result in serious or fatal injury (in relation to the volume of traffic conveyed). Consequently, the District (and the country as a whole) suffers a high social and economic cost.

This issue does not link to any single key project; rather Council undertakes continuous analysis to determine the severity, location, type and frequency of crashes on the local road network. This data is applied to a number of continuous/medium-to-long term safety related programmes, including:

- improved information for road users (i.e. permanent warning signage)
- intersection safety
- school-related roadside safety (e.g., Safer Journeys for Schools)
- maintenance of sealed surface performance
- seal widening
- installation/upgrade of road safety barriers.

These programmes have seen a reduction in reported crash frequency on the network, albeit with a lesser degree of improvement in terms of injury severity.

Council is also developing additional programmes that are currently in their infancy or are yet to commence. These programmes include implementation of:

- road corridor hazard identification
- District-wide delineation (road-marking) standards
- District-wide speed management mapping.

Links to key projects: while elements of safety are addressed in ongoing key projects outlined in this section, these safety issues are largely being addressed through a continuous programme of work.

#### Issue 2: Resilience of our roads

Resilience of our roading network has always been a priority in all roading operations, but as the impacts of climate change become increasingly evident in the District, particularly in terms of heavy rainfall and flood events, the strengthening of resilience will only become more important.

We are making ongoing drainage improvements to enhance the resilience of our rural roading network. Our focus has been on a programme of systematic drainage upgrades and rehabilitation in anticipation of higher frequency/ magnitude weather events. This includes upgrading drainage and installing additional culverts ahead of road rehabilitation works.

Some of our rural roads have experienced increased pressure from forestry truck movements, particularly in northern areas of the District. We have determined that it is more cost-effective to rehabilitate roads in response to damage rather than in anticipation of damage caused by forestry truck movements, as it is difficult to anticipate with certainty the location, timing and extent of this damage. Upgrading all roads that may potentially be affected by forestry over the next decade to withstand forestry truck movements would be financially prohibitive and the cost would be difficult to justify.

The current demands made on our maintenance and post-forestry rehabilitation programmes remain sustainable at this time. However, increasing forestry activity is anticipated over the next ten years, which will likely be detrimental to the condition of the network without sustained investment to mitigate the effects.

Links to Key Project 9 (Bridges and Structures).

#### Issue 3: Ensuring our roading network supports growth

The bulk of the network is coping well with the current traffic volumes and loadings. It only requires routine maintenance and scheduled end-of life renewals such as resurfacing for it to deliver the agreed levels of service.

New development of roading infrastructure will be focused on areas of growth, including Precinct 4.

Links to Key Projects 6, 7 and 8.

#### Water supply

Issue 4: Ensuring our water supply is safe and meets future needs

Our water supply (i.e., drinking or potable water network) is safe for drinking and meets national drinking water standards. The one exception to this is the Stanway–Halcombe water supply. This water supply will be upgraded. This is a key project (Key Project 1), in the section on New Key Projects.

The existing Asset Management Plan (year 11–13) allows for the installation of firefighting capability in Sanson. This will also be considered for Halcombe Village once it is separated from the Halcombe–Stanway rural scheme. There are no plans at this stage to upgrade the other rural schemes to have firefighting capability.

Links to Key Project 1 (Upgrade of Stanway-Halcombe Rural Water Supply Scheme).

#### Wastewater

Issue 5: Ensuring that our wastewater network is compliant and environmental impacts are minimised

Council undertook a significant upgrade of the Manawatū Wastewater Treatment Plant in Feilding over the period 2012–2019.

The next phase of our work is wastewater centralisation – piping wastewater from all the villages (except for Himatangi Beach) to the Manawatū Wastewater Treatment Plant – which has capacity to deal with the additional wastewater volumes. This is an ongoing project, which is outlined under Key Project 3. This will mean that Council is only responsible for managing and consenting two wastewater treatment plants, including the Hīmatangi Wastewater Treatment Plant (which, as noted above, already has a land-based discharge regime). All of the remaining existing village treatment plants will be de-commissioned when the wastewater centralisation has been completed.

To provide for forecast growth in demand, Council is currently working on acquiring land around the Manawatū Wastewater Plant to increase capacity for the irrigation of treated wastewater to land.

Links to Key Projects 3, 5 and 6.

#### Stormwater

Issue 6: New development must not put additional pressure on stormwater network

As the effects of climate change accelerate, we anticipate that storms and flooding will increase in frequency and magnitude. We are also more aware today of the impact that poorly managed stormwater has on streams and other waterways. Horizons Regional Council's expectation is that all new development, including housing subdivisions, must be hydrologically neutral; in other words, they must not put any additional pressure on Council's stormwater network or Horizons Regional Council's flood management network (including Makino Stream). Developers must also apply an interdisciplinary approach to stormwater management through the Council's Engineering Standards for Land Development, which contains a chapter on stormwater drainage. This requires that the developer:

- adopts low-impact design approaches, unless inappropriate
- improves the quality of the stormwater runoff entering the receiving environment
- reduces stormwater runoff volumes and peak flow rates
- where possible, utilises natural systems and improves biodiversity by preserving and enhancing the integrity of ecological and biological systems of the environment
- avoids adverse environmental and community effects
- avoids potential adverse effects to aquatic ecosystems.

District Plan rules require retention of stormwater on site to achieve hydrological neutrality. Council is also exploring communal detention areas as part of the stormwater network for managing stormwater from residential properties in Precinct 4. This is reflected in the District Plan rules for Precinct 4.

To enable a more comprehensive management of stormwater, Council is working towards a hydrologically neutral approach to managing stormwater in Precinct 4, using management areas along the Makino Stream esplanades. Development contributions will help fund this work.

Links to Key Projects 6 and 7.

#### New Key projects

This section sets out the key projects that seek to address the significant issues and respond to the underlying drivers set out above. This section also includes key projects that are ongoing. Key decisions have been made on these projects and in most cases they are underway. However, they remain critical to our infrastructure strategy and meeting the requirements of our community over the next 30 years.

**Capital deliverability:** To support the completion of the capital works programme, significant contracts have been entered into by council and internal resourcing has been boosted by building the in-house project management and engineering expertise. Factors that may affect delivery are the availability of specialist engineering expertise and external contractors (including prequalification requirements for contractors), the capacity of Horizons Regional Council to process resource consent applications within statutory timeframes, landowner negotiations and the ability to procure products and equipment from offshore.

#### Project 1 - Upgrade of the Stanway-Halcombe Rural Water Supply Scheme

The Stanway–Halcombe Rural Water Scheme is a water reticulation scheme operated by Council. It consists of shallow bores adjacent to the Rangitīkei River and a water treatment plant which chlorinates the water. The scheme was originally designed to provide stock watering on a restricted flow basis. The restricted flows were allocated on a unit basis, with an overall capacity of 2,000 units (one unit being 1 cubic metre) per day. In recent years, there has been a reallocation of a proportion of units to lifestyle properties, as farms have been subdivided.

This means that water that was not intended for human drinking purposes is now being used for this purpose. The scheme does not comply with current drinking-water standards requiring the removal of protozoa (Drinking-water Standards for New Zealand 2005 (revised 2018)).<sup>9</sup> The upgrade will involve the installation of a UV treatment system at the point of supply for the Stanway–Halcombe Scheme. Council is receiving central government (Department of Internal Affairs) stimulus funding for this project (\$750,000 in the 2020/21 financial year). The future investment in this scheme is \$528,900 for reticulation extensions and resilience (as outlined in the table below).

The Council recognises the interests of iwi as part of the Stanway–Halcombe Rural Water Supply Scheme, and Council is currently in discussion with Māori land owners to ensure that their interests are managed appropriately. As part of our discussions, we have also identified further opportunities associated with the provision of water to the wider valley area of Te Reureu (see also Extension to Stanway Halcombe/Te Reureu Valley Rural Water Scheme, page 91). The overarching aspiration for both Council and iwi, is to serve the needs of the people, but also to help maintain the relationship and connection between whānau, hapū, and iwi Māori with the Rangitīkei River.

Budgeted expenditure over life of project

Year	2021/22	2022/23
Budgeted Expenditure (\$)	313,500	215,680
Total	\$529,180	

<sup>9</sup>These standards can be found at: https://www.health.govt.nz/publication/drinking-water-standards-new-zealand-2005-revised-2018

#### Project 2 - Ohakea Rural Water Supply

The Ōhakea Rural Water Supply scheme will involve the construction of a potable water supply in the area affected by polyfluoroalkyl substances (PFAS) compounds to the west of the Ōhakea Defence Force Base. Due to the contamination of current bore supplies in the Ōhakea area with PFAS compounds, the new supply (the preferred option being a pipeline from Sanson)<sup>10</sup> will replace the existing bore supplies and provide PFAS-free water on a permanent basis to this area. Around 85 rural properties will be supplied with reticulated drinking and stock water rather than having to rely on tanks and bores.

Central government (through the Ministry for the Environment) will fund \$10.8 million of the costs for the design and construction of the new water scheme (about 75% of the total cost of the scheme), while Council will fund the balance.

This project is due to be completed by December 2021.

<sup>10</sup> For more details on the full range of options considered see the "Manawatū District Council Ōhakea Rural Water Scheme Options Assessment" (March 2019). A report undertaken by GHD, commissioned by Council.



### **Ongoing Key Projects**

#### **Project 3 - Wastewater Centralisation Project**

The Manawatū Wastewater Centralisation Project commenced in 2018/19 and is planned to be completed in 2025/26. (Note however, that ongoing costs have been budgeted for the project, as set out in the table below.) The project involves the development of infrastructure to pipe untreated or pre-treated wastewater from the villages of Halcombe, Sanson, Rongotea, Awahuri, Cheltenham and Kimbolton to the Manawatū Wastewater Treatment Plant (WWTP) for treatment and disposal, as shown in Figure 2 below.

Each of these villages currently has a wastewater treatment plant with discharge consents that have expired or are due to expire over the next few years. All of the existing consents involve some allowance for the discharge of treated wastewater to a waterbody and obtaining new consents will be time-consuming, difficult and expensive. Council will not be seeking the renewal of these discharge consents; instead, it will pipe wastewater from each of the villages to the WWTP. Along with the efficiencies of piping to one central site for treatment, this project will also bring significant environmental gains for each of the waterways impacted by existing wastewater discharges.

To allow the centralisation project to be undertaken, the existing resource consents for the WWTP have been varied. Council is awaiting the outcome of an additional consent process to extend the effluent irrigation to the additional land adjoining the WWTP acquired by Council over the past few years.

Budgeted expenditure over life of project

Year	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	
Budgeted Expenditure (\$)	3,385,535	1,686,855	1,253,661	1,259,151	931,755	121,970	176,789	
Total	\$8 815 716							



Figure 2: Indicative pipelines from villages to Manawatū Wastewater Treatment Plant (Feilding)

### Project 4 - Upgrade of Feilding Water Supply

This is a project to upgrade and future-proof Feilding's water supply which commenced in 2018/19 and is due to be completed in 2024/25. (Note however, that ongoing costs have been budgeted for the project, as set out in the table below.) The upgraded infrastructure will replace Feilding's reservoir at Almadale and the trunk water main into town, which are nearing the end of their useful lives. The project involves constructing a new water treatment plant, a new trunk water main into town, and a new bore. This project was determined to be both the most cost-effective and resilient option for renewing Feilding's water supply.

Since the adoption of the 2018–28 Long Term Plan, an additional \$2.33 million has been budgeted for the upgrade of Feilding water supply networks. This additional budget will allow for the extension of the trunk main resilience in the town centre (CBD) and projects in the industrial area (Precinct 5), the disposal of the Almadale Water Treatment plant and associated pipelines.

#### Budgeted expenditure over life of project

Year	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
Budgeted Expenditure (\$)	2,517,429	528,416	278,250	1,510,246	293,643	301,276
Total	\$5,429,260					

#### Project 5 - Re-consenting of the Manawatū Wastewater Treatment Plant

The Wastewater Treatment Plant Consent expires in November 2026. The budget includes \$1,767,569 spread across years 2 and 3 for the re-consenting process, as shown below. This budget does not include any additional expenditure that may be required to satisfy new requirements of the resource consent. This project will be funded from renewals.

Year	2022/23	2023/24
Budgeted Expenditure (\$)	862,729	904,840
Total	\$1 767 569	



#### Project 7 - Precinct 5 Growth works/Turners Road Extension

In the last 10 Year Plan, Council committed to the Turners Road extension, which will link the existing Turners Road to Kawakawa Road to help facilitate the development of industrial zoned land in this area (Precinct 5).

The table below sets out the outstanding investment budgeted for this Precinct 5/Turners Road Extension. The completion of these works is projected to be in the 2030/31 year.

Year	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Stormwater	316,249	326,356	2,927	3,024	3,127	3,208	3,314	3,423	339,661	347,781
Water Supply	0	0	0	0	178,320	181,241	186,774	192,941	201,675	0
Roading	0	0	0	0	0	0	0	0	0	0
Total	\$316,249	\$326,356	2,927	3,024	\$181,447	\$184,449	\$190,088	\$196,364	\$541,336	\$347,781

In addition to the above, a sum of approximately \$1M for roading will be carried forward to 2021/22.



#### Project 8 - Mangaweka Bridge Replacement

This project involves the replacement of the existing Mangaweka Bridge on Ruahine Road at Mangaweka, which has reached the end of its useful life and is now limited to use by lighter vehicles. This project was originally signalled as a future project in the 2015-25 Plan. Waka Kotahi NZTA funding was made available as part of the 2018-28 budget. Construction began in January 2021 and is scheduled for completion in June 2022.

The total cost of the bridge replacement will be about \$11 million which includes the initial business case, preimplementation and design costs, and construction costs. As this is a boundary bridge, costs will be split equally with Rangitīkei District Council. The project also qualifies for a Waka Kotahi NZTA subsidy so the total actual cost to Council will be approximately \$2.6 million.

#### **Project 9 - Bridges and structures**

Council's Roading Structures Lifecycle Management Plan (Bridges and Major Culverts) identifies renewal and upgrade requirements for the period of this strategy (2021-2051). The total cost of this programme over the period is \$25 million. The replacement of existing bridges and structures are renewal projects so will attract a subsidy from Waka Kotahi NZTA at the normal Funding Assistance Rate (FAR).<sup>11</sup>

### Other projects of interest

#### Vinegar Hill Rural Water Scheme

Council is working with rural landowners in the Vinegar Hill area to develop a feasibility assessment for a potential rural water scheme which could service up to 40,000 hectares of hill country farmland in the northern part of our District. Council staff are providing technical, engineering and administrative resources to progress the project, including the collection of financial contributions from the local farming community. If deemed feasible, the wider project team will seek external capital funding to construct the rural water scheme over the next few years.

#### Extension to Stanway Halcombe/Te Reureu Valley Rural Water Scheme

Council is working with local iwi representatives in the Te Reureu Valley on the eastern banks of the Rangītikei River north of Halcombe to develop a feasibility assessment for either a potential extension of the Stanway Halcombe Rural Water Scheme, a new standalone Te Reureu Rural Water Scheme, or combination of the two options. This initiative could service up to 1,200 hectares of fertile river terrace farmland in the western part of our district. Council staff are providing technical and engineering support to local iwi and if deemed feasible, the project team will seek external capital funding to construct the rural water scheme over the next few years.

<sup>11</sup>Note that the Council's FAR is set to reduce over subsequent years. In 2021–22 it is 53%, reducing in 2022–23 to 52% and from 2023 onwards to 51%.

# Financial Summaries Roading

Uninflated	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Operating	6,174,092	6,309,222	6,410,893	6,713,266	6,816,519	6,750,025	6,831,856	6,880,557	6,921,798	6,935,141
Level of Service	3,787,461	3,144,979	3,867,846	2,705,548	2,111,846	3,327,884	2,029,297	1,886,292	2,767,474	3,259,292
Growth	963,115	725,000	1,635,890	808,566	741,221	1,325,000	1,325,000	801,051	572,019	925,000
Renewal	7,731,949	5,579,572	5,528,532	6,211,374	5,949,558	6,265,789	5,985,688	6,016,279	5,928,466	5,883,004
Uninflated	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41
Operating	6,134,156	6,134,156	6,053,508	6,053,508	6,053,508	6,024,934	6,024,934	6,024,934	6,006,249	6,006,249
Level of Service	2,396,778	2,396,778	2,396,778	2,396,778	2,396,778	2,260,120	2,260,120	2,260,120	2,313,454	2,313,454
Growth	925,000	692,019	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Renewal	6,818,864	6,808,897	6,340,588	6,365,394	6,342,512	6,237,468	6,260,687	6,259,653	6,166,861	6,169,095
Uninflated	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47	2047/48	2048/49	2049/50	2050/51
Operating	6,006,249	5,996,680	5,996,680	5,996,680	5,995,764	5,995,764	5,995,764	6,003,317	6,003,317	6,003,317
Level of Service	2,313,454	2,259,794	2,259,794	2,259,794	2,243,127	2,243,127	2,243,127	2,196,267	2,196,267	2,196,267
Growth	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Renewal	6,171,093	6,337,306	6,332,255	6,339,817	6,451,797	6,438,221	6,444,790	6,478,728	6,482,344	6,467,099



**Operating Expenditure** 



# Water supply

Uninflated	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Operating	3,011,021	3,242,473	3,406,326	3,455,599	3,480,304	3,480,622	3,456,271	3,459,568	3,472,536	3,523,793
Level of Service	6,139,660	5,131,656	1,315,783	2,169,866	1,137,990	52,000	52,000	52,000	52,000	57,000
Growth	170,000	259,655	620,000	600,360	319,010	317,605	268,245	168,245	170,000	260,000
Renewal	2,014,423	373,375	363,645	1,033,845	1,037,253	1,061,973	817,105	898,939	842,122	844,595
Uninflated	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41
Operating	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000
Level of Service	1,670,000	1,670,000	1,670,000	920,000	920,000	920,000	920,000	920,000	920,000	920,000
Growth	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Renewal	1,210,079	1,434,387	1,718,845	1,483,460	1,428,236	1,533,179	1,238,295	1,523,591	1,209,071	1,094,744
Uninflated	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47	2047/48	2048/49	2049/50	2050/51
Operating	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000	7,350,000
Level of Service	920,000	920,000	920,000	920,000	920,000	920,000	920,000	920,000	920,000	920,000
Growth	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000
Renewal	1,440,615	1,446,691	1,452,981	1,459,490	1,466,227	1,473,200	1,480,417	1,480,417	1,480,417	1,480,417



Operating Expenditure



# Wastewater

Uninflated	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Operating	5,671,297	5,654,088	5,623,108	5,648,558	5,629,338	5,600,884	5,665,893	5,738,540	5,849,488	5,987,742
Level of Service	1,250,200	521,922	350,200	55,000	55,000	1,326,650	1,304,650	1,653,435	1,532,135	1,422,135
Growth	389,200	600,775	336,655	104,200	631,360	592,160	666,600	447,625	19,625	940,709
Renewal	3,524,446	2,648,920	2,224,046	1,979,892	1,905,925	1,195,147	1,234,551	1,094,231	1,094,231	1,094,231
Uninflated	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41
Operating	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000
Level of Service	4,855,000	205,000	1,055,000	1,255,000	55,000	55,000	55,000	4,855,000	205,000	1,055,000
Growth	1,040,000	640,000	650,000	980,000	1,440,000	230,000	90,000	670,000	1,120,000	1,120,000
Renewal	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000
Uninflated	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47	2047/48	2048/49	2049/50	2050/51
Operating	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000	9,700,000
Level of Service	55,000	55,000	55,000	55,000	55,000	55,000	55,000	4,855,000	205,000	1,055,000
Growth	900,000	450,000	900,000	450,000	900,000	450,000	900,000	450,000	900,000	450,000
Renewal	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000	800,000



Capital Expenditure forecast by type 5,000,000 4,000,000 3,000,000 2,000,000 1,000,000 0 2023/24 2024/25 2025/26 2041/42 2042/43 2047/48 2039/40 2046/47 2048/49 2034135 2036131 2040/41 2044/45 2045/46 2031/32 2032133 2038/39 2021/22 2022/23 20261227120281202913020131 2035136 2037138 2043/44 2049/50 2050/51 2033/34



### Stormwater

Uninflated	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Operating	1,282,840	1,411,461	1,454,093	1,482,004	1,473,502	1,475,004	1,471,473	1,480,385	1,499,734	1,523,298
Level of Service	565,030	567,080	565,028	565,028	640,000	565,080	582,889	632,899	588,402	591,377
Growth	2,993,545	1,293,545	287,145	288,545	288,545	219,475	865,275	1,015,715	1,015,275	504,495
Renewal	58,595	58,595	58,595	58,595	58,595	58,595	58,595	58,595	58,595	58,595
Uninflated	2031/32	2032/33	2033/34	2034/35	2035/36	2036/37	2037/38	2038/39	2039/40	2040/41
Operating	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000
Level of Service	550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000
Growth	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000
Renewal	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Uninflated	2041/42	2042/43	2043/44	2044/45	2045/46	2046/47	2047/48	2048/49	2049/50	2050/51
Operating	2 400 000	2 400 000	2 400 000	2 400 000	2 400 000	2 400 000	2 400 000	2 400 000	2 400 000	2 400 000
Level of Service	550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000	550,000
Crowth	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270.000
Growth	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000	270,000
Renewal	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000



Capital Expenditure forecast by type 1,500,000 1,000,000 500,000 0 2031/32 2035136 2036137 2037138 2039140 2040/41 2041/42 2042143 2043/44 2044/45 2045/46 2047/48 2048/49 2049/50 2034/35 2038/39 2046147 2050151 2032133 2033134 2021/22 2022/23 20 ■ Growth ■ Level of Service ■ Renewal





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