

A large, thick teal line that meanders across the top and right side of the slide, creating a series of peaks and valleys, resembling a stylized water wave or a topographical contour.

# 2024-34 Investment Planning and Advice

Porirua City Council

Step 3: Council decision on investment level

30 November 2023

## Where we are in the process:

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# Seeking Council direction on DRAFT three waters OPEX and CAPEX budgets

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- On direction from Council, WWL has adjusted the three waters OPEX and CAPEX programmes to align with Council advised affordable funding levels.
- The Council LTP Baseline OPEX budget will see a reduction in the maintenance of some assets, leading to more failures of Council's assets and is insufficient to ensure existing levels of service are provided
- The Council LTP Baseline CAPEX budget does not deliver on the five regional strategic priorities. There are some significant projects which cannot progress under this budget
- Due to the significant risks Council will carry, WWL does not recommended the Council LTP Baseline OPEX and CAPEX budgets be adopted as the final three waters budgets for the 2024-34 LTP
- Areas where WWL recommends budget is increased above the Council LTP Baseline OPEX and CAPEX baseline will be presented for consideration through this update

# Operating Expenditure

# Operating Expenditure (OPEX)

	23/24 Budget	WWL Recommended 24/25	Option 1: Council LTP Baseline Budget	Option 2: Baseline + \$1M	Option 3: Baseline + \$2M	Option 4: Baseline + \$3M
Monitoring & Investigations	\$2.6M	\$4.1M	\$2.7M	\$2.7M	\$2.8M	\$3.6M
Operations	\$0.2M	\$0.2M	\$0.2M	\$0.2M	\$0.2M	\$0.2M
Planned Maintenance	\$2.1M	\$2.4M	\$1.4M	\$1.8M	\$2.3M	\$2.4M
Reactive Maintenance	\$5.2M	\$4.7M	\$3.7M	\$4.2M	\$4.7M	\$4.7M
Treatment Plant	\$2.2M	\$2.9M	\$2.9M	\$2.9M	\$2.9M	\$2.9M
Management & Advisory Services	\$1.6M	\$1.6M	\$1.5M	\$1.5M	\$1.5M	\$1.5M
<b>TOTAL</b>	<b>\$13.8M</b>	<b>\$15.9M</b>	<b>\$12.3M</b>	<b>\$13.3M</b>	<b>\$14.3M</b>	<b>\$15.3M</b>

OPEX budget allocated to leak detection and repair:

Budget	\$2.8M	\$3.2M	\$3.1M	\$3.2M	\$3.2M	\$3.2M
Proportion of budget	20%	20%	25%	24%	22%	21%

# Council LTP Baseline budget + additions

## Option 2: Baseline budget + \$1M

- Additional budget prioritised to planned and reactive maintenance

## Option 3: Baseline budget + \$2M

- Additional budget prioritised to planned and reactive maintenance, and a small amount to monitoring and investigations

## Option 4: Baseline budget + \$3M

- Additional budget prioritised to monitoring and investigations with a small amount to planned and reactive maintenance

## WWL Recommended option: Baseline budget + \$3.6M

- Additional budget prioritised to monitoring and investigations with a small amount to planned maintenance in the following areas:
  - Sustainable water supply investigations
  - Condition assessment and asset register improvements
  - Growth modelling and carbon monitoring
  - Inflow and infiltration investigations



# Capital Expenditure



# FY2023/24 CAPEX Forecast

**Council's FY2023/24 budget is \$66.51M. Council has asked WWL to consider any cost savings that could be made to bring the full year spend down by up to \$15M**

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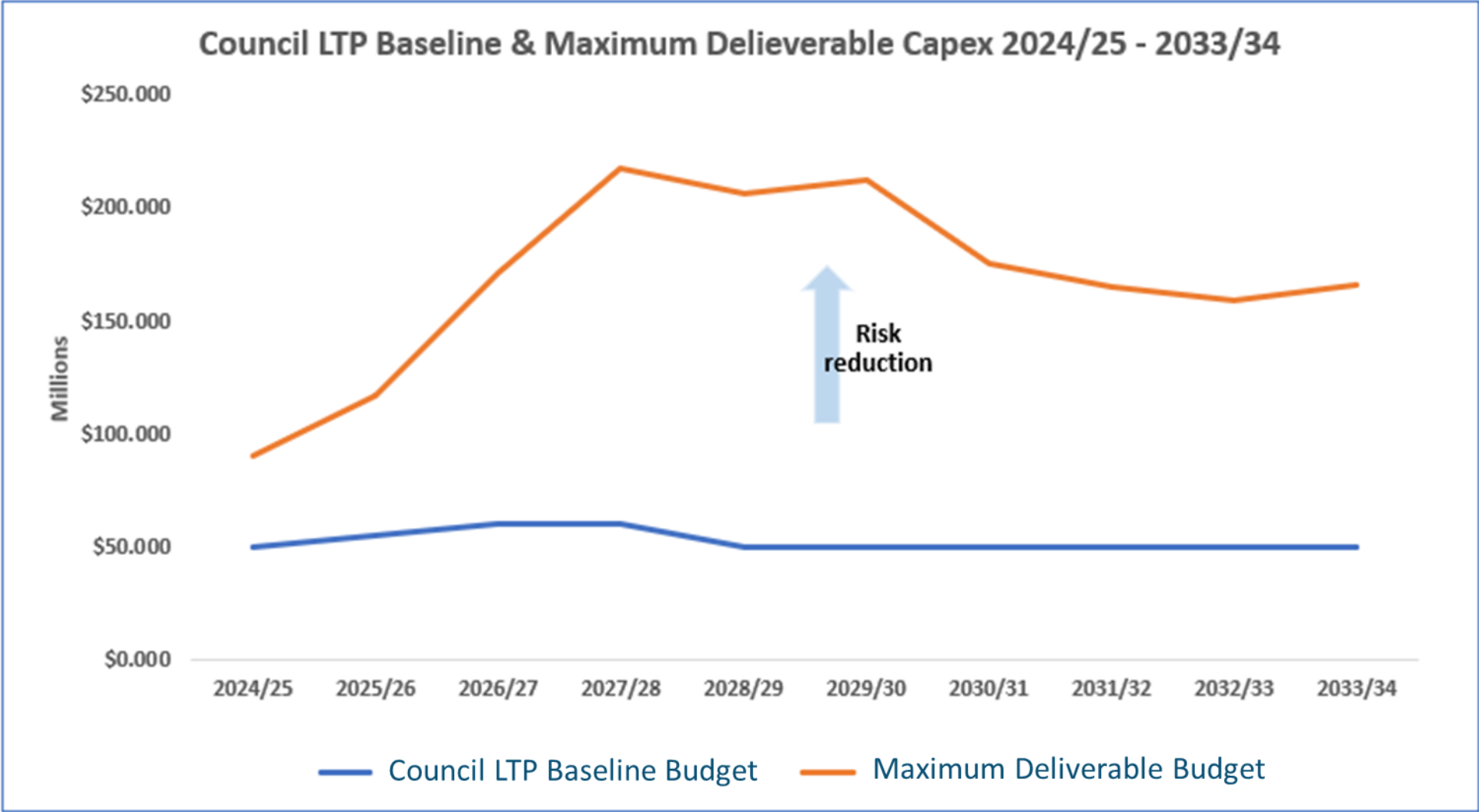
- WWL is working with Council officers to look at options to bring the FY2023/24 forecast below budget. The following activity is being considered for deferral to later in the LTP period or beyond the 10-year period:
  - Karehana Catchment Stormwater Improvements
  - Aotea Low Level Reservoir
  - Smaller projects underway but not yet contractually committed
- These changes will reduce the FY2023/24 forecast, however, WWL is currently forecasting the full year expenditure to be in the range of \$60M - \$66.51M.
- The primary reason WWL is limited in its ability to reduce forecasts much lower is due to the large projected spends for the Central City Storage Tank for FY2023/24 and FY2024/25.



# Council LTP Baseline Budget and Maximum Deliverable

CAPEX Options				
	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total
Council LTP Baseline Budget	\$50.0M	\$55.0M	\$60.0M	\$525.0M
Maximum Deliverable	\$90.9M	\$117.0M	\$117.8M	\$1,686.0M
(Difference)	(\$40.9M)	(\$62.0M)	(\$35.1M)	(\$1,161.0M)

# Council LTP Baseline Budget and Maximum Deliverable



# Options for investment within the Council Baseline LTP Budget

The Council Baseline LTP Budget is insufficient to deliver a balanced three waters capital programme

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CAPEX Options	Year 1 24/25	Year 2 25/26	Year 3 26/27	10-year total
Council Baseline LTP Budget	\$50.0M	\$55.0M	\$60.0M	\$525.0M
Option 1: Council Baseline budget <u>including</u> universal residential smart meters	\$76.1M	\$53.6M	\$35.4M	\$551.3M
Option 2: Council Baseline budget <u>excluding</u> universal residential smart meters	\$75.4M	\$54.8M	\$34.7M	\$538.6M
Maximum Deliverable	\$90.9M	\$117.0M	\$171.8M	\$1,686.0M

# Major projects with high costs in Years 1 to 3

Several high-cost projects account for the majority of Council's CAPEX programme in the early years of the 2024-35 LTP Period.

	Years 1	Years 2	Years 3	LTP 2024-34
<b>Baseline Budget</b>	<b>\$50.0M</b>	<b>\$55.0M</b>	<b>\$60.0M</b>	<b>\$525.0M</b>
<b>Projects within Baseline Budget that contribute to overspend in Year 1:</b>				
Central City Wastewater Storage Tank (contractually committed)	\$38.0M	\$14.0M	\$2.0M	<b>\$54.0M</b>
WWTP JV Odour Treatment (compliance related)	\$7.2M	\$0.8M		<b>\$8.0M</b>
WWTP JV Solids Handling upgrade (compliance risk related)	\$7.0M	\$15.0M	\$3.3M	<b>\$25.3M</b>
Universal Residential Smart Metering (in Option 1 programme)	\$0.7M	\$1.2M	\$2.9M	<b>\$33.5M</b>

# Council Baseline LTP budget – Key activity delivered

## Continuing delivery of the following contractually committed projects

- Central City wastewater storage tank
- Mana Avenue watermain
- Spinnaker Drive ridermain

## Porirua Wastewater Treatment Plant

- Solid handling
- Odour control management
- UV power back-up

## Close out costs for projects in delivery

- Karehana catchment stormwater improvements

## New Network Renewals across all waters

## Activity to support Sustainable Water Supply and Demand

- Pressure management (budget below WWL rec.)
- Reactive renewal of existing water meters

## Improving Environmental Water Quality

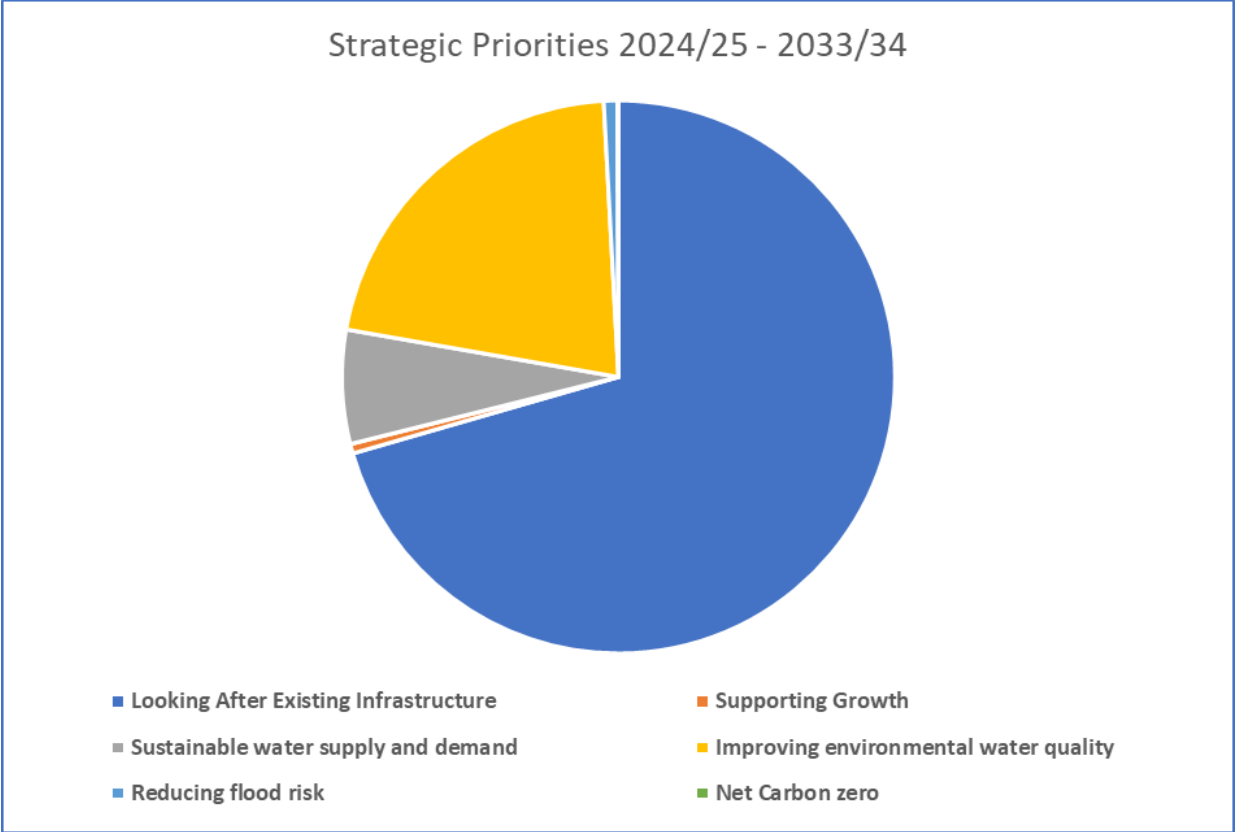
- Modelling and catchment plans to respond to global wastewater overflow and stormwater quality consents
- Pilot sub catchment interventions for storm and wastewater

## Resource consent compliance requirements

- Solid handling upgrade
- Odour control management
- UV power back-up

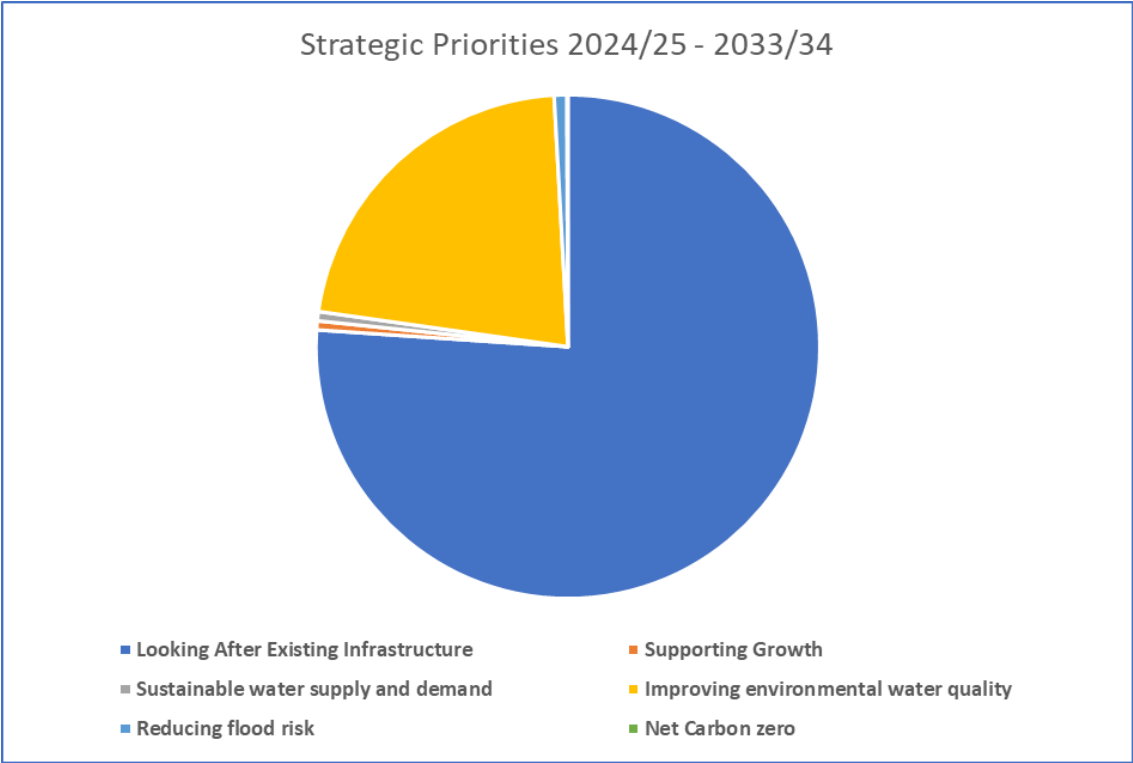
# Option 1: Council Baseline budget including Universal Residential Smart Meters

	Y1	Y2	Y3	10 year average
Drinking Water Network Renewals	70%	43%	40%	44%
Stormwater Network Renewals	60%	60%	60%	60%
Wastewater Network Renewals	25%	35%	40%	39%



# Option 2: Council Baseline budget excluding Universal Residential Smart Meters

	Y1	Y2	Y3	10 year average
Drinking Water Network Renewals	70%	50%	50%	49%
Stormwater Network Renewals	60%	60%	60%	60%
Wastewater Network Renewals	25%	50%	50%	45%



# Major projects excluded or deferred from Councils programme under the Council LTP Baseline Budget

There are a number of priority projects which are unfunded in the Council LTP Baseline Budget. Deferring these carries risk.

	Years 1	Years 2	Years 3	LTP 2024-34
Karehana Catchment Stormwater Improvements - Minimum Project Scope (Airlie Rd Inlet & Outlet)	\$3.88M	-	-	<b>\$3.88M</b>
PCC Low Level (Aotea) Reservoir (prev Elsdon)	\$15.5M	\$12.0M	-	<b>\$27.5M</b>
Paremata WW Trunk Update	\$3.0M	\$12.0M	\$15.0M	<b>\$70.0M</b>
WWTP JV Sludge Reduction (Dryer)	\$0.7M	\$2.6M	\$19.5M	<b>\$65.0M</b>
Network Renewals at WWL recommended rate (additional budget required is dependent on which programme Council decides on)	Up to \$14.1M	Up to \$13.1M	Up to \$14.1M	<b>Up to \$237.3M</b>



# Attachments and further information

# Porirua Wastewater Treatment Plant Odour Treatment

**New Resource Consent requirement to have odour treatment at Porirua Wastewater Treatment Plant by mid 2025. Included in the baseline programme but contributes LTP budget being exceeded in Year 1**

- Odour from the Porirua Wastewater Treatment Plant has been impacting neighbouring properties in recent years.
- A study was completed and submitted to GWRC as a resource consent condition. Odour treatment for several process areas on the site was recommended
- The consent condition date for odour control treatment is July 2025, WWL have requested GWRC an allowance to complete by October 2025 as the realistically achievable deadline.

## Outstanding risks

- This project is to meet specific resource consent condition requirements. Failing this is very likely to result in non-compliance.

### Proposed Mitigation:

No opportunity to mitigate the risk, it is a condition requirement of the newly granted resource consent.

WWL could seek an extension of time from Greater Wellington Regional Council, if Council directs WWL to do so. However, it is expected that significant extension is very unlikely to be granted.



# Porirua Wastewater Treatment Plant Solids Handling Upgrade



The solids handling equipment is in poor condition increasing non-compliance risk and needs to be upgraded to meet future population growth. This has been included in the baseline programme but contributes to the Council Baseline LTP budget being exceeded in Year 1 of the LTP period.

- Effective solids handling is key to producing sludge that meets disposal requirements at the Spicer Landfill

## Outstanding risks

- Poor asset condition means operational failure is possible at any time
- Capacity constraints in the solids handling train increases risk of sludge carry-over into treated effluent discharge (as occurred in 2021)
- Another sludge overflow event will cause Council to be non-compliant with consent conditions increasing prosecution risk
- Poor sludge cake creates higher OPEX spend and can create handling and odour challenges at the landfill
- Continuation of liquid stream operational challenges due to poor performance of the solids processing train



## Proposed Mitigation:

Costs could be reduced to only complete detailed design in FY2024/25, with all other works deferred to start in FY2025/26 onwards. This would bring FY2024/25 costs down to approximately \$1.5M but would result in inefficiencies of overall project delivery, increased total project costs and prolonged risk of non-compliance. **WWL does not recommend this due to the risks to Council.**

# Sustainable Water Supply and Demand

**Attempting to meet the region's water supply requirements without universal smart metering and increased water loss management will require investment in water supply options that will cost significantly more than the recommended approach. Option 2 will not deliver on this core activity**

- The Wellington region has come close to customers not having adequate supply of water in the past. Water demand and supply activities are limited under the proposed budgets including water loss management and metering

## Outstanding risks

- Constrained spend on water loss projects goes against Council direction to provide additional investment in leak repair activity
- Options 1 and 2 do not allow for water network renewals at a rate required to address the backlog in leaks in the long term
- Increases risks of water supply shortages in the summer

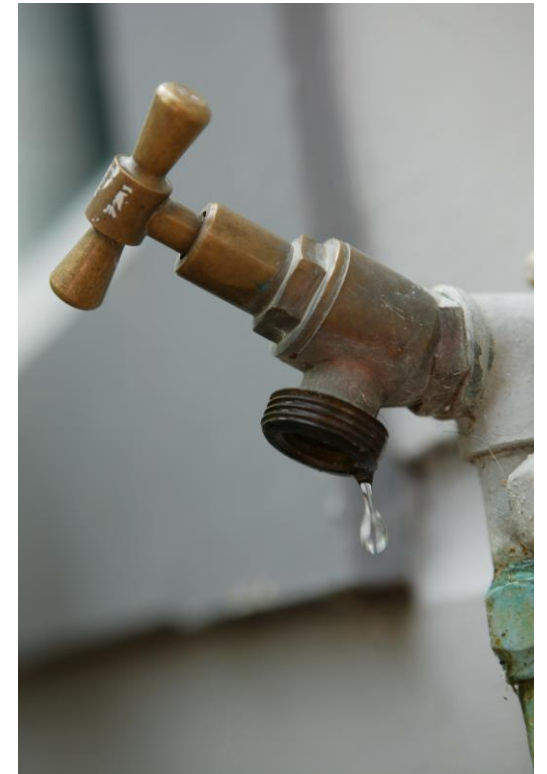
### Proposed Mitigation:

Together, with the other metro councils fund a detailed business case for universal residential smart meters and defer implementation to start in year four (FY 2027/28).

### Additional budget recommendation years 1-3:

**\$0.475M** to roll out pressure control valves at the rate recommended by WWL

**\$0.55M** for PCC's contribution for a \$5M Universal Residential Smart Meters Detailed Business Case





# Karehana Catchment Stormwater Improvements

The area has had three major flooding events recently and is at continued risk for more. A solution to lift the level of service above existing levels is deferred beyond 2034. Immediate work is required to renew the pump to just maintain the existing level of service

- Lifting the level of service and protecting the houses is now estimated at \$32M to \$41M
- Council has raised concerns about the reduced benefits achieved and the high costs of investment
- WWL was asked to stop works to lift the level of service and instead only maintain existing levels
- Work is required to renew the existing pump in the Karehana catchment to meet existing LoS

## Outstanding Risks

- Only maintaining the existing LoS will leave the community vulnerable to the impacts of flooding.
- Should funding become available detailed design and consenting would need to be completed before any physical works could commence
- Approximately \$4M has been expended to date to complete investigations and concept design. Delays could mean those costs are transferred to OPEX

## Proposed Mitigation:

WWL recommends the Airlie Rd inlet and outlet should be upgraded at a minimum as the current maintenance and operational requirements are not sustainable and temporary pump discharge is not consented.

~\$3.88M above the \$0.80M already allocated in the budget.



# Low Level (Aotea) Reservoir (prev Elsdon)

The Low Level (Aotea) Reservoir will provide an additional water storage for Porirua to meet levels of service and support growth. It is deferred outside the 2024-34 period

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## Outstanding Risks

- Shortfall in drinking water storage in PCC due to planned population growth
- Day-to-day operation of the current network could carry on but with higher risk of loss of supply in bulk network outages
- Little redundancy for planned works at off-peak times and on the bulk network
- The amount of water for survival for the community will decrease if there is a large earthquake
- Loss of resource consent and designation if not started by 2028
- Changes in seismic design standards outside the LTP period may increase price



## Proposed Mitigation:

There is no mitigation with deferral of this activity.

# Paremata Wastewater Trunk Upgrade Stage 2

**This project will reduce the number of wastewater overflows to Te Awarua o Porirua and enable planned growth in northern Porirua. This project is deferred outside the 2024-34 period**

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- This critical pipeline is very poor (grade 5) condition requiring urgent renewal and has a history of failure – part of the pipeline was upgraded in 2022

## Outstanding risks

- Significant risk of the remaining VHCA grade 5 pipe failing. If it fails it will have to be renewed as an emergency project as there is nil redundancy
- Wastewater overflows to Porirua harbour from Paremata pump stations will continue
- There is no growth capacity in northern Porirua.

## Proposed Mitigation:

Minimum short-term recommendation is \$2m (FY25 + FY26) to complete design and \$30m (FY27 + FY28) to duplicate the remaining 2km of failing pipeline along SH59.



# Porirua Wastewater Treatment Plant Sludge Reduction

The current approach to dispose of sludge from the Porirua Wastewater Treatment Plant is unsustainable.  
This project is deferred outside the 2024-34 period

- Continuing growth in the area is increasing sludge production rates and dewatered sludge cake disposal at the Spicer Landfill is expected to be constrained from 2027 onwards
- Provision of a sludge volume reduction process via a dryer will mitigate the known disposal constraints

## Outstanding risks

- Excess dewatered sludge cake would need be routed to another landfill, most likely outside the region
- If the sludge cake dry solid (DS) percentage is less the 20% DS (as currently produced) then this cake may not be accepted at another landfill site
- Alternative disposal routes result in higher operating cost due to haulage
- A dryer facility is complex and will take approximately 4 - 5 years to commission



## Proposed Mitigation:

- Porirua WWTP sludge cake could potentially be sent to another sludge dryer within the Wellington region
- The marginal cost for additional capacity to treat Porirua WWTP sludge within a regional dryer facility is expected to be significantly less than a stand-alone facility for Porirua
- A regional dryer facility would incur higher ongoing OPEX cost (cake transport) than an onsite dryer option but should be less than the current sludge disposal OPEX
- Requires other Council's agreement. If Seaview is preferred a fast decision is required.



# Network renewals

The Council Baseline LTP budget is insufficient to meet minimum requirements to deliver reliable, safe and compliant three waters services.

## Outstanding risks

- Network renewal levels need to be increased significantly across all three waters to address the backlog of pipes overdue for renewal and the bow wave of future works
- Under both Option 1 and Option 2, the level of network renewals that can be achieved is much lower than recommended and will mean assets will continue to age and deteriorate
- Increased risk of:
  - bursts, wastewater overflows, seepage, and flooding events
  - continued and increasing water loss from leakage
  - unavoidable reactive OPEX costs responding to asset failures

## Proposed mitigation

There is little mitigation for the impacts of overdue network renewals. Increased investment to enable a greater rate of renewal is required. Any additional funding would be prioritised to the most critical assets.



# Major projects

The following projects and programmes should be considered by Council for additional budget above the Council LTP Baseline budget. While these are high priority activities WWL recommends council should consider to invest in, they do not address all unfunded activity and needs of the three waters network, for example infrastructure to support growth or level of service driven improvements.

	Years 1	Years 2	Years 3	LTP 2024-34
<b>Baseline Budget</b>	<b>\$50.0M</b>	<b>\$55.0M</b>	<b>\$60.0M</b>	<b>\$525.0M</b>
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Universal Residential Smart Metering	\$0.7M	\$1.2M	\$2.9M	<b>\$33.5M</b>
<b>Projects for consideration for additional budget</b>				
<b>Projects deferred to outside of LTP Baseline Budget</b>				
Paremata WW Trunk Update	\$3.0M	\$12.0M	\$15.0M	<b>\$70.0M</b>
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