



Three Waters Investment Options

Council workshop

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Today Wellington Water is presenting options on investing in South Wairarapa District Councils three waters assets to improve performance and reduce the risk profile

Today's presentation provides context on three waters issues, investment options to meet these challenges and seeks direction for South Wairarapa District Councils 21-31 LTP on:

1. Which options to take to invest in looking after existing infrastructure?
2. There are a number of level of service gaps that need be closed, how do want to approach these?
3. Do you want to reduce water consumption?

The context for three waters issues: LTP approach, and progress of the LTP process

Aging water assets are a national issue.

In South Wairarapa, between 40-50% of three waters assets are due to be replaced in the next 30 years (based on age), and they are getting older.

This poses a steadily increasing risk to core three water services and healthy growing communities

At the same time, community expectations are increasing, and so are national standards that need to be met: water regulator, freshwater management

Growth, reducing water consumption, improving water quality and climate change are all additional challenges facing three waters asset owners

Local SWDC context



Wellington Water's first order of business on taking over management of South Wairarapa's water/wastewater networks was to prioritise the delivery of safe drinking water.

The new Council recognised the importance of providing safe drinking water to ensure the health of your communities and wanted this to be our focus. As the network was carrying considerable risk, Council agreed to do what was necessary to achieve this as quickly as possible.

Council's investment to date has now reduced this to the point where we are on track to achieve the ability to be compliant with NZ Drinking Water Standards early next year.

Council signalled to us in August that we also needed to make progress with the wastewater network so we are now putting in place a comprehensive work programme to reduce risk in this network.

As with the wastewater network, we are committed to being fully transparent with Council on the risks of the system and any events and issues as they arose.



International review confirms a step change is needed – but we can't do everything

The internationally recognised water industry regulator, the **Water Industry Commission for Scotland** (WICS), has reviewed all our advice to owner councils, based on experience with multiple water entities.

Wellington Water's big picture view, using capex as a proxy for annual investment for the region, was that an annual regional investment of \$240 million is required (excl SWDC), compared to \$140M in 2020.

WICS concluded a higher level of \$300M-\$350M in capex annually was required.

Wellington Water recognises that this is desirable, but not affordable – clearly councils must prioritise, especially in view of the economic impact of covid-19

Today's advice is intended to assist South Wairarapa District Council to make choices within this context

Regional priorities for three waters investment



Looking after existing infrastructure

Looking after existing assets is foundational to a sound risk management approach. It reduces the risk of surprises that usually cost more, and have greater negative effects, than planned work does and emits more carbon. There are also a number of key upgrade projects that are needed to ensure service is able to be maintained.

Growth

Growth is occurring and must be managed in a way that ensures it doesn't add to existing challenges for the three waters network.

Reducing water consumption

The other priorities are system wide issues that need addressing over the next 30 year:

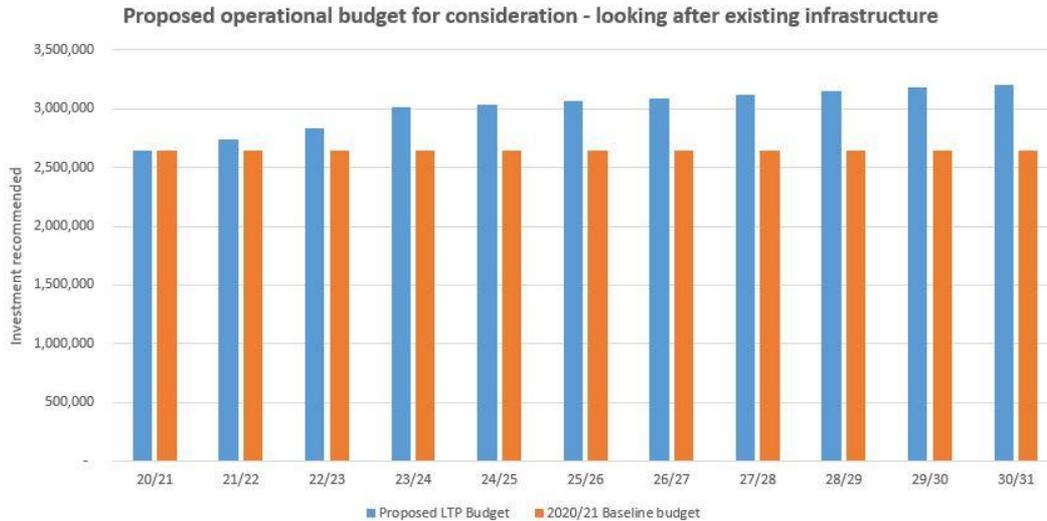
- The availability of water during warmer months is becoming more of an issue.
- Communities expect better environmental water quality than we have now
- Carbon emissions are a key contributor to climate change

Improving environmental water quality

Reducing carbon emissions

NOTE - Individual activities associated with localised risks are still considered such as flood mitigation and resilience.

Operational expenditure investment priorities



Operational expenditure	Years 1-3	Years 4-10
Current 20/21 baseline	\$7.9M	\$19M
Proposed 21-31 LTP	\$8.6M	\$22M

Note: the above costs do not include proposed opex costs to deliver other three waters priorities.

- The funding increase proposed is an average of \$220K per annum over the first three years (14% increase in year 3 based on the 2020/21 budget). This is to;
 - address the risk of increasing unplanned service interruptions
 - provide for an uplift in planned maintenance and condition assessment
 - help prioritise renewals to reduce the risk of failure especially for critical assets

Looking after existing infrastructure

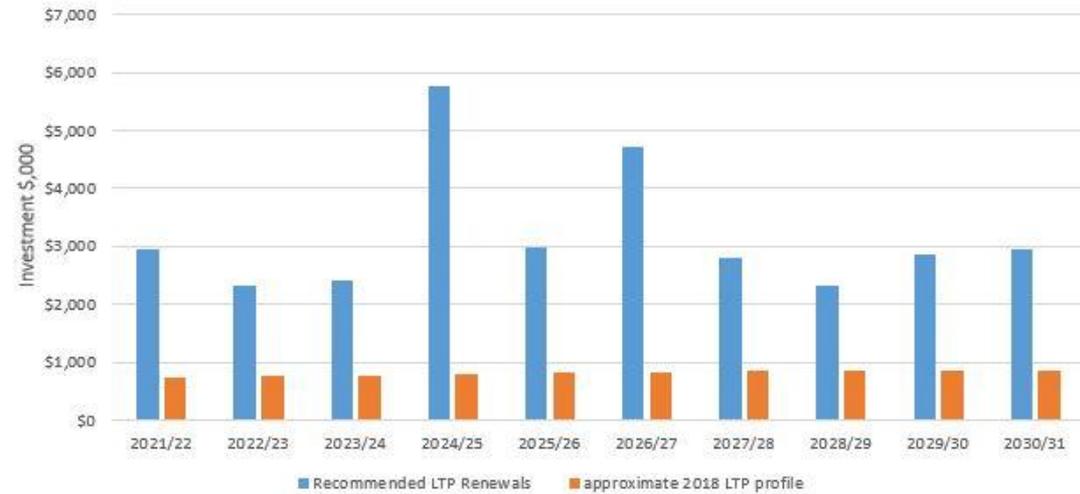
Increase opex

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Capital renewal investment

- We recommend that the renewals be funded at a rate that prevents the backlog increasing over time.
- Renewals will be prioritised based on the criticality of the asset and known condition.
- There are areas where the network is performing worse than the age would indicate, it is recommended that specific areas are renewed earlier. An example are the concrete water supply pipes in Featherston.
- Completing renewals will provide benefit that improve performance against other priority areas e.g. reducing water consumption and environmental water quality.

Proposed LTP 10 year renewal profile



Renewals	Years 1-3	Years 4-10	Years 11-30
Current LTP	\$2.5M	\$6M	\$16M
Proposed 21-31 LTP	\$7.5M	\$22M	\$50M

For project budget estimates, Wellington Water have used a 95th percentile figure. Costs are based on 2020 NZD and may vary as more detailed planning is completed.

Looking after existing infrastructure

Renewing our assets

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Closing the level of service gap

- There are number of key level of service upgrade projects that are required in the next three years to;
 - Ensure SWDC's water supplies are safe and secure and meet drinking water standards
 - Address health and safety issues
 - There is the necessary consents to operate the Featherston Wastewater Treatment Plant and the associated upgrades to enable this
 - Prevent wastewater treatment plant discharges that could create an environmental impact or public health issue

Key projects	Project driver	Years 1-3	Years 4-10	Years 11-30
Greytown Memorial Park Bore Upgrade	Drinking water standards compliance and health and safety improvements (completion of project underway)	\$1.5M		
Martinborough Water Source Relocation	Security of water supply	\$3.5M	\$3M	
Featherston WWTP upgrades	Public health and consent compliance	\$26M*	\$9M*	\$2M
Consenting - Wastewater treatment plants	Legislative	\$0.2M	\$0.2M	\$1M
WWTP Health and Safety	Health and safety	\$0.5M	\$0.5M	\$0.5M

For project budget estimates, Wellington Water have used a 95th percentile figure. Costs are based on 2020 NZD and may vary as more detailed planning is completed. (Note placeholder value only, with option development/concept design currently underway and planned to be completed by June 2021, when a level 2 estimate will be available)*

- There are also some smaller projects that are not included in the above table.

Looking after existing infrastructure

Ensuring we operate within the legislative framework

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Understanding the implications of growth



Growth is predicted to occur but it is important that the significant level of service gaps are closed first.

- Growth in the district is being shaped by the Spatial Plan, population increases are expected to be between 33 and 42% by 2051.
- Wellington Water has an understanding of the constraints at a high level but recommend further work is undertaken to improve knowledge and narrow down investment needs.
- Treatment plant capacities will need to be reviewed against new growth scenarios and consent limitations although Featherston WWTP has sufficient capacity based on current forecasts and planned works.
- Wastewater network upgrades will be needed in Martinborough and Greytown.
- There are some areas of the water network that will require upgrade due to pressure constraints.
- These upgrades are not yet quantified and funding has not yet been incorporated into the LTP.
- Additional funding is recommended to undertake more detailed assessments to inform future annual plan and LTP processes.

Growth	Years 1-3	Years 4-10	Years 11-30
Capex	\$0.5M +	\$4M +	TBA
Opex	~ \$200K		

Note: Opex and capex figures in this slide are additional to the numbers shown earlier in this presentation and based on 2020 NZD and knowns at time of presentation.

For project budget estimates, Wellington Water have used a 95th percentile figure. Costs are based on 2020 NZD and may vary as more detailed planning is completed.

Growth

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Emerging challenges

There are a number of emerging issues that need to be monitored and action taken over time.

Reducing water consumption

Changing weather patterns are resulting in more drier periods which affects the availability and security of supply.

The approach to reducing water consumption is multi faceted including; replacing mechanical meters with smart meters to target consumption and leakage investigations, leak detection, water main replacement and education

Improving environmental water quality 2040

Planning which activities to progress to meet swimmable water quality targets starting with improving understanding.

(Trade waste, environmental monitoring and inflow and infiltration reduction approx. \$100K per annum)

Reducing carbon emissions 2050

Prioritising which activities to progress to meet the Zero Carbon Act 2019 targets starts with understanding first.

(Delivery through how projects are designed and delivered and we operate our network)

Reducing water consumption	Years 1-3	Years 4-10
Capex	\$0.5M +	TBA
Opex	\$0.1M +	TBA

You could make progress on these but we recommend you consider timing and do not compromise the work needed to look after existing infrastructure and key level of service upgrades.

Note: Opex and capex figures in this slide are additional to the numbers shown earlier in this presentation and based on 2020 NZD and knowns at time of presentation.

For project budget estimates, Wellington Water have used a 95th percentile figure. Costs are based on 2020 NZD and may vary as more detailed planning is completed.

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Key considerations

Wellington Water recommends SWDC considers investment in the following key priorities;

	Fund an additional OPEX averaging \$220K per annum for the first 3 years supporting a step change increase in operational costs to look after existing infrastructure
	Fund up to \$30M CAPEX over 10 years for renewals to look after existing infrastructure (an increase of \$24M from current base)
	Fund the level of service upgrades covered in slide 8
	Fund a minimum of \$5M+ CAPEX and \$0.2M+ OPEX over 10 years to complete known upgrades And improve understanding of growth implications
	Fund \$0.5M+ CAPEX and \$0.1M+ OPEX TBC over 10 years to reduce water consumption

Indicative Outcomes for Investment

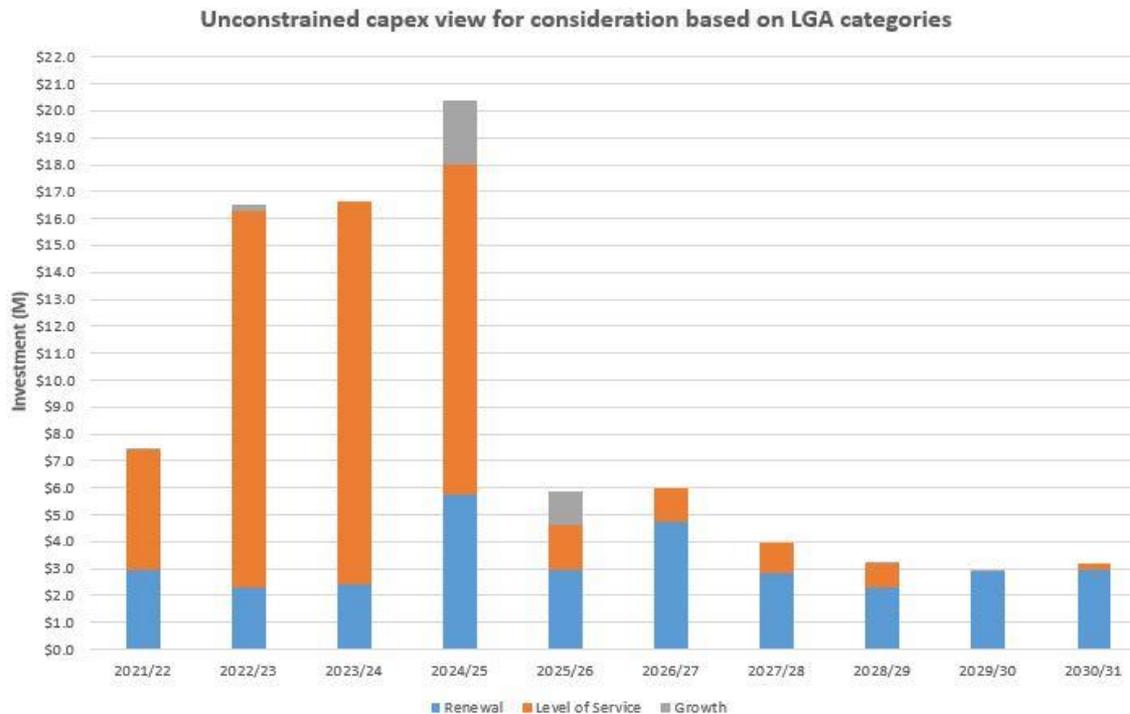


		Legislative compliance	Reduce service interruptions	Lower risk of critical asset failure	Increase customer satisfaction	Reduce water consumption & security of supply	Improve env. water quality	Reduce CO ₂ emissions
	Fund an additional OPEX averaging for the first 3 years	Y	Y	Y	Y	part	part	part
	Fund additional CAPEX over 10 years for renewals		Y	Y	Y	Y	Y	part
	Fund the level of service upgrades covered in slide 8	Y	Y	Y	Y	Y	Y	part
	Fund additional CAPEX and OPEX to complete known upgrades and better understand growth		Y	Y	Y	Y	Y	part
	Fund further CAPEX and OPEX over 10 years to reduce water consumption					Y		

Summary of proposed capex investment



- The following chart shows the high level split of the 10 year unconstrained capex programme against renewal, level of service and growth
- It is acknowledged that this is likely to be unaffordable and trade off decisions will need to be made.



Next steps....

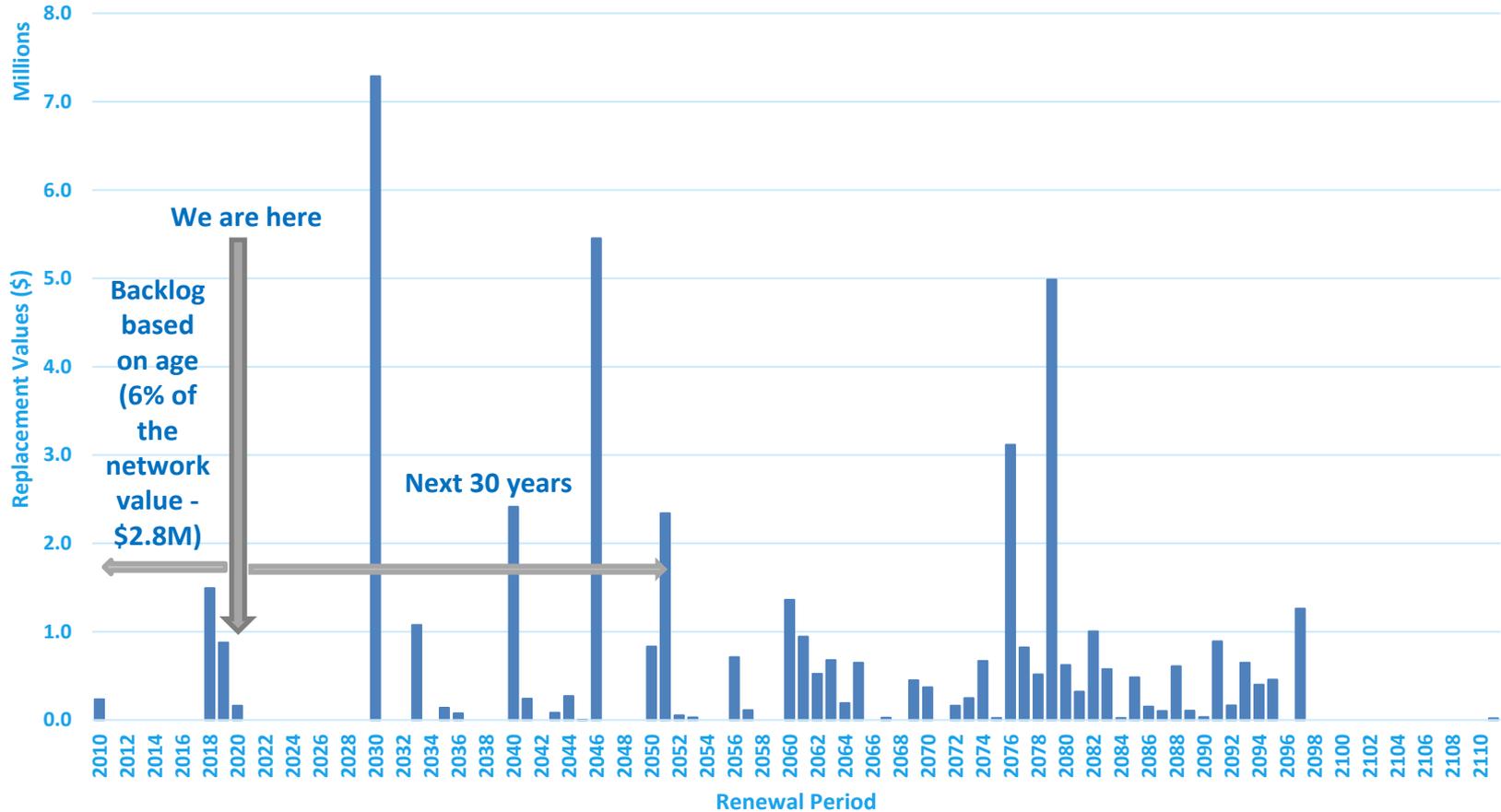
Supporting information

Network Pipe Renewal Profile



Water Supply

SWDC Water Supply Network Pipe Renewal Profile

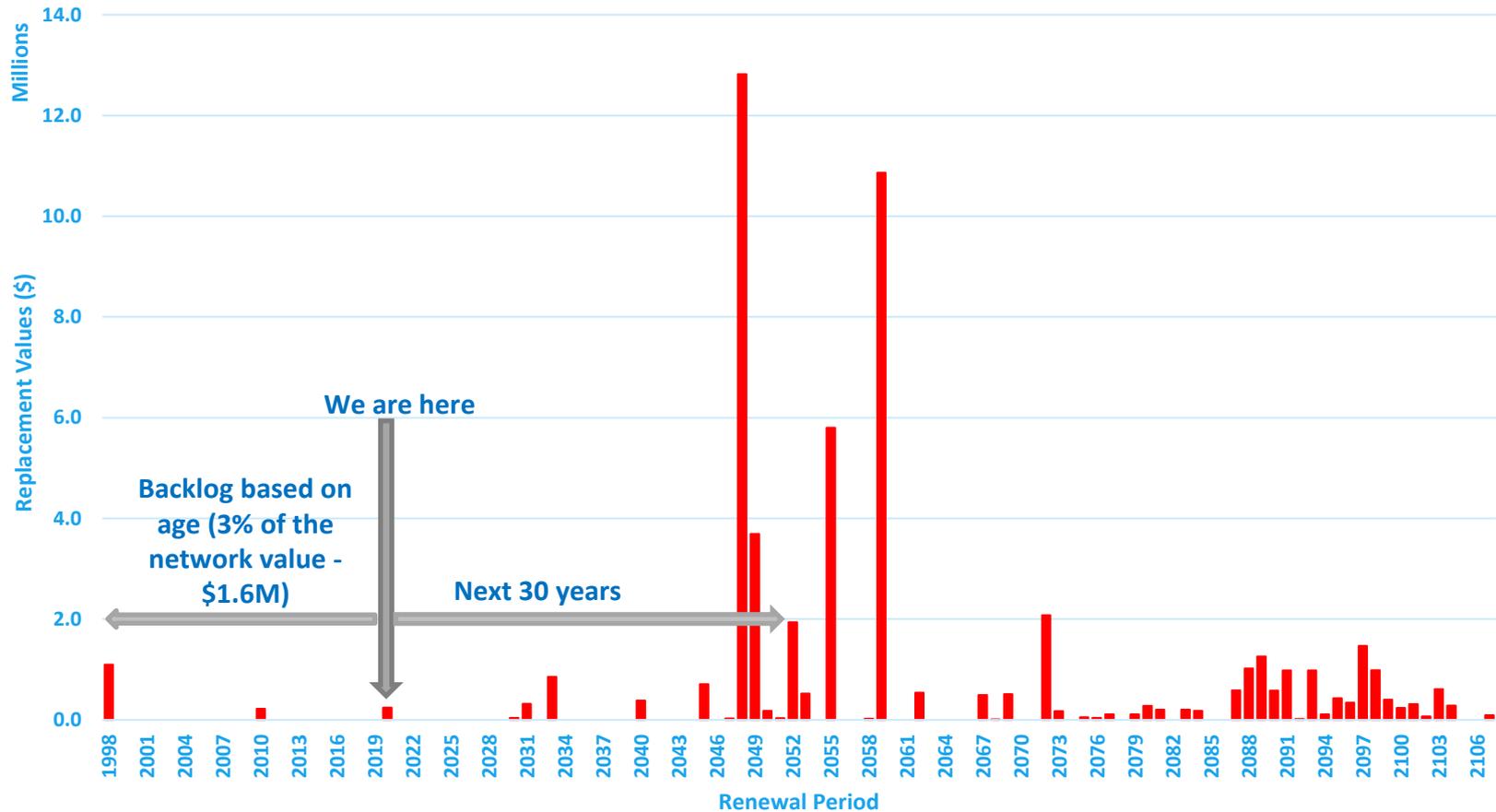


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Wastewater Renewal Profile

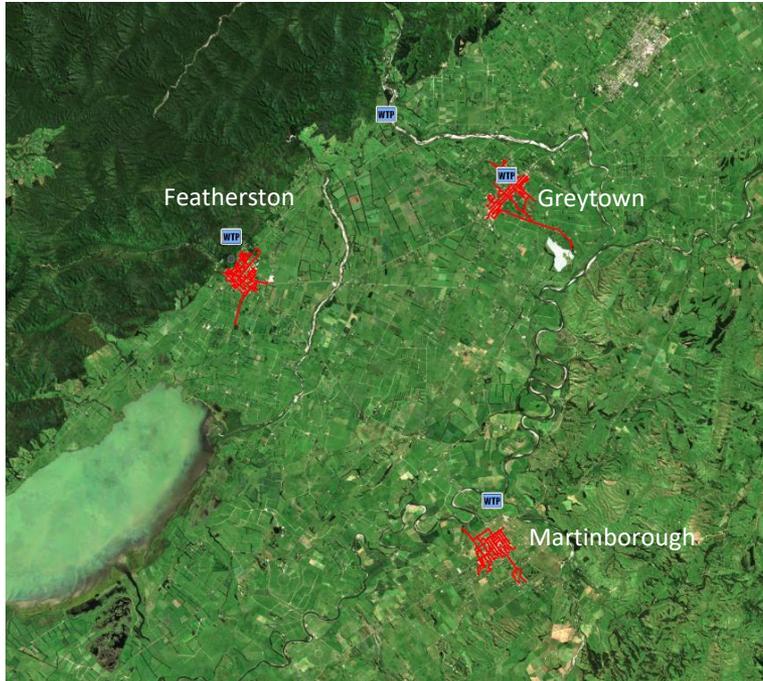
SWDC Wastewater Network Pipe Renewal Profile



Looking after existing infrastructure

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Understanding the implications of growth



Growth Forecasts for 3-towns

Area	2019	2051	% Change
Featherston	2,615	3,489	33%
Greytown	2,595	3,674	42%
Martinborough	1,864	2,511	35%

Source: South Wairarapa Distribution Population (medium projection) (Infometrics, 2020)

Growth

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