From: "Mark Payne" <Mark.Payne@orc.govt.nz>
Sent: Mon, 18 Mar 2024 11:20:47 +1200
To: "Simon Mason" <simon.mason@qldc.govt.nz>; "Daniel Bruce" <daniel.bruce@qldc.govt.nz>
Cc: "Tami Sargeant" <Tami.Sargeant@orc.govt.nz>; "Shelley Reed" <Shelley.Reed@orc.govt.nz>; "Chris McSweeney" <Chris.McSweeney@orc.govt.nz>; "Peter Kelliher" <Peter.Kelliher@orc.govt.nz>
Subject: Abatement Notice Shotover WWTP
Attachments: EN.RMA.24.0012 Abatement QLDC Shotover WWTP Pond discharge Final V3.pdf

Good Afternoon Simon and Daniel,

Please find attached an Abatement relating to the Shotover WWTP, as highlighted in the covering letter it does not replace the current abatement, which will remain in place also.

Kind Regards,
Mark.

Otago Regional Council

Mark Payne
PRINCIPAL ADVISOR - INVESTIGATIONS

P 0800 474 082 | M 027 565 2802
mark.payne@orc.govt.nz

Otago Regional Council

18 March 2024

Queenstown Lakes District Council
10 Gorge Road
Queenstown 9300

Dear Simon

Abatement Notice - EN.RMA.24.0012

Please find enclosed an abatement notice (issued under the authority of section 322(1)(a)(i) of the Resource Management Act 1991) in relation to the Shotover Wastewater Treatment Plant (RM13.215.03).

If you do not comply with this notice, you may be prosecuted under section 338 of the Resource Management Act 1991 (unless you appeal, and the notice is stayed as explained below).

You have the right to appeal to the Environment Court against the whole or any part of this notice. If you wish to appeal, you must lodge a notice of appeal in form 49 with the Environment Court within 15 working days of being served with this notice.

An appeal does not automatically stay the notice and so you must continue to comply with it unless you also apply for a stay from an Environment Judge under section 325(3A) of the Resource Management Act 1991 *(see* form 50). To obtain a stay, you must lodge both an appeal and a stay with the Environment Court.
You also have the right to apply in writing to the Otago Regional Council to change or cancel this notice in accordance with section 325A of the Resource Management Act 1991.

ORC previously issued QLDC an abatement notice dated 27 May 2021 (EN.RMA.21.0025) for the same wastewater treatment plant in relation to conditions 15 and 20 of the Resource Consent held for the plant (See attached Appendix "J").

This Abatement Notices does not replace or limit the Abatement Notice EN.RMA.21.0025 dated 27 May 2021 and its subsequent compliance date extensions.

Yours sincerely

Mark Payne
Principal - Investigations
Encl

Otago Regional Council

Abatement Notice –

Section 324
Resource Management Act 1991

Notice No: EN.RMA.24.0012

TO: Queenstown Lakes District Council
10 Gorge Road
Queenstown 9300
C/- Private Bag 50072, Queenstown 9348

1. The Otago Regional Council (Council) gives notice that you must take the following actions:

The Queenstown Lakes District Council **("QLDC")** must cease:

a. Discharging wastewater from the WWTP to land without complying with conditions 12, 14 and 21(b) of Resource Consent RM13.215.03.V2 **("the Resource Consent") (Copy attached as Appendix A);**

b. Discharging to land wastewater which is not treated (as required by the Resource Consent and operations and management manual for the QLDC Shotover Wastewater Treatment Plant (**WWTP**) Disposal Field).

2. The location to which this abatement notice applies is:

The property owned by Queenstown Lakes District Council at Queenstown – approximately 1.25 kilometres south south-east of the intersection of State Highway 6 and Tuckers Beach Road. **("the Property"). See Appendix B – Property boundaries and Image of area taken 5 March 2024 of property.**

The legal description of the land is Lot 4 Deposited Plan 421841 and Lot 2 Deposited Plan 422388. The Map reference is NZTM E1266045 N5006801.

3. You must comply with this abatement notice within the following period:

You must comply with this abatement notice by the 29 March 2024: and continue to comply with this notice at all timed thereafter.

4. This notice is issued under:

Section 322(1)(a)(i) of the Resource Management Act 1991**(RMA).**

5. The reasons for this notice are:

1. QLDC holds and exercises the Resource Consent to discharge treated wastewater to land from the WWTP.

2. The Resource Consent conditions were changed on 9 March 2017 to allow the discharge of treated wastewater from the WWTP to land via a subsurface dose and drain system. Plans appended to the application identified the location (the **Disposal Field) of** the proposed dose and drain system (the **Disposal System**).

3. The Resource Consent:
   a. permits the discharge of wastewater to the Disposal Field subject to conditions.
   b. requires the WWTP and Disposal System to be operated in accordance with the operations and management manual (**OMM**) for the treatment and disposal system (condition 14).

4. QLDC has provided two OMM to ORC:
   a. An OMM dated June 2023, which addresses the treatment plant process (the **WWTP OMM)**.
   b. An OMM dated 2021 which addresses the Disposal System processes (the **Disposal System OMM**).

5. The WWTP OMM does not meet the requirements of condition 14 because, for example, does not accurately describe the treatment and Disposal System (it incorrectly refers to discharging wastewater to the Shotover River) and does not include a site map showing the location of various components of the treatment system.

6. The Disposal System OMM requires that treated wastewater is gravity fed to the Disposal Field from the WWTP UV sterilisation facility. The location of the Disposal Field is shown in the drawings at appendix 1 of the OMM **(see Excerpt at Appendix C – Site Plan).**

7. The Resource Consent does not authorise:
   a. the discharge of wastewater that is not fully treated and/or does not comply with the discharge parameters in conditions 12 of the Resource Consent;
   b. Ponding or surface run off; and
   c. "mounding of groundwater … resulting in surface breakthrough" within the Disposal Field (the initial 5-year mounding trial having ended) refer condition 21).

8. Wastewater which is not fully treated has been discharged from the WWTP to land and is likely to enter water (being the Kawarau River, Shotover River and/or groundwater).

9. Discharged wastewater has ponded.

10. Groundwater has mounded with surface breakthrough within the Disposal Field.

27 December 2023 Inspection

11. On 27 December 2023, an ORC Enforcement Officer carried out an inspection, where they saw:

a. a substantial flow of wastewater that was not fully treated discharging through the Disposal Field boundary fence from the south southeast (SSE) corner of the Disposal Field.

b. The wastewater flowed like a small river away from the Disposal Field to where it ponded in an area outside the Disposal Field in the Shotover Delta.

c. The wastewater was slightly discoloured, silt laden and smelt of sewage.

12. Refer photographs taken and attached as Appendix "D."

13. The ORC Enforcement Officer took samples of the ponded wastewater (refer Table 2 below, which shows results exceeded the 95th (90th) percentile parameters). Refer to sampling map attached as Appendix "C" for sample locations.

28 December 2023 Inspection

14. On the 28 December 2023, QLDC notified ORC by telephone that the wastewater discharging from the Disposal Field Property boundary had discharged to land outside of the Property which then flowed overland into the Kawarau River.

15. The site was reinspected by two ORC Enforcement Officers on the same day (28 December 2023), who saw:

a. The flow of wastewater discharging from the SSE corner of the Disposal Field had extended 20 metres further than on the previous site visit on (27 December 2023). There is now an even larger area of ponded effluent outside the disposal field and across the Shotover Delta.

b. Wastewater was now discharging for approximately 100m from under the gate at the SSE corner of the Disposal Field to an area south of the Disposal Field where the wastewater then appeared to 'disappear'.

c. Another large, ponded area of suspected wastewater adjacent to the Kawarau River (further downstream than the wastewater flow (described in paragraph 12) which was discharging overland directly to the Kawarau River.

16. The ORC Enforcement Officers took more samples of the large area of ponded wastewater outside the disposal field, (detailed in paragraph 15a), samples from the new large ponded area (detailed in paragraph 15b) and samples from the Kawarau River upstream and downstream from the point the new ponded effluent was discharging into the Kawarau River (refer Table 2 below and refer to sample locations map and photographs taken attached as Appendix "E").

17. The sample results of the ponded wastewater outside the disposal field showed extremely high levels of Escherichia coli (**E Coli**) and Total Suspended Solids (**TSS**). Biological Oxygen Demand (**BOD**) was also higher than the 95th percentile and Annual mean limits of the resource consent. The sample results of the new ponded area adjacent to the Kawarau River showed levels of E Coli higher than the resource consent 90th percentile and Annual Mean limits. The downstream samples taken from the Kawarau River were higher in E. Coli, Total Nitrogen (**TN**) and TSS than the Upstream samples. Table 1 below records the sample results:

Table 1:

Parameter	Resource Consent 95th Percentile limits)*	Resource Consent Annual Mean limits	Disposal field Discharge 27/12/2023	Disposal field Discharge 28/12/2023	Ponding @ Shot over Delta 28/12/2023	Kawarau River – U/S of Point of Discharge 28/12/2023	Kawarau River – D/S of Point of Discharge 28/12/2023
BOD5 (g/m^3)	50	30	43	Sample received too late	Sample received too late	Sample received too late	Sample received too late
TSS (g/m^3)	50	30	**198**	**200**	7.9	<2.5	4.7
TN (g/m^3)	35	23	**58**	**54.8**	5.88	0.15	1.42
E. Coli MPN/CFU/100ml	260 (90th Percentile)*	260 geomean	**38,000**	**41,060**	**387.3**	3.1	86.7

*(on a rolling 12 calendar month period).

18. The sample results in Table 1 demonstrate that:

a. On 27 December 2023 and 28 December 2023, the wastewater discharged from the Disposal Field:

i. Contained contaminants at a significantly higher levels than the resource consent limits for the annual mean and the 95th percentile (for BOD, TSS, and TN) and the geomean and 90th percentile parameter (for E Coli.) and

ii. Was not fully treated as required by the Disposal System OMM and the Resource Consent; and

b. Ponding at Shotover Delta had levels of E. Coli consistent with wastewater;

c. Wastewater is likely to have had entered water, namely the Kawarau River.

19. By email dated 30 December 2023, QLDC notified ORC that it was working towards ceasing the discharge of partially treated wastewater "beyond the boundary of the site".

25 January 2024 inspection

20. On the 25 January 2024, an ORC Enforcement Officer carried out a follow-up inspection of the WWTP and saw that:

a. Wastewater was discharging from the Disposal Field through the fence at the eastern boundary of the Disposal Field.
b. The wastewater was ponding in an area outside of the Disposal Field, between the Disposal Field fence line and the Twin Rivers Trail (cycle path).
c. The ponded wastewater was approximately 100 metres long by 3 metres wide.

21. A map and photographs taken at the time of the inspection are attached as Appendix "F".

22. The ORC Enforcement Officer took samples of the ponded wastewater, detailed in paragraph 18 (refer Table 2 below for sample results).

23. During this inspection, the ORC Enforcement Officer re-inspected the southern boundary of the Disposal Field, from where wastewater had been discharging on 27 and 28 December 2023. No discharge was observed from the southern end of the Disposal Field. However, there was still some evidence of discharges observed on 27 and 28 December 2023. The enforcement officer saw puddles of wastewater and algae across the affected area of the Shotover Delta.

24. The ORC Enforcement Officer took samples of the ponded area of the Shotover Delta southeast of the Disposal Field. Refer Table 2 for sample results, refer Appendix "E" for sample locations.

25. The ORC Enforcement Officer met QLDC's contractor, Veolia, on site at the Property and took samples from the final discharge point at the autosampler from where wastewater is discharged to the Disposal Field. Refer Table 2 for sample results, refer Appendix "F" for sample locations.

Table 2:

Parameter	Resource Consent 95th Percentile limits) *	Resource Consent Annual Mean limits	Disposal field Breach Discharge to cycle path (Twin Rivers Trail) 25/01/2024	Ponding @ Shotover Delta Ponding SE Bottom Disposal Field 25/01/2024	Shotover WWTP Final Effluent (at autosampler) 25/01/2024

BOD5 (g/m^3)	50	30	22	11	17
TSS (g/m^3)	50	30	**520**	**780**	**35**
TN (g/m^3)	35	23	Not analysed	Not analysed	Not analysed
E. Coli CFU/100ML	260 (90th Percentile) *	260 geomean	**5000**	**3700**	16

*(on a rolling 12 calendar month period).

26. The sample results in Table 2 demonstrate that on 25 January 2024:

a. The wastewater at the autosampler was treated wastewater.

b. However, the wastewater discharging overland from the eastern boundary of the Disposal Field to outside the Disposal Field was significantly higher than the 95th/90th percentile and annual mean (geomean) Resource Consent parameters for TSS and E Coli and therefore was not fully treated as required by the Disposal System OMM and the Resource Consent.

c. Wastewater at the Disposal Field that discharged from the Eastern boundary (to the land between the Twin Trails path and the Disposal Field) was not fully treated.

d. Ponding at Shotover Delta southeast of the Disposal Field was wastewater and was not fully treated as required by the OMM and the Resource Consent.

21 February 2024 inspection

27. On the 21 February 2024, an ORC Enforcement Officer carried out an inspection of the Disposal Field and saw that:

a. there were still some ponded areas of water south of the Disposal Field which smelt like sewage and there was a lot of green algae growing in and around the ponded areas.

b. there was an extensive sludge "crust" visible across the area of the Shotover Delta where the Disposal Field had been discharging on 27 & 28 December 2023.

28. A map showing the location of crust and photographs taken on 21 February 2024 are attached at Appendix "G".

29. The ORC Enforcement Officer took samples of the first few millimetres of the sludge crust and some of the remaining ponding in the Shotover Delta southeast of the Disposal Field (refer Table 3 for sample results). There was no visible discharge from the Shotover WWTP Disposal field occurring at the time.

30. At the Property, the ORC Enforcement Officer inspected the Disposal Field and observed that earth bunds had been constructed around and within the Disposal Field. The bunds were not present on previous

inspections. These bunds were containing a volume of wastewater across the Disposal Field, which is a breach of condition 20 and/or 21(b) of the Resource Consent.

31. The ORC Enforcement Officer noted that the Disposal Field now looked like an oxidation pond which was approximately 1 metre deep. While observing the Disposal Field the internal earth bunds/walls made of earth began crumbling and collapsing.

32. The outer earth bund (which was keeping wastewater within the Disposal Field) suddenly and completely failed on the eastern side of the Disposal Field. A substantial flow of wastewater from the Disposal Field 'pond' flowed between the bunded cells of the Disposal Field and discharging overland on the eastern side of the Disposal Field. This wastewater ponded between the boundary of the Disposal Field and the Twin Rivers Trail which runs alongside the Disposal Field.

Table 3

Parameter	Resource Consent 95th Percentile limits) *	Resource Consent Annual Mean limits	Shotover Delta Wastewater Crust & Ponding 21/02/2024
Total Recoverable Arsenic	N/a	N/a	8
Total Recoverable Cadmium	N/a	N/a	0.18
Total Recoverable Chromium	N/a	N/a	13
Total Recoverable Copper	N/a	N/a	79
Total Recoverable Lead	N/a	N/a	15.8
Total Recoverable Nickel	N/a	N/a	16
Total Recoverable Zinc	N/a	N/a	16
Faecal Coliforms	N/a	N/a	3,500,000
E. Coli CFU/100ML	260 (90th Percentile) *	260 geomean	**2,500,000**

*(on a rolling 12 calendar month period).

The sample results in Table 3 demonstrate that on the 21 February 2024, the sludge crust and some of the remaining ponded wastewater at the Shotover Delta southeast of the Disposal Field was not fully treated wastewater.

22 February 2024 inspection

33. On 22 February 2024, an ORC Enforcement Officer returned to the Shotover Delta outside of the Disposal Field and saw:

a. The ORC Enforcement Officer observed that the discharge of wastewater observed on 21 February 2024 from the Disposal Field 'pond' (through the eastern boundary fence of the Disposal Field - refer paragraph 32) had ceased.
b. Wastewater was still ponded outside of the consented Disposal Field.

34. The ORC Enforcement Officer took samples of the ponded area of land between the Disposal Field eastern boundary and the Twin Rivers Trail (refer Table 4 for sample results and Appendix "H" for sample locations).

35. The ORC Enforcement Officer inspected the southern end of the Disposal Field. There was no active discharge from the WWTP Disposal Field. The ORC Enforcement Officer found that since the visit 21 February 2024:

a. Wastewater had discharged from under the Disposal Field gate at the south-southeast corner (SSE) of the Disposal Field (where wastewater had been discharging on 27 December 2023). The area under and around the disposal field gate was now saturated with wastewater. There was a visible flow path from the Disposal Field towards the gate. There were puddles that were not there the previous day. There were also fresh heavy vehicle track marks. Refer Appendix "H" for photos taken.

b. Further east, from the Disposal Field, the ORC Enforcement Officer observed a large, ponded area of wastewater across the Shotover Delta. This was in the same location where ponding was observed on 27 December 2023. This ponding had not been present the previous day (21 February 2024) when an ORC enforcement officer inspected the area at approximately 14:30 pm.

36. The ORC Enforcement Officer took samples from the ponded area of the Shotover Delta southeast of the Disposal Field.

Incident 3 March 2024

37. On the 3rd of March 2024, the ORC received a complaint that, "*there was burst pipe coming from the wastewater treatment plant in the Lower Shotover*".

38. In response to the complaint, an ORC Enforcement Officer carried out an inspection of the WWTP. The officer observed that a bund (which was keeping wastewater within the Disposal Field) on the eastern side of the Disposal Field had breached. Wastewater from the Disposal Field was discharging overland through the eastern Disposal Field boundary fence into the Shotover Delta where it was ponding.

39. The discharging wastewater was green in colour and had a slight sewage odour. There was a layer of sludge covering areas of the Disposal Field. In the opinion of the ORC enforcement officer the wastewater did not have the appearance or characteristics of treated wastewater, but of wastewater that had not been fully treated. Fully treated wastewater from the WWTP is clear and does not smell.

40. The ORC enforcement officer took samples of the ponded wastewater. Samples results have not yet been received.

41. Photographs were also taken, several of which are attached as Appendix "I".

Summary

42. The inspections outlined above show that QLDC has been contravening the Resource Consent conditions because:

a. Wastewater was discharged that was not fully treated (as seen on inspections on 27 and 28 December 2023, 25 January 2023, 21 February 2024 and 3 March 2024 and QLDC's email of 30 December 2023);
b. The wastewater (which was not fully treated) was discharged from the Disposal Field and ponded outside the Disposal Field and
c. There has been water mounding with surface breakthrough in the Disposal Field (as seen on 21 February 2024 and 3 March 2024).

43. The discharges of contaminants contravene section 15(1)(b) and (d) of the Resource Management Act 1991 and are not expressly allowed by a national environmental standard or other regulations, a rule in a regional plan (as well as a rule in a proposed regional plan for the same region) or a resource consent.

IMPORTANT NOTES – PLEASE READ

If you do not comply with this notice, you may be prosecuted under section 338 of the Resource Management Act 1991 (unless you appeal and the notice is stayed as explained below).

You have the right to appeal to the Environment Court against the whole or any part of this notice. If you wish to appeal, you must lodge a notice of appeal in form 49 with the Environment Court within 15 working days of being served with this notice.

An appeal does not automatically stay the notice and so you must continue to comply with it unless you also apply for a stay from an Environment Judge under section 325(3A) of the Resource Management Act 1991 (*see* form 50). To obtain a stay, you must lodge both an appeal and a stay with the Environment Court.

You also have the right to apply in writing to Otago Regional Council to change or cancel this notice in accordance with section 325A of the Resource Management Act 1991.

Otago Regional Council authorised the enforcement officer who issued this notice. Its address is:

Otago Regional Council, 70 Stafford Street, Private Bag 1954, Dunedin 9054
Telephone: 03 474 0827 or 0800 474 082 email: pollution@orc.govt.nz

The enforcement officer is acting under the following authorisation:

A warrant issued on 3 November 2022 by the Otago Regional Council pursuant to section 38 of the Resource Management Act 1991.

Signature of Enforcement officer	Shelley Reed (Warrant #2022/69)
Date :	18 March 2024

Appendix A – Relevant Consent documentation

COUNTERPART

Otago Regional Council

Our Reference: A766704 Consent No. RM13.215.03.*V2*

DISCHARGE PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Queenstown Lakes District Council

Address: 10 Gorge Road, Queenstown

To discharge treated wastewater to land

For a term expiring: 31 December 2031

Location of consent activity:

Queenstown, approximately *1.25 kilometres south south-east of the intersection of State Highway 6 and Tuckers Beach Road,* ~~1.2 kilometres south southeast of the intersection of Shotover Delta Road and Frankton-Ladies Mile Highway (State Highway 6)~~

Legal description of consent location: *Lot 4 DP 421841 and Lot 2 DP 422388* ~~Pt Sec 141 and Secs 142 – 145 & 152 Blk I Shotover SD, Lot 1 DP 306621, Lot 1 DP 15636, Crown Land Blk I Shotover SD~~

Map Reference: NZTM 2000 *1266045E 5006801N* E1265922 N5006626

Conditions
Specific

1. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse until 1 January 2023.

2. Discharge Permit RM13.215.04 shall be surrendered within 6 months of the full exercise of this consent (all treated wastewater being discharged to land). The consent holder shall notify the Consent Authority in writing of the date of the first exercise of this consent.

3. The volume of wastewater discharged to the disposal field shall not exceed:
   (a) An annual average of 11,238 cubic metres per day; and
   (b) A maximum discharge loading rate ~~for~~ *averaged over the* ~~each~~ disposal field area ~~bed~~ of 1,000 ~~1,200~~ millimetres per *calendar* day *based on the total area of the disposal field.*

Otago Regional Council

4. The recorded daily flow and total nitrogen concentration of the effluent as monitored in accordance with Conditions 7 and 8 of this consent shall be averaged over the previous 12 month rolling period and when the mass of nitrogen reaches:
   (a) 73.2 tonnes per year, the consent holder shall implement the wastewater treatment plant upgrade process to meet the conditions of Consent 2008.238.*V2* within two years; and
   (b) 75.5 tonnes per year, the consent shall have commissioned the upgraded wastewater treatment plant to meet the conditions of Consent 2008.238.*V2*. This consent shall be surrendered within 6-months of this upgrade being commissioned.

~~5. The wastewater disposal field platform shall be raised above existing ground level such that there is a minimum unsaturated zone between the disposal manifold and permanent groundwater of no less than 600 millimetres.~~

6.5. No less than one month prior to construction of the wastewater disposal field, all detailed design drawings and calculations shall be provided to the Consent Authority.

7.6. Prior to the exercise of this consent, the consent holder shall install a flow meter on the outlet pipe from the treatment plant and continually measure and record the daily volume of effluent being discharged to the disposal field. The consent holder shall report the daily discharge volume for the previous calendar year in writing, and in electronic form, to the Consent Authority, by 1 February each year.

Performance Monitoring

8.7. Within the first week of each calendar month, the consent holder shall collect a representative sample of the treated wastewater, immediately prior to discharge to the disposal field. Each sample collected shall be analysed for:
   (a) Five day total biochemical oxygen demand;
   (b) Total suspended solids;
   (c) Total nitrogen;
   (d) Ammoniacal nitrogen;
   (e) Total phosphorous; and
   (f) Escherichia coli.

~~9.~~8. Within the first week of each month for the first five years of the exercise of this consent, and within the first week of January and July each year thereafter, the consent holder shall, collect representative samples of groundwater from bores up gradient and down gradient of the wastewater disposal field, which are to be located in consultation with the Consent Authority. Each sample shall be analysed for:
   (a) Total nitrogen;
   (b) Ammoniacal nitrogen;
   (c) Nitrate nitrogen;
   (d) Total phosphorous; and
   (e) Escherichia coli.

Otago Regional Council

Groundwater sampling procedures shall be generally in accordance with "The New Zealand Guidelines for the Collection of Groundwater Samples for Chemical and Isotopic Analysis" science report 99/9, dated April 1999 and published by the Institute of Geological and Nuclear Sciences

9. *(a) Prior to commencement of this consent the Consent Holder shall install at least 7 piezometers which are to be located, in consultation with the consent authority, within and outside the disposal area for the purpose of providing representative sampling of groundwater levels around and within the disposal area.*
   (b) Groundwater levels in the piezometers shall be recorded to a datalogger with at least 24 months data storage, to record the date, time and groundwater level.
   (c) The piezometer shall be installed according to the manufacturer's specifications and instructions.
   (d) The consent holder shall ensure the full operation of the piezometer and datalogger at all times during the exercise of this consent. All malfunctions of the piezometer and/or datalogger during the exercise of this consent shall be reported to the Consent Authority within 5 working days of observation and appropriate repairs shall be performed within 5 working days. Once the malfunction has been remedied, the consent holder shall provide a report from an appropriately qualified professional certifying the operation of the piezometer and/ or datalogger has been verified as accurate complete with photographic evidence to the Consent Authority within 5 working days of the completion of repairs.
   (e) The installation of the piezometer and datalogger shall be completed to full and accurate operation prior to the exercise of the consent. The consent holder shall forward a copy of the installation certificate to the Consent Authority within one month of installing the piezometer and datalogger.

10. *The consent holder shall monitor and maintain records of any groundwater mounding above the ground surface within the operational disposal area that remains for over 48 hours.*
   (i) Records should include but not be limited to:
   (a) Photographic record;
   (b) Sampling of mounded water to determine presence of treated effluent as outlined in Condition 8;
   (ii) The Consent Authority shall be immediately notified of occurrences of mounding breakthrough that exceed 48 hours in writing.
   ~~*(d) Records to be supplied to consent holder annually.*~~

~~10.~~*11.* The results from the monitoring undertaken in accordance with Conditions ~~8 and 9~~ *7, 8, 9 and 10* of this consent shall be reported in writing to the Consent Authority ~~within one~~ monthly, together with a reading of the 24-hour wastewater discharge volume for the day of sampling.

~~11.~~*12.* The quality of the treated wastewater shall not exceed the following limits prior to discharge:

Otago Regional Council

4. The recorded daily flow and total nitrogen concentration of the effluent as monitored in accordance with Conditions 7 and 8 of this consent shall be averaged over the previous 12 month rolling period and when the mass of nitrogen reaches:
   (a) 73.2 tonnes per year, the consent holder shall implement the wastewater treatment plant upgrade process to meet the conditions of Consent 2008.238.*V2* within two years; and
   (b) 75.5 tonnes per year, the consent shall have commissioned the upgraded wastewater treatment plant to meet the conditions of Consent 2008.238.*V2*. This consent shall be surrendered within 6-months of this upgrade being commissioned.

~~5. The wastewater disposal field platform shall be raised above existing ground level such that there is a minimum unsaturated zone between the disposal manifold and permanent groundwater of no less than 600 millimetres.~~

6.5. No less than one month prior to construction of the wastewater disposal field, all detailed design drawings and calculations shall be provided to the Consent Authority.

7.6. Prior to the exercise of this consent, the consent holder shall install a flow meter on the outlet pipe from the treatment plant and continually measure and record the daily volume of effluent being discharged to the disposal field. The consent holder shall report the daily discharge volume for the previous calendar year in writing, and in electronic form, to the Consent Authority, by 1 February each year.

Performance Monitoring

~~8.~~7. Within the first week of each calendar month, the consent holder shall collect a representative sample of the treated wastewater, immediately prior to discharge to the disposal field. Each sample collected shall be analysed for:
   (a) Five day total biochemical oxygen demand;
   (b) Total suspended solids;
   (c) Total nitrogen;
   (d) Ammoniacal nitrogen;
   (e) Total phosphorous; and
   (f) Escherichia coli.

~~9.~~8. Within the first week of each month for the first five years of the exercise of this consent, and within the first week of January and July each year thereafter, the consent holder shall, collect representative samples of groundwater from bores up gradient and down gradient of the wastewater disposal field, which are to be located in consultation with the Consent Authority. Each sample shall be analysed for:
   (a) Total nitrogen;
   (b) Ammoniacal nitrogen;
   (c) Nitrate nitrogen;
   (d) Total phosphorous; and
   (e) Escherichia coli.

Otago Regional Council

Groundwater sampling procedures shall be generally in accordance with "The New Zealand Guidelines for the Collection of Groundwater Samples for Chemical and Isotopic Analysis" science report 99/9, dated April 1999 and published by the Institute of Geological and Nuclear Sciences

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   (b) Groundwater levels in the piezometers shall be recorded to a datalogger with at least 24 months data storage, to record the date, time and groundwater level.
   (c) The piezometer shall be installed according to the manufacturer's specifications and instructions.
   (d) The consent holder shall ensure the full operation of the piezometer and datalogger at all times during the exercise of this consent. All malfunctions of the piezometer and/or datalogger during the exercise of this consent shall be reported to the Consent Authority within 5 working days of observation and appropriate repairs shall be performed within 5 working days. Once the malfunction has been remedied, the consent holder shall provide a report from an appropriately qualified professional certifying the operation of the piezometer and/ or datalogger has been verified as accurate complete with photographic evidence to the Consent Authority within 5 working days of the completion of repairs.
   (e) The installation of the piezometer and datalogger shall be completed to full and accurate operation prior to the exercise of the consent. The consent holder shall forward a copy of the installation certificate to the Consent Authority within one month of installing the piezometer and datalogger.

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   (i) Records should include but not be limited to:
   (a) Photographic record;
   (b) Sampling of mounded water to determine presence of treated effluent as outlined in Condition 8;
   (ii) The Consent Authority shall be immediately notified of occurrences of mounding breakthrough that exceed 48 hours in writing.
   ~~*(d) Records to be supplied to consent holder annually.*~~

~~10.~~*11.* The results from the monitoring undertaken in accordance with Conditions ~~8 and 9~~ *7, 8, 9 and 10* of this consent shall be reported in writing to the Consent Authority ~~within one~~ monthly, together with a reading of the 24-hour wastewater discharge volume for the day of sampling.

~~11.~~*12.* The quality of the treated wastewater shall not exceed the following limits prior to discharge:

COUNTERPART

Otago Regional Council

Parameter	95%ile	Annual Mean
BOD_5 (g/m^3)	50	30
TSS (g/m^3)	50	30
TN (g/m^3)	35	23
E.Coli (cfu/100ml)	260 (90% ile)	260 geomean

* Means and percentiles apply to a rolling 12 calendar month period.

~~12~~*13.* All sampling techniques employed in respect of the conditions of this consent shall be acceptable to the Consent Authority. All analysis carried out in connection with this consent shall be performed by a laboratory that meets ISO 17025 or IANZ standards, or otherwise as specifically approved by the Consent Authority.

~~13~~*.14.* No less than three months before the commencement of the exercise of this consent, the consent holder shall prepare and forward to the Consent Authority an Operations and Management Manual for the treatment and disposal system to ensure its effective and efficient operation at all times. The system shall be operated in accordance with this manual, which may be updated as appropriate. The manual shall include, but not be limited to:

(a) A description of the entire treatment and disposal system, including a site map indicating the location of the various components of the treatment and disposal system, discharge locations and monitoring sites;
(b) Specific management procedures for key components of the system;
(c) Procedures to be utilised to monitor the operation and performance of the system;
(d) Monitoring and reporting procedures, including, but not limited to:
  (i) Contingency plans for system malfunction and breakdowns for each part of the treatment and disposal system; and
  (ii) Contingency plans for maintaining effluent quality during periods of peak flows.
  (iii) Monitoring plans for monitoring groundwater mounding and quality.
(e) Population numbers that the system is designed to accommodate,
(f) A complaints and system malfunctions recording system;
(g) Details of the measures to be taken to meet the quality of discharge set out in Condition 12 of this consent; and
(h) Procedures for continuous reviewing and improving of the manual.

The consent holder shall ensure that the Consent Authority has a copy of the current Operations and Management Manual at all times.

14.*15.* The consent holder shall submit a record of complaints and malfunctions to the Consent Authority within two weeks after any complaint or malfunction occurring, together with the details of the remedial measures taken or proposed to be undertaken.

COUNTERPART

Otago Regional Council

~~15.~~*16.* The consent holder shall, at three monthly intervals, undertake a visual inspection of the disposal field, to determine there is no vegetation die-off, or slumping, as a result of the discharge of treated wastewater to land.

~~16.~~*17.* By *1 February* ~~30 September~~ each year, the consent holder shall forward an annual report in writing to the Consent Authority. The annual report shall cover the period *1 January to 30 December* ~~1 July to 30 June~~ in the previous 12-month period and shall report on compliance with this discharge permit, including, but not limited to:

(a) Copies of the laboratory analytical results of all monitoring undertaken;
(b) Summary of the year's monitoring results, in context of previous years' results;
(c) Summary of volumes of treated wastewater discharged to land;
(d) Summary of quality of treated wastewater discharged to land;
(e) Summary of all analytical results from the monitoring bores to date, and an interpretation of the groundwater quality results, particularly with regard to the discharge of treated wastewater to land;
(f) *Summary of trends in groundwater mounding, any areas of mounding concern and outlining any changes to the system or operation to mitigate concerns.*
(g) ~~(f)~~ *(g)* Comments on compliance with the conditions of this discharge permit;
(h) (g) *(h)* Summary of any complaints received, the validity of each complaint and the corrective action taken; and
(i) ~~(h)~~ *(i)* Any other issues considered relevant by the consent holder.

~~17.~~*18.*(a) Within three months of the first exercise of this consent, the consent holder shall invite iwi representatives (Kāi Tahu ki Otago and Ngāi Tahu ki Murihiku) and stakeholder representatives, including Public Health South and Remarkables Park Limited, to form a Reference Group. The purpose of the Reference Group shall be to facilitate consultation between the consent holder, stakeholder representatives and iwi representatives (Kāi Tahu ki Otago and Ngāi Tahu ki Murihiku) during the upgrading of the wastewater treatment plant.

(b) The Reference Group shall have the following functions:

- To receive and review the monitoring data and reports from the physical and biological monitoring. If necessary, a reasonable level of technical expertise shall be made available by the consent holder to interpret the monitoring data.
- To receive and review the annual monitoring report.
- To receive and review the implementation plan for the upgrade of the treatment and disposal system.
- To make recommendations to the consent holder on management actions to avoid, remedy or mitigate any adverse effects of the treatment and disposal system.

(c) The consent holder shall, at least once every six months, invite the Reference Group to a meeting to discuss any matter relating to the exercise and monitoring of this consent. The consent holder shall meet reasonable costs of attending meetings of the Reference Group. The consent holder shall keep minutes of any meeting of the Reference Group and provide Consent authority with copies of the minutes.

Otago Regional Council

~~18.~~*19.* (a) Within three months of the first exercise of this consent, the consent holder shall provide the Consent Authority and the Reference Group with an Implementation Plan for the staged upgrade of the wastewater treatment plant.

(b) The Implementation Plan shall describe the program of work required to ensure that:

- By no later than 31 December 2017, flows of up to 9,000 cubic metres per day of treated wastewater are discharged to land.
- By no later than 31 December 2022, the discharge of treated wastewater to the Shotover River shall cease.
- By no later than 31 December 2031, Stage 3 (a full upgrade of the treatment and disposal system to achieve mean 10:10:10:10 (BOD:TSS:TN:E.Coli) effluent quality as required by Discharge Permit 2008.238.V1) is operational.

(c) By no later than 31 January each year, the consent holder shall provide an annual report to the Consent Authority and the Reference Group detailing progress made with the program of work outlined in the Implementation Plan.

General

~~19.~~*20.* No ponding or surface run-off of treated wastewater shall occur as a result of the exercise of this consent.

21. Mounding of groundwater:

(i) above the ground surface shall not occur in cumulative area greater than 100 m2 over the entire disposal area for more than 48-hours in any one event.

(ii) as a result of the exercise of this consent shall not result in surface breakthrough after the initial 5 year mounding trial period following the commencement of this consent.

22. In accordance with Sections 128 and 129 of the Resource Management Act 1991 Condition 20 and 21 shall be reviewed after a 5-year trial period for the purposes of dealing with any mounding issues, such as reassessing the area of acceptable mounding, testing the quality of mounded water to determine risk, or assessing the need for fencing and/or signage.

23. The Consent Holder shall advise the consent authority of any changes to the extent of the operational disposal area within 3-months.

~~20.~~*24.* There shall be no vehicle access over or through the land disposal area apart from designated access areas, such that it adversely affects the performance of the disposal area.

~~21.~~*25.* This permit does not authorise the discharge of sludge to land or water, other than to an approved landfill facility or alternative consented location.

COUNTERPART

Otago Regional Council

~~22.~~26. If the consent holder:

(a) Discovers koiwi tangata (human skeletal remains), or Maori artefact material, the Permit Holder shall without delay:

(i) Notify the Consent Authority, Tangata whenua and New Zealand Historic Places Trust and in the case of skeletal remains, the New Zealand Police.

(ii) Stop work within the immediate vicinity of the discovery to allow a site inspection by the New Zealand Historic Places Trust and the appropriate runanga and their advisors, who shall determine whether the discovery is likely to be extensive: if a thorough site investigation is required and whether an Archaeological Authority is required.

(iii) Any koiwi tangata discovered shall be handled and removed by tribal elders responsible for the tikanga (custom) appropriate to its removal or preservation. Site work shall recommence following consultation with the Consent Authority, the New Zealand Historic Places Trust, Tangata whenua, and in the case of skeletal remains, the NZ Police, provided that any relevant statutory permissions have been obtained. material, or disturbs a previously unidentified archaeological or heritage site, the Permit Holder shall without delay:

(i) Stop work within the immediate vicinity of the discovery or disturbance; and

(ii) Advise the New Zealand Historic Places Trust, and in the case of Maori features or materials, the Tangata whenua, and if required, shall make an application for an Archaeological Authority pursuant to the Historic Places Act 1993; and

(iii) Arrange for a suitably qualified archaeologist to undertake a survey of the site.

Site work shall recommence following consultation with the Consent Authority.

~~23.~~27. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within three months of each anniversary of the commencement of this consent for the purpose of:

(a) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage;

(b) ensuring the conditions of this consent are consistent with any National Policy Statements, National Environmental Standards Regulations, relevant plans and/or the Otago Regional Policy Statement.

Issued at Dunedin this 5th day of June 2015

Reissued at Dunedin this 9th day of March 2017 for the purpose of amending the legal description and map reference and varying Conditions 3, 4, 5, 10, 13, 16 and the addition of new conditions 9, 10, 21, 22, 23."

Marian Weaver

Resource Manager Procedures & Protocols

COUNTERPART

Otago Regional Council

Our Reference: A766704 Consent No. 2008.238.V1

DISCHARGE PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Queenstown Lakes District Council

Address: 10 Gorge Road Queenstown

To discharge treated wastewater to land

For the purpose of operating the Queenstown Wastewater Treatment and Disposal System

For a term expiring 18 March 2044

Location of consent activity:
The Shotover River Delta, *1.25 kilometres south south-east of the intersection of State Highway 6 and Tuckers Beach Road,* ~~approximately 1.1 kilometres south east of the intersection of Glenda Drive and Margaret Place,~~ Queenstown

Legal description of consent location:
Lot 4 DP 421841 and Lot 2 DP 422388
~~Sec 145 Blk I Shotover SD~~
~~Sec 144 Blk I Shotover SD~~
~~Sec 143 Blk I Shotover SD~~
~~Sec 142 Blk I Shotover SD~~
~~Pt Sec 141 Blk I Shotover SD~~
~~Pt Sec 153 Blk I Shotover SD~~
~~Lot 1 DP 306621~~
~~Lot 1 DP 15636~~
~~Crown Land Blk I Shotover SD~~

Map Reference: NZTM 2000 *1266045E 5006801N* ~~1265922E 5006626N~~

Conditions
Specific

1. Discharge Permits RM13.215.02, RM13.215.03, RM13.215.04 or any variations to those permits, and any other existing consents for the discharge of treated municipal wastewater to land or water held by the consent holder for discharges within the Shotover Delta shall be surrendered within 6 months of the first exercise of this consent. The consent holder shall notify the Consent Authority in writing of the date when this resource consent is first exercised.

COUNTERPART

Otago Regional Council

2. The volume of wastewater discharged to the disposal field shall not exceed 45,000 cubic metres per calendar day, at a maximum discharge loading rate *averaged* over the land disposal area of 1,200 *1,330* millimetres per calendar day *based on the total area of the disposal field*.

3. From the commencement of this consent, treated wastewater discharged to the disposal field shall comply with the following criteria:

Parameter	Annual mean not to exceed	90th percentile not to exceed*
Five day biochemical oxygen demand (grams per cubic metre)	10	20
Total suspended solids (grams per cubic metre)	10	20
Total nitrogen (grams per cubic metre)	10	15
Total phosphorous (grams per cubic metre)	8	10
E.coli (colony forming units per 100 millilitre)	10 (geometric mean)	100 (95th percentile)[4]

* The 90th and 95th percentile applies to a rolling 12 calendar month period

4. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse until December 2031.

Performance Monitoring

5. The consent holder shall install a flow meter on the outlet pipe from the treatment plant and continually measure and record the daily volume of effluent being discharged to the disposal field. The consent holder shall report the daily discharge volume for the previous calendar month in writing, or in electronic form, to the Consent Authority, within two weeks after the end of each calendar month.

6. Within three months of the commencement of this consent, the consent holder shall prepare and forward to the Consent Authority an Operations and Management Manual for the treatment and disposal system to ensure its effective and efficient operation at all times. The system shall be operated in accordance with this manual, which may be updated as appropriate. The manual shall be to the satisfaction of the Consent Authority and include, but not be limited to:
   (a) a description of the entire treatment and disposal system, including a site map indicating the location of the various components of the treatment and disposal system, discharge locations and monitoring sites;
   (b) specific management procedures for key components of the system;

Otago Regional Council

(c) procedures to be utilised to monitor the operation and performance of the system;
(d) identification of potential equipment malfunctions and environmental situations that may lead to treatment system failure;
(e) monitoring and reporting procedures, including, but not limited to:
  (i) contingency plans including methods for monitoring and detecting out of specification influents/effluents, contingency procedures for managing the same, contingency procedures to manage system component malfunctions and breakdowns for both the treatment and disposal system;
  (ii) contingency plans for ensuring consistent effluent quality during periods of peak flows including proactive maintenance prior to peak flow seasons to achieve the same.
  (iii) Monitoring plans for monitoring groundwater mounding and quality.
(f) population numbers that the system is designed to accommodate for;
(g) reporting population growth and influent volumes and their consistency with the forecasts supplied at the time of granting
(h) a complaints recording system and malfunction recording system including actions and responses undertaken to rectify any system malfunction;
(i) details of the measures to be taken to ensure the attainment of the effluent quality requirements set out in Condition 3; and
(j) procedures for continuous reviewing and improving of the manual.

7. The consent holder shall submit the record of complaints and malfunctions to the Consent Authority within two weeks after any complaint or malfunction occurring, together with the details of the remedial measures taken. At all times, the consent holder shall ensure that the Consent Authority has a copy of the up to date Operations and Management Manual.

8. The analytical sampling results for each sample collected under Conditions 11 and 12 shall be reported in writing to the Consent Authority, within two weeks of the consent holder receiving the results, together with a reading of the 24-hour wastewater discharge volume for the day of sampling.

9. The Consent Holder shall, at five yearly intervals from the exercise of this consent engage a suitably qualified freshwater biologist to design and implement a survey of the true left bank of the Kawarau River. The purpose of the study shall be to determine if the wastewater discharge from the plant is affecting the biology and conservation values of the Kawarau River. The design and implementation of the monitoring program shall be approved by the Consent Authority and take into account, seasonality, the current flows to plant, the current footprint of the low pressure effluent dosing system field and the results of groundwater modelling and testing at hand. The results of the survey shall be reported to the Consent Authority within three months of the survey.

10. The consent holder shall by *1 February* ~~30 September~~ each year after the commissioning of the treatment system forward an annual report in writing to the Consent Authority. The annual report shall cover the period *1 January to 30 December*

Otago Regional Council

~~1~~ July to ~~30~~ June in the previous 12-month period and shall report on compliance with this discharge permit, including, but not limited to:

(a) Copies of the laboratory analytical results of all monitoring undertaken;
(b) Summary of the year's monitoring results, in context of previous year's results;
(c) Summary of volumes of treated wastewater discharged to land;
(d) Summary of quality of treated wastewater discharged to land;
(e) Summary of all analytical results from the monitoring bores for the previous year, and an interpretation of the groundwater quality results, particularly with regard to the discharge of treated wastewater to land;
(f) *Summary of trends in groundwater mounding, any areas of mounding concern and outlining any changes to the system or operation to mitigate concerns.*
~~(f)~~ *(g)* Comments on compliance with the conditions of this discharge permit;
~~(g)~~ *(h)* Summary of any complaints received, the validity of each complaint and the corrective action taken; and
~~(h)~~ *(i)* Any other issues considered relevant by the consent holder.

General

~~11~~ ~~11. The discharge shall only be treated wastewater, originated from the Queenstown~~ Lakes District.

11. 12. From the commencement of this consent, and within the first week of each calendar month, the consent holder shall collect a representative sample of the treated wastewater, immediately prior to discharge to the disposal field. Each sample collected shall be analysed for:

(a) Five day biochemical oxygen demand (BOD5)
(b) Total suspended solids
(c) Total nitrogen
(d) Total ammoniacal nitrogen
(e) Total phosphorous
(f) Dissolved reactive phosphorous
(g) Faecal coliforms

12 ~~13~~. Groundwater samples shall be collected from monitoring bores up gradient and down gradient of the disposal area. These bores shall be located in consultation with the Consent Authority. The groundwater samples shall be collected:

(a) The first week of each January and each July for the duration of the consent.

Each sample shall be analysed for:

(b) Total nitrogen
(c) Total ammoniacal nitrogen
(d) Nitrate nitrogen
(e) Total phosphorous
(f) Dissolved reactive phosphorous
(g) Faecal coliforms

13. ~~14.~~ Groundwater sampling procedures shall be generally in accordance with "The New Zealand Guidelines for the Collection of Groundwater Samples for Chemical and

Otago Regional Council

Isotopic Analysis" science report 99/9, dated April 1999 and published by the Institute of Geological and Nuclear Sciences

14. 15 All sampling techniques employed in respect of Condition 13 of this consent shall be acceptable to the Consent Authority. All analysis carried out in connection with this consent shall be performed by a laboratory that meets ISO 17025 standards, or otherwise as specifically approved by the Consent Authority.

15. *(a) Prior to commencement of this consent the Consent Holder shall install at least 7 piezometers which are to be located, in consultation with the consent authority, within and outside the disposal area for the purpose of providing representative sampling of groundwater levels around and within the disposal area.*

(b) Groundwater levels in the piezometers shall be recorded to a datalogger with at least 24 months data storage, to record the date, time and groundwater level.

(c) The piezometer shall be installed according to the manufacturer's specifications and instructions.

(d) The consent holder shall ensure the full operation of the piezometer and datalogger at all times during the exercise of this consent. All malfunctions of the piezometer and/or datalogger during the exercise of this consent shall be reported to the Consent Authority within 5 working days of observation and appropriate repairs shall be performed within 5 working days. Once the malfunction has been remedied, the consent holder shall provide a report from an appropriately qualified professional certifying the operation of the piezometer and/ or datalogger has been verified as accurate complete with photographic evidence to the Consent Authority within 5 working days of the completion of repairs.

(e) The installation of the piezometer and datalogger shall be completed to full and accurate operation prior to the exercise of the consent. The consent holder shall forward a copy of the installation certificate to the Consent Authority within one month of installing the piezometer and datalogger.

16. *The consent holder shall monitor and maintain records of any groundwater mounding above the ground surface within the operational disposal area that remains for over 48 hours.*

(i) Records should include but not be limited to;

(a) Photographic record;

(b) Sampling of mounded water to determine presence of treated effluent as outlined in Condition 12;

(ii) The Consent Authority shall be immediately notified of occurrences of mounding breakthrough that exceed 48 hours in writing.

~~16.~~17. The consent holder shall, at three monthly intervals, undertake a visual inspection of the land disposal field, to determine there is no slumping, as a result of the discharge of treated wastewater to land.

COUNTERPART

Otago Regional Council

General

~~11.~~*18.* The discharge shall only be treated wastewater, originated from the Queenstown Lakes District.

19. The Consent Holder shall advise the consent authority of any changes to the extent of the operational disposal area within 3-months.

~~17.~~*20.* No ponding or surface run-off of treated wastewater shall occur as a result of the exercise of this consent.

21. Mounding of groundwater:

(i) above the ground surface shall not occur in cumulative area greater than 100 m2 over the entire disposal area for more than 48-hours in any one event.

(ii) as a result of the exercise of this consent shall not result in surface breakthrough after the initial 5 year mounding trial period following the commencement of this consent.

22. In accordance with Sections 128 and 129 of the Resource Management Act 1991 Condition 20 and 21 shall be reviewed after a 5-year trial period for the purposes of dealing with any mounding issues, such as reassessing the area of acceptable mounding, testing the quality of mounded water to determine risk, or assessing the need for fencing and/or signage.

~~18~~*23.* There shall be no vehicle access over or through the land disposal area, such that it adversely effects the performance of the disposal area.

~~19~~*24.* This permit does not authorise the discharge of sludge to land or water.

~~20~~*25.* The consent holder shall erect and maintain signs at suitable locations about the discharge area indicating the presence of a treated wastewater discharge.

~~21~~*26.* The Consent Authority may, in accordance with sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within three months of each anniversary of the commencement of this consent, for the purpose of:

(a) Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage, or which become evident after the date of commencement of the consent; or

(b) Ensuring the conditions of this consent are consistent with any National Environmental Standards; or

(c) Requiring the consent holder to adopt the best practicable option to remove or reduce any adverse effect on the environment arising as a result of the exercise of this consent.

COUNTERPART

Otago Regional Council

Issued at Dunedin this 13th day of May 2010
Reissued at Dunedin this 5th day of June 2015 for the purpose of amending the map reference and varying Conditions 1, 3, 4 and 12.
Reissued at Dunedin this 9th Day of March 2017 for the purpose of amending the legal description and map reference and varying Conditions 2, 6, 10 and 11 and the addition of new conditions 15, 16, 19, 21, 22."

Marian Weaver
Resource Manager Procedures & Protocols

Otago Regional Council

Appendix B – Property Boundaries and image of property – Taken from Remarkables by ORC Enforcement Officer 4 March 2024

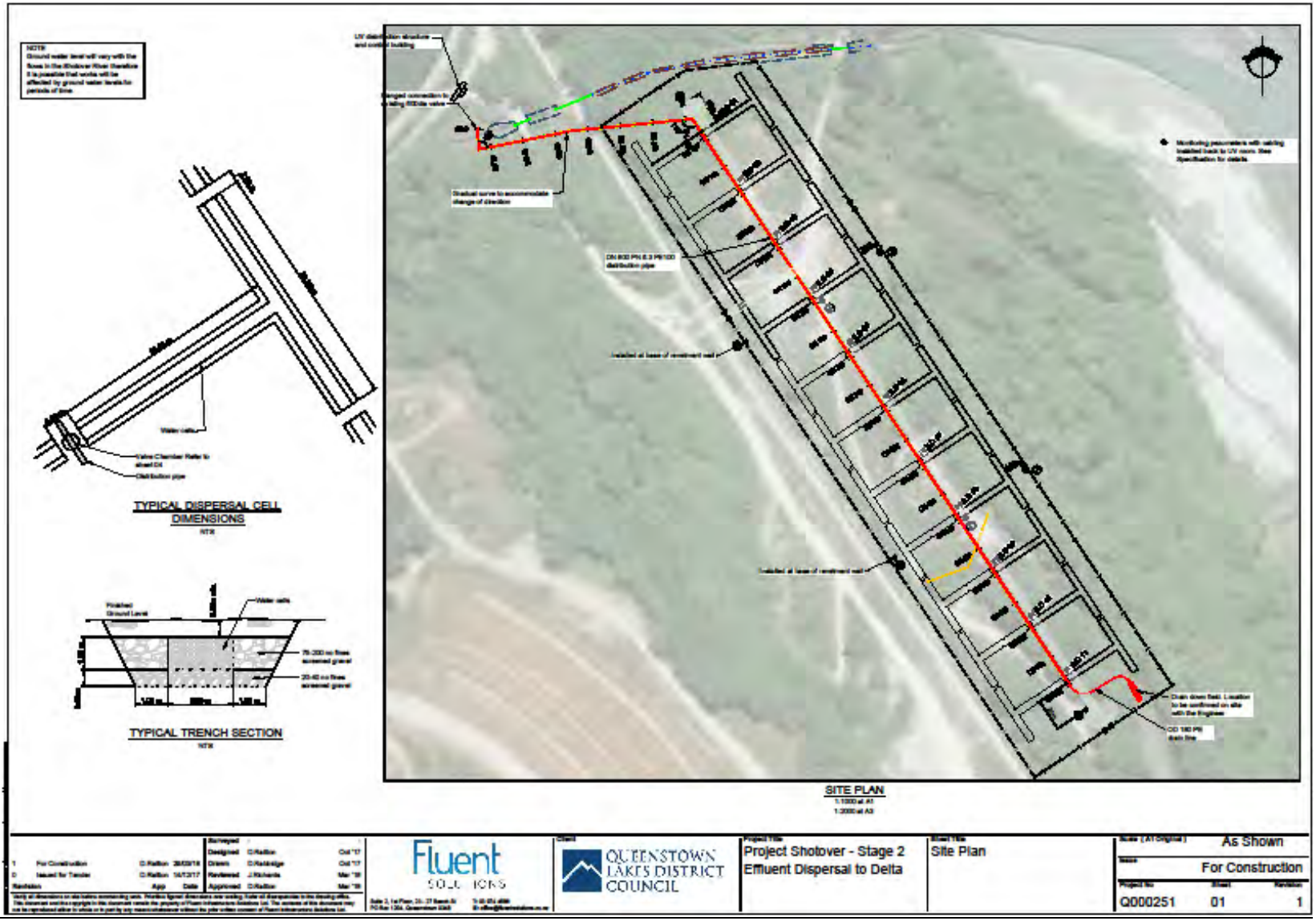
Figure 1: Property Boundary.

Figure 2: Property Boundary.

Figure 3: Image of the Property taken from the Remarkables by ORC Enforcement Officer 4 March 2024. Showing the extent of the ponding within the Disposal Field and outside the Disposal Field boundary.

Otago Regional Council

APPENDIX C – OMM Fluent Report Diagram – Site Plan



Appendix D – Map and Images from 27 December 2024 Inspection

Figure 4: Sampling point of sample taken 27 December 2023 (refer Table 1).

Figure 5: A substantial flow discharging from the bottom SSE corner discharging beyond the consented Disposal Field boundary.

Figure 6: The Disposal Field discharge flowed like a small river away from the Disposal Field across the Shotover Delta.

Figure 7: The discharge ponded a large, wooded area of approx. 10m-20m wide in some places and up to 100m in length.

Appendix E – Map and Images from 28 December 2023 Inspection

Figure 8: Map showing the extent of the Disposal Field discharge. A bigger area was now affected as the discharge now reached the track which branched off from the cycle track and ran parallel to the Kawarau River (as per the blue star). This is the point where the discharge "disappeared". Area circled in yellow indicates the second large area of wastewater was also located by ORC Enforcement officers further downstream. This was discharging overland directly to the Kawarau River.

Figure 9: Sampling point of sample taken 28 December 2023 (refer Table 1).

Figure 10: Facing West. The discharge of wastewater from the Disposal Field now extended a further 20m approximately from the previous site visit 27 December 2024.

Figure 11: Facing Southwest. The discharge of wastewater from the Disposal Field now extended a further 20m approximately from the previous site visit 27 December 2024.

Figure 12: Another view of the discharge of wastewater from the Disposal Field.

Figure 13: Another large, ponded area of wastewater was also located by ORC Enforcement officers further downstream. This was discharging overland directly to the Kawarau River.

Figure 14: Another large, ponded area of wastewater was discharging overland directly to the Kawarau River.

Appendix F – Map and Images from 25 January 2024 Inspection

Figure 15: Sampling point of sample taken 25 January 2024 (refer Table 2)

Figure 16: A significant breach and ponding of wastewater extended approximately 100 metres by 3 metres wide outside the consented Disposal Field boundary, between the boundary and the public cycle path.

Appendix G – Map and Images from 21 February 2024 Inspection

Figure 17: Sampling point of sample taken 21 February 2024 (refer Table 1).

Figure 18: An extensive sludge "crust" was visible across the area of the Shotover Delta where the Disposal Field had previously discharged on 27 & 28 December 2024.

Figure 19: The ORC Enforcement Officer observed that there were still some pools of standing water which smelt like sewage and there was a lot of green algae growing in and around the pools.

Appendix H – Map and Images from 22 February 2024 Inspection

Figure 20: Sampling point of sample taken 22 February 2024 (refer Table 4).

Figure 21: The SSE corner (which had breached previously on 27 December 2023) was now saturated with wastewater under and around the Disposal Field gate. There was a visible flow path from the Disposal Field towards the gate. There were puddles of liquid present that hadn't been there the previous day. There were also fresh heavy vehicle track marks observed.

Figure 22: Further east, below the Disposal Field gate, the ORC Enforcement Officer observed a very large, ponded area of wastewater across the Shotover Delta. This was in the same location where the previous ponding was observed on 27 December 2023.

Figure 23: Facing West back towards the Disposal Field showing a very large, ponded area of wastewater across the Shotover Delta in the same location as the previous discharge incident 27 December 2023. This ponding had not been present the previous day (21/02/2024) at approx. 14:30 pm.

Appendix I - Images from 3 March 2024 incident

Figure 24: Showing earth bund breach from Disposal Field under South boundary fence.

Figure 25: Earth Bund breach under the South Boundary fence.

Figure 26: Facing East from fence down flow path away from the Disposal Field.

Figure 27: Taken facing West towards the bottom of the fenced Disposal Field

Appendix J – Abatement EN.RMA.21.0025 and associated Appendices A to E

Our Reference: A1485868

27 May 2021

Queenstown Lakes District Council
10 Gorge Road
Queenstown 9300

C/- Private Bag 50072, Queenstown, 9348

Dear Sir/Madam

Abatement Notice - EN.RMA.21.0025

Please find enclosed an abatement notice (issued under the authority of sections 322(1)(a)(i) of the Resource Management Act 1991).

The abatement notice relates to the non-compliance with Conditions 15 and 20 of Resource Consent RM13.215.03.V2.

If you do not comply with this notice, you may be prosecuted under section 338 of the Resource Management Act 1991 (unless you appeal, and the notice is stayed as explained below).

You have the right to appeal to the Environment Court against the whole or any part of this notice. If you wish to appeal, you must lodge a notice of appeal in form 49 with the Environment Court within 15 working days of being served with this notice.

An appeal does not automatically stay the notice and so you must continue to comply with it unless you also apply for a stay from an Environment Judge under section 325(3A) of the Resource Management Act 1991 *(see* form 50). To obtain a stay, you must lodge both an appeal and a stay with the Environment Court.

You also have the right to apply in writing to the Otago Regional Council to change or cancel this notice in accordance with section 325A of the Resource Management Act 1991.

Yours sincerely

Byron Pretorius

Team Leader Compliance Central Otago

EN.RMA.21.0025

ABATEMENT NOTICE UNDER SECTION 322

Otago Regional Council

OF THE RESOURCE MANAGEMENT ACT 1991

To: **Queenstown Lakes District Council**

10 Gorge Road

Queenstown 9300

C/- Private Bag 50072, Queenstown, 9348

1. Requirement:

1. The Otago Regional Council (**Council**) gives notice that **Queenstown Lakes District Council (QLDC)** must cease and continue to cease the following activity:

Discharging treated wastewater to land, namely land approximately 1.25 kilometres south south-east of the intersection of State Highway 6 and Tuckers Beach Road, Queenstown from the QLDC Shotover Wastewater Treatment Plant - without complying with the following conditions of resource consent **RM13.215.03.V2 (copy attached as Appendix A)**:

A. **Condition 15**, which requires that QLDC submit a record of complaints and malfunctions to the Consent Authority within two weeks after any complaint or malfunction occurring together with the remedial measures taken or proposed to be undertaken.

B. **Condition 20**, which requires that no ponding or surface run-off of treated wastewater shall occur as a result of the exercise of this consent.

2. The **Council** gives notice that **QLDC** must take steps to exclude the public from any areas which may be contaminated with treated wastewater.

2. Location to which the abatement notice applies:

The location to which the abatement notice applies is:

The property owned by Queenstown Lakes District Council at Queenstown - approximately 1.25 kilometres south south-east of the intersection of State Highway 6 and Tuckers Beach Road.

Legal Description: Lot 4 DP 421841 and Lot 2 DP 422388

Map Reference: NZTM E1266045 N5006801

Refer to the map attached as Appendix B.

3. Period within which to comply:

For section 1(A) of this Abatement Notice, you must comply within **15** days of its receipt, being:

By **11 June 2021.**

For section 1(B) of this Abatement Notice, you must comply within **90** days of its receipt being:

By **25 August 2021 (and thereafter).**

4. Statutory basis:

This notice is issued under section 322(1)(a)(i) and 322(1)(b) of the Resource Management Act 1991.

5. Reason for the notice:

a) You hold resource consent **RM13.215.03.V2** to discharge treated wastewater to land from the QLDC Shotover Wastewater Treatment Plant.

b) The supporting facts and evidence demonstrate a failure by you to comply with the conditions of the Resource Consent.

c) Under condition 15 of the Resource Consent, QLDC must submit a record of malfunctions to the Consent Authority within two weeks after any malfunction occurring together with the remedial measures taken or proposed to be undertaken. Malfunctions with the disposal field were first notified to the ORC on 22 February 2021 by email from Mr Simon Mason (QLDC Infrastructure Operations Manager).

Initial Incident Inspection

d) On Tuesday, 23 February 2021 two ORC enforcement officers carried out an incident inspection of the Shotover Wastewater Treatment Plant (WWTP) disposal field located on the Shotover Delta.

e) During the visit the ORC enforcement officers did not observe effluent ponding inside the dispersal field's defined fenced area.

f) However, the ORC enforcement officers observed evidence of prior ponding at four locations on the Shotover River side of the dispersal field. **These areas are shown on the site plan attached and marked Appendix C.**

g) The evidence of prior ponding included:

i. areas of damp surface gravel which were soft underfoot;
ii. slumping of the surface material;
iii. a build-up of algae and mould; and
iv. vegetative growth, which was in contrast to the other areas of the dispersal field which were very dry and clear of vegetation.

h) During the inspection of the "bottom area of the dispersal field" (on the Shotover River side of the field) the ORC enforcement officers observed a pond. This pond was located about 10 metres south of the permanent fencing around the whole disposal field **(shown as location 5 on the map attached as Appendix D*)***. This pond was positioned outside of the extent of the disposal field and had been bunded and temporarily fenced by QLDC staff.

i) The ORC enforcement officers observed seepage flowing into the pond from the gravel bank directly above. This seepage ceased about 20 minutes after being first observed.

j) Samples were taken from the sample locations as **shown on the map attached as Appendix D**.

k) The contents of the pond referred to in paragraph 5(h) of this notice was found to have sample results consistent with those within the disposal field **(copy of the sample results attached as Appendix E).**

l) The sample results confirmed that the pond referred to in paragraph 5(h) of this notice, positioned outside of the dispersal field contained treated effluent that had escaped the disposal field.

Annual Audit Inspection

m) On Tuesday, 23 March 2021, two ORC enforcement officers inspected the QLDC Shotover WWTP as part of an audit of the RM13.215.03.V2 Resource Consent.

n) The ORC enforcement officers inspected the pond referred to in paragraph 5(h) of this notice. The enforcement officers considered that the contents within the pond appeared to be of a similar volume as that found in the initial incident inspection on 23 February 2021. The ORC enforcement officers observed saturated areas above the level of the pond that indicated previous pond overflow. There was also evidence of seepage through the bunded bank of the pond.

o) The ORC enforcement officers tracked the overflow from the most southern end of the pond down an adjacent motorcycle track. The overflow of treated wastewater had run-off approximately 30 metres down this track towards the Kawarau River.

p) The ORC enforcement officers inspected inside the fenced dispersal field. The enforcement officers observed ponding and surface run-off of a noticeable quantity at seven locations. This ponding covered areas that all varied in size and were increasing and decreasing in size during the duration of the officer's inspection.

Unannounced Site Inspection

q) On Tuesday, 18th May 2021, an ORC enforcement officer conducted an unannounced visit of the QLDC Shotover WWTP disposal field, accessed from public land, as part of a spot check to monitor the ongoing ponding issues previously determined. The ORC enforcement officer was unattended and did not go on site on this occasion.

r) The ORC enforcement officer inspected the pond referred to in paragraph 5(h) of this notice. The enforcement officer determined that the pond had increased in length, estimating it to have increased by more than double the size observed during the previous visits on the 23 February 2021 and 23 March 2021. The treated wastewater contained within the pond had also increased in depth by approximately 10cm. At the head of the pond, closest to the fenced dispersal field (most northern point), the treated wastewater was approximately 2 to 5 cm's from overtopping the pond's bund. A substantial flow was visibly flowing into the pond, which was still occurring 15 minutes later when the officer left the site.

s) The ORC enforcement officer observed further evidence of ponding at the location where the pond had terminated during previous visits. This ponding confirmed that seepage was occurring through the pond bund and that the volume of ponding was increasing.

t) The ORC enforcement officer tracked the run-off. The overflow of treated wastewater had run-off approximately 50 metres down this track towards the Kawarau River. The ORC enforcement officer noted that the flow extended further toward the Kawarau River compared to that seen on 23 March 2021.

u) The ORC enforcement officer inspected the length of the southern and north-eastern fence and the south-eastern corner of the dispersal field from publicly accessed land. The enforcement officer observed a ponded area of approximately 8m^2 located in the south-eastern corner of the dispersal field. There were

four areas of ponding visible within the dispersal field along the north eastern fence. The ponding in these four areas varied in area with the largest being estimated as 25m^2.

v) Based on the above findings gathered from the inspections undertaken on 23 February 2021, 23 March 2021 and 18 May 2021, you have failed to adhere to conditions 15 and 20 of the RM13.215.03.V2 Resource Consent.

w) Because of the failure to comply with the Resource Consent conditions, you have been acting in breach of section 15(1)(b) of the Resource Management Act 1991 by discharging treated wastewater to land in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water when it was not expressly allowed by a national environmental standard or other regulations, a rule in a regional plan as well as a rule in a proposed regional plan or a resource consent.

6. Consequence of non-compliance:

If you do not comply with this abatement notice, you may also be prosecuted under section 338 of the Resource Management Act 1991 for breaching the abatement notice (unless you appeal and the notice is stayed as explained below).

Please note that contravention of section 15(1)(b) of the Resource Management Act 1991 is, in itself, an offence for which you may in any event be prosecuted under section 338.

7. Right of appeal:

You have the right to appeal to the Environment Court against the whole or any part of this notice. If you wish to appeal, you must lodge a notice of appeal in form 49 with the Environment Court within 15 working days of being served with this notice.

8. Stay of the notice:

An appeal does not automatically stay the notice so you must continue to comply with it unless you also apply for a stay from an Environment Judge under section 325(3A) of the Resource Management Act 1991 (see form 50). To obtain a stay, you must lodge both an appeal and a stay with the Environment Court.

9. Application to cancel:

You also have the right to apply in writing to the Otago Regional Council to change or cancel this notice in accordance with section 325A of the Resource Management Act 1991.

10. Local body authorising officer:

The Otago Regional Council authorised the enforcement officer who issued this notice. Its address is:

Otago Regional Council
70 Stafford Street
Private Bag 1954
Dunedin 9054
Phone: (03) 474 0827
Facsimile: (03) 479 0015

11. Authorisation under which the enforcement officer is acting:

The enforcement officer is acting under the following authorisation:

A warrant appointing **Byron Grant PRETORIUS** as an enforcement officer of the Otago Regional Council **2019/76**, issued under section 38 of the Resource Management Act 1991 on **25 November 2019** which authorises the holder to issue abatement notices.

Byron Grant PRETORIUS

Enforcement Officer

27 May 2021

Otago Regional Council

Appendix A

Our Reference: A766704 Consent No. RM13.215.03.*V2*

DISCHARGE PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Queenstown Lakes District Council

Address: 10 Gorge Road, Queenstown

To discharge treated wastewater to land

For a term expiring: 31 December 2031

Location of consent activity:

Queenstown, approximately *1.25 kilometres south south-east of the intersection of State Highway 6 and Tuckers Beach Road,* ~~1.2 kilometres south southeast of the intersection of Shotover Delta Road and Frankton Ladies Mile Highway (State Highway 6)~~

Legal description of consent location: *Lot 4 DP 421841 and Lot 2 DP 422388* ~~Pt Sec 141 and Secs 142 – 145 & 152 Blk I Shotover SD, Lot 1 DP 306621, Lot 1 DP 15636, Crown Land Blk I Shotover SD~~

Map Reference: NZTM 2000 *1266045E 5006801N* ~~E1265922 N5006626~~

Conditions
Specific

1. Under Section 125 of the Resource Management Act 1991, this consent shall not lapse until 1 January 2023.

2. Discharge Permit RM13.215.04 shall be surrendered within 6 months of the full exercise of this consent (all treated wastewater being discharged to land). The consent holder shall notify the Consent Authority in writing of the date of the first exercise of this consent.

3. The volume of wastewater discharged to the disposal field shall not exceed:
   (a) An annual average of 11,238 cubic metres per day; and
   (b) A maximum discharge loading rate ~~for~~ *averaged over the* ~~each~~ disposal field area ~~bed~~ of 1,000 ~~1,200~~ millimetres per *calendar* day *based on the total area of the disposal field.*

Otago Regional Council

4. The recorded daily flow and total nitrogen concentration of the effluent as monitored in accordance with Conditions 7 and 8 of this consent shall be averaged over the previous 12 month rolling period and when the mass of nitrogen reaches:
   (a) 73.2 tonnes per year, the consent holder shall implement the wastewater treatment plant upgrade process to meet the conditions of Consent 2008.238.*V2* within two years; and
   (b) 75.5 tonnes per year, the consent shall have commissioned the upgraded wastewater treatment plant to meet the conditions of Consent 2008.238.*V2*. This consent shall be surrendered within 6-months of this upgrade being commissioned.

~~5. The wastewater disposal field platform shall be raised above existing ground level such that there is a minimum unsaturated zone between the disposal manifold and permanent groundwater of no less than 600 millimetres.~~

~~6~~5. No less than one month prior to construction of the wastewater disposal field, all detailed design drawings and calculations shall be provided to the Consent Authority.

~~7~~6. Prior to the exercise of this consent, the consent holder shall install a flow meter on the outlet pipe from the treatment plant and continually measure and record the daily volume of effluent being discharged to the disposal field. The consent holder shall report the daily discharge volume for the previous calendar year in writing, and in electronic form, to the Consent Authority, by 1 February each year.

Performance Monitoring

~~8~~7. Within the first week of each calendar month, the consent holder shall collect a representative sample of the treated wastewater, immediately prior to discharge to the disposal field. Each sample collected shall be analysed for:
   (a) Five day total biochemical oxygen demand;
   (b) Total suspended solids;
   (c) Total nitrogen;
   (d) Ammoniacal nitrogen;
   (e) Total phosphorous; and
   (f) Escherichia coli.

~~9~~8. Within the first week of each month for the first five years of the exercise of this consent, and within the first week of January and July each year thereafter, the consent holder shall, collect representative samples of groundwater from bores up gradient and down gradient of the wastewater disposal field, which are to be located in consultation with the Consent Authority. Each sample shall be analysed for:
   (a) Total nitrogen;
   (b) Ammoniacal nitrogen;
   (c) Nitrate nitrogen;
   (d) Total phosphorous; and
   (e) Escherichia coli.

Otago Regional Council

Groundwater sampling procedures shall be generally in accordance with "The New Zealand Guidelines for the Collection of Groundwater Samples for Chemical and Isotopic Analysis" science report 99/9, dated April 1999 and published by the Institute of Geological and Nuclear Sciences

9. (a) Prior to commencement of this consent the Consent Holder shall install at least 7 piezometers which are to be located, in consultation with the consent authority, within and outside the disposal area for the purpose of providing representative sampling of groundwater levels around and within the disposal area.

(b) Groundwater levels in the piezometers shall be recorded to a datalogger with at least 24 months data storage, to record the date, time and groundwater level.

(c) The piezometer shall be installed according to the manufacturer's specifications and instructions.

(d) The consent holder shall ensure the full operation of the piezometer and datalogger at all times during the exercise of this consent. All malfunctions of the piezometer and/or datalogger during the exercise of this consent shall be reported to the Consent Authority within 5 working days of observation and appropriate repairs shall be performed within 5 working days. Once the malfunction has been remedied, the consent holder shall provide a report from an appropriately qualified professional certifying the operation of the piezometer and/ or datalogger has been verified as accurate complete with photographic evidence to the Consent Authority within 5 working days of the completion of repairs.

(e) The installation of the piezometer and datalogger shall be completed to full and accurate operation prior to the exercise of the consent. The consent holder shall forward a copy of the installation certificate to the Consent Authority within one month of installing the piezometer and datalogger.

10. The consent holder shall monitor and maintain records of any groundwater mounding above the ground surface within the operational disposal area that remains for over 48 hours.

(i) Records should include but not be limited to:

(a) Photographic record;

(b) Sampling of mounded water to determine presence of treated effluent as outlined in Condition 8;

(ii) The Consent Authority shall be immediately notified of occurrences of mounding breakthrough that exceed 48 hours in writing.

~~*(d) Records to be supplied to consent holder annually.*~~

~~10.~~*11.* The results from the monitoring undertaken in accordance with Conditions ~~8 and 9~~ *7, 8, 9 and 10* of this consent shall be reported in writing to the Consent Authority ~~within one~~ monthly, together with a reading of the 24-hour wastewater discharge volume for the day of sampling.

~~11.~~*12.* The quality of the treated wastewater shall not exceed the following limits prior to discharge:

Parameter	95%ile	Annual Mean
BOD_5 (g/m^3)	50	30
TSS (g/m^3)	50	30
TN (g/m^3)	35	23
E.Coli (cfu/100ml)	260 (90% ile)	260 geomean

* Means and percentiles apply to a rolling 12 calendar month period.

~~12~~*13.* All sampling techniques employed in respect of the conditions of this consent shall be acceptable to the Consent Authority. All analysis carried out in connection with this consent shall be performed by a laboratory that meets ISO 17025 or IANZ standards, or otherwise as specifically approved by the Consent Authority.

~~13~~*.14.* No less than three months before the commencement of the exercise of this consent, the consent holder shall prepare and forward to the Consent Authority an Operations and Management Manual for the treatment and disposal system to ensure its effective and efficient operation at all times. The system shall be operated in accordance with this manual, which may be updated as appropriate. The manual shall include, but not be limited to:

(a) A description of the entire treatment and disposal system, including a site map indicating the location of the various components of the treatment and disposal system, discharge locations and monitoring sites;
(b) Specific management procedures for key components of the system;
(c) Procedures to be utilised to monitor the operation and performance of the system;
(d) Monitoring and reporting procedures, including, but not limited to:
    (i) Contingency plans for system malfunction and breakdowns for each part of the treatment and disposal system; and
    (ii) Contingency plans for maintaining effluent quality during periods of peak flows.
    (iii) Monitoring plans for monitoring groundwater mounding and quality.
(e) Population numbers that the system is designed to accommodate.
(f) A complaints and system malfunctions recording system;
(g) Details of the measures to be taken to meet the quality of discharge set out in Condition 12 of this consent; and
(h) Procedures for continuous reviewing and improving of the manual.

The consent holder shall ensure that the Consent Authority has a copy of the current Operations and Management Manual at all times.

~~14~~*.15.* The consent holder shall submit a record of complaints and malfunctions to the Consent Authority within two weeks after any complaint or malfunction occurring, together with the details of the remedial measures taken or proposed to be undertaken.

Otago Regional Council

~~15~~.*16*. The consent holder shall, at three monthly intervals, undertake a visual inspection of the disposal field, to determine there is no vegetation die-off, or slumping, as a result of the discharge of treated wastewater to land.

~~16~~.*17*. By *1 February* ~~30 September~~ each year, the consent holder shall forward an annual report in writing to the Consent Authority. The annual report shall cover the period *1 January to 30 December* ~~1 July to 30 June~~ in the previous 12-month period and shall report on compliance with this discharge permit, including, but not limited to:

(a) Copies of the laboratory analytical results of all monitoring undertaken;
(b) Summary of the year's monitoring results, in context of previous years' results;
(c) Summary of volumes of treated wastewater discharged to land;
(d) Summary of quality of treated wastewater discharged to land;
(e) Summary of all analytical results from the monitoring bores to date, and an interpretation of the groundwater quality results, particularly with regard to the discharge of treated wastewater to land;
(f) *Summary of trends in groundwater mounding, any areas of mounding concern and outlining any changes to the system or operation to mitigate concerns.*
(g) ~~(f)~~ *(g)* Comments on compliance with the conditions of this discharge permit;
(h) ~~(g)~~ *(h)* Summary of any complaints received, the validity of each complaint and the corrective action taken; and
(i) ~~(h)~~ *(i)* Any other issues considered relevant by the consent holder.

~~17~~.*18*.(a) Within three months of the first exercise of this consent, the consent holder shall invite iwi representatives (Kāi Tahu ki Otago and Ngāi Tahu ki Murihiku) and stakeholder representatives, including Public Health South and Remarkables Park Limited, to form a Reference Group. The purpose of the Reference Group shall be to facilitate consultation between the consent holder, stakeholder representatives and iwi representatives (Kāi Tahu ki Otago and Ngāi Tahu ki Murihiku) during the upgrading of the wastewater treatment plant.

(b) The Reference Group shall have the following functions:

- To receive and review the monitoring data and reports from the physical and biological monitoring. If necessary, a reasonable level of technical expertise shall be made available by the consent holder to interpret the monitoring data.
- To receive and review the annual monitoring report.
- To receive and review the implementation plan for the upgrade of the treatment and disposal system.
- To make recommendations to the consent holder on management actions to avoid, remedy or mitigate any adverse effects of the treatment and disposal system.

(c) The consent holder shall, at least once every six months, invite the Reference Group to a meeting to discuss any matter relating to the exercise and monitoring of this consent. The consent holder shall meet reasonable costs of attending meetings of the Reference Group. The consent holder shall keep minutes of any meeting of the Reference Group and provide Consent authority with copies of the minutes.

~~18.~~*19.* (a) Within three months of the first exercise of this consent, the consent holder shall provide the Consent Authority and the Reference Group with an Implementation Plan for the staged upgrade of the wastewater treatment plant.

(b) The Implementation Plan shall describe the program of work required to ensure that:

- By no later than 31 December 2017, flows of up to 9,000 cubic metres per day of treated wastewater are discharged to land.
- By no later than 31 December 2022, the discharge of treated wastewater to the Shotover River shall cease.
- By no later than 31 December 2031, Stage 3 (a full upgrade of the treatment and disposal system to achieve mean 10:10:10:10 (BOD:TSS:TN:E.Coli) effluent quality as required by Discharge Permit 2008.238.V1) is operational.

(c) By no later than 31 January each year, the consent holder shall provide an annual report to the Consent Authority and the Reference Group detailing progress made with the program of work outlined in the Implementation Plan.

General

~~19.~~*20.* No ponding or surface run-off of treated wastewater shall occur as a result of the exercise of this consent.

21. Mounding of groundwater:

(i) above the ground surface shall not occur in cumulative area greater than 100 m2 over the entire disposal area for more than 48-hours in any one event.

(ii) as a result of the exercise of this consent shall not result in surface breakthrough after the initial 5 year mounding trial period following the commencement of this consent.

22. In accordance with Sections 128 and 129 of the Resource Management Act 1991 Condition 20 and 21 shall be reviewed after a 5-year trial period for the purposes of dealing with any mounding issues, such as reassessing the area of acceptable mounding, testing the quality of mounded water to determine risk, or assessing the need for fencing and/or signage.

23. The Consent Holder shall advise the consent authority of any changes to the extent of the operational disposal area within 3-months.

~~20.~~*24.* There shall be no vehicle access over or through the land disposal area apart from designated access areas, such that it adversely affects the performance of the disposal area.

~~21.~~*25.* This permit does not authorise the discharge of sludge to land or water, other than to an approved landfill facility or alternative consented location.

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~~22.~~*26.* If the consent holder:

(a) Discovers koiwi tangata (human skeletal remains), or Maori artefact material, the Permit Holder shall without delay:

(i) Notify the Consent Authority, Tangata whenua and New Zealand Historic Places Trust and in the case of skeletal remains, the New Zealand Police.

(ii) Stop work within the immediate vicinity of the discovery to allow a site inspection by the New Zealand Historic Places Trust and the appropriate runanga and their advisors, who shall determine whether the discovery is likely to be extensive; if a thorough site investigation is required and whether an Archaeological Authority is required.

(iii) Any koiwi tangata discovered shall be handled and removed by tribal elders responsible for the tikanga (custom) appropriate to its removal or preservation. Site work shall recommence following consultation with the Consent Authority, the New Zealand Historic Places Trust, Tangata whenua, and in the case of skeletal remains, the NZ Police, provided that any relevant statutory permissions have been obtained. material, or disturbs a previously unidentified archaeological or heritage site, the Permit Holder shall without delay:

(i) Stop work within the immediate vicinity of the discovery or disturbance; and

(ii) Advise the New Zealand Historic Places Trust, and in the case of Maori features or materials, the Tangata whenua, and if required, shall make an application for an Archaeological Authority pursuant to the Historic Places Act 1993; and

(iii) Arrange for a suitably qualified archaeologist to undertake a survey of the site.

Site work shall recommence following consultation with the Consent Authority.

~~23.~~*27.* The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within three months of each anniversary of the commencement of this consent for the purpose of:

(a) determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage;

(b) ensuring the conditions of this consent are consistent with any National Policy Statements, National Environmental Standards Regulations, relevant plans and/or the Otago Regional Policy Statement.

Issued at Dunedin this 5th day of June 2015

Reissued at Dunedin this 9th day of March 2017 for the purpose of amending the legal description and map reference and varying Conditions 3, 4, 5, 10, 13, 16 and the addition of new conditions 9, 10, 21, 22, 23."

Marian Weaver

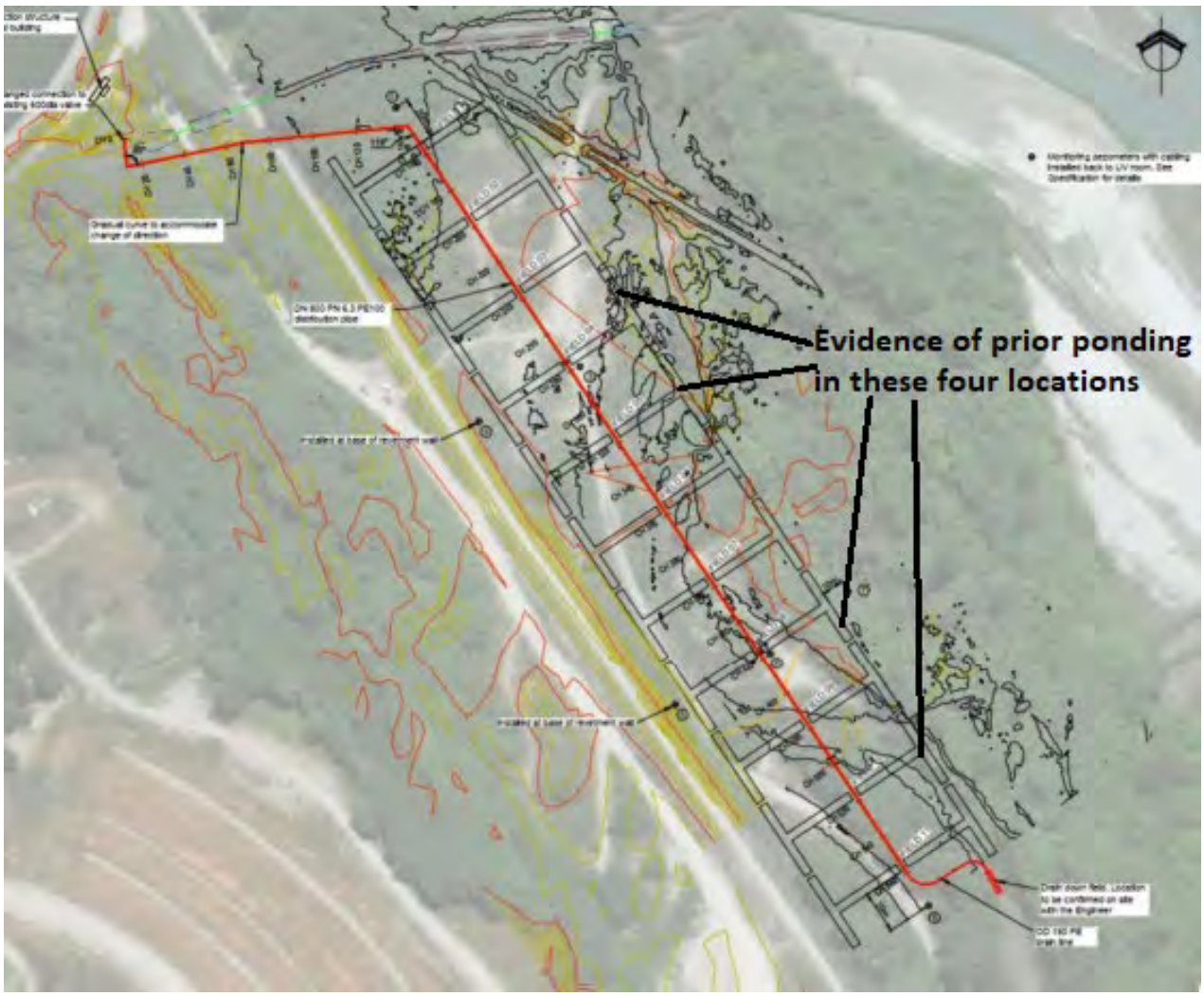
Resource Manager Procedures & Protocols

Otago Regional Council

Appendix B

Map illustrating the location of positioning of the Shotover treatment plant, ponds and disposal field.

Appendix C



Map illustrating the four locations within the Shotover WWTP disposal field that prior evidence of treated wastewater ponding could be seen from.

Appendix D

Map illustrating the five sampling locations from which the treated wastewater samples were gathered from on 23 February 2021.

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Appendix E

Sample Name:		20210578 - ORC Sampling Shotover WWTP Groundwater Bore Up Gradient Wastewater Disposal Field 23-Feb-2021 3:10 pm	20210577 - ORC Sampling Shotover WWTP Groundwater Bore Down Gradient Wastewater Disposal Field 23-Feb-2021 2:00 pm	20210582 - ORC Sampling Shotover WWTP Discharge Immediately Prior To Disposal Field 23-Feb-2021 12:55 pm	20210579 - ORC Sampling Shotover WWTP Miscellaneous 1 Bottom Corner 23-Feb-2021 2:25 pm	20210580 - ORC Sampling Shotover WWTP Miscellaneous 2 Bottom Pond 23-Feb-2021 2:38 pm
Lab Number:		2537173.1	2537173.2	2537173.3	2537173.4	2537173.5
Total Suspended Solids	g/m^3	11	14	7	40	3
Total Nitrogen	g/m^3	< 6	< 6	< 6	5	< 6
Total Ammoniacal-N	g/m^3	< 0.010	0.010	0.131	0.23	0.065
Nitrate-N + Nitrite-N	g/m^3	1.32	0.35	3.0	3.2	3.1
Total Kjeldahl Nitrogen (TKN)	g/m^3	< 5	< 5	< 5	< 5	< 5
Total Phosphorus	g/m^3	0.81	0.86	1.17	1.87	1.68
Total Biochemical Oxygen Demand ($TBOD_5$)	$g\ O_2/m^3$	< 2	< 2	< 2	4	< 2
Escherichia coli	cfu / 100mL	< 1 #1	< 1 #1	4 #1	8 #1	19

Table indicating the results received from the samples gathered on 23 February 2021 from the five Shotover WWTP site sampling locations.