

Item 1: Infrastructure Compliance Update

SESSION TYPE: Briefing

PURPOSE/DESIRED OUTCOME:

The purpose of this briefing is to provide the Assets & Infrastructure Committee with an update on the current status of compliance with the Drinking Water Quality Assurance Rules and resource consent obligations across Council's infrastructure activities.

DATE/START TIME:

Tuesday, 15 September 2026 at 10.00am

TIME BREAKDOWN:

Presentation: 20 minutes

Questions: 10 minutes

PRESENTERS:

Rebecca Macfarlane (Infrastructure Compliance Manager)
Simon Mason (Infrastructure Operations Manager)

Prepared by:



Name: Simon Mason
Title: Infrastructure Operations Manager

1 October 2026

Reviewed and Authorised by:



Name: Tony Avery
Title: General Manager Property & Infrastructure

1 October 2026

ATTACHMENTS:

A	Presentation: Infrastructure Compliance Update
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Infrastructure Compliance Update

Infrastructure and Asset Committee Workshop – 15 October 2026

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1. Drinking Water – Quality & Quantity
2. Wastewater Treatment
3. Stormwater Management
4. Backflow and Trade Waste
5. Solid Waste and Roading

1. Drinking Water – Quality

Status of Infrastructure

SCHEME	TREATMENT BARRIERS PRESENT		
	PROTOZOA	BACTERIA	RESIDUAL
ARROWTOWN	UV	UV	Chlorine
ARTHUR'S POINT	UV	UV	Chlorine
GLENORCHY	UV	UV	Chlorine
CARDRONA	Membrane	Chlorine	Chlorine
HĀWEA	UV	UV	Chlorine
LUGGATE	UV	UV	Chlorine
QUEENSTOWN - SHOTOVER BORES	UV	UV	Chlorine
QUEENSTOWN – TWO MILE	UV	UV	Chlorine
LAKE HAYES	UV	UV	Chlorine
WĀNAKA – BEACON POINT	UV	UV	Chlorine
WĀNAKA - WESTERN	UV	UV	Chlorine
WĀNAKA AIRPORT	UV	UV	Chlorine

Planned Treatment Upgrades:

- The Corbridge supply was connected to the new Luggate scheme on 3rd March 2026
- Pre-UV filtration project commencing this Financial Year.
- pH dosing at the new Luggate WTP to address low pH observed in the source water- currently undergoing commissioning

1. Drinking Water – Quality

Drinking Water Compliance

SCHEME	COMPLIANCE PERFORMANCE (MONTHLY RULES)							
	February	March	April	May	June	July	August	September
ARROWTOWN								
ARTHUR'S POINT								
CORBRIDGE	No protozoa barrier	Connected to Luggate on 3/3/2026						
GLENORCHY				RTU fault- WTP offline 18/6/2026				
CARDRONA	MIT missed 19/2/2026			Low cl- evidenced 14/5/2026		Insufficient Ct Value 29/09/2026	Failed MIT	Missed MIT 12/09/2026
HĀWEA								
LUGGATE	New WTP connected on 3/2/2026							
QUEENSTOWN - SHOTOVER BORES								
QUEENSTOWN – TWO MILE							Ran to waste due to high turbidity 28/8/2026	Ran to waste due to high turbidity 22-23/9/2026
LAKE HAYES	Comms outage however data was recovered 12/2/2026							Non-compliant UVT analyser fault 21-25/09/2026
WĀNAKA – BEACON POINT				Changes to code in RTU caused continuous data to be recorded every 2 minutes instead of every minute 6/5/2026-15/8/2026				
WĀNAKA - WESTERN				Non-compliant UV dose 28/5/2026			Non-compliant UV dose 9/8/2026	
WĀNAKA AIRPORT								

1. Drinking Water – Quality

Drinking Water Non-Compliances

- **Beacon Point (May-August)**
 - The RTU at the Beacon Point Water Treatment Plant was approaching its storage capacity. During work to rectify this issue, an unintended configuration change altered the data logging settings.
 - As a result, data was recorded every two minutes rather than every minute, creating a non-compliance with the DWQAR.
 - The issue was not identified immediately, as the monitoring system interpreted the resulting data pattern as the plant cycling online and offline at one-minute intervals.
- **Western (May)**
 - The UVT meter at the Western Water Treatment Plant faulted, and after a number of failed attempts, the fault could not be cleared remotely by the operator.
 - As a result of the UVT fault, there was a brief period of low UV dose, which exceeded the DWQAR.
- **Western (August)**
 - A build up of lake snot caused a blockage in the UVT analyser and resulted in no flow through the analyser.
 - The blockage was thought to be cleared and the plant switched on, however it was discovered that the analyser needed further clearing.
 - This resulted in 16 minutes of flow with incorrect UVT readings, which is non-compliant against the DWQAR
- **Cardrona (July-August)**
 - pH is used to calculate FAcE at the plant for bacterial compliance.
 - A faulty pH probe resulted in incorrect FAcE calculations, and insufficient Ct, which are both non-compliances with the DWQAR.
- Due to supplier constraints of a new probe, the non-compliant period continued throughout August.
- It is not always feasible for the Cardrona contract to carry these probes as critical spares, as they have an expiry. However further collaboration with Veolia for some shared critical spares is required.
- **Cardrona (August)**
 - Membrane 2 failed a direct membrane integrity test (MIT), which is required for protozoal treatment to ensure the membrane barrier is physically intact.
 - This resulted in a non-compliance due to membrane train 2 subsequently restarting production before a MIT had been re-established, and resulted in flow through the membrane train.
 - The contractor has updated the coding to ensure the plant cannot be started with a MIT failure, and are working to replace the failed module
- **Cardrona (September)**
 - Failure of the sequencing of the MIT
- **Lake Hayes (September)**
 - There was a low UVT reading for 4 days in September where the UVT analyser was reading low, resulting in non-compliant UVT
- **Lake Hayes (September)**
 - Non-compliant turbidity event >5 NTU for more than 15 mins (17mins)

1. Drinking Water – Quantity

Scheme	Abstraction Limits	2025-2026 Abstraction total;	Comments
ARROWTOWN (RM19.410.01)	(a) 108 litres per second (b) 7,800 cubics metres per day (c) 234,000 cubics metres per month (d) 1,274,200 cubics metres per year	1,153,494 m ³	Fully compliant with abstraction limits
ARTHUR'S POINT (2005.762)	(a) 49 litres per second (b) 3,385 cubics metres per day (c) 105,000 cubics metres per month (d) 823,200 cubics metres per year	298,309 m3	Fully compliant with abstraction limits
CORBRIDGE (RM11.177.01)	(a) 12 litres per second; (b) 460 cubic metres per day; (c) 14,260 cubic metres per month; (d) 167,900 cubic metres per year.	76,839 m3	Fully compliant with abstraction limits
CARDRONA Pringles Creek (RM22.4 66.01) Pringles Creek and Cardrona River (RM21.628.03)	(a) 30 litres per second; (b) 1,452 cubic metres per day; (c) 45,000 cubic metres per month; and (d) 315,000 cubic metres per year. (a) 15 litres per second (b) 1,296 cubic metres per day (c) 33,387 cubic per month, and (d) 382,920 cubic metres per year	59,572m3	Fully compliant with abstraction limits
GLENORCHY (2009.158)	(a) 62.7 litres per second; (b) 5,400 cubic metres per day; (c) 49,248 cubic metres per month; (d) 599, 184 cubic metres per year	124,380.71m3	Fully compliant with abstraction limits

1. Drinking Water – Quantity

Scheme	Abstraction Limits	2025-2026 Abstraction total;	Comments
HÄWEA (RM.14.278.01.V1)	(a) 180 litres per second; (b) 13,500 cubic metres per day; (c) 100, 175 cubic metres per month; (d) 1,202,100 cubic metres per year	625,762 m ³	Fully compliant with abstraction limits
LAKE HAYES (2001.822)	a) 40 litres per second b) 2,200 cubic metres per day c) 15,400 cubic metres per week	427,780.09 m ³	Daily abstraction limits in March 2026 (4 days) and weekly volume exceeded in March (4 days) where rolling mean exceeded 15,400 m ³ /week.
LUGGATE (RM26.039.01)	a) 60 litres per second; b) 3,888 cubic metres per day; c) 622,048 cubic metres	150,912 m ³	Fully compliant with abstraction limits
QUEENSTOWN – TWO MILE (2007.665)	(a) 365 litres per second (b) 30,000 cubic metres per day	2,776,440.35 m ³	Fully compliant with abstraction limits. No yearly abstraction limit
QUEENSTOWN – SHOTOVER (RM16.142.01)	a) 395 litres per second b) 28,250 cubic metres per day c) 6,223,165 cubic metres per year	3,776,041.16 m ³	Fully compliant with abstraction limits
WANAKA AIRPORT (RM19.097.01)	a) 2.8 litres per second b) 220,000 litres per day; and c) 26,491 cubic metres per ye	15,998.6 m ³	Instantaneous abstraction rate exceeded (NMT 2.8 l/s). Short duration spikes on start up.
WANAKA – WESTERN (2008.459)	a) 200 litres per second b) 12,960 cubic metres per day; and c) 324,000 cubic metres per month	446,456 m ³	Fully compliant with abstraction limits
WANAKA – BEACON POINT (2008.46)	a) 200 litres per second b) 12,960 cubic metres per day; and c) 324,000 cubic metres per month	3,193,239	Fully compliant with abstraction limits. No yearly abstraction limit

2. Wastewater Treatment

SHOTOVER WWTP					
RM13.215.03.V2 Discharge to Land - Compliance Status (as at April ORC Audit)		Significant Non-Compliance. Enforcement order in place. Plant now operating under emergency discharge direct to Shotover River.			
RM13.215.01 Discharge to Air - Compliance Status (as at April 2025 ORC Audit)		Low Risk Non-Compliance.			
Parameter	September 2026 Result	12-Month Rolling Mean	12-Month Rolling Mean Limit	12-Month Rolling 95th %ile	12-Month Rolling 95th %ile Limit
TotalBOD ₅ (mg/l)	5	3.4	10	4.9	20
TSS (mg/l)	6.3	6.6	10	9.8	20
TN (mg/l)	3.58	4.7	10	5.9	15
TP (mg/l)	0.305	1.9	8	3.6	10
E. Coli (cfu/100ml)	8	7	10*	54	100

*E.Coli is assessed against as a 12-month Geomean

CARDRONA WWTP			
2009.348 Discharge to Land - Compliance Status (as at May ORC Audit)		Low Risk Non-Compliance.	
Parameter	September 2026 (non-compliance sample)	12-Month Rolling Mean (based on quarterly compliance)	12-Month Rolling Mean Limit
cBOD ₅ (mg/l)	10.8	6.7	20
TSS (mg/l)	21	11.7	30
TN (mg/l)	35.2	14.3	30
TP (mg/l)	10	2.8	8
E.Coli (cfu/100ml)	20	10.4	1,000

WĀNAKA (PURE) WWTP			
2205.484.V1 Discharge to Land - Compliance Status (as at May ORC Audit)		Significant Non- Compliance. Abatement notices in place.	
2005.485 Discharge to Air - Compliance Status (as at May ORC Audit)		Full compliance	
Parameter	September 2026 Result	12-Month Rolling 80th %ile	12-Month Rolling 80 %ile Limit
BOD ₅ (mg/l)	6	11.6	35
TSS (mg/l)	11.6	12.8	35
TN (mg/l)	7.21	26.5	12
E.Coli (cfu/100ml)	10	630	1,000

HĀWEA WWTP			
RM22.178.02 Discharge to Land - Compliance Status		Significant Non-Conformance. Abatement notice in place.	
RM22.178.01 Discharge to Air - Compliance Status		Low Risk Non-Compliance.	
Parameter	September 2026 Result	12-Month Rolling Mean	12-Month Rolling Mean Limit
TN (mg/l)	53.6**	42.9**	35
NH ₄ -N (mg/l)	22.7	19.5	20
TP (mg/l)	3.47	5.4	10
E.Coli* (cfu/100ml)	27000	60524	250,000

*E.Coli is assessed against as a 12-month Geomean

**TN result is from August as September is not yet available

3. Stormwater Management

STORMWATER CONSENTS/ENFORCEMENT ACTIONS	
Shotover Wetland SW Discharge (RM15.277) - Compliance Status (as at 2023 ORC Audit)	Significant Non-Compliance. An audit report in 2023 highlighted that there were inconsistencies between the pond design applied for in consent RM15.277 and with the pond design applied for in the land development consent, resulting in the three ponds not being constructed in accordance with the discharge consents. A second discharge consent remains in the Developers name, with the intention of this consent also being transferred to QLDC in the future. QLDC has approached the Developer requesting that the third pond be made compliant prior to transfer of the consent to QLDC. QLDC has engaged Stantec to develop options to improve system performance, with the aim of achieving a consentable solution and improved stormwater treatment.
SW Discharge to Clutha River at Northlake (Permitted Activity)	Abatement Notice in place. Detailed design completed and resource consent lodged. Procurement activities for the physical works will commence shortly.
SW Discharge to Bullock Creek at Alpha Series (Permitted Activity)	Abatement Notice in place. An interim solution has been agreed with Fish & Game (the landowner) and physical works have now been completed. QLDC to apply for cancellation of abatement notice shortly.

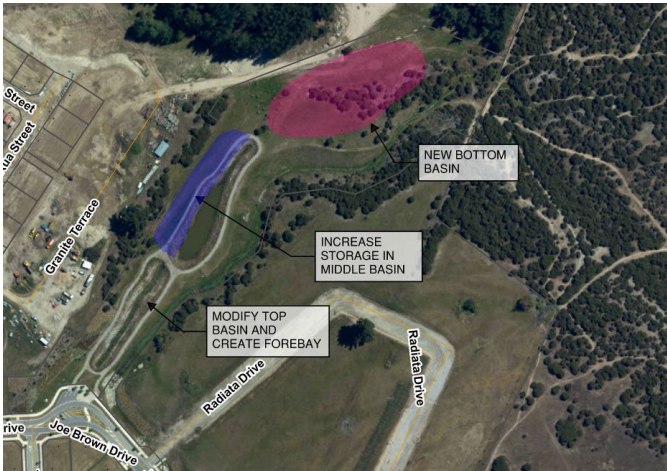


Fig 2. Sketch of proposed basin modifications at Northlake

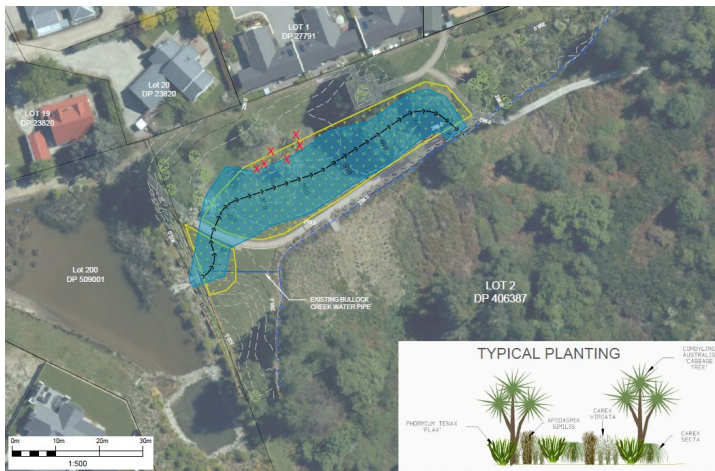


Fig 3. Alpha Series modifications to mitigate downstream effects of stormwater flow

5. Solid Waste and Roding

WASTE MANGEMENT CONSENTS	
Victoria Flats Discharge of Mixed Waste to Land (97163_V1) – Compliance Status	Low Risk Non-Compliance. Administrative matters associated with operational manual and plans, subsequently resolved. Reconsenting process now commenced, initially focusing on design of future landfill development stages.
Victoria Flats Discharge to Air (97164_V4) – Compliance Status	Low Risk Non-Compliance. Administrative matters associated with operational manual and plans, subsequently resolved. Reconsenting process now commenced, initially focusing on design of future landfill development stages.
Victoria Flats Discharge to Leachate Land (97165) Victoria Flats Groundwater Take (97166.V1)	Full Compliance.
Tucker Beach Closed Landfill Discharge to Land (2004.290) – Compliance Status	Overall compliance is scheduled for review. Remedial work on the toe of the closed landfill have been completed and an audit is awaited to confirm compliance outcomes.
ROADING CONSENTS	
No recent compliance activities or consent audits	