

25 May 2026

[REDACTED]

C/- [REDACTED]

Sent via email to [REDACTED]

Request for Official Information LG26-0124 - Luggate Rates Increases, Wastewater Cost Allocation

Dear [REDACTED],

Thank you for your request for information held by the Queenstown Lakes District Council (QLDC). On 24 April 2026 you requested the following information under the Local Government Official Information and Meetings Act 1987 (LGOIMA):

- 1. Rates increases and distribution of impacts. Please provide:**
 - a. The current rates modelling, schedules, spreadsheets, or working papers used to produce the Luggate examples in Council's Draft Annual Plan and FAQ material, including the example showing a rates increase of 29.3% for a connected property.
 - b. The number of Luggate residential properties, for 2025/26 and 2026/27 if available, that are:
 - connected to wastewater
 - serviceable but not connected
 - not serviceable
 - c. Any schedule, table, or spreadsheet showing the distribution of proposed 2026/27 percentage rates increases across Luggate residential properties, including the number of properties within percentage bands.
 - d. Any document, report, spreadsheet, or briefing comparing proposed rates increases for Luggate with district averages and/or with other communities.
 - e. The document or calculation showing the basis for the commonly cited 17.8% increase applying to Luggate in the previous year.
- 2. Wastewater charges and cost drivers. Please provide:**
 - a. The schedule, calculation, or working paper showing how the wastewater charge for Luggate increased from approximately \$782 to approximately \$1,757.
 - b. A breakdown of the components of that increase, including where applicable:
 - debt servicing
 - operating costs
 - renewal costs
 - deferred recovery or prior-year adjustments
 - any other relevant cost component
 - c. Any briefing, options paper, or internal report that considered phasing the increase over more than one year, smoothing the increase, or spreading costs across a wider base.
 - d. Any assessment, memo, report, or presentation addressing the affordability impact of the wastewater charge increase on Luggate households.
- 3. Development contributions from Luggate growth. For the period from 1 July 2016 to the date of this request, please provide:**

- a. The total amount of development contributions assessed, invoiced, and received from developments within Luggate.
- b. A breakdown of development contributions assessed, invoiced, and received from:
 - Luggate Park
 - Luggate Heights
 - Lake McKay Station
 - Lake McKay Terraces

For each, please break the amounts down by contribution type, including:

- water supply
 - wastewater
 - roading
 - reserves/parks
 - community infrastructure
 - any other contribution category applied
- c. The current 2025/26 per-lot development contribution rates applicable to development in the Luggate contributing area, by contribution type.
 - d. Any policy, schedule, methodology, model, or calculation used to determine the development contribution rates applying to Luggate.
4. Use of development contributions and historical funding. For the period from 1 July 2016 to the date of this request, please provide:
- a. A schedule showing how development contributions collected from Luggate Park (stage2), Luggate Heights, Lake McKay Terraces and Lake McKay Subdivision have been applied, including for each expenditure:
 - project name
 - project location
 - total project cost
 - amount funded from those development contributions
 - amount funded from other sources
 - date of expenditure or allocation
 - b. Any document showing whether development contributions collected from Luggate developments are ring-fenced for Luggate or the Upper Clutha, or instead pooled across the district.
 - c. If those development contributions are not ring-fenced, the policy, methodology, or decision record showing how Council decides where those funds are allocated geographically.
 - d. A breakdown of funding sources for Luggate water and wastewater infrastructure projects since 1 July 2016, including for each project:
 - project name
 - total cost
 - amount funded from development contributions
 - amount funded from targeted rates
 - amount funded from district-wide rates
 - amount funded from debt
 - amount funded from any other source
 - e. For the Luggate water supply upgrades referred to publicly as approximately \$6.3 million, a project-level breakdown of the total cost and funding sources.
5. Specific infrastructure serving Luggate. Please provide:

- a. The design basis, business case, or other document explaining the sizing of the water pipeline from Church Road to Harris Place, including whether it was sized for:
 - existing Luggate demand
 - future growth within Luggate
 - growth outside Luggate
 - b. The purpose, intended service area, and design capacity of the reservoir near Wānaka Airport, including any document showing whether it serves:
 - Luggate
 - Wānaka / Upper Clutha
 - wider district growth and services such as Project Pure and Wānaka Airport
6. Local investment and geographic allocation of funding. Please provide:
- a. Any report, schedule, or presentation from 1 July 2022 to date showing capital expenditure by geographic area across the district, including where available:
 - Queenstown
 - Wānaka / Upper Clutha
 - Luggate
 - b. Any report, memo, or presentation showing how Council tracks or reports the geographic allocation of rates-funded and development-contribution-funded capital expenditure.
 - c. Any document discussing whether development contributions generated by Luggate growth should be ring-fenced or prioritised for infrastructure in Luggate or the Upper Clutha.
7. Council decision-making and briefings. For the period from 1 January 2024 to the date of this request, please provide:
- a. Council workshop papers, elected member briefings, slide decks, memos, or reports that discuss:
 - Luggate rates increases
 - Luggate wastewater charges
 - development contributions from Luggate growth
 - ring-fencing or local allocation of funding
 - b. Any minutes, notes, action points, or summaries from workshops or briefings where the scale of Luggate rate increases was discussed.
 - c. Any options analysis or advice presented to councillors on alternative approaches, including:
 - phasing increases
 - wider cost sharing
 - alternative treatment of growth costs
 - local ring-fencing of development contributions
8. Water services transition / Three Waters context. Please provide:
- a. Any report, memo, presentation, or briefing addressing how Luggate water and wastewater assets, debt, revenue, and charges are expected to be treated under the transition to a new water services entity or council-controlled organisation.
 - b. Any document considering whether current increases to Luggate water or wastewater charges should be moderated, deferred, or otherwise treated differently because of the upcoming transition.
 - c. Any document addressing how current targeted charges or cost allocations for Luggate may translate into future pricing or charging under the new entity.

On 15 May 2026, QLDC emailed you with a partial release of information relating to items 1 and 2 of your request.

QLDC RESPONSE

In response to your request, the QLDC Risk, Assurance and Finance, Property and Infrastructure, and Planning and Development Directorates were consulted.

Decision to release information

3. **Development contributions from Luggate growth. For the period from 1 July 2016 to the date of this request, please provide:**
 - a. **The total amount of development contributions assessed, invoiced, and received from developments within Luggate.**

The table below provides a breakdown of contributions invoiced and received from developments within Luggate. Council currently has 10 assessments that remain unpaid or un-invoiced, totalling approximately \$250,000 including GST.

Sum of Amount	Grand Total
Row Labels	
Dev Cont Luggate Community Facilities	\$ 135,764.82
Dev Cont Luggate Reserve Improvements	\$ 32,991.47
Dev Cont Luggate Reserve Land	\$ 70,706.18
Dev Cont Luggate Stormwater	\$ 360.64
Dev Cont Luggate Transportation	\$ 274,861.49
Dev Cont Luggate Wastewater	\$ 1,506,466.93
Dev Cont Luggate Water Supply	\$ 906,962.53
Grand Total	\$ 2,928,114.06

- c. **The current 2025/26 per-lot development contribution rates applicable to development in the Luggate contributing area, by contribution type.**

Please refer to the [QLDC Development Contributions Policy 2025/2026](#), which sets out the applicable per-unit contribution rates by activity, including water supply, wastewater, roading, reserves and community infrastructure. The document is available on the QLDC website under the Finance tab: [QLDC Policies Page](#)

- d. **Any policy, schedule, methodology, model, or calculation used to determine the development contribution rates applying to Luggate.**

Please refer to the [QLDC Development Contributions Policy 2025/2026](#), which contains the methodology, policy framework, and calculation basis used to determine development contribution rates. The policy outlines the approach to growth funding, including how costs are attributed across activities, the assumptions applied, and the modelling used to calculate contributions. The document is available on the QLDC website under the Finance tab: [QLDC Policies Page](#)

4. **Use of development contributions and historical funding. For the period from 1 July 2016 to the date of this request, please provide:**
 - a. **A schedule showing how development contributions collected from Luggate Park (stage2), Luggate Heights, Lake McKay Terraces and Lake McKay Subdivision have been applied, including for each expenditure:**
 - project name

- **project location**
- **total project cost**
- **amount funded from those development contributions**
- **amount funded from other sources**
- **date of expenditure or allocation**

The [QLDC Long Term Plan \(LTP\)](#) contains Asset (Project) Schedules and funding summaries (see pages 377–396, section 4.7 Funding Summary), which include development contribution income for the Luggate area. However, development contribution income from individual developments is not separately identified or reported from other development contribution income received within Luggate.

- b. Any document showing whether development contributions collected from Luggate developments are ring-fenced for Luggate or the Upper Clutha or instead pooled across the district.**

The [QLDC Development Contributions Policy \(DCP\)](#) sets out the contributing area for each activity.

For Luggate, the relevant contributing areas are as follows:

- **Luggate standalone contributing area** – Water Supply and Stormwater
- **Greater Wānaka contributing area** – Wastewater (Luggate was merged into the Wānaka wastewater scheme in the 2018/19 DCP when it was connected to Project Pure). Supporting consultation material in the long-term plan notes that Luggate benefited from joining a larger scheme rather than remaining a standalone contributing area.
- **Wānaka Ward** – Reserve improvements, community infrastructure, and transportation
- **Other – Wānaka ward smaller townships (Luggate, Cardrona, Hāwea, Makarora)** – Reserve land contributions

These groupings determine how development contributions are collected from Luggate and are allocated across relevant infrastructure and funding areas, rather than being ring-fenced solely to Luggate.

- c. If those development contributions are not ring-fenced, the policy, methodology, or decision record showing how Council decides where those funds are allocated geographically.**

The costs are ring-fenced, as per the Local Government Act 2002 s106; therefore, this is not applicable.

- d. For the Luggate water supply upgrades referred to publicly as approximately \$6.3 million, a project-level breakdown of the total cost and funding sources.**

The table below provides a project-level breakdown of total costs and funding sources. It also outlines the \$6.5 million reallocated to the Ultraviolet (UV) treatment compliance response, including how this funding has been distributed.

Attachment A: October 2024 Capital Works Reforecast

Item	Programme	CP Code	Project Name	Change Comment	Total LTP24-34 Summary		
					Yrs 1-10 Total Existing	Yrs 1-10 Total Increase/Decrease	Yrs 1-10 Total Proposed
10	WATERS	CP0004629	Luggate Scheme Upgrades (WS)	Through the UV Compliance roll-out, an opportunity has been identified whereby the containerised treatment plant could be located at the permanent treatment site location. Along with supporting network upgrades, this opportunity will enable QLDC to provide a longer-term water treatment & reticulation solution for Luggate sooner and at less cost (relative to completing permanent upgrades later in the LTP). It is proposed funding is brought forward to enable uplift of this opportunity, and that the value of that bring forward be transferred to the UV Compliance Response project to support implementation of the option.	19,134,740	9,254,939	9,879,801
	WATERS	CP0008133	Compliance Response - UV Treatment (WS)		11,164,502	6,494,070	17,658,571

Run Date: 20-Jan-2026

Capital Plan Code	TechOne Project	Project Name	Growth %	Renewal %	Level of Service %
0	CP0008133	001379 Compliance Response - UV Treatment (WS)	0	0	1
1	CP0004629	000905 Luggate Scheme Upgrades (WS)	0.578	0.2	0.222

5. Specific infrastructure serving Luggate. Please provide:

- a. The design basis, business case, or other document explaining the sizing of the water pipeline from Church Road to Harris Place, including whether it was sized for:
- existing Luggate demand
 - future growth within Luggate
 - growth outside Luggate

Please find attached an excerpt from the Luggate Water Supply Scheme Detailed Design Report dated 12 March 2025, detailing the [Hydraulic Considerations, which refer to the Church Road DN315 pipe and the existing DN250 pipeline along State Highway 6](#). Out of scope information has been redacted.

Please note that the enclosed link will expire on 20 June 2026, 12:14 PM (UTC+12:00) Auckland, Wellington.

- b. The purpose, intended service area, and design capacity of the reservoir near Wānaka Airport, including any document showing whether it serves:
- Luggate
 - Wānaka / Upper Clutha
 - wider district growth and services such as Project Pure and Wānaka Airport

Please find attached an excerpt from the Luggate Water Supply Scheme Detailed Design Report dated 12 March 2025, detailing the [future reservoir as well as the temporary arrangement, as well as the existing and future demand projections and the areas included](#). Out of scope information has been redacted.

The connection of the Corbridge area was always considered in the wider project, but initially it was not within scope for phase 1. Subsequent to the detailed design report being completed a decision was made through the internal programme control group to include connecting Corbridge into scope of phase 1 project. This decision was made to avoid the requirement to construct a dedicated water treatment plant for that scheme in the interim.

Please note that the enclosed link will expire on 20 June 2026, 12:15 PM (UTC+12:00) Auckland, Wellington.

6. Local investment and geographic allocation of funding. Please provide:

- a. Any report, schedule, or presentation from 1 July 2022 to date showing capital expenditure by geographic area across the district, including where available:**
- Queenstown
 - Wānaka / Upper Clutha
 - Luggate

Council does not produce capital expenditure reporting broken down by these specific geographic areas. However, the [QLDC Quarterly Capex Update](#) provides regular reporting on capital expenditure programme delivery across the district, including project-level detail that may be used to identify investment in particular locations.

- b. Any report, memo, or presentation showing how Council tracks or reports the geographic allocation of rates-funded and development-contribution-funded capital expenditure.**

Council does not produce reporting that specifically tracks or presents capital expenditure by geographic allocation for rates-funded or development-contribution-funded projects. The [QLDC Annual Reports](#) provide information on capital expenditure and funding sources at an aggregated, district-wide level; however, they do not include geographic allocation detail.

- c. Any document discussing whether development contributions generated by Luggate growth should be ring-fenced or prioritised for infrastructure in Luggate or the Upper Clutha.**

Council has identified the attached document, [QLDC Development Contributions Policy 2025/2026](#), as relevant to your request. No additional documents specifically addressing ring-fencing or prioritisation of Luggate-generated development contributions were identified.

7. Council decision-making and briefings. For the period from 1 January 2024 to the date of this request, please provide:

- a. Council workshop papers, elected member briefings, slide decks, memos, or reports that discuss:**
- Luggate rates increases
 - Luggate wastewater charges
 - development contributions from Luggate growth
 - ring-fencing or local allocation of funding

The Luggate rates increases and wastewater charges was discussed and can be found on [QLDC's Council Meetings webpage](#) as attachments to the Full Council meetings held on the following dates:

- 26 June 2025 (see Item 2)
- 19 March 2026 (see Items 1 and 8)

- b. Any minutes, notes, action points, or summaries from workshops or briefings where the scale of Luggate rate increases was discussed.**

Please refer to Council's response to question 7(a) of this request.

- c. **Any options analysis or advice presented to councillors on alternative approaches, including:**
- **phasing increases**
 - **wider cost sharing**
 - **alternative treatment of growth costs**
 - **local ring-fencing of development contributions**

Options analysis and advice on alternative approaches, including phasing increases, wider cost sharing, alternative treatment of growth costs, and local ring-fencing of development contributions, were informed by the outcomes of consultation. Detailed considerations and deliberations were made publicly available on 15 May 2026 and are available [here](#). Councillors will be presented with the final Annual Plan for consideration at its meeting on 25 June 2026.

8. **Water services transition / Three Waters context. Please provide:**
- a. **Any report, memo, presentation, or briefing addressing how Luggate water and wastewater assets, debt, revenue, and charges are expected to be treated under the transition to a new water services entity or council-controlled organisation.**
- b. **Any document considering whether current increases to Luggate water or wastewater charges should be moderated, deferred, or otherwise treated differently because of the upcoming transition.**
- c. **Any document addressing how current targeted charges or cost allocations for Luggate may translate into future pricing or charging under the new entity.**

No specific reports or documents have been identified that address Luggate in isolation or consider differential treatment of charges for Luggate as part of the transition to the new water services entity.

Relevant information has been presented to Council through a series of workshops and briefings on water services reform and transition matters. These workshops discuss the broader district-wide approach, including considerations relating to assets, debt, revenue, and charging frameworks; however, they do not include analysis specific to Luggate. The following publicly available workshop materials are relevant:

- [22 January 2026 Full Council Workshop | Queenstown Lakes District Council](#)
- [9 April 2026 Full Council Workshop | Queenstown Lakes District Council](#)
- [28 April 2026 Full Council Workshop | Queenstown Lakes District Council](#)
- [5 May 2026 Full Council Workshop | Queenstown Lakes District Council](#)

Additionally, the QLDC [Water Services Delivery Plan](#) is publicly available and provides a high-level, district-wide overview of the proposed approach to future water service delivery.

Decision to release information

4. **Use of development contributions and historical funding. For the period from 1 July 2016 to the date of this request, please provide:**
- d. **A breakdown of funding sources for Luggate water and wastewater infrastructure projects since 1 July 2016, including for each project:**
- **project name**
 - **total cost**
 - **amount funded from development contributions**

- amount funded from targeted rates
- amount funded from district-wide rates
- amount funded from debt
- amount funded from any other source

QLDC is currently collating the relevant material and information responsive to this request. Subject to completion of this process, QLDC intends to release the requested information as soon as reasonably practicable.

Decision to refuse information

3. Development contributions from Luggate growth. For the period from 1 July 2016 to the date of this request, please provide:

b. A breakdown of development contributions assessed, invoiced, and received from:

- Luggate Park
- Luggate Heights
- Lake McKay Station
- Lake McKay Terraces

For each, please break the amounts down by contribution type, including:

- water supply
- wastewater
- roading
- reserves/parks
- community infrastructure
- any other contribution category applied

QLDC has good grounds under section 17(d) of the LGOIMA for refusing the information requested. QLDC consider it is necessary to refuse the requested information on the basis of the following grounds:

- Section 17(d) - that the information requested is or will soon be publicly available.

Section 17(d) of the LGOIMA provides that a request may be refused where the information requested is already publicly available or will soon be publicly available. This recognises that the Act is not intended to require local authorities to reproduce or compile information that can reasonably be accessed through existing public sources.

In this instance, the QLDC Subdivision Team was consulted and advised that the relevant lot identifiers are publicly available through [QLDC's GIS Viewer](#). Once identified, those lot numbers can be used to search publicly available consent records and development contribution assessments within [eDocs](#).

Accordingly, responding to the request would require Council to research, collate, and compile information from publicly available sources on behalf of the requester. As the information can reasonably be accessed and assembled by the requester using the publicly available GIS Viewer and eDocs system, Council considers refusal under section 17(d) to be appropriate in the circumstances.

Right to review the above decision

You have the right to request an investigation and review of this decision by the Ombudsman under section 27(3) of the LGOIMA. Further information is available at www.ombudsman.parliament.nz or by calling 0800 802 602.

If you wish to discuss this decision with QLDC, please contact Naell.Crosby-Roe@qldc.govt.nz (Director Democracy Services).

QLDC trusts that the above information satisfactorily answers your request.

Kind regards,

██████

Democracy Services Team
Corporate Services | Queenstown Lakes District Council
P: +64 3 441 0499
E: informationrequest@qldc.govt.nz

2.3 Hydraulic Considerations

The hydraulic considerations of the Luggate WSS drive the design and operational decisions for the system. The elevations and pressure requirements throughout the system drive the selection of the pumps for the bores.

The hydraulic requirements for the system in from the QLDC Land Development and Subdivision Code of Practice (LDSC) are allowable pressures within the system between 300 and 900 kPa and the velocities in pipes between 0.5 and 2.0 m/s. The selected cartridge filter and UV units at the WTP require that a pressure of 10 bar (100 m) should not be exceeded.

The bore pumps will supply the pressure to fill the storage tanks at Reservoir Facility No. 1 with no intermediate storage or pumps in the system. Pressures in the WTP will be in the upper ranges of the cartridge filter pressure requirement due to the large elevation difference between the bore pumps and the storage tanks. Additionally, the velocities in the existing uncommissioned DN250 PE100 SDR11 pipe along State Highway 6 at the full buildout flowrate of 60 L/s would be higher than desirable at 2.3 m/s with significant head loss. The existing DN250 pipe will function as a rising/falling main with a maximum flowrate of 30 l/s until Phase 2 when a duplicate rising main pipe will be constructed to allow for reduced velocity and head loss at the design flow of 60 l/s.

Due to the pressure limitations within the WTP equipment and the high predicted velocities and associated head losses in the existing DN250 pipe, the design of the system is proposed in two phases as follows:

- Phase 1 – Peak flow of 30 L/s through the WTP and a DN315 PE100 SDR11 watermain along Church Road connecting to the existing DN250 PE100 SDR 11 pipe rising/falling main along State Highway 6 to convey treated water to the Reservoir Facility No. 1 storage tanks.

Head losses and velocities in the DN250 pipe become high when flowrates exceed 30 L/s, which results in higher pressure in the WTP. The high velocity in the DN250 pipe would also increase the risk of transient pressure that would impact the Luggate Township reticulation network. This is a conservative design point because the assumption of 30 L/s conveyed in the DN250 pipe to the storage tanks assumes no water is supplying a demand from Luggate before the water enters the DN250 pipe to fill the storage tanks.

- Phase 2 – Peak flow of 60 L/s through the WTP. This phase assumes the existing DN250 pipe along State Highway 6 will be duplicated to allow for the full system buildout peak flow of 60 L/s at the WTP and to provide sufficient capacity to Luggate from the reservoir site under gravity flow.

A future duplicate rising main may be built along Shortcut Road. The future alignment and pipe size will be chosen considering demands of the Wanaka Airport and future developments along Shortcut Road.

The raw water pipeline from the bores to the WTP, the WTP interior piping and equipment, and the treated water pipeline along Church Road are designed for the full buildout flowrate of 60 L/s.

The Luggate WSS design is based on the bore pumps providing sufficient pressure to deliver water to Reservoir Facility No.1. Temporary tanks will be relocated from the existing tank farm location to the future reservoir site to serve the Luggate WSS until funding is secured to construct permanent storage tanks at Reservoir facility No.1.

The installation of a tank at the WTP site with high-lift pumps was considered as an option. However, as the bore pumps are capable of delivering the design flows to Reservoir Facility No. 1, the direct supply option was selected in the preliminary design stage. This option requires a lower capital investment, smaller footprint at the WTP location, and a smaller visual impact at the selected WTP location.



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2.2 Existing and Future Network Demands

The Luggate WSS is planned to supply water to the Luggate Township, the Wanaka Airport, and future housing developments at Lake McKay Station. The Corebridge Scheme is also planned to be supplied by the Luggate WSS, however the flow data and projections are not included in the original overall system demand calculations.

Table 1 shows the existing and projected demands for 2021 and 2048. Data was provided by QLDC Strategy and Asset Planning in August 2021.

- Scenario 1 uses the QLDC population projections with a water usage rate of 700 L/day/person per the QLDC Land Development and Subdivision Code of Practice (CoP).
- Scenarios 2-4 use 2021 SCADA flow data from the Luggate WTP and the QLDC-supplied demand projections to show the total volume (m³) and flowrate (L/s) that the new WTP would need to provide to meet the Average and Peak Day demands.

Table 1 Existing and Future Demand Projections for Luggate WSS

Year	2021 (Luggate Only)		2048 (Luggate, Airport, Lake McKay)	
	m ³	L/s	m ³	L/s
Population - QLDC Projection	900		2,871	
Units	m ³	L/s	m ³	L/s
<u>Scenario 1</u> Average Day - CoP 700 L/day/person	630	7.3	2,010	23.3
<u>Scenario 2</u> Average Day - SCADA for 2021 and QLDC Projection for 2048	553	6.4	2,274	26.3
<u>Scenario 3</u> Peak Day - SCADA for 2021 and QLDC Projection for 2048	934	10.8	3,795	43.9
<u>Scenario 4</u> Peak Day over 18 hours - SCADA for 2021 and QLDC Projection for 2048	N/A	14.4	N/A	58.6

Table 2 shows the QLDC-projected flow rates for average day demand, peak day demand, and peak hour demand for the Luggate Township, Wanaka Airport, and the Lake McKay Station development.

Table 2 Summary of Projected Water System Demands in 2048

Zone	Average Day Demand (L/s)	Peak Day Demand (L/s)	Peak Day Demand over 18 hours (L/s)	Peak Hour Demand (L/s)
Luggate Township	23.8	39.9	53.2	88.3
Wanaka Airport	0.6	0.6	0.8	0.7
Lake McKay Station	2	3.4	4.5	7.9
Total	26.3	43.9	58.6	96.9

The WTP is sized to meet the demands of the 2048 Peak Day flowrate over an 18-hour pumping regime – 58.6 L/s. This value was rounded up to give peak WTP flowrate at full build out of **60 L/s**.

The projections above assume the current demands at the airport are maintained until 2048. However, in the short to medium term, or if the airport's development is slow, the Luggate WSS should have sufficient capacity to serve the growing demand at the airport. The new Luggate WSS is not designed to supply the airport if it undergoes extensive development and an associated large water demand.

Projections from QLDC show that the average day demand for the airport as 54.6 L/s in 2048. In this case, the three bores supplying the new Luggate WSS would not be able to meet the full projected demands of Luggate and the airport. An alternate or additional water source will need to be developed to meet the future airport demands if significant development occurs.

The Luggate WSS network is sized to account for fire flow requirements as required by SNZ PAS 4509:2008, New Zealand Fire Service Firefighting Water Supplies Code of Practice. FW3 fire flows and storage are to be provided to all future areas serviced by the WSS with a reticulated network required flowrate of 50 L/s for 60 minutes. Non-reticulated water supplies are required to have 180 m³ of storage to meet the FW3 classification.

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9.0 Water Storage Tanks

9.1 Future Storage Tanks

Future reservoir storage will be constructed at the Reservoir Facility No. 1 site to serve the Luggate Township and at the Reservoir Facility No. 2 site to serve the Wanaka Airport. The timing of the construction of the future reservoirs is dependent on funding and is estimated to occur in 2030. The

future storage tanks at Reservoir Facility No. 1 are conceptually designed to be 3 tanks each with 2500 m³ of storage.

9.2 Temporary Tank Farm

The existing Luggate tank farm consists of ten tanks providing a total volume of 300 m³. Water is conveyed to the town network via a DN150 uPVC falling main. A pressure reducing valve located prior to the main network reduces the pressure to 600 kPa.

An assessment was undertaken to select the most efficient option for the provision of storage in the interim until the first reservoir is constructed (2026/2027). The following options were assessed:

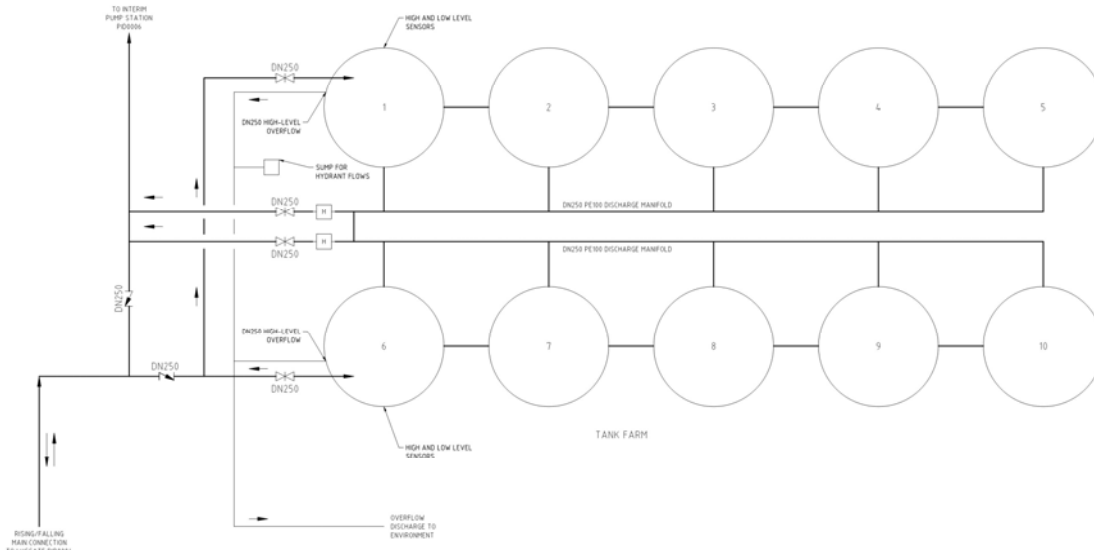
- Option 1 – Keep the tanks at the current location and extend the pressure main from the proposed WTP to connect to the existing uPVC rising main located on Main Road. This would consist of approximately 880 m of DN250 PE100 SDR 13.6 watermain.
- Option 2 – Relocate tanks to the site of the future reservoirs.
- Option 3 – Connect the Luggate WTP to the Luggate network and use existing tanks.

Option 2 was selected following concept design for the following reasons:

- This option would relocate the tanks to the level of the future Reservoir Facility No. 1 reservoirs and provide consistent system design parameters for start up and future pressures.
- The temporary installation would allow for future connection to the permanent reservoir when constructed. This would allow the system to be set up to hydraulically operate as it is intended with the permanent tank installations.

The location of the temporary tank farm was selected through an analysis in the preliminary design phase to be located at the Reservoir Facility No. 1 site in a position that does not hinder the construction of the future permanent tanks at Reservoir Facility No. 1 and allows space for the construction of an access road, calamity basin bund, and future permanent booster pump station. Ten temporary tanks are planned to be located and arranged at Reservoir Facility No. 1 in the same orientation as the existing Luggate tank farm. The number of existing tanks that will be relocated will depend on a condition assessment performed upon excavation and evaluation of the existing tanks prior to relocation. It is expected that some tanks will be required to remain in place to maintain service to the network during construction and that some tanks may be discovered to not be in a suitable condition to remain in service. New tanks are expected to be purchased to make up the difference of the tanks that are unable to be relocated to Reservoir Facility No. 1. The existing tank penetrations are assumed to be DN150 and will be enlarged to accommodate DN250 piping with a watertight seal. Exact locations of the penetrations and exact dimensions of the tanks are not known and there is expected to be a level of coordination with the contractor during the relocation to refine the specified tank levels and pipe depths to better correspond with the locations of the penetrations which are currently buried at the existing tank farm location. Figure 18 shows the temporary tank farm proposed connection layout diagram.

Figure 18 Temporary tank farm connection diagram



Overflow from the temporary tanks will be routed to a soakage trench. The overflow pipe is to be located at a higher level than the high-level sensor. The high- and low-level sensors which control the Luggate bore pumps are to be located in Tanks 1 and 6 which also have the high-level overflows. The remaining tanks are connected in two groups of 5 tanks which can be fully isolated in case of repairs. Each tank is connected directly to the adjacent tanks in its grouping as well as the shared discharge manifold in the centre of the tank farm. All tank penetrations are specified to be DN250.

9.2.1 Temporary Storage Tanks

The temporary storage tanks at Reservoir Site No. 1 have been set on a graded platform at an elevation of 340 mRL to provide a higher elevation than the proposed Interim BPS. The ten 30m³ tanks are to be plumbed in the same arrangement as the existing Luggate tank farm. The original design provided option for the existing tanks to be relocated and repurposed at the Reservoir Site. The updated design assumes that new tanks will be procured and plumbed at the new tank farm site.

Communications ducting from each lid of the temporary tanks will allow alarming for tampering. The communication ducting will connect to the control panel in the Interim Booster Pump Station building. High and low-level sensors in two of the tanks will also communicate with the BPS control panel.

The temporary Tank Farm design routes overflows to a soak pit adjacent to the tank platform. In the case of overflows exceeding the capacity of the soakage area, the flows would be conveyed through the outlet pipe in the bunded area and flow to State Highway 6. This case would likely only occur in case of a controls error that causes tanks to overflow at the peak flowrate of the pump of 30 L/s.

9.2.2 Booster Pump Station

The Luggate Interim Booster Pump Station (BPS) is represented as a 20-foot shipping container on the site plan of the Reservoir Site (CI-0050). This BPS is planned to supply treated water at the existing peak day average flowrate to the Wanaka Airport (3 L/s) and the Corebridge water scheme (6 L/s) for a combined 9 L/s while maintaining a pressure between 350 and 480 kPa in the Wanaka Airport network to be consistent with the existing pressures experienced by the Airport's network. Additional larger pumps are sized to meet FW3 fire flows (50 L/s) at Wanaka Airport at a minimum pressure of 100 kPa. Due to high friction losses in the DN250 distribution pipeline to extend to the Corebridge network at Project Pure, the FW3 fire flow (50 L/s) is unable to be met at Project Pure without exceeding the delivery pressure requirements at Wanaka Airport.

