Item 1: Three Waters Strategy

SESSION TYPE: Briefing

PURPOSE/DESIRED OUTCOME:

The purpose of this briefing to provide an overview of Three Waters strategy framework with a focus on the long-term development of the wastewater network in the Whakatipu catchment and an outline of the development of water supply networks for the Upper Clutha settlements.

Update will also be provided on the development of the business case for water demand management interventions for Queenstown Lakes District (QLDC) water supply schemes, noting that the district's water consumption is one of the highest in New Zealand at an average of 565 litres per person per day.

DATE/START TIME:

Tuesday, 2 June 2026 at 10.30am

TIME BREAKDOWN:

Presentation: 60 minutes across two presentations
Questions and discussion: 60 minutes

PRESENTERS:

Helen Beaumont - Manager, Three Waters Strategy & Planning
Brent Pearce - Manager, Strategy and Infrastructure Planning
Kieran Cameron, Senior Engineer - Three Waters Strategy & Planning
Mark Baker - Contractor, Morphum

Prepared by:

Name: Helen Beaumont
Title: Manager, Three Waters Strategy
20 May 2026

Reviewed and Authorised by:

Name: Tony Avery
Title: GM Property & Infrastructure
25 May 2026

ATTACHMENTS:

A	Wastewater & Water Supply Strategies
B	Water Demand Management

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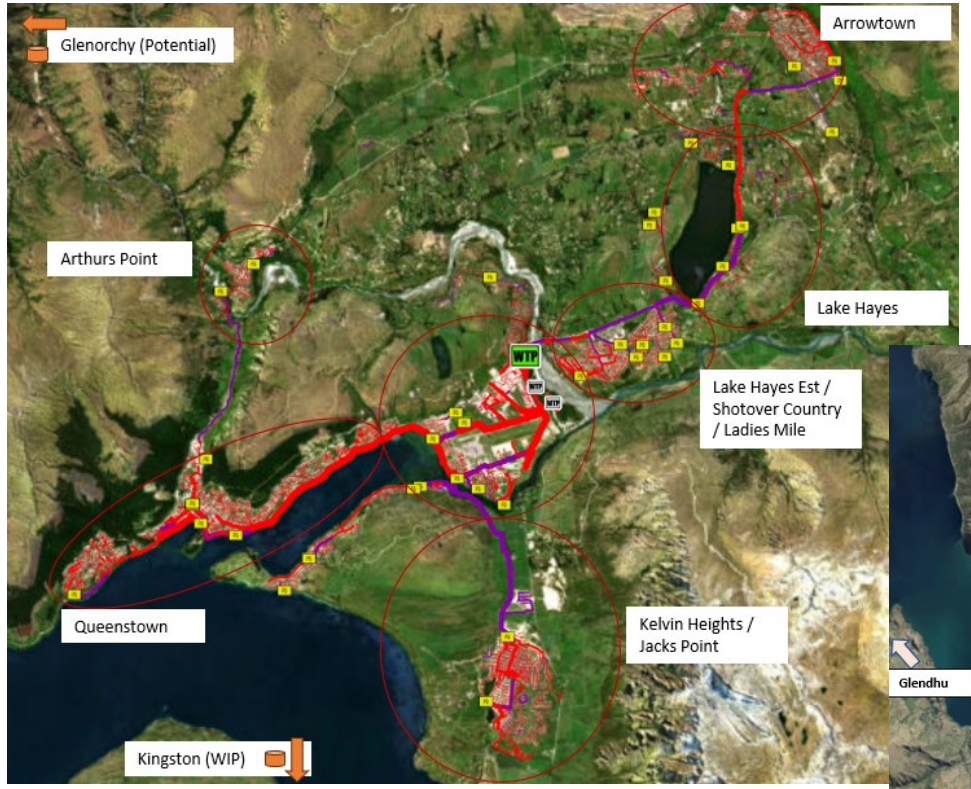
Network Strategy Workshop



Date: 02/06/2026

Strategic context – challenges & responses

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Challenges

- Rapid and sustained growth in residents and visitors; fast track applications
- Decades of financial constraint and rising costs
- Relentless regulatory and legislative reform
- Geographically challenging and ecologically sensitive environment
- Climate change and regional predictions
- Infrastructure deficits and asset information gaps
- Resource constraints – staff churn, dependence on externals, depth of expertise, contractor capacity

Responses

- Maximise use of existing infrastructure / staging
- Growth as opportunity and developer-led solutions / funding options
- Improve resilience to natural hazards / shock events
- Water demand management – to address water resource constraints and financial burden
- Dynamic adaptive pathways approach – technology, regulation, growth
- Explore both distributed networks and centralised systems
- Look to smart systems and IoT

Wastewater Strategy – planning hierarchy

Whakatipu Network Strategy
- Vision / Spatial Scenarios
- Catchment wide

Scheme Plans – 10 to 30 Years
- Whakatipu Network Plan
- Kingston Network Plan
- Glenorchy New Scheme?

Programme Plans – 10 Years
- Whakatipu Programme Plan
- Kingston Programme Plan
- Glenorchy New Scheme?

Upper Clutha Network Strategy
- Vision / Spatial Scenarios
- Catchment wide

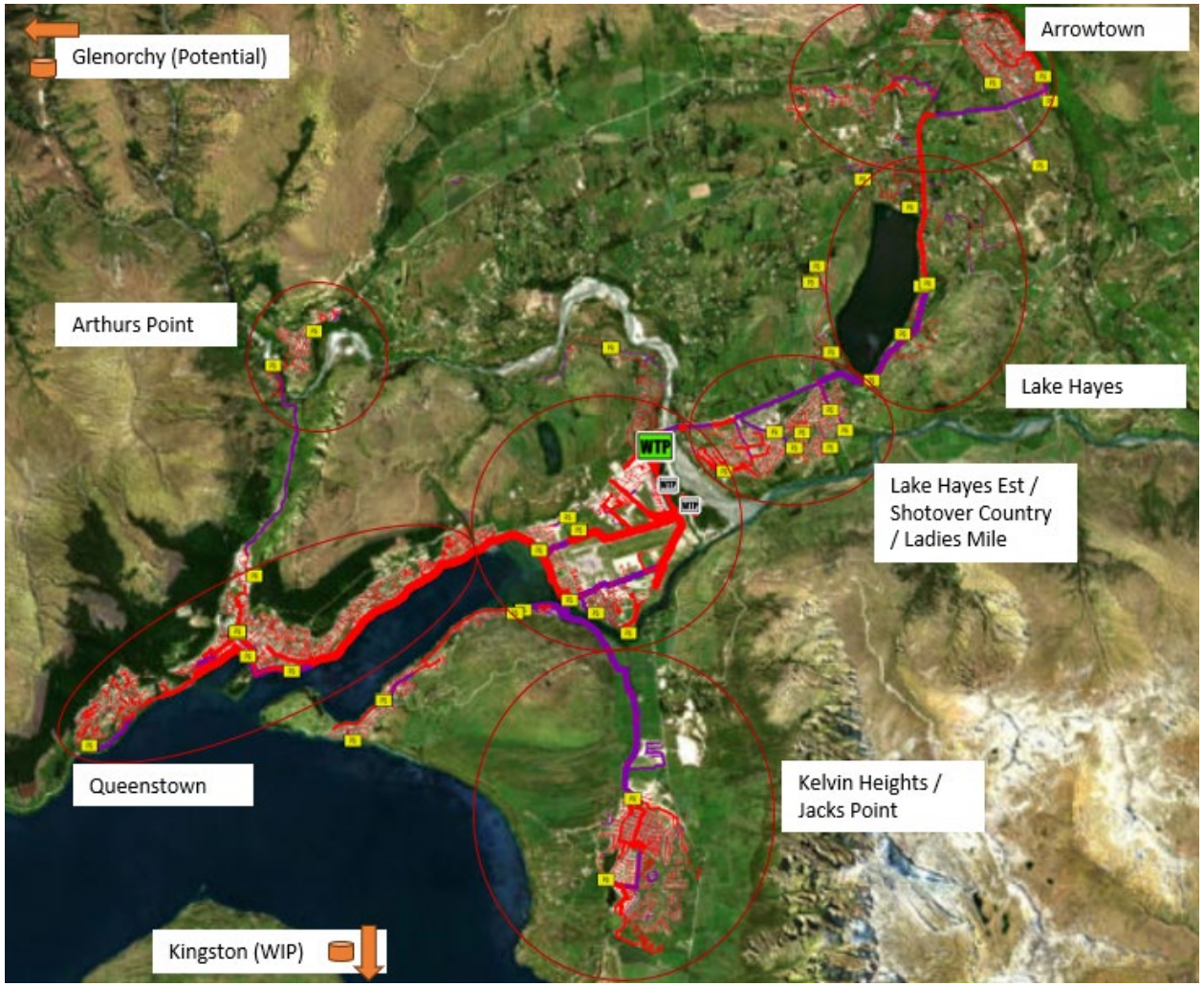
Scheme Plans – 10 to 30 Years
- Wanaka / Hawea Network Plan
- Luggate Network Plan
- Cardrona Network Plan

Programme Plans– 10 Years
- Wanaka Programme Plan
- Luggate Programme Plan
- Cardrona Programme Plan

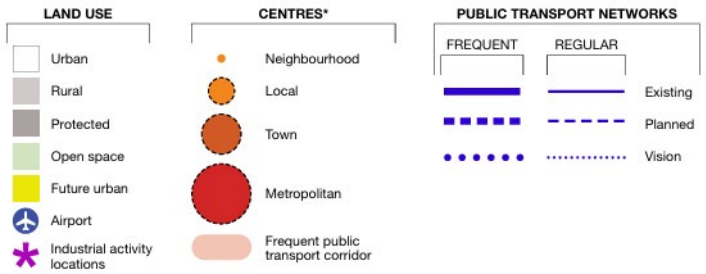
The building blocks

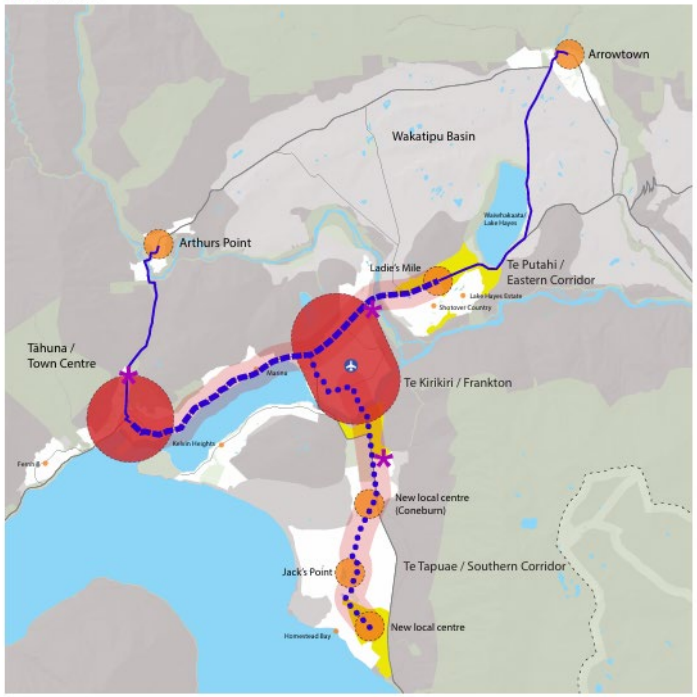
- Updated network models – complete for major networks
- Describe current state and issues – complete for all networks
- Identify risks to compliance and levels of service
- Model growth scenarios – using May 2025 projections
- Identify and prioritise interventions – high level options assessment / renewals
- Develop catchment level network plans, scheme and treatment plant masterplans and prioritized programme of works
- Dynamic pathways approach

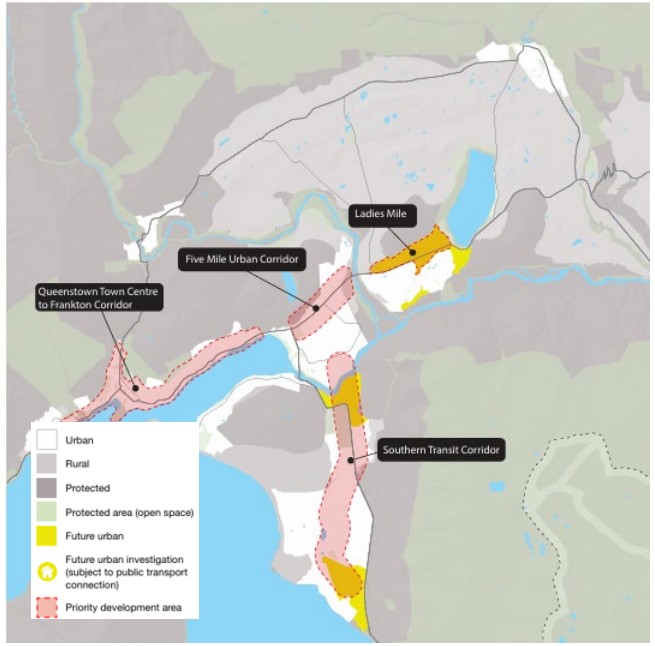
Wastewater – Whakatipu



Whakatipu Network Strategy: key inputs







- Queenstown Lakes Spatial Plan (2021)
- System Performance Assessment – today and with growth
- LTP 2024-54 including the Infrastructure Strategy
- Te Tapuae Structure Plan
- Te Pūtahi District Plan Variation
- Fast Track applications
- Condition assessments and renewals
- Regulatory / legislative requirements

Key Planning Assumptions / Limitations

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Growth Projections (May 2025):

- Growth occurs evenly across growth areas over time
- Visitor/resident ratios consistent with projections
- Growth in specific corridors cannot be slowed.

No material changes to WW treatment standards

No changes to levels of service / system performance indicators

Cross activity balancing to be applied

Financial and resource constraints to be applied

Short term – preferred pathway centralised network

Long term – adaptive pathways to consider decentralised scenarios.

Decentralisation of WWTP

Pros	Cons
Improves network **resilience** (earthquake prone region, fewer long pipelines, reduces single point failure)	Increased **operational complexity**, requiring multiple sites to be resourced, monitored/maintained & regulated
Staged development - expanded as community grows	**Economies of scale** reduced – in turn increasing treatment cost.
Reduces length of sewer infrastructure	**Land availability** and **community acceptance**
Sustainability & economic benefits: reduced capital investment in trunk infrastructure and reduced energy demand at pump stations	**Maintenance** / consistent **performance** can be more demanding than a single, consolidated plant

Potential for hybrid model (centrally controlled with satellite WWTPs)

Potential WWTP decentralisation options

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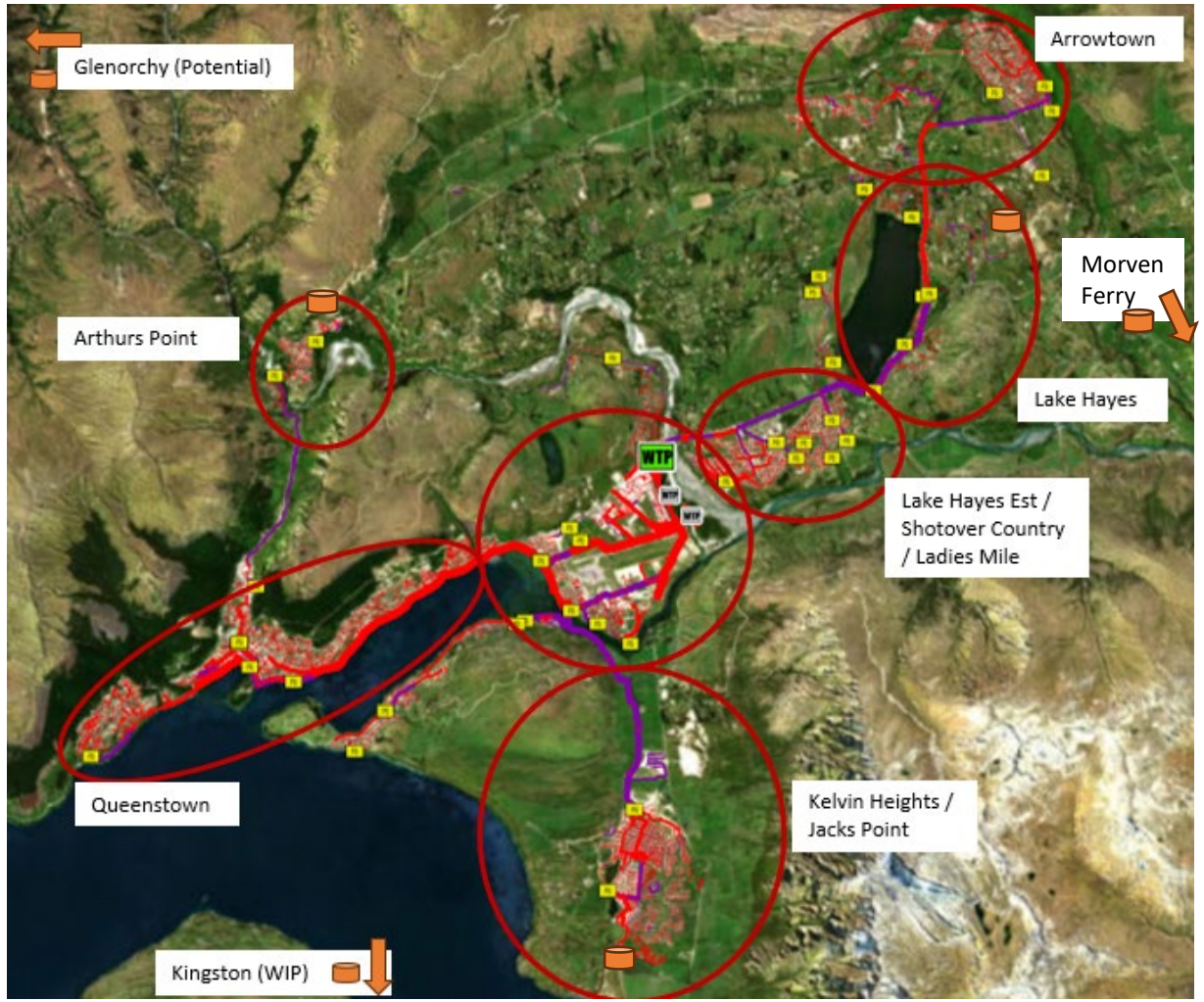
Possible drivers / triggers for decentralisation:

- technological advances / cost improvements
- developer led proposals
- ageing centralised infrastructure
- distributed growth across catchment area
- shock events.

Project Shotover primary WWTP for 10-30 years

Potential future WWTP locations:

- Arrowtown / Lake Hayes and/or Morven Ferry
- Jacks Point or new location in Southern Corridor
- Arthurs Point – if maximum development
- Kingston – construction on scheme underway
- Glenorchy – monitoring requirements.



Whakatipu Wastewater

TIMELINE - short term priorities and strategic direction (now to 2030)

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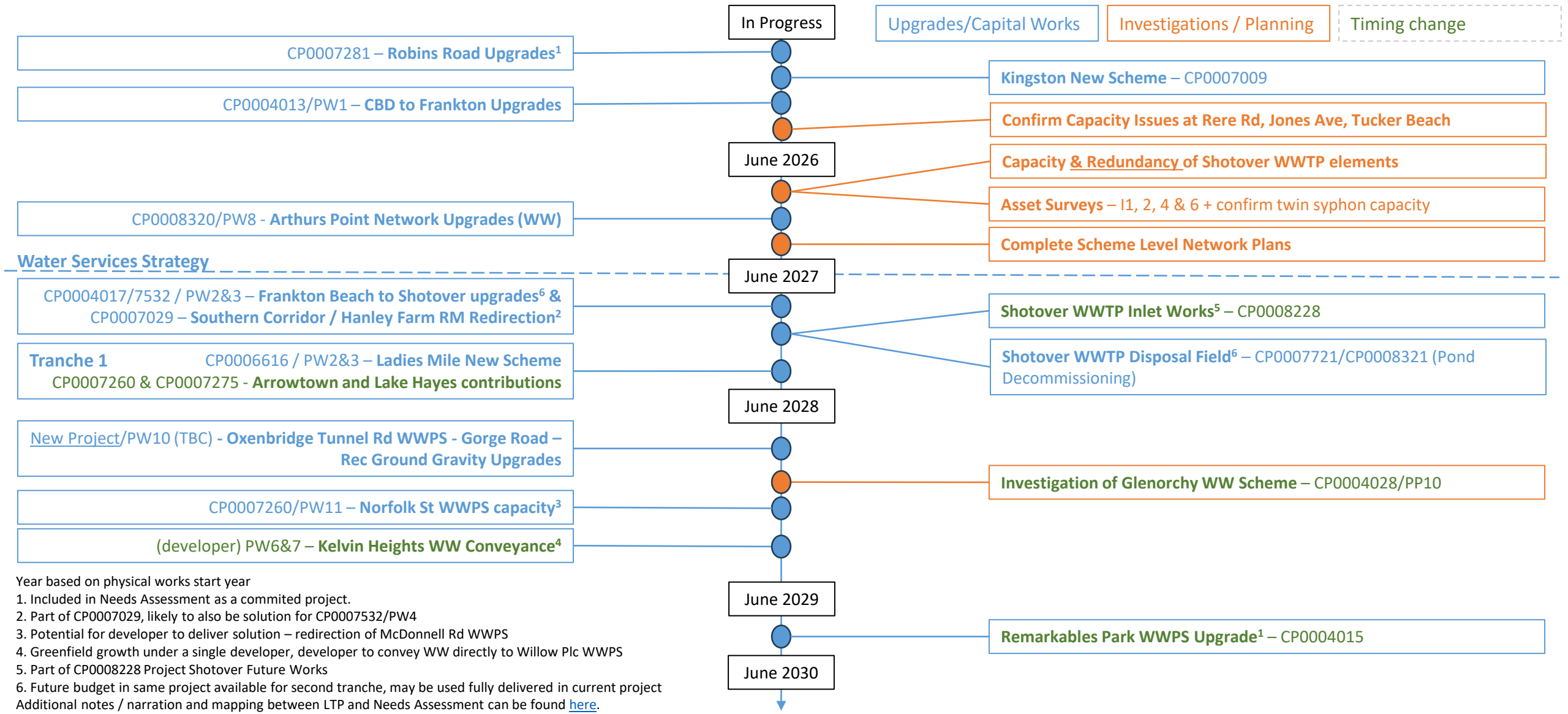
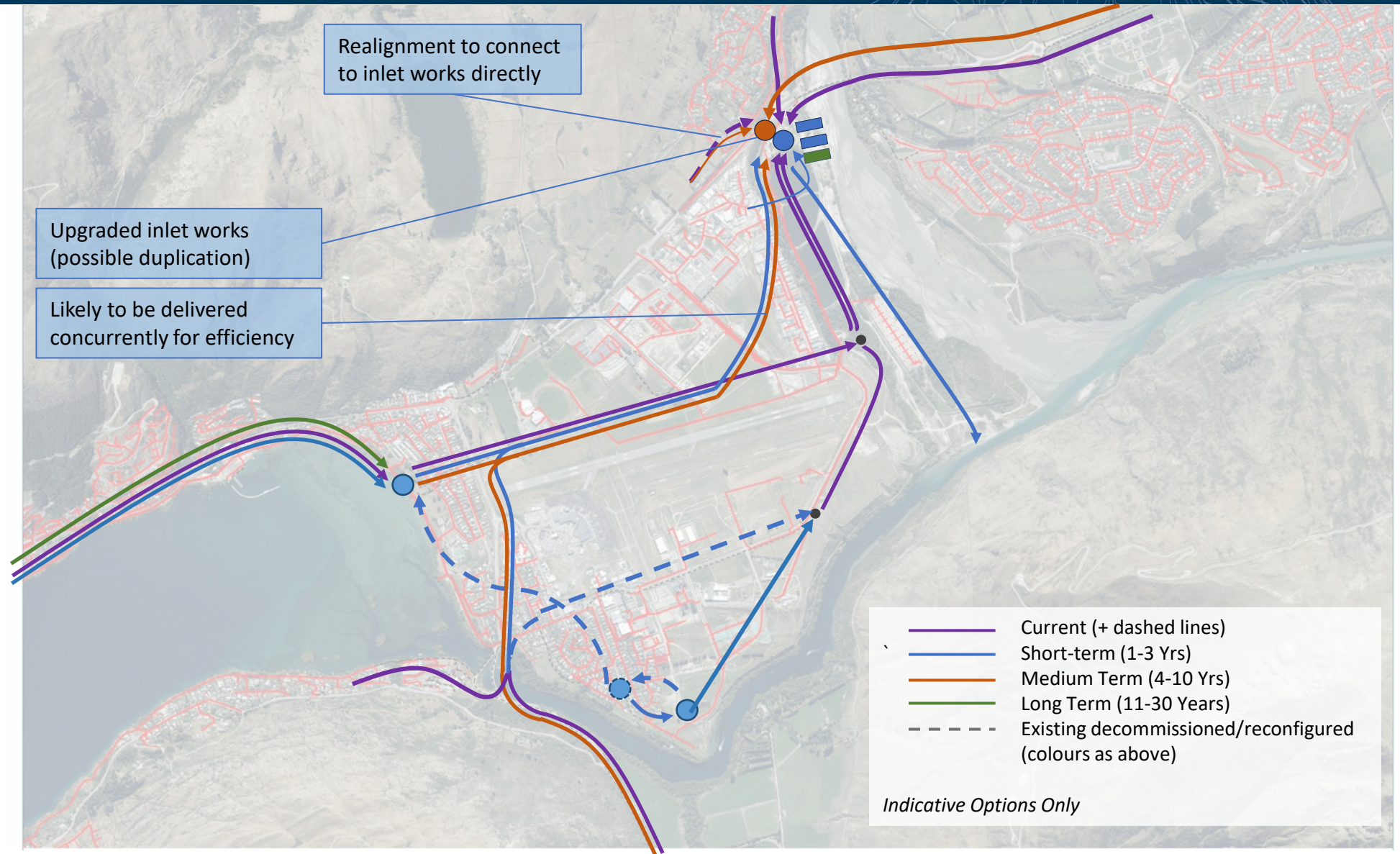


Year based on physical works start year

1. Included in Needs Assessment as a commited project.
2. Part of CP0007029, likely to also be solution for CP0007532/PW4
3. Potential for developer to deliver solution – redirection of McDonnell Rd WWPS
4. Greenfield growth under a single developer, developer to convey WW directly to Willow Plc WWPS
5. Part of CP0008228 Project Shotover Future Works
6. Future budget in same project available for second tranche, may be used fully delivered in current project

Additional notes / narration and mapping between LTP and Needs Assessment can be found here.

Frankton wastewater conveyance options



Whakatipu Wastewater

TIMELINE - medium term priorities and strategic direction (2030 to 2037)

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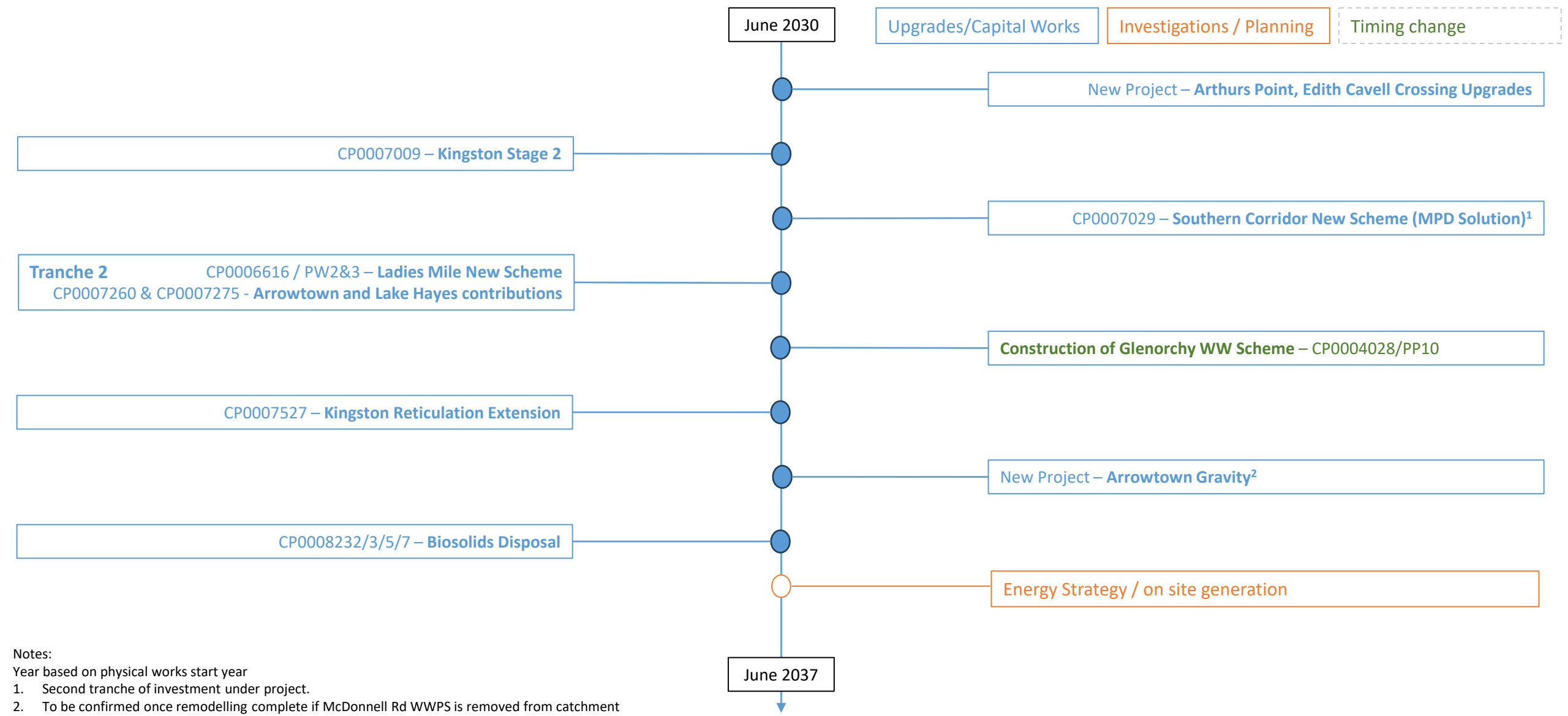
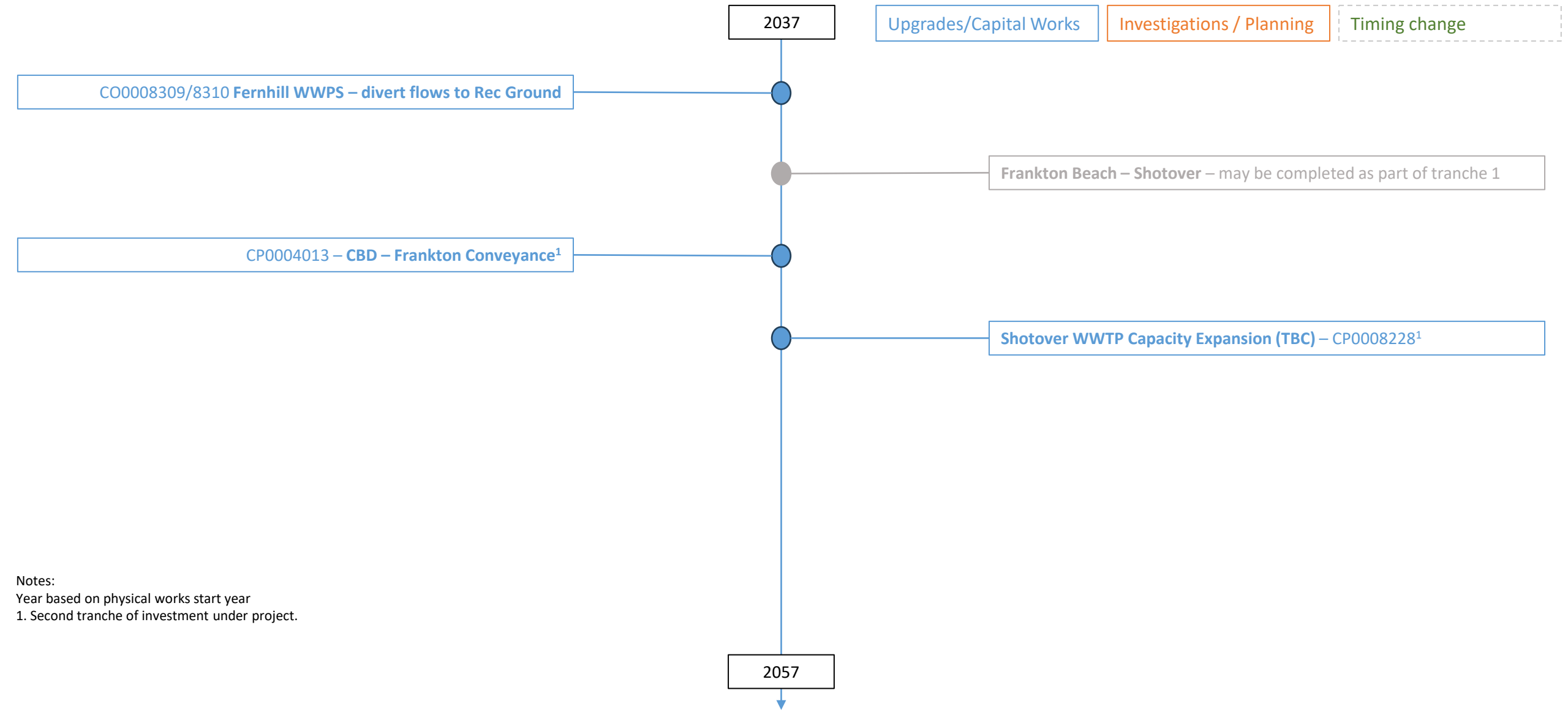


Notes:
Year based on physical works start year

1. Second tranche of investment under project.
2. To be confirmed once remodelling complete if McDonnell Rd WWPS is removed from catchment

Whakatipu Wastewater

TIMELINE - long term priorities and strategic direction (2037 to 2057)



Notes:
Year based on physical works start year
1. Second tranche of investment under project.

Whakatipu Wastewater

TIMELINE – maximum probable development – priorities and strategic direction 2057+

	Other Projects	
Ongoing/Cyclical Work (Catchment Wide):	**Pump Station Upgrades**	**Local Gravity Network**
• Asset Management Plan • Minor Improvements • Masterplanning • Renewals • Planning inputs (E.g. flow survey) • Hydraulic model upgrades • Integrating New and emerging technologies.	• Cedar Drive • Willow Place • Jacks Point • Atley Rd • Park St	• Hanley Farm • Isle St • Dublin St • Wynyard Crescent

New & emerging wastewater technologies

- Improving treatment performance while reducing footprint, energy demand, and environmental impact – such as membrane bioreactors (MBRs), anaerobic membrane systems, energy-positive treatment, advanced nutrient recovery and improved real-time digital monitoring
- Smart monitoring – increased automation and process optimisation through Artificial Intelligence; AI-driven control systems can analyse influent characteristics, weather forecasts, and network data to dynamically adjust aeration, chemical dosing, and sludge handling
- Better energy management with on-site generation of renewables, biogas capture, and capturing waste heat
- Wastewater remediation and beneficial re-use
- Accessing the latest proven technologies through industry collaboration, pilot programmes, and procurement strategies that encourage contractors to propose innovative proven solutions as part of the tender process.

Risks and Opportunities

Risk/Opportunity	Response
Fast track appplications	Could be risk or opportunity depending on application and having an up to date network plan will enable a consistent and robust response on a case by case basis
Shotover WWTP discharge consent not granted	Progressing new dischrage consent alongside ongoing exploration of disposal options; masterplanning of plant to be completed to understand other potential pathways if/when required
Developer agreements fall over	Ensure plan has sufficient funding/flexibility to respond on a Council led solution if required.
Front loaded plan results in over-capitalisation of network assets	Develop cost estimates early and complete financial modelling to understand risk; search hard for tranched solutions and maximising use of existing assets within tolerable risk levels
Overdesign of trunk network or headworks from using overly conservative input assumptions	Create a trunk infrastructure standard to be used for network design rather than leaning on Subdivision Code of Practice and bespoke amendments – for example reduced demand from high density residential development
Limited infrastructure corridor options in the future	Ensure utilisation of existing assets and early identification / protection of future infrastructure corridors
Water reclamation	Consider as an option in WWTP upgrades
Energy Management	Dependence on volatile and potentially disrupted external electricity and fuel supplies; opportunity to transform wastewater systems into resilient, lower-cost energy and resource recovery assets through efficiency, biogas generation, smart controls, and onsite renewable energy integration

Next Steps: Wastewater Network Strategy

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- Remapping of LTP / Water Services Delivery Plan projects for new Water Services Strategy – break down line items for each tranche in growth areas / add new projects / adjust timing
- High level scoping of short-term projects – enabling work / land and consent requirements
- Cost estimation – update existing and estimates for new projects
- Communication and collaboration across Council – spatial plan updates / subdivision and development trends / alignment with roading and public realm
- Cross activity mapping within three waters – optimisation of delivery
- Build in financial and resource constraints – investment envelope / contractor capacity.

Water Supply: Upper Clutha

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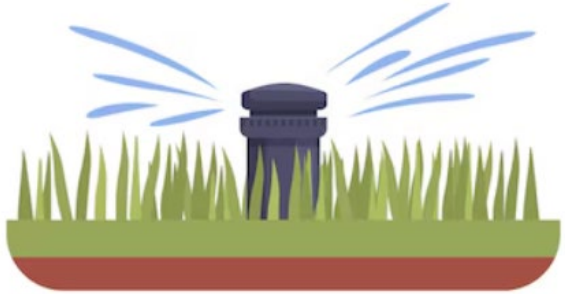
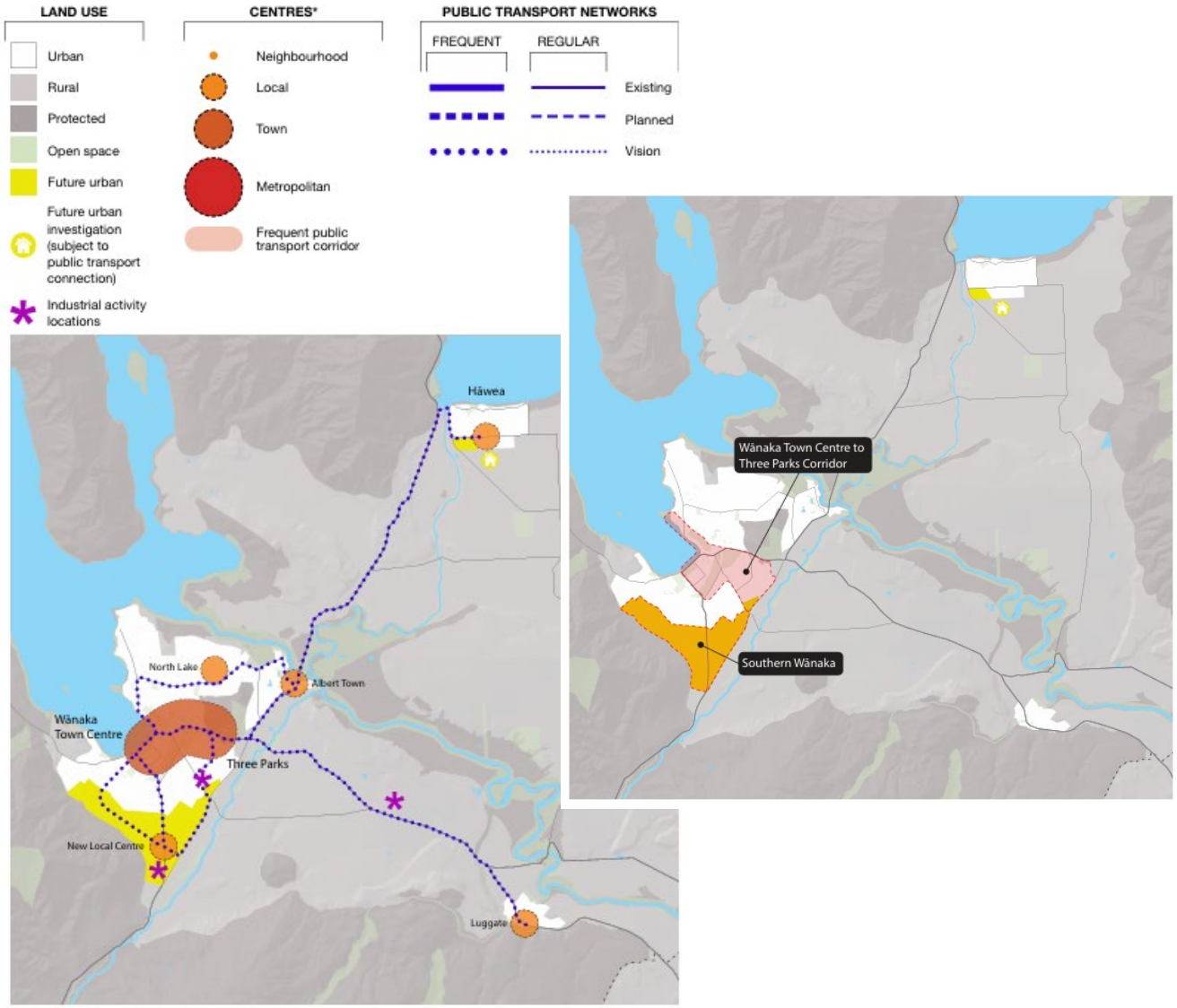


Upper Clutha Water Supply Network



Upper Clutha WS Network Strategy

- Vision / Spatial Scenarios
- Catchment wide

WS Scheme Plans (10 to 30 Years) / Programme Plans (10 Years)

- Wānaka WS Network Plan
- Lake Hāwea WS Network Plan
- Luggate WS Network plan
- Cardrona WS Network Plan

Overview: Upper Clutha Water Supply Network Strategy

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Process:

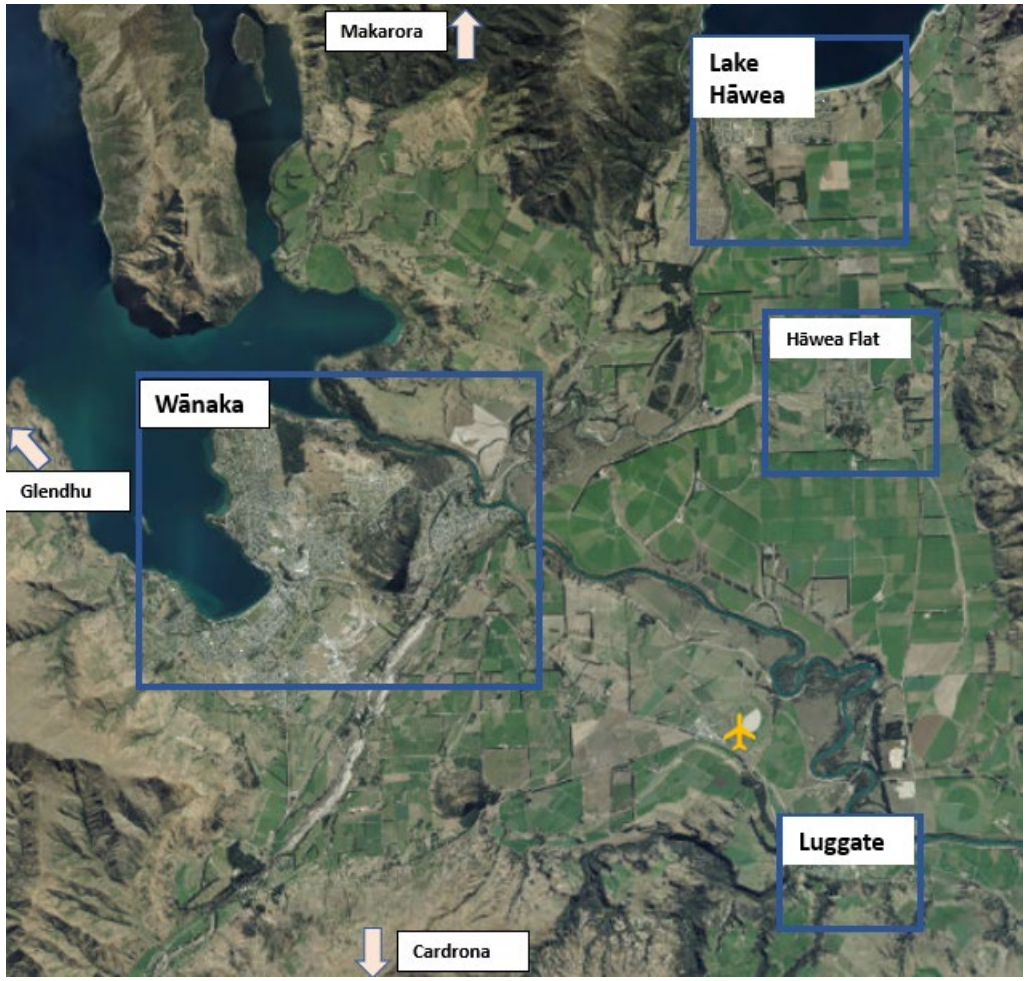
> In line with Wastewater Network Strategies
> Inputs: System Performance Assessment, Needs Assessment, Condition Assessments
> Levels of service – compliance, adequate pressure and fire fighting sufficiency
> Prioritise work scopes.

Key Issues Identified:

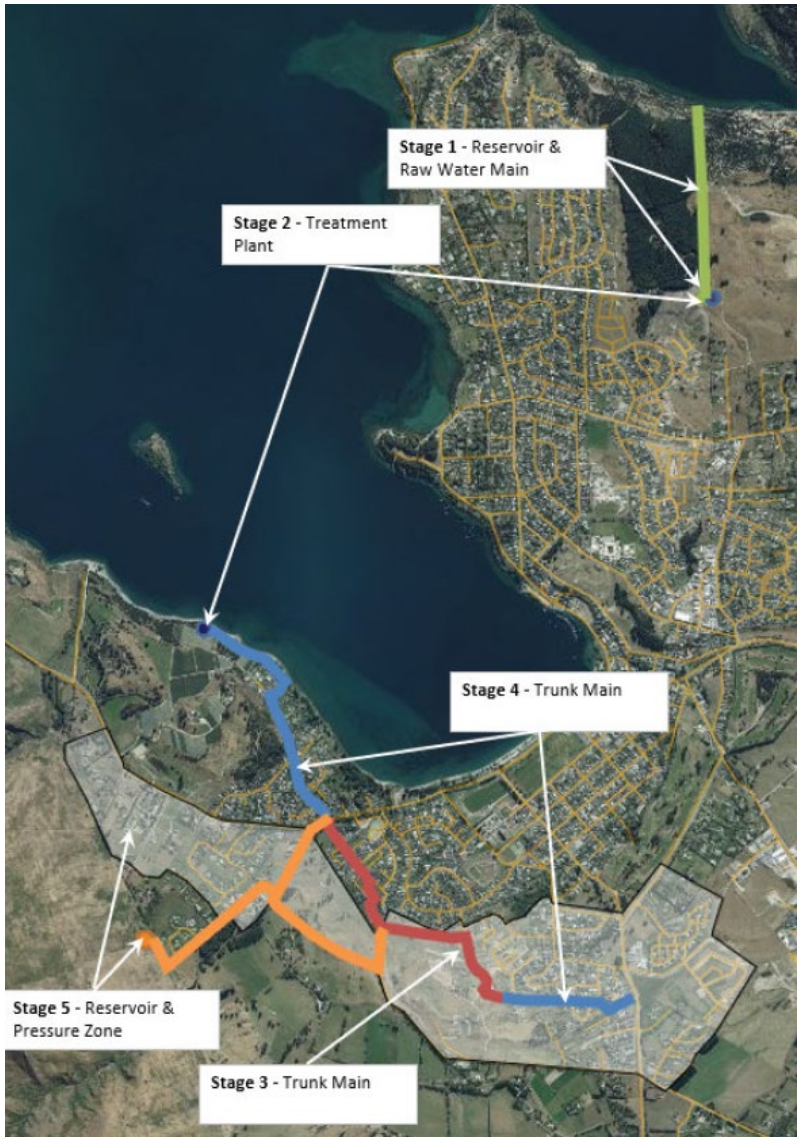
> Water storage requirements, particularly Wānaka and Lake Hāwea
> LoS: low / high pressure, including low pressure fire fighting flow
> Supply and future water take consents – sustainable use of source water
> Resilience – water main over Hāwea earth dam, single point failure (e.g. Beacon Point)
> Potential requirement to service small townships.

Main Project Focus:

> WTP investment: pre-UV filtration, and potentially fluoride
> Wānaka interconnecting reservoirs: new West reservoir and trunk infrastructure
> Renewals programme
> Lake Hāwea: additional source, new reservoir at suitable elevation for improved LoS
> Cardrona: water take permit, increasing capacity with growth
> Luggate: increasing storage capacity, bringing 3rd bore online
> Hāwea Flat / Makarora / Glendhu: potential to provide water services in future.



Wānaka: twin intake / interlinked reservoirs



Adaptable solution for increased resilience – aim to achieve interlinked reservoirs by 2050

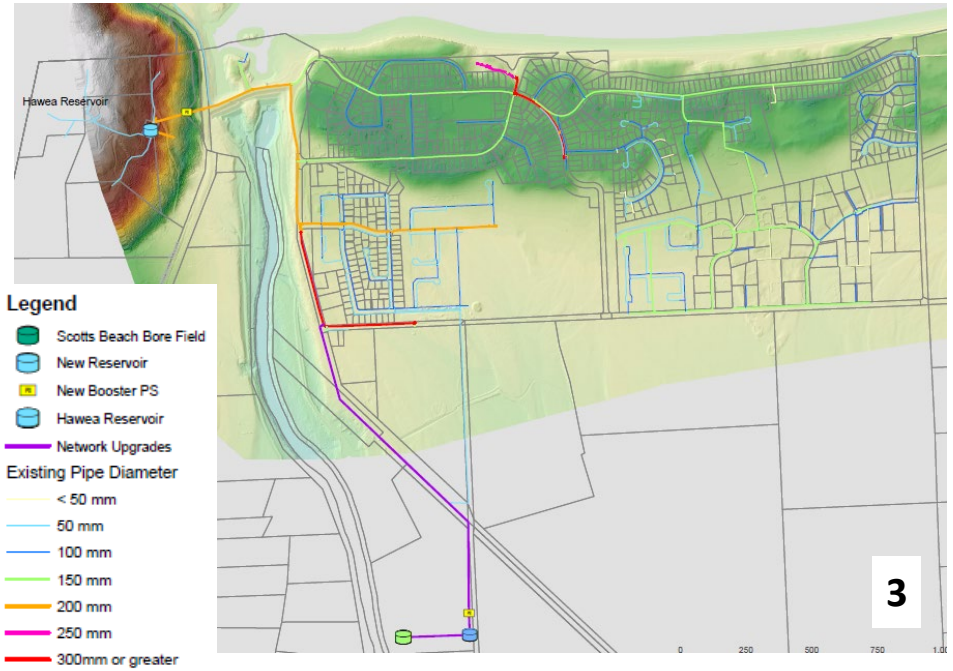
- **Stage 1** – additional Beacon Point reservoir storage capacity and duplicate raw water main
- **Stage 2** – upgrade the water treatment facilities at Beacon Point and Western Intake
- **Stage 3 –** construct a trunkmain to convey water from Wānaka-Mt Aspiring Road to West Meadows Drive
- **Stage 4 –** update trunkmain from intake to Wānaka-Mt Aspiring Rd and extend the West Meadows trunkmain to Cardrona Valley Rd
- **Stage 5:** Construct southern reservoir (Hawthenden)

Main risks / challenges: funding, securing land for Hawthenden Reservoir.

Wānaka: Hawthenden reservoir sites

- **Securing Land**
- **Initial work into potential suitable locations (orange)**
  - **Topography**
  - **Elevation**
- **Staged programme of works**
  - **Avoid over-engineering network**
  - **Sequence build as growth is realised.**
- **Construction of Hawthenden Reservoir expected between 2030 – 2040.**

Lake Hāwea Options (Source & Storage)



1. New eastern source & reservoir at suitable elevation, associated network upgrades
2. New lake intake (west) & new reservoir, service bridge south of dam, associated network upgrades
3. New southern source, reservoir (low elevation) and pump station, associated network upgrades
4. Expand Scotts Beach bore field, new reservoir (close to source), associated network upgrades.

[Note: existing reservoir location unsuitable for expansion]

Decentralisation of water sources / reservoirs

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Pros	Cons
Improves network **resilience** (earthquake prone region, fewer long pipelines, reduces single point failure)	**Inconsistent Water Quality Risk** Variability between systems can lead to uneven treatment performance
Reduced Infrastructure Vulnerability Shorter pipe networks mean fewer points of failure from landslides, seismic activity, or flooding.	**Economies of scale** can be reduced – in turn increasing treatment cost
Scalability & Flexibility Systems can be expanded incrementally as communities grow	**Regulatory & Governance Challenges** Ensuring compliance with national drinking water standards across many small systems can be difficult
Faster Deployment & Recovery Modular systems (e.g., containerised treatment units) can be installed or restored quickly after disasters.	**Maintenance** / consistent **performance** can be more demanding than a single, consolidated plant.

Resilience

- Hybrid model – centralised with decentralised back up nodes
- Use of solar powered treatment units for off grid resilience
- Community-scale storage & treatment for emergency independence.

New & Emerging Technologies

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- Smart, Data-Driven Water Networks
- Decentralised & Local Water Systems
- Climate-Resilient, Diversified Supply
- Smart Pressure Management
- Advanced Pipe Materials & Infrastructure Renewal
- Improvement in pump technology and performance

Questions

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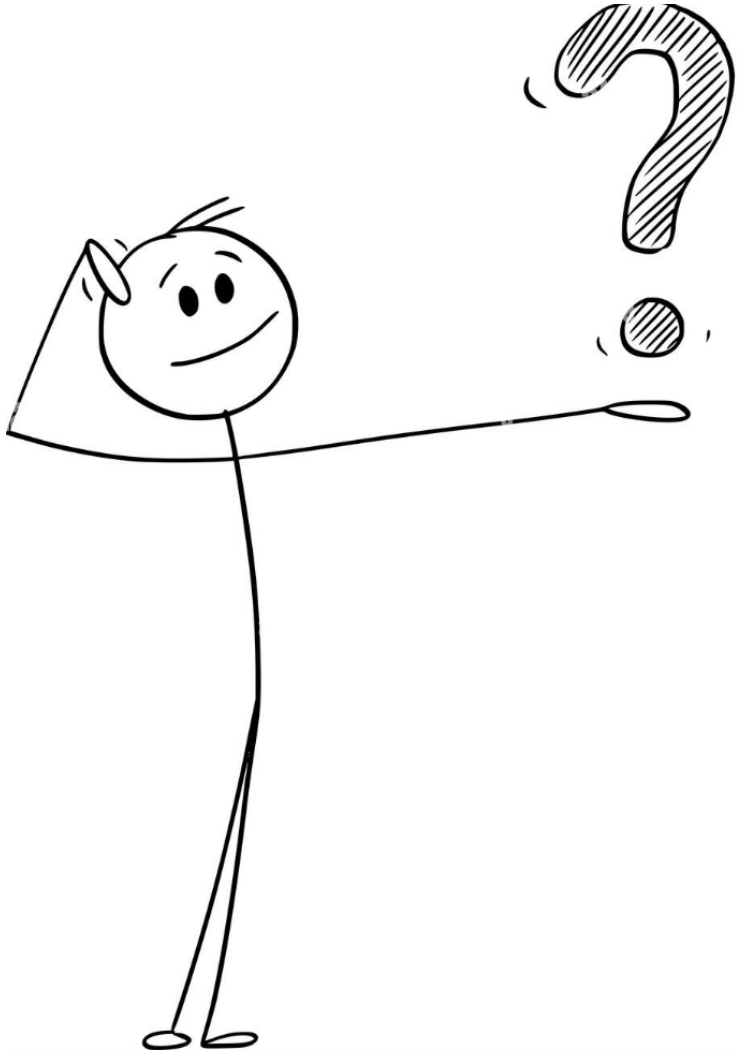

Appendix

APPENDIX: Growth Projections (Shotover Catchment)

	2024		2034		2044		2054		MPD	
	Average Day Population	Peak Day Population	Average Day Population	Peak Day Population	Average Day Population	Peak Day Population	Average Day Population	Peak Day Population	Average Day Population	Peak Day Population
Arthurs Point	1,885	2,783	2,611	3,894	2,932	4,369	3,254	4,846	4,185	6,221
Millbrook	538	989	734	1,290	821	1,416	908	1,543	1,115	1,847
Ladies Mile	45	62	754	1,141	1,836	2,791	2,923	4,449	7,852	11,978
Queenstown Hill	0	0	690	1,048	913	1,385	1,136	1,722	1,655	2,505
Sunshine Bay-Fernhill	4,906	7,045	5,177	7,475	5,360	7,725	5,543	7,976	6,235	8,926
Arrowtown	3,721	5,752	3,957	6,134	4,076	6,286	4,196	6,441	4,577	6,936
Quail Rise	904	1,295	1,556	2,291	2,772	4,144	3,986	5,994	9,690	14,692
Queenstown Central	6,031	8,948	7,565	11,264	9,151	13,655	10,743	16,055	18,082	27,124
Queenstown East	3,765	5,808	4,346	6,697	4,859	7,458	5,373	8,219	7,645	11,589
Frankton Arm	4,471	6,755	5,399	8,176	5,999	9,063	6,600	9,952	8,781	13,195
Frankton	5,792	8,578	8,490	12,681	11,115	16,628	13,706	20,525	25,034	37,567
Lake Hayes	500	837	529	884	544	903	559	921	610	978
Kelvin Heights	2,193	3,351	3,119	4,766	3,535	5,382	3,951	5,999	5,130	7,741
Shotover Country	4,216	5,881	4,354	6,111	4,431	6,205	4,508	6,298	4,801	6,653
Lake Hayes Estate	2,889	3,840	2,983	3,994	3,145	4,227	3,307	4,462	4,062	5,553
Jacks Point*	4,889	6,961	6,667	9,691	9,154	13,461	11,634	17,219	22,874	34,267
Total	**46,748**	**68,885**	**58,931**	**87,537**	**70,643**	**105,099**	**82,328**	**122,621**	**132,331**	**197,772**

*Jacks Point includes population (approx 900 houses/2,350 people) on Jacks Point wastewater scheme.

Network Assessments: evidence base

- WW System Performance Assessment (SPA)
  - **Existing network** – generally performs adequately with low risk of capacity driven overflows
  - **Future growth –** significant pressure on network capacity, pump station storage, and overflow management.
- Needs Assessment
  - Prioritised list of projects based on growth and asset condition (where available).
  - Substantial and timely infrastructure upgrades are essential to sustain performance and mitigate overflow risks as population growth continues and climate change impacts intensify.
- Condition Assessments and Renewals – *to be considered*
  - Pipe grading (material, installation date, CCTV survey)
  - Criticality and consequences
  - Transition from reactive, emergency-driven repairs to proactive, cost-effective infrastructure management integrated with wider strategic network planning.

The System Performance and Needs Assessment process has found few new issues which generally validates the projects proposed in the current LTP capital investment programme.

Te Tapuae – standalone treatment option

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Thoroughly considered the option of a modern treatment plant built in stages as growth proceeds.

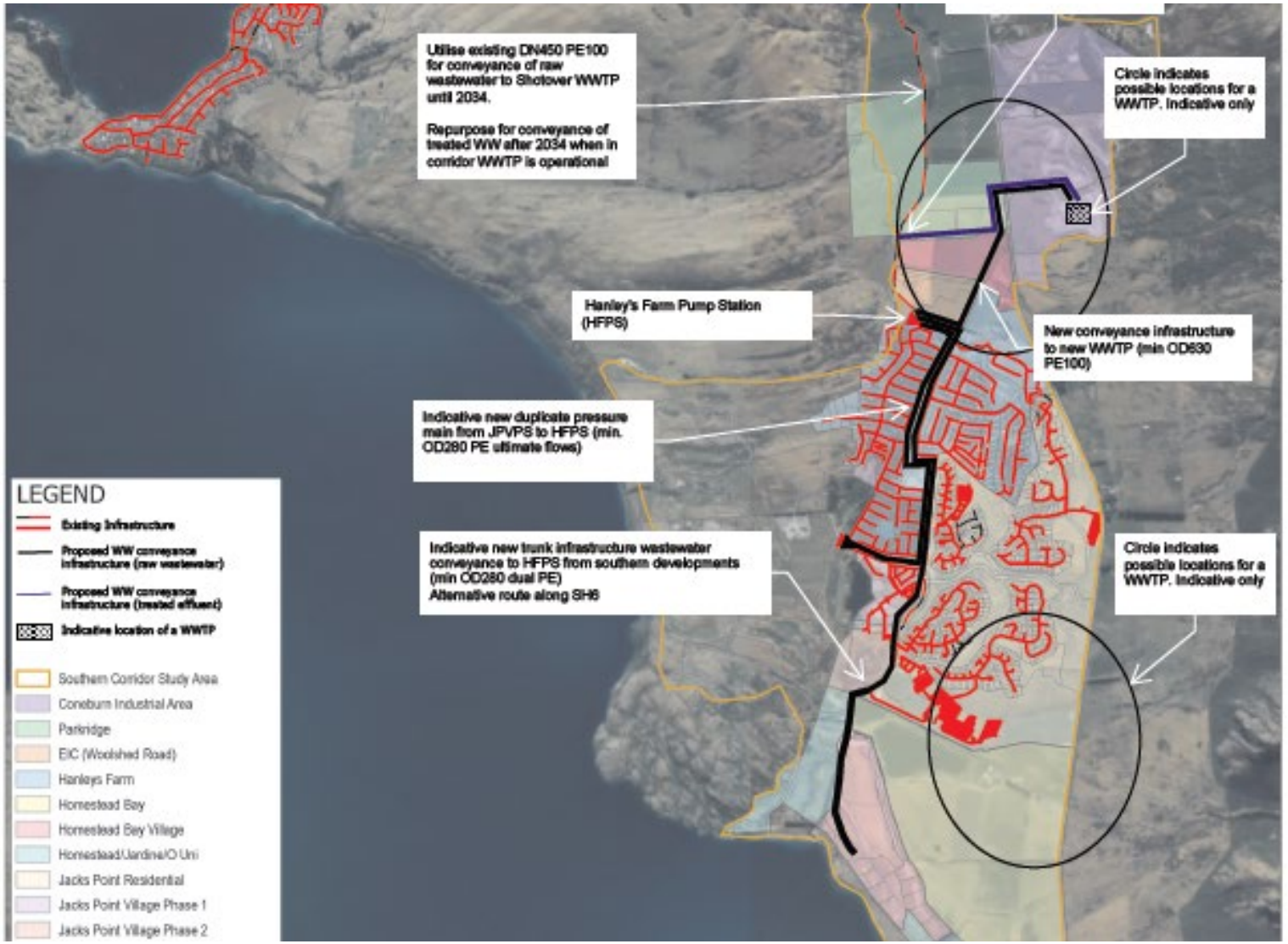
Benefits

- Resilience

Disbenefits

- High capital cost – additional $50 million
- High operational cost
- Lack of sufficient land for disposal

Preferred pathway is to pipe to Shotover due to significant economies of scale for centralised wastewater treatment and disposal.



Whakatipu Wastewater – Other

TIMELINE - priorities and strategic direction (to 2030)

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Ongoing/Cyclical Work (Catchment Wide):

- Asset Management Plan
- Minor Improvements
- Renewals
- Planning inputs (E.g. flow survey)
- Hydraulic model upgrades
- Inflow and infiltration (analysis and remediation)

Other Projects:

- Marine Parade WWPS Improvements – Renewals
- Telemetry Upgrade
- LOS/Performance Budgets
- Dump sites?
- Glenorchy – potential QLDC led network?
- Developer intentions / fast track applications

Investigations / Asset Surveys:

- Asset/Facility level investigations identified through SPA and NA processes.
- Water Quality Monitoring (e.g. Kingston and Glenorchy)

Further Considerations:

> **Cultural:** working with Iwi to ensure network plans work for all

> **Renewals:** renew ageing infrastructure to improve reliability and resilience climate impacts, identify opportunities for capacity improvements in parallel to renewals – will become an important component of investment planning

> **Inflow and Infiltration**: currently reactive, generally issues are identified during CCTV inspection. District wide I & I assessment would be based on a combination of PS / WWTP inflow assessment of data (correlating to wet weather events) followed by a targeted district wide inspection regime (e.g. CCTV).

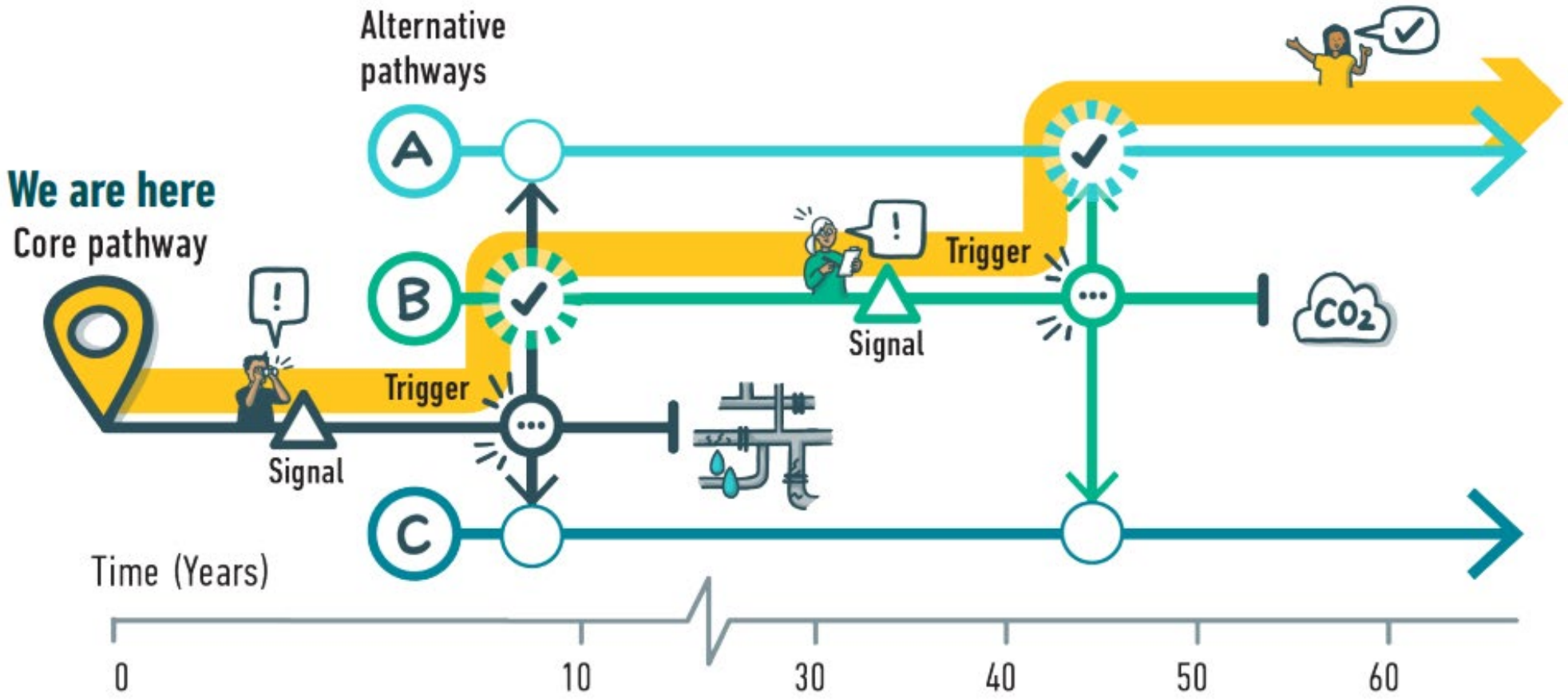
> **Regulatory changes:** requires adaptive planning to meet evolving standards, environmental requirements, and compliance obligations

> **Energy strategic programme:** optimising pumping to optimise energy consumption

> **Emergency response / resilience:** building network resilience and contingency plans to manage system failures, and extreme weather events

> **Aligning / integrating infrastructure projects:** Coordinating with other infrastructure projects (wastewater / roading upgrades) and ensuring adequate oversight between WSCCO and QLDC to ensure no opportunities missed.

Dynamic adaptive pathways



Growth Area: Lake Hāwea

Spatial Plan
- Future Urban – Southern Lake Hāwea

New Source
- New source investigations ongoing east of Esplanade Beach, other options include south, extending existing Scott's Beach, direct lake intake.

New Reservoir
- Reservoir at suitable elevation to serve new development areas (note, high pressure issues from existing reservoir).
- Will depend on source location – potential east of Muir Road, base of Grandview Mountain or lower elevated reservoir east of Hāwea River.

New Pump Station

Close to new source / reservoir depending on location

Mains Upgrades
- Link new source / reservoir to existing developments around Timsfield and new development areas in Longview and Lost Burn
- Increased resilience through reducing reliance on water main over earth dam.

Water Demand Management

Council Workshop

Tuesday, 2 June 2026

QUEENSTOWN LAKES DISTRICT COUNCIL

Workshop purpose and structure

The purpose of this workshop is to:

- Provide an update on the water demand management programme business case
- Discuss and confirm key points noting Council initiatives and recommendations for the new water services entity
- Seek feedback and identify matters to update / investigate further.

The structure of this workshop is:

- We are going to run through five key questions
- There is supporting information for each of these questions
- Exploring these questions provides an overview of the workstream and a platform for discussion.

Key questions

- Why demand management?
- Do we need to implement metering **and** volumetric charging?
- How do we make the best out of the assets we've got?
- How do we lead by example?
- How to manage the transition from Council to the WSCCO?

1. Why demand management?

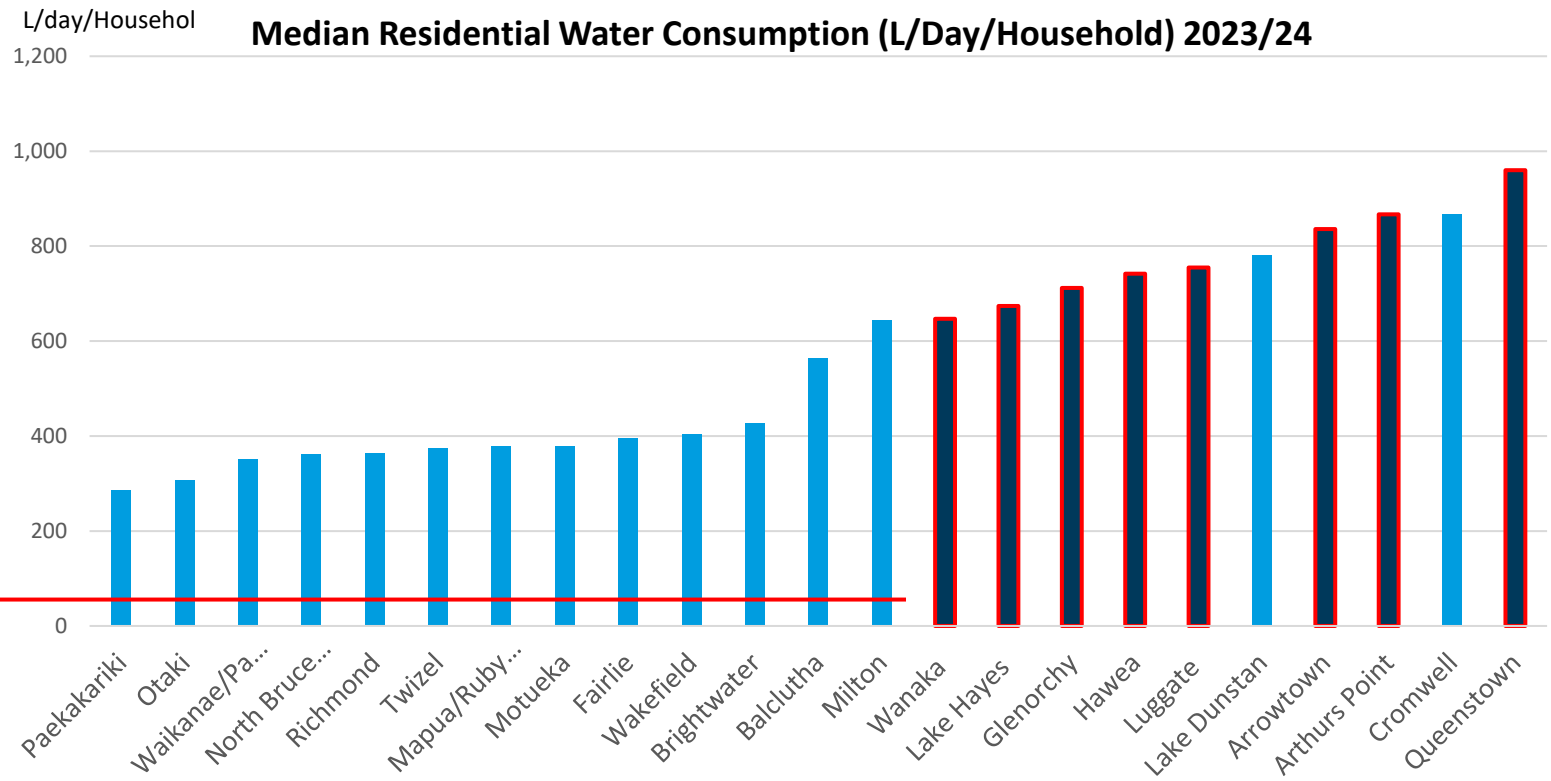
QUEENSTOWN LAKES DISTRICT COUNCIL

Queenstown Lakes – high water users and rapid population growth

Our district is one of New Zealand's fastest growing regions and our water consumption is one of the highest in New Zealand, at an average of over 500 litres per person per day.

This high demand places significant pressure on our water supply infrastructure and a substantial financial burden on our communities.

The district's residential water consumption is high relative to comparable New Zealand water supply schemes

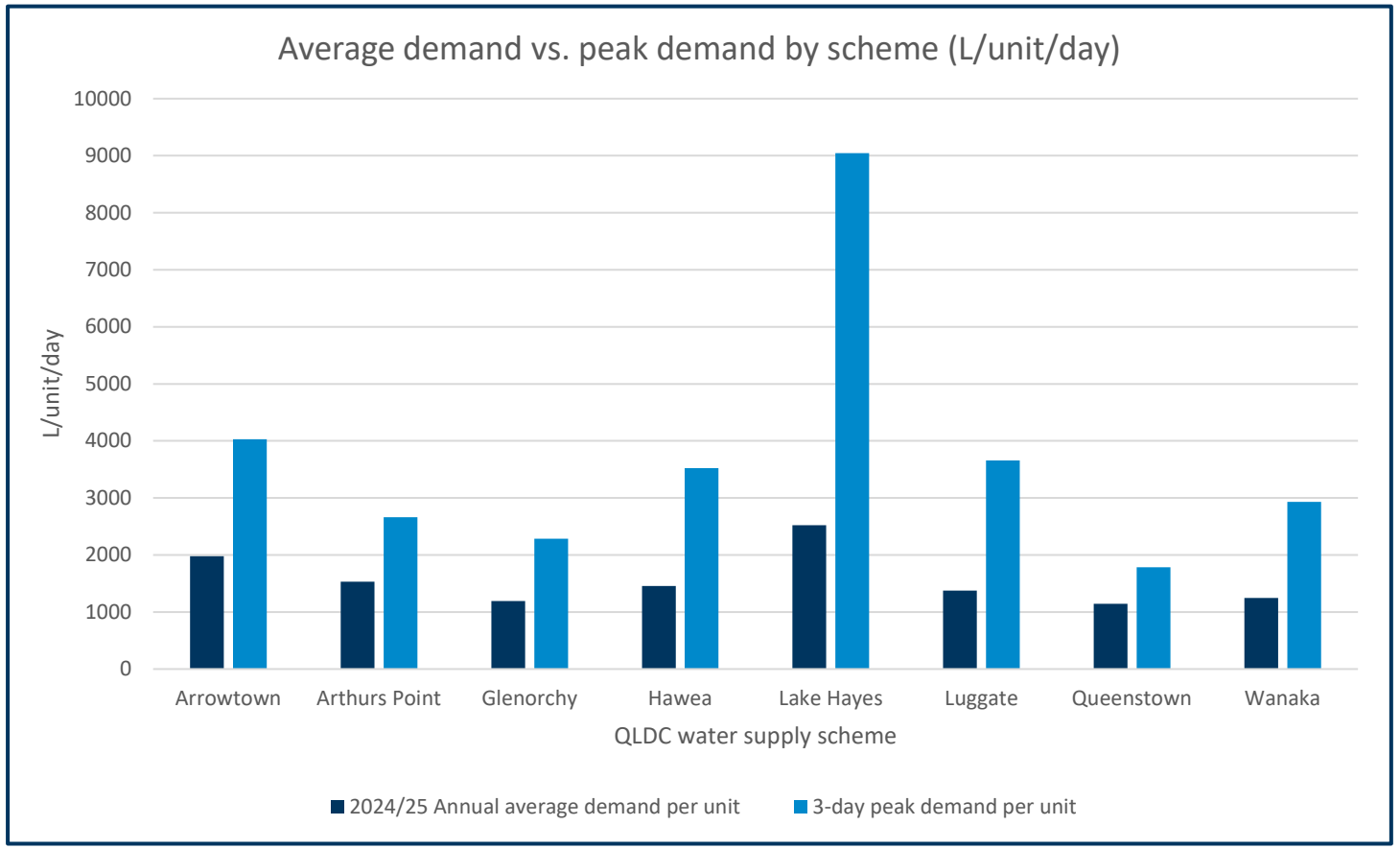


In some schemes, peak demand is up to three times average demand

This graph shows annualised average demand versus peak demand per scheme[1]

Due to excessive demand on peak days water supply infrastructure is already at, or above capacity, and consent limits are breached for Lake Hayes and Arrowtown

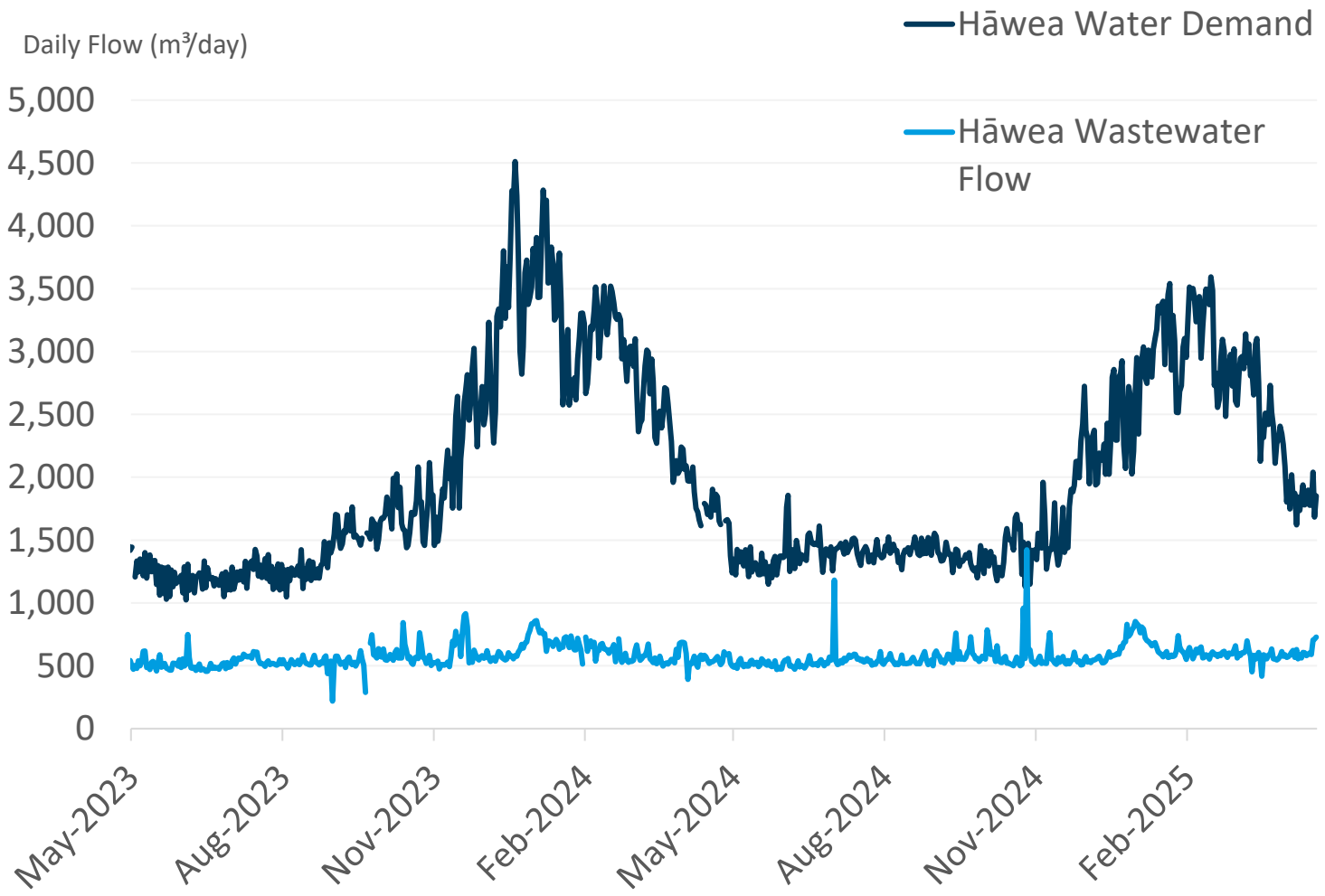
Whilst higher visitor numbers are a factor in peak summer demand, they are not the primary contributor, with water abstracted rising proportionately much more than population (which includes visitors).



1 Annual average demand normalised by the total number of demand units, excluding vacant

Outdoor water use (irrigation) is the primary driver of peak demand

- This graph shows the seasonal variation in the difference between water demand and wastewater flow in Hāwea
- Indoor water use largely returns to the wastewater system, while outdoor use does not
- The gap indicates the impact of outdoor water use, largely irrigation, on peak demand
- A small number of very high users have an undue influence on the summer peak
  - Median use 615 L/unit/day
  - Mean use 990 L/unit/day
  - Top 9% >2,000 L/unit/day amounting to 44% residential consumption.



The problems with water demand in QLDC

Council faces three interconnected challenges in delivering safe, reliable and financially sustainable water services:

Peak demand exceeds infrastructure capacity

Excessive water demand jeopardises our ability to reliably supply safe water to our communities, meet regulatory requirements, and accommodate ongoing growth

No incentives for efficient water use & inequitable cost distribution

The current water supply charging model means there are no incentives for efficient use of drinking water and the cost of meeting peak water demand is inequitably distributed across customers and communities

Limited ability to understand & manage water loss & consumption

Limited ability to understand and manage water loss and consumption results in inefficient water services and inability to achieve, and demonstrate to ratepayers and regulators, effective and cost-efficient water supply management

Challenge with supply side solutions for peak demand

Council has historically addressed increased demand through **upgrading water supply** infrastructure – new intakes, more reservoirs and increased reticulation

It is costly to address the **excessive demand** challenge by adding capacity – sizing and maintaining infrastructure to meet peak summer demands means water assets are underutilised for most of the year

Some schemes are **limited by the availability of raw water** supply – particularly for rivers, springs and bore water sources

Te Waihanga – NZ Infrastructure Commission has endorsed the need to investigate water and wastewater infrastructure needs in several urban areas, while emphasising the importance of **exploring lower-cost and non-built solutions**, including managing demand through volumetric charging

2. Do we need metering and volumetric charging?

QUEENSTOWN LAKES DISTRICT COUNCIL

Metering enables demand management …

Metering provides the information QLDC needs to understand and manage water loss and consumption, providing data on:

- Network and customer side leakage
- Customer water use behaviour, and
- Network pressure (depending on meter type).

This data enables improved network insight and enhances the efficacy of other demand management measures such as:

- Pipe leak detection and repair
- Managing excessive water use under the Three Waters Bylaw, and
- Water audits and optimisation of large users including Council open space and facilities.

… and volumetric charging is the most effective tool

- Experience from councils such as Central Otago, Tauranga, and Kāpiti demonstrates that volumetric charging is consistently linked to lower demand and reduced peak usage
- In the modelling for this Business Case, metering with volumetric charging is the single most effective driver of demand reduction, delivering the largest absolute water savings of any shortlisted measure by a significant margin.

20% – 30%

water demand reduction

Typical reduction in NZ supplies following implementation of metering & volumetric charges.

2.6 x

more water savings

Metering + volumetric charges delivered, on average, approx. 2.6 times more water savings per annum than the next closest measure.

The policy, legal and regulatory frameworks signal the effectiveness of metering and volumetric charging

Under the **Local Government (Water Services) Act 2025**, Council is legally obligated to transition away from rateable-value based charging for water supply, and must provide cost-effective, financially sustainable and reliable water services, using water resources efficiently

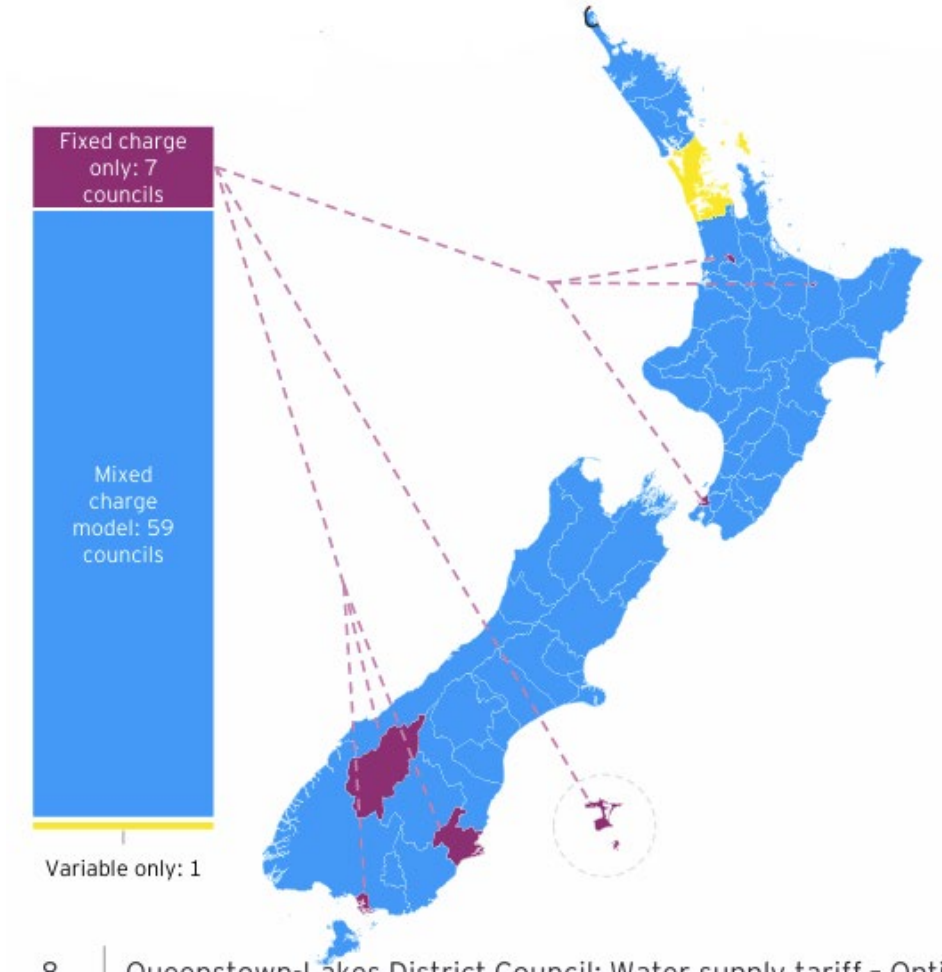
The **Commerce Commission's Information Disclosure for Water services** requires Council to actively work to improve monitoring and managing of water demand and water loss

Council has already signalled a clear commitment to volumetric charging in the **2025 QLDC Water Services Delivery Plan**, which was **approved by the Department of Internal Affairs** in November 2025

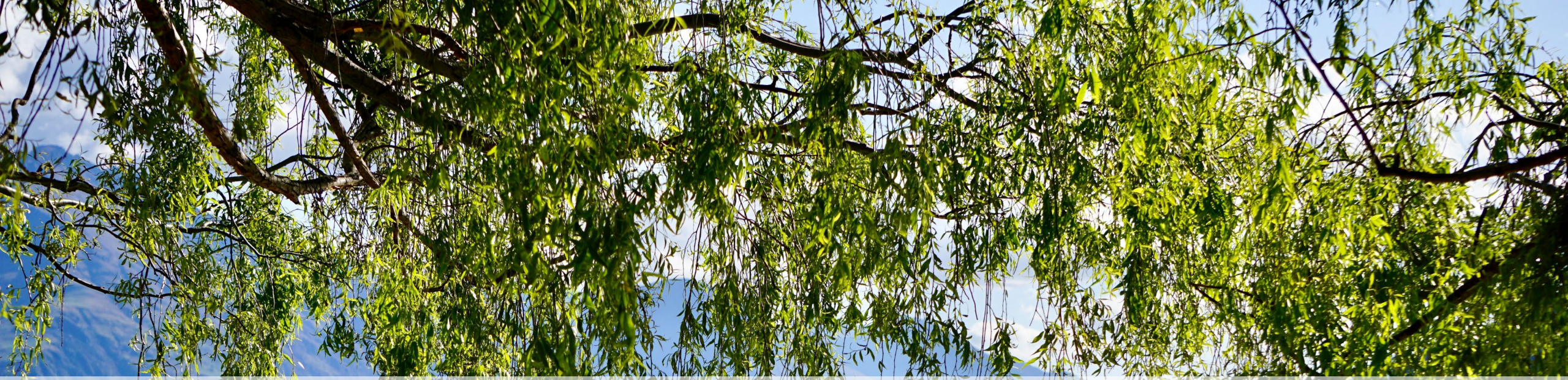
Councils **2024 -2034 Long Term Plan** budgets for water demand management and assumes a 20 to 30% reduction in demand, which will not be possible without metering and volumetric charging.

Water services sector practice and the direction of reform

- Only 7 of New Zealand's councils continue to rely solely on fixed charges for water or general rates with no volumetric component
- Benchmarking shows the majority (87%) of councils use mixed tariffs (fixed plus volumetric charge)
- 33 charge volumetrically from the first litre and 25 include a base allowance.
- QLDC's current approach is a fixed annual charge per separately used or inhabited part of a rating unit, plus a targeted rate based on capital value and land use per rating unit, both derived by scheme
- This approach is increasingly out of step with sector norms.



QUEENSTOWN LAKES DISTRICT COUNCIL



3. How do we make the best out of the assets we've got?

QUEENSTOWN LAKES DISTRICT COUNCIL

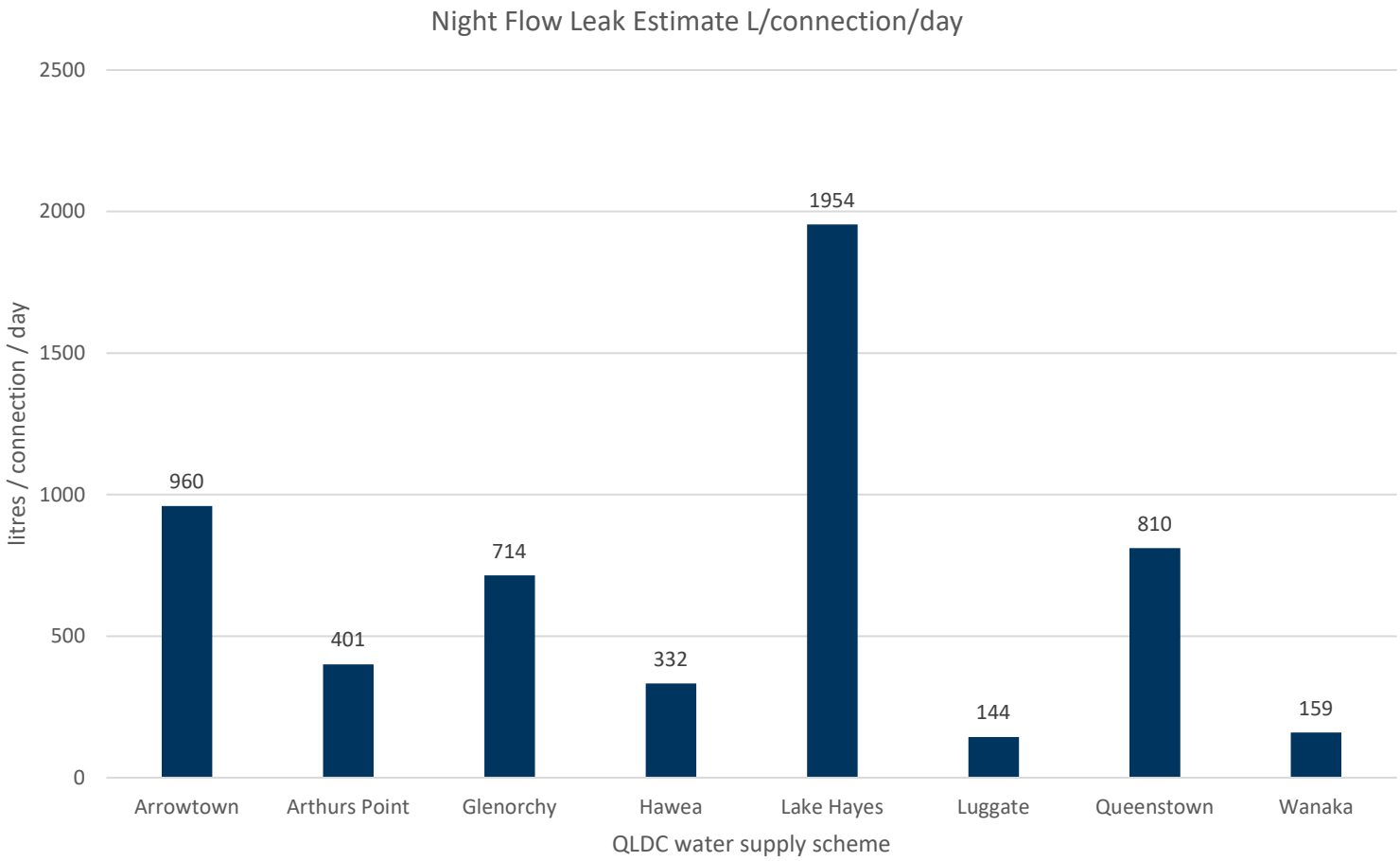
High network water loss is inefficient

There is a high level of network leakage across QLDC schemes, and some uncertainty in these estimates

Estimated loss ranges from 144 litres/connection/day in Luggate (smart meter trial) to an enormous 1954 litres/connection/day in Lake Hayes

There are financial and environmental costs to water supply and treatment

Lake Hayes and Arrowtown are a high priority.



Opportunity to improve network performance

Current network configuration

- A District Metered Area (DMA) is a discrete, hydraulically isolated section of a water network, where the flow of water into that area is measured by a high-accuracy bulk meter
- As a DMA is isolated from the rest of the network, DMAs coupled with bulk meters provide a means of more accurately tracking water use and loss
- There is a limited number of DMAs and not enough bulk meters in the QLDC water network.

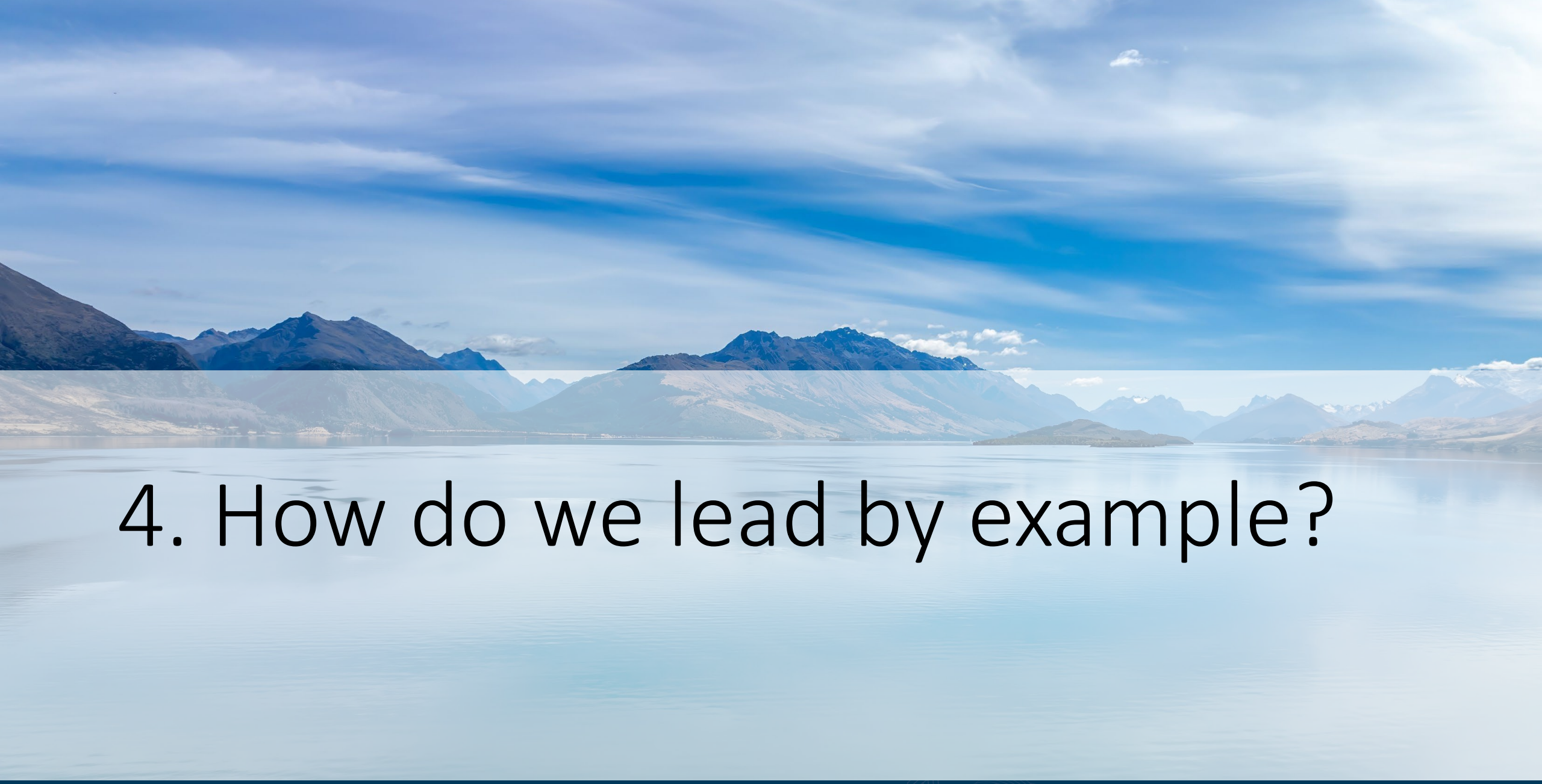
You can’t manage what you can’t measure

- Council cannot accurately monitor night flow demands at the right DMA-level across all schemes
- This prevents Council from measuring and monitoring leakage effectively
- Which in turn limits ability to reduce leakage and optimise network performance.

Improving network configuration can help minimise water loss and optimise the network

Project to improve leak management

- Improve the network's DMAs
  - Capturing the system parameters for each DMA
  - Renewal of meters and new meters where DMAs need to be divided
  - Actively using night flow monitoring to enable leak detection surveys, which identify, locate and diagnose leaks, and
  - Using this information to repair network and private leaks in a timely manner.
- Ensuring that all connections are metered – to understand customer use and detect private side leaks
- This project will improve Council's leak detection and repair processes
- Which in turn will help minimise water loss and improve network efficiency.



4. How do we lead by example?

QUEENSTOWN LAKES DISTRICT COUNCIL

Community pushback is a delivery risk …

Public resistance to metering, volumetric charging and water restrictions may arise from concerns around perceived costs and/or fairness, or limited understanding

- This could delay or even halt programme rollout, cause reputational damage, and lead to ineffective demand reduction.

Mitigating this risk is necessary

- Educating the community on the need for water demand management and how the measures work
- Developing a comprehensive communications strategy, including mock billing and sharing data from smart meter trials
- Showing Council is taking proactive steps to reduce supply-side costs, for example, through better leak management
- Setting clear policy guidelines including exceptions for vulnerable users, leak remission and management of excessive use.

See Appendix C for other key programme risks

The three remaining projects in the Programme are designed to help address this risk (as well as reduce water demand)

Council measures:

- Council open space (parks and reserves) irrigation efficiency audit and retrofit to improve turf management and reduce water use
- Council open space irrigation optimisation, developing exemplary approach to irrigation
- Council facility water audits, including operational use – all facilities required to undertake audit and implement measures with an approved pay-back period.

Education:

- Customer communication programme to raise awareness, improve water literacy and change water use behaviour ahead of new charges
- Residential outdoor water efficiency education programme.

Regulatory and policy:

- Three Waters bylaw update to address extraordinary excessive water use
- Pipe leak repairs and remission policy, potentially providing financial assistance to residential customers to repair leaks in private property pipes between property boundary and the house.

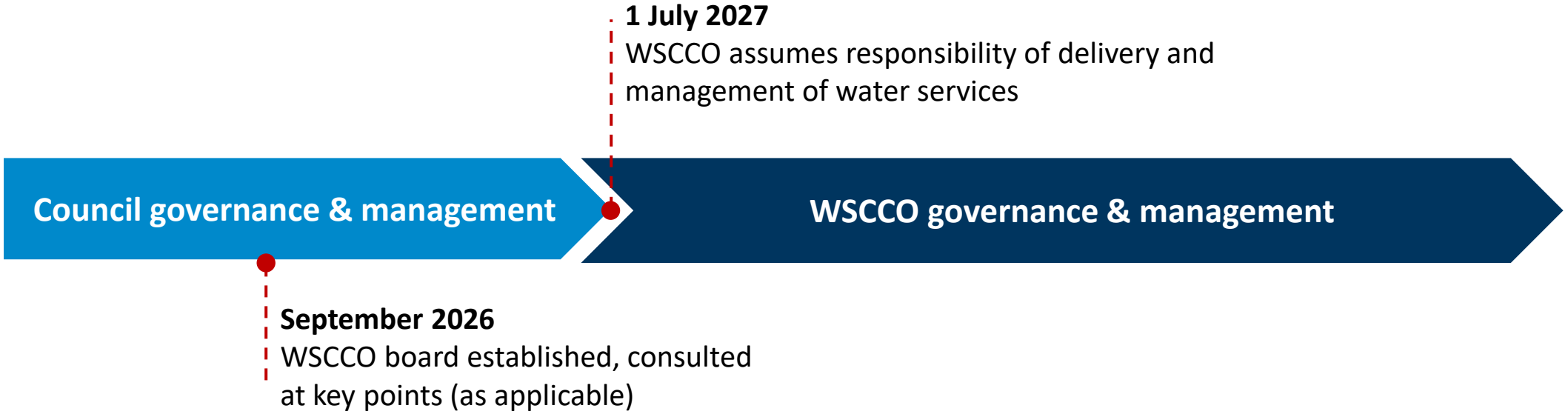
5. How will the transition from Council to WSCCO be managed?

QUEENSTOWN LAKES DISTRICT COUNCIL

Responsibility for water services (and the programme) is transferring from Council to the WSCCO in July 2027

- The WSCCO will be operational from 1 July 2027
- From this date, responsibility for the Programme transfers from Council to the WSCCO
- Responsibility for the Three Waters bylaw update (part of Project 3) will remain with Council.

Water demand management programme governance responsibility:



Ongoing collaboration between Council, the Establishment Team and the WSCCO will enable smooth delivery of the programme

Council action and decisions
(now – 30 Jun 2027)

- Approve Programme Business Case – July 2026
- Implement increased leak detection and repair programme with enhanced DMAs
- Continue the roll out of customer meters with a focus on high priority schemes
- Review and update the Three Waters Bylaw to manage excessive use
- Note $5M for water demand management in Annual Plan for 2026/27.

WSCCO action and decisions
(1 Jul 2027 -)

- Develop and approve Detailed Business Case for Universal customer metering
- Approve decision on approach to metering, including which meter type(s) will be implemented, and where others may be implemented by exception
- Roll out universal metering over five years
- Develop and consult on final water charge structure
- Note $52M for water demand management in LTP/WSDP FY25-32.

Next Steps

Next steps for the programme are:

1	**Finalise Programme Business Case**
2	**Council decision on Programme (late July)**
3	**Continue with early programme implementation**

Appendix A

Further detail on context, problems, benefits and investment framework

QUEENSTOWN
LAKES DISTRICT
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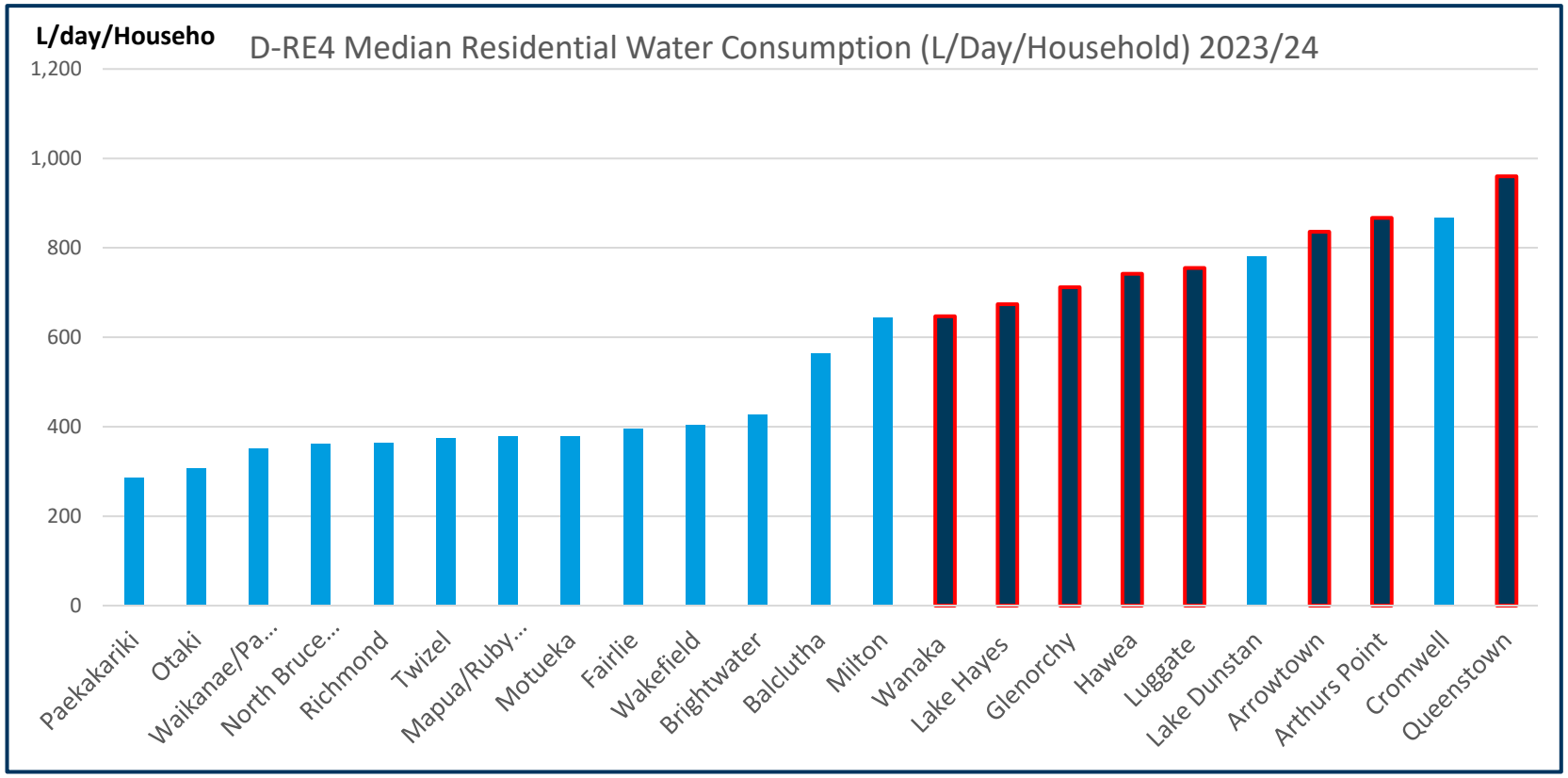
Queenstown Lakes – high water users

QLDC is currently developing a business case for a suite of water demand management interventions across QLDC's public water supply schemes. The Business Case will be finalised in June 2026.

The district's water consumption is high relative to comparable New Zealand water supply schemes.

This graph illustrates median residential consumption of water (litres/day/household) by scheme, with Queenstown Lakes schemes accounting for 8 of the 10 highest-consuming schemes.



Water demand fluctuates a lot by season, peaking in the summer

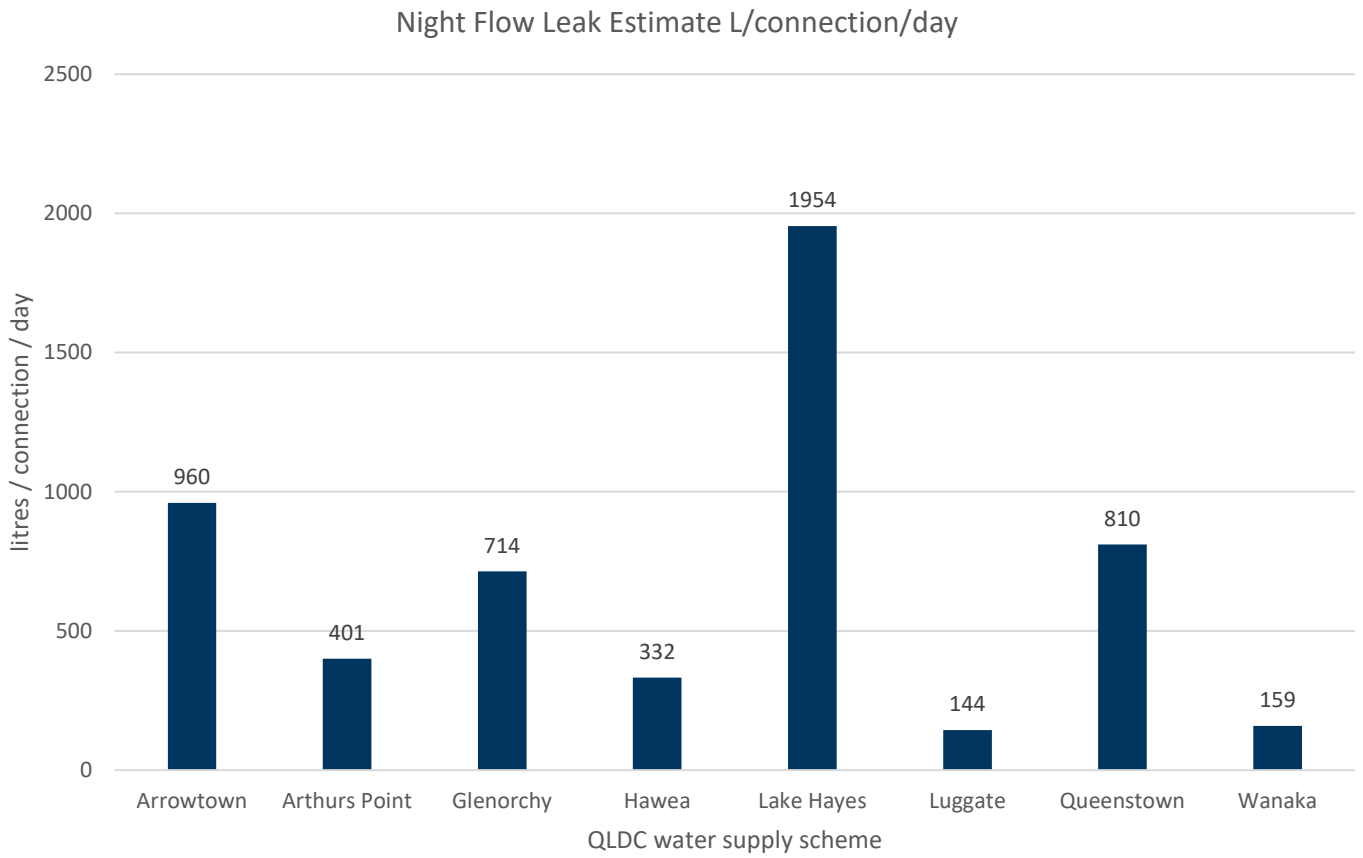
Water demand fluctuates significantly by season in the district. It peaks in summer, when all schemes experience heightened daily demand and some schemes experience daily demand more than three times higher than average

Water supply network	Annual average demand[1] (m^3/day)	Annual average demand per unit[2] (L/unit/day)	3-day peak factor	3-day peak demand[3] (L/unit/day)
Arrowtown	3,600	1,980	2.0	4,030
Arthurs Point	815	1,530	1.7	2,660
Glenorchy	368	1,190	1.9	2,290
Hāwea	1,920	1,460	2.4	3,530
Lake Hayes	1,170	2,520	3.6	9,050
Luggate	384	1,380	2.7	3,660
Queenstown	17,600	1,140	1.6	1,780
Wānaka	11,100	1,250	2.4	2,930

1 Total water supplied, includes network leakage, private property leakage and all customer use
2 Annual average demand normalised by the total number of demand units, excluding vacant sections
3 Peak summer use across highest 3 days

QLDC schemes also have very high leakage rates

- Estimated network leakage is very high, with a weighted average of over 500 L/connection/day (20 to 50 percent of total water demand by scheme).
- The 5-year average of estimated leakage per connection and day in a scheme ranges from 144 litres in Luggate to an immense 1954 litres in Lake Hayes
- It is difficult to accurately quantify leakage without effective DMA areas and meters.

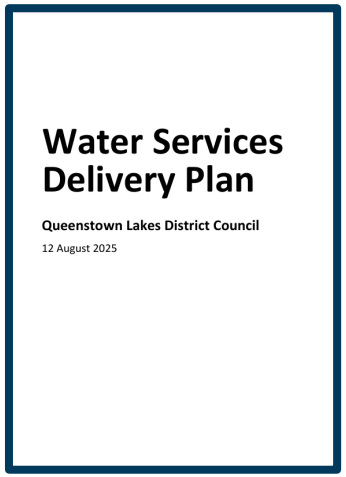


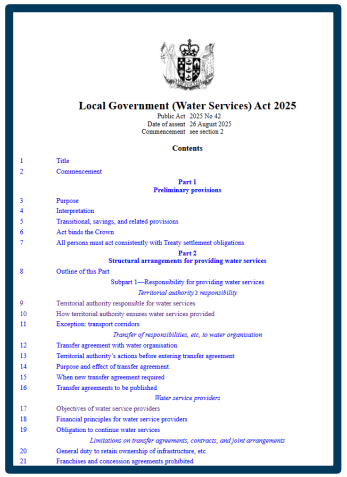
Water Demand Management Business Case - Purpose

Why demand management?

It is not fiscally prudent to address this challenge by adding capacity – sizing and maintaining infrastructure to meet peak demands means water assets would be underutilised for most of the year

New economic regulation through the Local Water Done Well reforms require providers to operate efficiently, ensure financial sustainability, charge fairly for services and to report on their performance. QLDC strategic documents such as the Water Services Delivery Plan 2025 support water demand management.





Benefits

Investment in water demand management would lead to three primary benefits for the district:

Safe and reliable Council water supply

Efficient and sustainable water demand

Fair and equitable charges for water supply

These benefits support Council and the community, align with regulatory requirements and the QLDC Strategic Framework, and deliver environmental protection and fair water charges.

Demand Management Levers

There are many potential interventions available to the Council. These can be grouped into:

1. **Utility-side interventions**: measures aimed at reducing Council's water use and/or changing the network[1]
2. **Customer-side interventions**: measures aimed at generating behavior change in customers and/or occurring beyond private property boundaries.

Utility-side interventions	Customer-side interventions
• Network pressure management • Increased proactive leak detection and repair • Improved District Metered Area monitoring • Alternate water sources – greywater, stormwater, rainwater	• Education and awareness programmes • Water use restrictions • Council facility, school, commercial and irrigation audits and retrofits • Water efficient Landscape design • Water efficient management plans

Both

- Metering (manual, automated, advanced)
- Volumetric water charge (options for CCO)
- Excess water use – bylaw and enforcement options

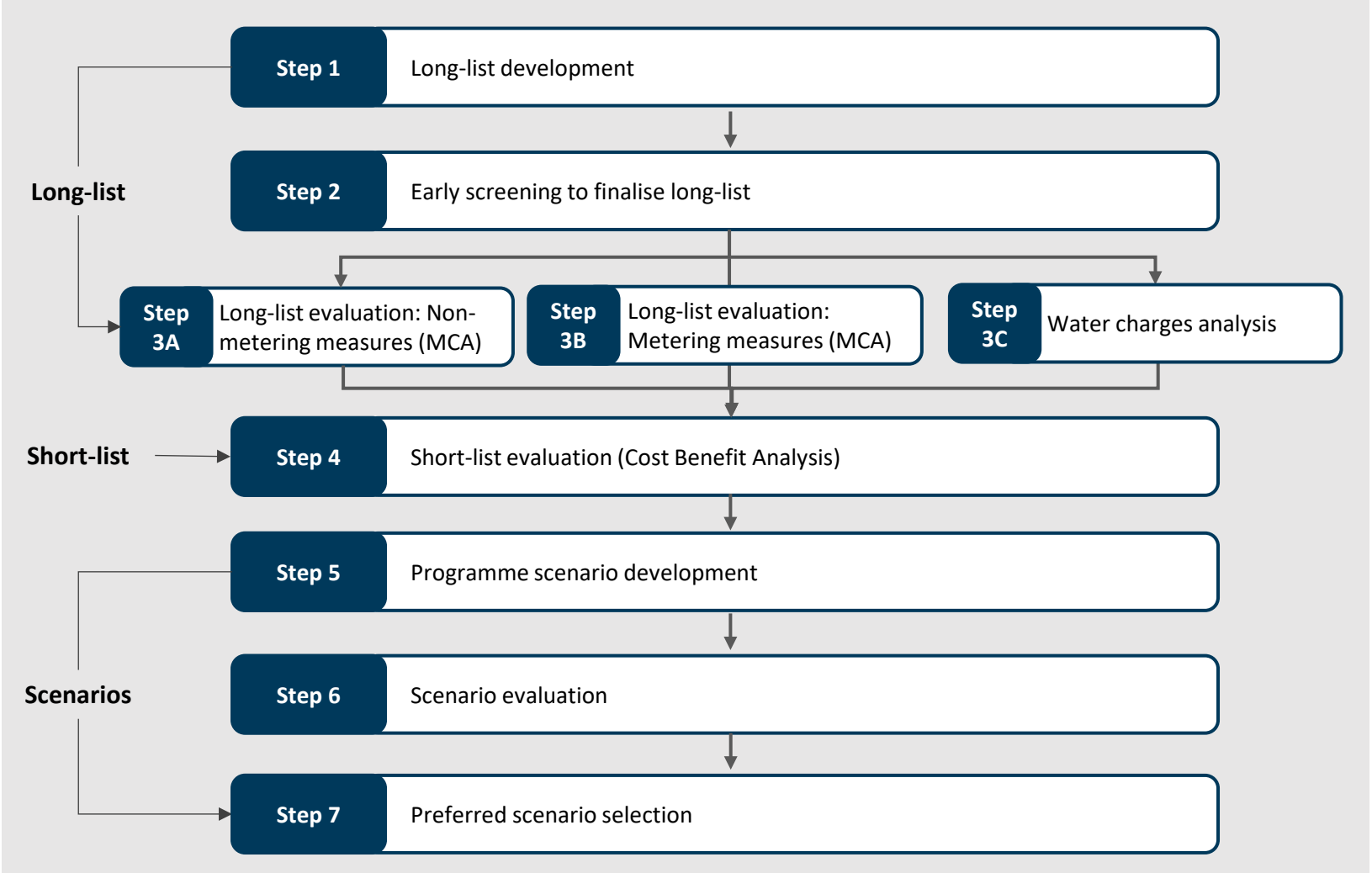
[1] Where network ends at the private property boundary

Approach to options analysis

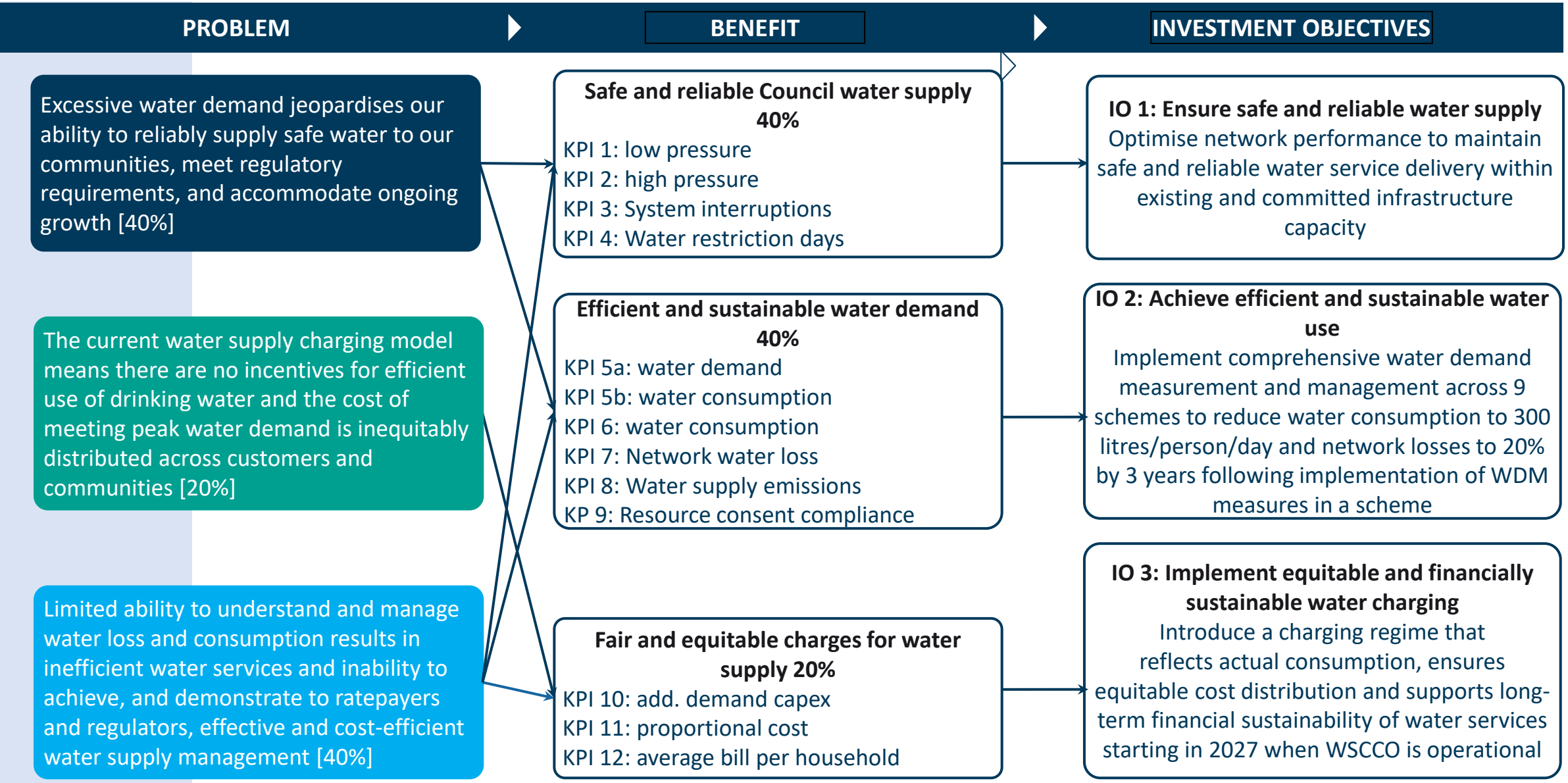
A staged process to:

- Identify water demand management measures applicable to QLDC context
- Assess these measures, and
- Combine into optimal scenarios.

This process was completed with the Project Control Group.



Water Demand Management: Investment Logic Map



Appendix B

Programme and project timelines

QUEENSTOWN
LAKES DISTRICT
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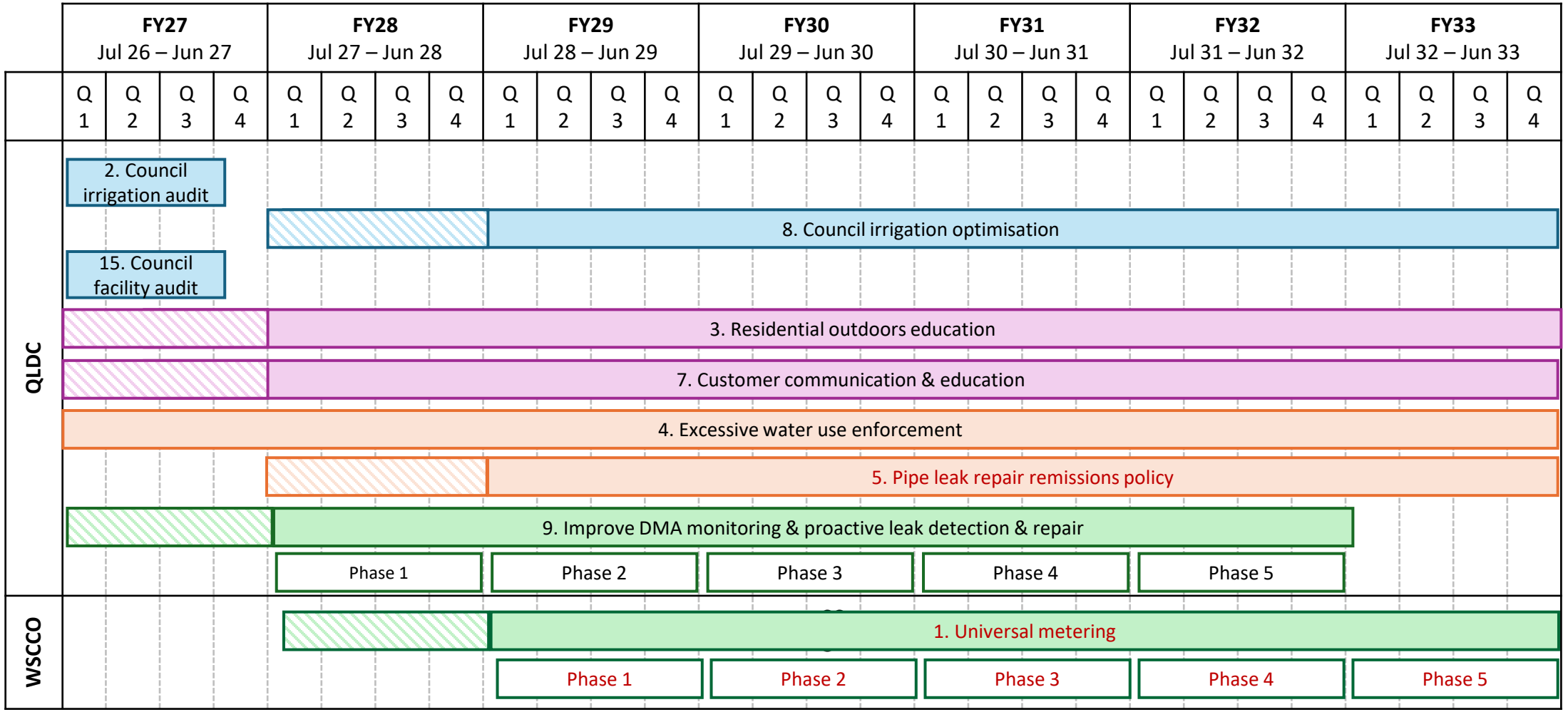
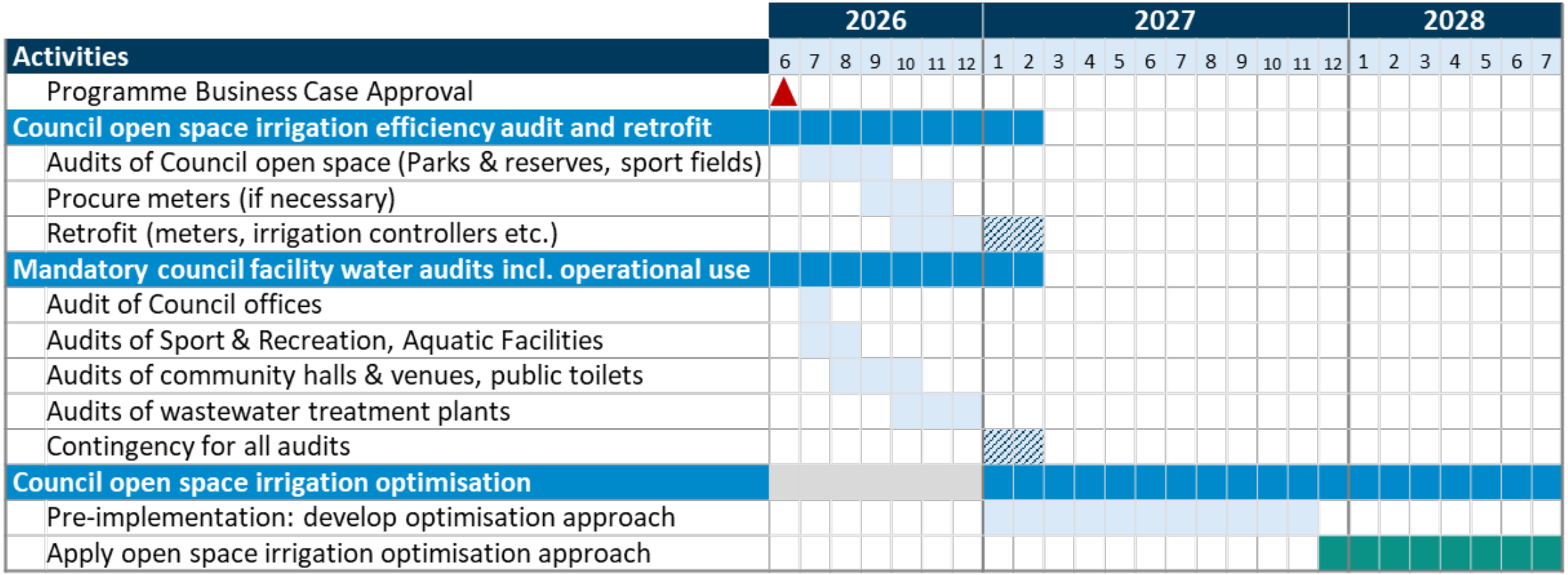
Programme timeline



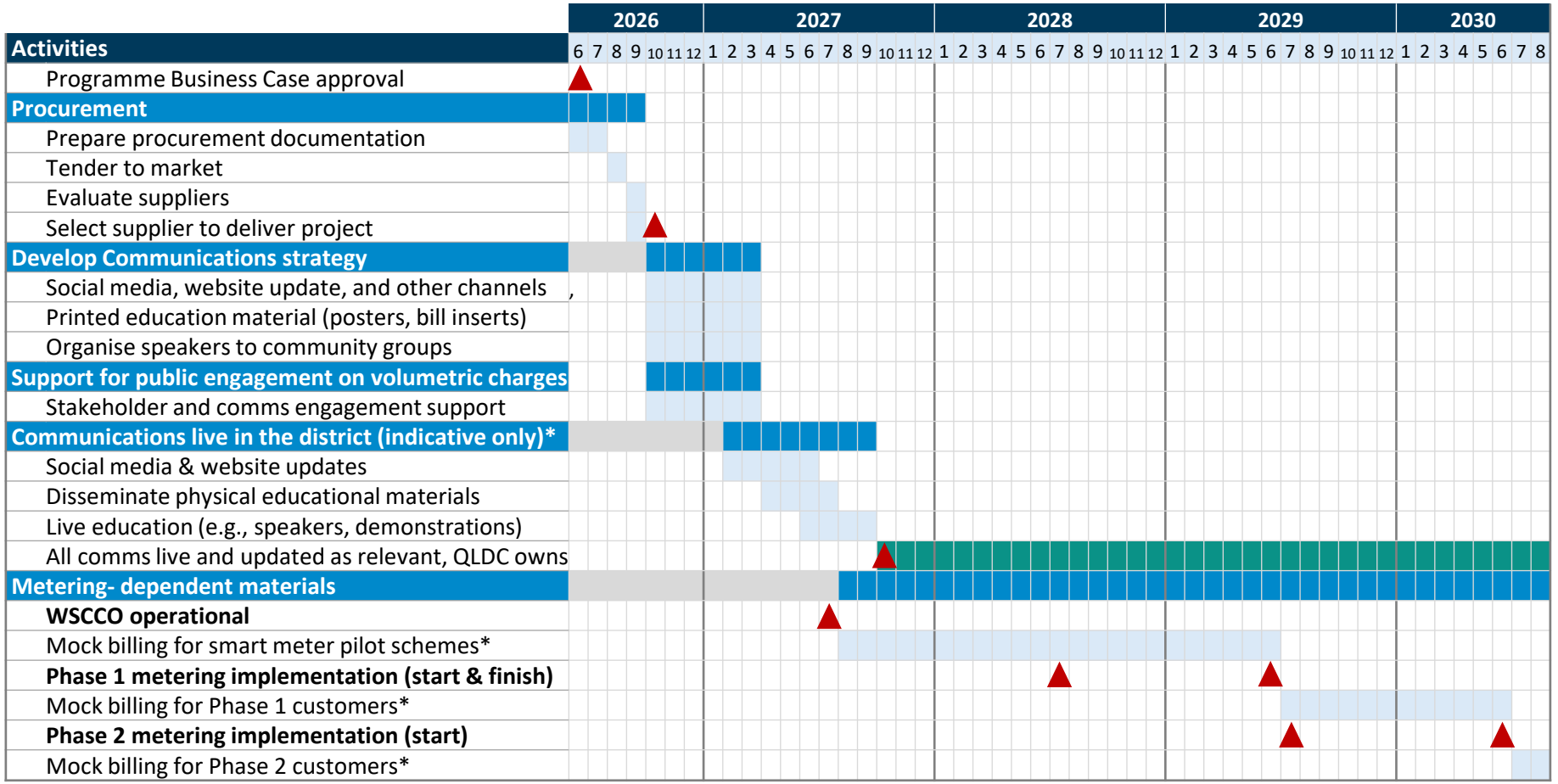
Project 1: Council measures



Key

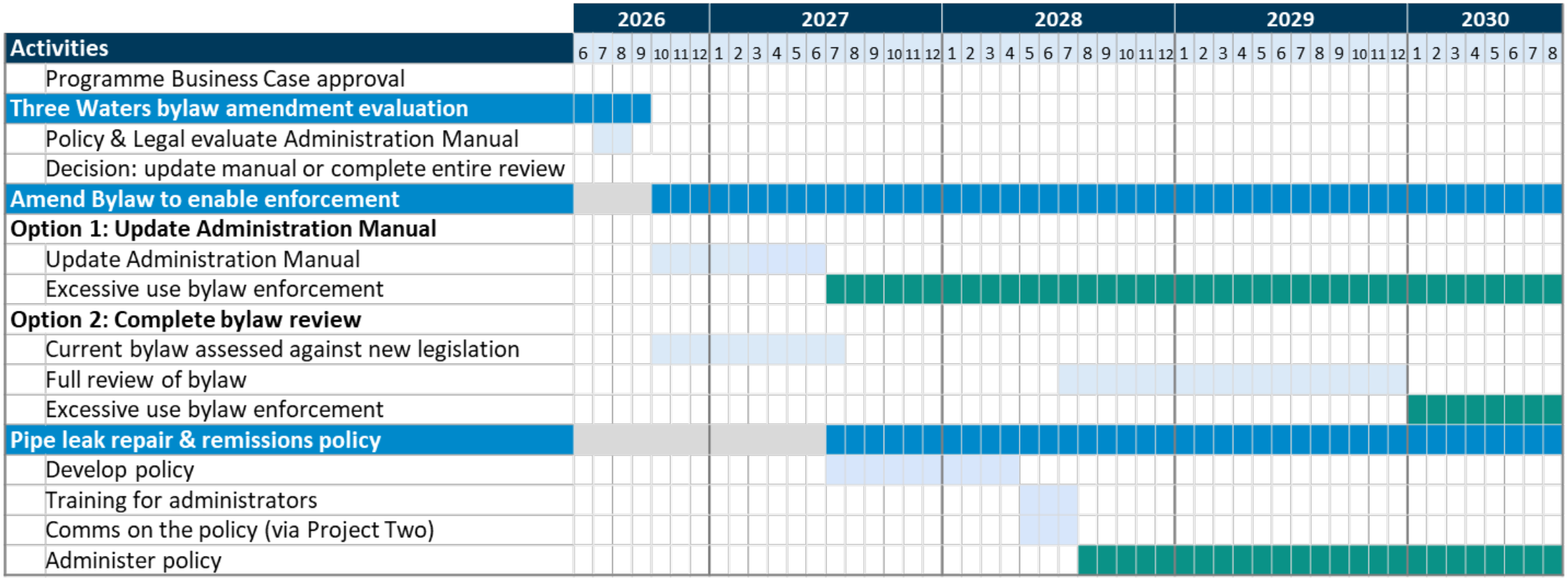
Pre-implementation and delivery: planned time
Pre-implementation and delivery: contingency
Operational phase as applicable
Milestones / decision points

Project 2: Education

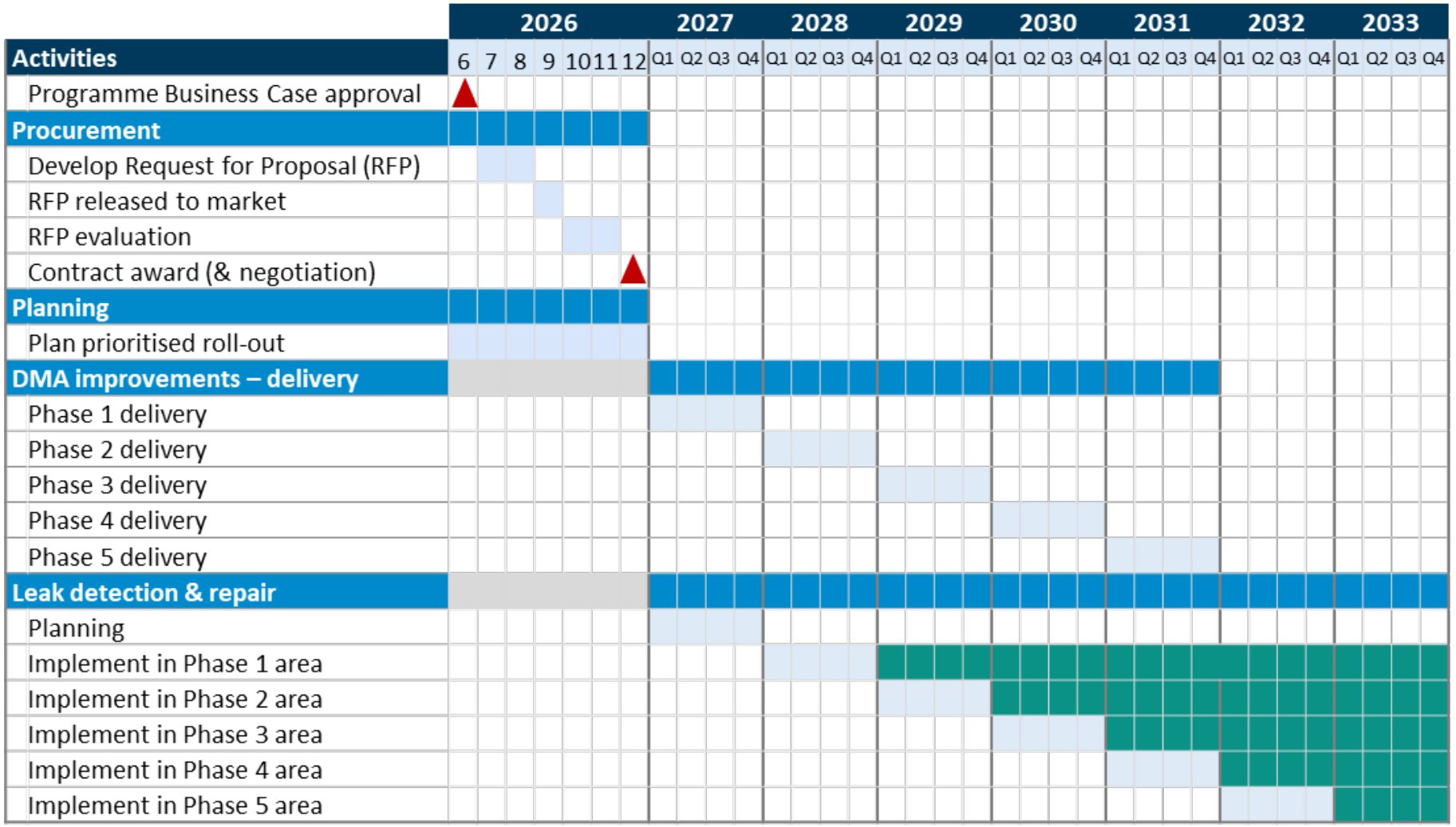


*All timing is indicative only and will be informed by the Communications Strategy

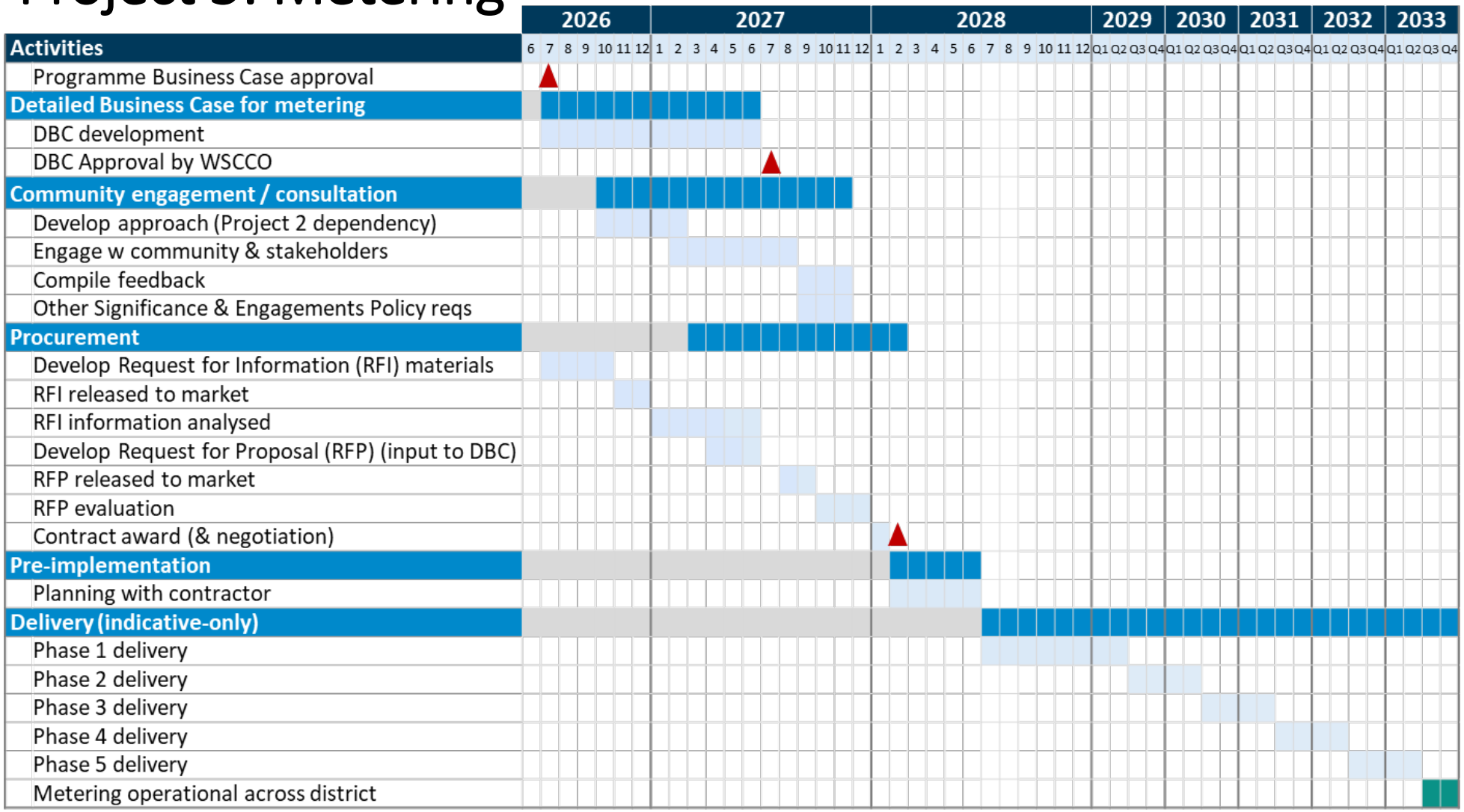
Project 3: Regulatory



Project 4: Leak management



Project 5: Metering



Note: Scale shifts from 2029 onwards, with years condensed to quarters for formatting purposes.

Appendix C

Key risks

QUEENSTOWN LAKES DISTRICT COUNCIL

Key programme delivery risks & mitigants

A programme risk register has been developed. The four key risks from the register are in the table below.

Current Key Risks	Risk Description	Mitigations / Actions
Public perception / community pushback	Public resistance to metering and volumetric charging, and outdoor water use restrictions driven by perceived costs, equity/fairness issues or limited understanding of the need for water demand management.	• Communications and education are a foundational dependency and key mitigation • Develop comprehensive communications strategy, including real data from smart meter trials. • Provide mock billing ahead of charging, to enable behaviour adjustment. • Project 4 (Leak Management) key mitigant, comms to illustrate that council is focusing on their side to reduce costs.
Internal capacity and capability	Insufficient resources and capability within Council/WSCCO to implement and maintain demand management solutions. Metering and charges are key factor as requires new software, IT systems and a culture shift. Additional complexities such as the remissions policy.	• Resourcing levels are considered and proposed for funding as part of the business case • Workforce planning • Succession planning for key staff members
Market capability and capacity	Market has insufficient capacity or capability to implement and maintain demand management solutions, including metering installation and leak detection.	• Reliable forward programme of work for Leak Management and Metering (Projects 4 and 5) to enable market time to plan and react. • Explore opportunity for relationship with provider for ongoing programme.
Benefits Realisation	Demand reduction measures fail to deliver anticipated water savings.	• Benefit realisation mitigation includes option to adjust pricing over time, but needs further assessment • Establish clear roles and responsibilities and benefit owners (see 4.4). • Adjust volumetric charge until the benefit is met.

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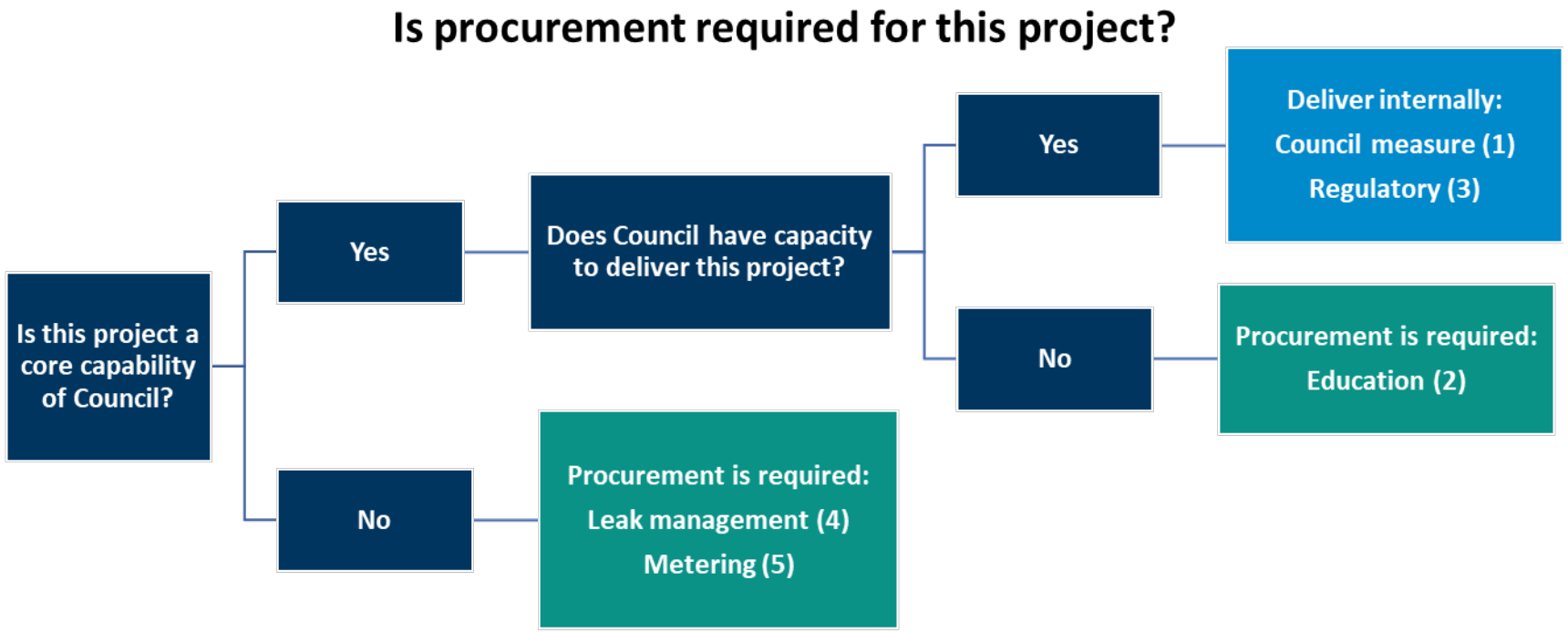
Appendix D

Indicative commercial arrangements

QUEENSTOWN
LAKES DISTRICT
COUNCIL

What needs to be procured?

Decisions on if procurement is required are based on scope, and where that scope is a core competency of council (e.g., policy, managing its own facilities) then it is not needed



Procurement Strategy Summary – required services

Required goods, works and services to be procured, by project, are:

- **Education (Project 2):** Communications services to develop communications strategy and materials
- Leak management (Project 4):
  - DMA meter provider and field operator (likely same supplier), and
  - Leak repairs through existing relationships
- **Metering (Project 5):**
  - Smart meter vendor(s) comprising telecommunication, hardware, software, field operators, system integrators etc.
  - While this will be determined through the DBC, it is likely that the WSCCO will seek more integrated solutions due to current in-house capability, to reduce the risk profile of delivering this project.

Procurement Strategy Summary – procurement method

The indicative preferred approach to the supplier market for the Education, Leak management, and Universal metering projects are:

- **Project 2 | Education:** single stage, open market approach for Communications Partner. May procure through panel or existing relationship, depending on the value of the contract.
- **Project 4 | Leak management:** single-stage, open market approach for DMA updates. Potential to procure leak repair service to be considered in next planning phase.
- **Project 5 | Universal metering:** two-stage, open market approach. Request for Information (RFI) to inform final procurement approach, followed by Request for Proposal (RFP). RFP structured to enable market innovation.