## **Resource Management Act 1991**

## **Canterbury Regional Council and Mackenzie District Council**

## Joint Report and Decision of Independent Hearings Commissioner

## **Applications by Mackenzie District Council to:**

- Canterbury Regional Council for Land Use Consent CRC172310 and Discharge Permit CRC172311; and
- Mackenzie District Council for Notice of Requirement RMA170129.

## **Applications**

- The application to the Canterbury Regional Council (CRC) is for a Land Use Consent to use land
  for the upgrade of the Twizel Wastewater Treatment Plant (WWTP) and a Discharge Permit to
  discharge treated wastewater onto and into land and to discharges contaminants into air from
  the discharge of wastewater (odour). A consent duration of 35 years is sought.
- 2. The application to Mackenzie District Council (MDC) is for a Notice of Requirement to alter the existing designation of the Twizel WWTP and to incorporate additional land to locate the wastewater infiltration system to facilitate future sludge drying and other upgrading works. The designation is proposed to change its purpose from 'Oxidation Pond' to 'Wastewater Treatment and Disposal'.
- 3. The application site is located on the eastern side of State Highway 8, approximately one kilometre southeast of Twizel Township.

#### **Assessment**

- 4. In assessing the above applications, I have read the application documentation and assessment of environmental effects (AEE), and the submission received from the Fish and Game Council. I did not undertake a site visit, given I am familiar with the application site.
- 5. I have read the section 42A Officer's Report prepared by Ms Ashlee Dolamore, Consents Planner for CRC in relation to the resource consent applications. Pursuant to section 113 (3)(b) of the Resource Management Act 1991 (RMA), I accept and adopted all of the assessment of the resource consent applications and the conclusions reached. The report forms part of this decision.
- 6. I have read the Planning Report prepared by Ms Anne McNoe, Consultant Planner, Opus International Consultants Limited on behalf of MDC in relation to the Notice of Requirement. I accept the conclusions reached and the report forms part of this decision.

- 7. In considering the resource consent applications, I have had regard to sections 104 and 105, and Part 2 of the RMA. Overall, I consider the activities will achieve the purpose of the RMA.
- 8. On the basis of the evidence before me, I am satisfied that:
  - (a) any adverse environmental effects are likely to be minor, subject to the imposition of consent conditions; and
  - (b) the activities are consistent with the objectives and policies of the relevant national environmental standards and regional plans, as set out in the section 42A Officer's Report.
- 9. I note that the consents sought do not authorise the disposal of sludge or biosolids onto land at the site and that resource consent for such activity will be made in the future, if necessary.
- 10. In considering the application for a Notice of Requirement and the submission received, subject to Part 2of the RMA, I have considered the effects on the environment of allowing the requirement and have had particular regard to the Canterbury Regional Policy Statement, Canterbury Land and Water Regional Plan, and the Mackenzie District Plan. I am satisfied that adequate consideration has been given to alternative sites, routes and methods of undertaking the works.
- 11. On the basis of the evidence before me, I accept the recommendation to confirm the requirement for designation and alteration to an existing designation, subject to the imposition of conditions.

#### **Duration**

12. The applicant has requested a duration of 35 years for both resource consent sought. I accept Ms Dolamore's recommendation that given the consents sought are for long-term activities associated with continued operation of critical community infrastructure at the site (e.g. the use of land to store contaminants and to discharge contaminants into land and air) they should be granted for a term of 35 years.

#### **Decision**

- 13. It is my decision, under delegated authority on behalf of the Canterbury Regional Council, pursuant to sections 104, 104B and 108, and subject to Part 2 of the RMA, to **GRANT** the Mackenzie District Council the following resource consents for the operation and upgrade of the Twizel WWTP:
  - (i) Land Use Consent CRC172310 to use land to store contaminants; and
  - (ii) Discharge Permit CRC172311 to discharge contaminants onto and into land and to discharge contaminants into air (odour);

Subject to conditions set out in Appendix 1.

14. It is my decision, under delegated authority on behalf of the Mackenzie District Council, pursuant to section 168A and subject to Part 2 of the RMA, to **CONFIRM** the requirement for designation

and alteration to an existing designation by the Mackenzie District Council for the operation and upgrade of the Twizel WWTP and disposal areas, subject to conditions set out in Appendix 2.

Dated at Christchurch this 15th day of March 2018

S A McGarry

S.M Carry

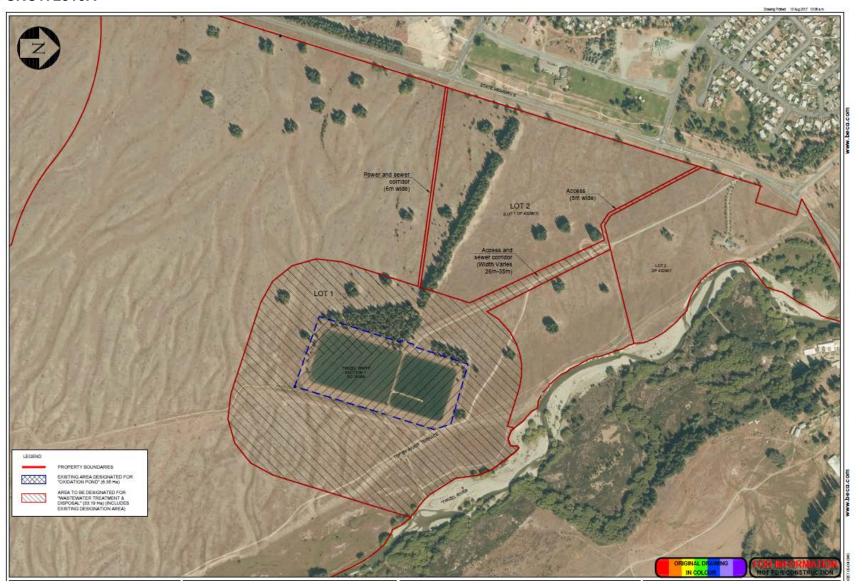
Independent Hearings Commissioner

# Appendix 1

# Land Use Consent CRC172310 - To use land to store contaminants

1	The use of land shall only be for the collection, storage, and treatment of wastewater as part of the operation of the Twizel Wastewater Treatment Plant (WWTP), and shall occur within the area identified on Plan CRC172310A, attached to and forming part of this consent.
2	The wastewater collection, storage and treatment shall be located at or about map reference NZTM2000 1369498 mE 5094496 mN.
3	The treatment ponds shall be sealed with a material of low permeability and a minimum of 100 millimetres of sludge shall be retained above the liner to protect it from damage.
4	All practicable measures shall be taken to seal and maintain the treatment ponds and associated pipes and infrastructure to prevent the leakage or overflow of wastewater onto or into land.
5	The treatment ponds shall not be located within 50 metres of any wetland, surface water body, artificial water course or bore used for water abstraction.
6	The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of:  a. Dealing with any adverse effect on the environment that may arise from the exercise of the consent or  b. Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.
7	If this consent is not exercised before 31 December 2022 it shall lapse in accordance with section 125 of the Resource Management Act 1991.

## Plan CRC172310A



# Discharge Permit CRC172311 – To discharge contaminants onto and into land and discharge contaminants into air

1	The discharge shall be only:
	a. Treated wastewater and sludge onto and into land; and     b. Contaminants into air;
	from the Twizel Wastewater Treatment Plant (WWTP) on proposed Lot 1, located at Tekapo -Twizel Road, as shown on Plan CRC172311A, attached to and forming part of this resource consent.
	Odour Management
2	The discharge of contaminants into air shall not result in offensive or objectionable odour or deposition of aerosols beyond the property boundary.
	Wastewater Treatment and Disposal
3	<ul> <li>a. The average volume of treated wastewater discharged to the infiltration basins shall not exceed a flow rate of 1500 cubic metres per day, where the average volume is calculated over a period of 365 consecutive days.</li> <li>b. The depth of sludge applied to sludge drying beds shall not exceed</li> </ul>
	0.5 metres.
4	The wastewater shall be discharged onto and into land only, at or about NZTM2000 1369429 mE 5094297 mN.
5	Prior to discharge onto and into land the wastewater shall receive treatment in a treatment pond system, as generally shown on Plan CRC172311B, attached to and forming part of this consent.
6	After exiting the pond treatment system, the wastewater shall be conveyed to a land application system constructed in accordance with the design and specifications shown on Plans CRC172311B, CRC172311C and CRC172311D, attached to and forming part of this resource consent, and as described below:
	<ul> <li>a. There shall be a minimum of four infiltration basins dosed via an outlet pipe;</li> <li>b. The infiltration basins shall each have a minimum width of 10 metres and a minimum length of 100 metres;</li> <li>c. The base of the infiltration basins shall extend into free draining in aity soils by a minimum of 200 millimetres; and</li> </ul>
	situ soils by a minimum of 300 millimetres; and d. The sludge drying beds shall have one metre high bunds on all sides.
7	The discharge shall be managed to ensure that the depth of any discharge of wastewater in any basin shall not exceed 0.3 metres in dry weather conditions and 0.4 metres in wet weather conditions. The depth of any

	discharge shall be measured from the bottom, or base, of any basin to the maximum level of any discharge into the same basin.
8	The discharge shall be managed to ensure that:
	<ul><li>a. The hydraulic properties within the subsurface disposal field are maintained; and</li><li>b. The infiltration basins are operated on a rotational loading cycle with a minimum period between applications of four days.</li></ul>
9	The perimeter of the WWTP shall be fenced, and shall be clearly demarcated by signage and the Consent Holder shall ensure that there is no activity undertaken on top of the land application system that may cause damage to the disposal system.
10	The wastewater treatment and land application system shall be constructed such that there is a minimum depth of 600 millimetres of unsaturated soil at all times between the base of the infiltration basin and the highest groundwater level.
11	There shall be no ponding of treated or untreated wastewater outside of the infiltration basins, and there shall be no overland discharge of treated or untreated wastewater.
12	There shall be no discharge:  a. Within 20 metres of any surface water body; or b. Into surface water;  as a consequence of the exercise of this consent.
13	There shall be no discharge within 50 metres in any direction, of any authorised and/or existing bores.
14	The discharge shall not occur within:  a. 10 metres of a property boundary; or b. 100 metres of a pre-existing dwelling
15	The Consent Holder shall decommission the existing wastewater disposal trench within 12 months of exercising this resource consent. This shall include filling/capping the trench with suitable material to achieve a similar landform to that which existed prior to the construction of the trench.

	Installation
16	Within two months of the commissioning of the infiltration basins, a certificate confirming that the basins have been constructed in accordance with the conditions of this resource consent shall be forwarded to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance. This certificate shall be signed by a Chartered Professional Engineer (CPEng) responsible for the design of the infiltration basins. The CPEng shall
	sign a statement confirming that they are qualified to certify the design.
17	Within two months of the installation of the treatment ponds and infiltration basins, the Consent Holder shall provide to the Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance, the following:
	<ul> <li>a. A signed copy of a compliance certificate certifying: <ol> <li>i. that the installation of the wastewater treatment system, land application system, any ancillary treatment devices and associated pipework have been installed by a person with at least two years of experience in the installation of such systems; and</li> <li>ii. the installed wastewater treatment system is capable of achieving the treatment standard required by the conditions of this consent; and</li> <li>iii. that the system has been installed in accordance with the conditions of this consent.</li> </ol> </li> <li>b. A copy of a signed 'as built plan' which clearly shows the location of the installed wastewater treatment system and land application system, and the separation to property boundaries and surface water bodies; and</li> <li>c. Photographs which show:  <ol> <li>i. the infiltration basins;</li> <li>ii. the treatment ponds; and</li> <li>iii. fencing and signage demarcating the perimeter of each land application system.</li> </ol> </li> </ul>
	Monitoring and Recording
18	The instantaneous inflow to the WWTP and the discharge flows from the WWTP shall be measured and recorded continuously, to an accuracy of not less than plus or minus five per cent.
19	The Consent Holder shall take a representative sample of wastewater prior to discharge into the infiltration basins at least once every three months, with a minimum of four samples to be taken annually. After twelve months, sampling for parameters (g) to (k) shall be reduced to annually, while sampling for parameters (a) to (f) shall remain quarterly. Samples shall be analysed for the following contaminants:

- a. Total suspended solids;
- b. Biochemical oxygen demand;
- c. Total nitrogen;
- d. Ammoniacal nitrogen;
- e. Nitrate and nitrite nitrogen;
- f. E. coli;
- g. pH;
- h. Electrical conductivity;
- i. Total phosphorus;
- j. Dissolved reactive phosphorus; and
- k. Dissolved oxygen.
- Prior to commencement of the operation of the infiltration basins the Consent Holder shall:
  - establish a minimum of one groundwater monitoring bore upgradient of the WWTP and five groundwater monitoring bores downgradient of the WWTP in general accordance with Plan CRC172311E, attached to and forming part of this resource consent;
  - secure all bores to ensure that surface contaminants cannot enter groundwater;
  - c. at least one month prior to the installation of the bores, provide the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, sufficient information to support the proposed location of each bore to enable the effects of the discharges into land from the WWTP to be assessed; and
  - d. within one month of the bores being installed, forward to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, a report confirming that the work has been completed. The report shall include a plan showing the location of bores and details of the work undertaken to secure the bores.
  - The Consent Holder shall collect at least one groundwater sample from each of the bores established in accordance with Condition (20) prior to the commencement of the discharge from the infiltration basins. Following this, groundwater samples shall be collected from each bore at least once in every six-month period, with a minimum of 120 days between sampling, for the duration of the consent. Samples shall be collected from all bores on the same day, or over two consecutive days. All samples shall be analysed for the following contaminants:
    - a. Total nitrogen;
    - b. Nitrate and nitrite nitrogen;
    - c. Ammoniacal nitrogen;
    - d. E. coli;
    - e. Temperature;
    - f. Total dissolved solids; and
    - g. Dissolved oxygen.

The groundwater level in each bore in metres below ground level shall be measured at the time of each sampling.

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22 The Consent Holder shall collect at least one groundwater sample from each of the bores established in accordance with Condition (20) prior to the commencement of the discharge from the infiltration basins. Following this, groundwater samples shall be collected from each bore at least once in every three-month period, with a minimum of 80 days between sampling, for the first year after exercise of the consent, and annually thereafter, to be analysed for the following contaminants. Samples shall be collected from all bores on the same day, or over two consecutive days. a. pH; b. Electrical conductivity; c. Total phosphorus; and d. Dissolved reactive phosphorus. 23 After three years of monitoring has been completed following the installation of the infiltration basins (a minimum of six samples collected from each bore and then yearly for the duration of the resource consent), the Consent Holder shall assess whether there are statistically significant differences (at alpha = 0.05) between results from samples collected from the bore upgradient of the WWTP and the bores downgradient of the WWTP. For the purposes of ongoing annual review, the statistical assessment shall be carried out on a rolling set of data (that is, using results from the most recent six samples). 24 If statistically significant differences are determined as a result of the analyses required by Condition (23), and if total nitrogen concentrations in two consecutive samples taken from Piezometer 3 (relevant to the Twizel River) or wells BZ15/5014, BZ15/5013 or H38/0140 (relevant to the Lower Ohau River) exceed twice the concentration predicted by the modelled plume shown in Plan CRC172311E, the Consent Holder shall implement a programme of sampling of the relevant river at the sites shown in Plan CRC172311F, attached to and forming part of this consent. The Consent Holder shall sample these sites within one month of the results being known and then at six monthly intervals for the duration of the consent, for the following contaminants: a. Total nitrogen; b. Nitrate and nitrate nitrogen; and c. Ammoniacal nitrogen. The results of sampling of the relevant river shall be provided to Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, in accordance with Condition (33) of this resource consent. If sampling of either the Twizel River or Ohau River is triggered by Condition 25 (24), the Consent Holder shall also undertake an investigation of all practicable measures that could be undertaken at the WWTP to reduce the concentrations of total nitrogen in the treated wastewater discharged to the infiltration basins and implement the best practicable option. The results from sampling in the relevant river and the results of the WWTP treatment investigation and any subsequent mitigation shall be provided to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and

Compliance, in accordance with Condition (33) of this resource consent.

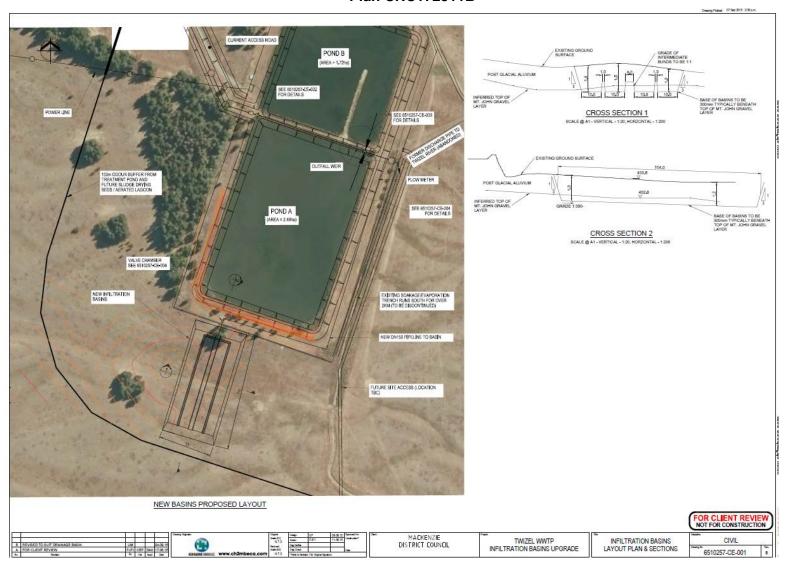
The concentration of dissolved oxygen in the treatment ponds shall be
measured at least weekly between 1100 and 1400 hours. These measurements shall be recorded and provided to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, on request.
The concentration of dissolved oxygen measured in accordance with Condition (26) shall not be less than two grams per cubic metre (2 g/m³), on a rolling 10 percentile weekly measurement basis, over a 12 month period.
All samples required by this consent shall be taken by a suitably trained person and shall be analysed using scientifically recognised method(s) by a laboratory accredited for the analyses by either International Accreditation New Zealand (IANZ), or by an organisation with a mutual agreement with IANZ.
The Consent Holder shall keep a record of any complaints they receive relating to odour from the Twizel WWTP. This record shall include:  a. The location where the odour was detected by the complainant;  b. The date and time when the odour was detected;  c. A description of the wind direction when the odour was detected by the complainant;  d. The most likely cause of the odour detected; and  e. Any corrective action undertaken by the Consent Holder to avoid, remedy or mitigate the odour detected by the complainant.  This record shall be provided to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance by the 31st of June every year, and on request.
Operations and Maintenance  Within three months of the commissioning of the pond upgrade works and the infiltration basins, the Consent Holder shall submit an updated WWTP Operations and Maintenance Manual (O&MM) to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance. The WWTP shall be operated in accordance with this manual, which must include:
<ul> <li>a. A description of the wastewater treatment and disposal system, including a plan of the various components of the system and monitoring sites;</li> <li>b. Specific management and operational procedures for key components of the system including screening, treatment ponds, infiltration basins and sludge management;</li> <li>c. Key performance indicators (including those required by conditions of this resource consent) and the procedures to be followed to monitor the operation and performance of the WWTP;</li> <li>d. Contingency plans for system malfunction and breakdowns for each part of the treatment and discharge system;</li> <li>e. The matters listed in Appendix CRC172311A, which forms part of this consent;</li> <li>f. A complaints and malfunctions recording system;</li> </ul>

	h. The contact details of the person responsible for operating the treatment and disposal system.
31	The O&MM may be amended by the Consent Holder at any time. Any such amendments shall be submitted in writing to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, for approval prior to amendments being given effect to.
32	The Consent Holder shall keep a log of all repairs made to any part of the WWTP. The Consent Holder shall forward a copy of the written reports and records of repairs to the Canterbury Regional Council, Attention Regional Leader - Monitoring and Compliance, on request.
33	<ul> <li>An Annual Monitoring Report shall be provided to the Canterbury Regional Council, Attention: Regional Leader – Monitoring and Compliance, by 31<sup>st</sup> of June every year and shall summarise the following for the previous calendar year monitoring period: <ul> <li>a. A summary and interpretation of the data collected under the conditions of this consent;</li> <li>b. A comparison of the results collected with the results of previous sampling carried out under this consent;</li> <li>c. An explanation of any operational issues, changes or improvements made to the treatment or discharge methods;</li> <li>d. If applicable, a summary of any measures undertaken to mitigate any adverse environmental effects and a commentary on the effectiveness of these measures; and</li> <li>e. Any complaints recorded and a summary of any corrective action undertaken.</li> </ul> </li> </ul>
	Administration
34	<ul> <li>The Canterbury Regional Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purposes of:</li> <li>a. Dealing with any adverse effect on the environment that may arise from the exercise of the consent; and/or</li> <li>b. Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.</li> </ul>
35	If this consent is not exercised before 31 December 2022 it shall lapse in accordance with section 125 of the Resource Management Act 1991.

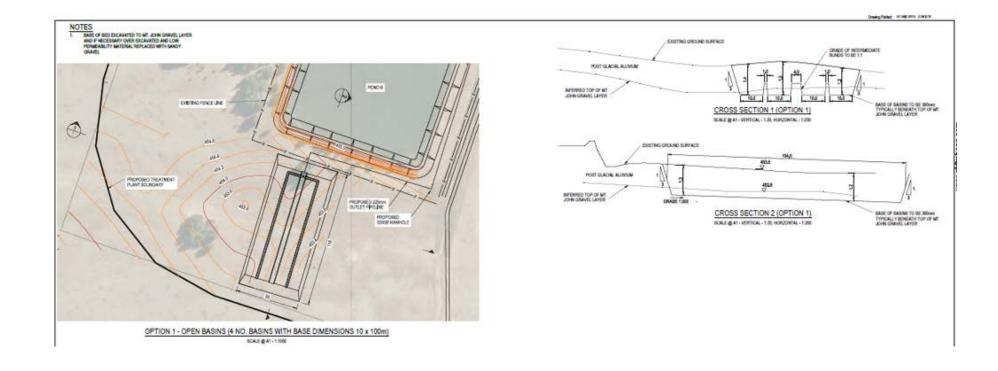
## Plan CRC172311A



## Plan CRC172311B



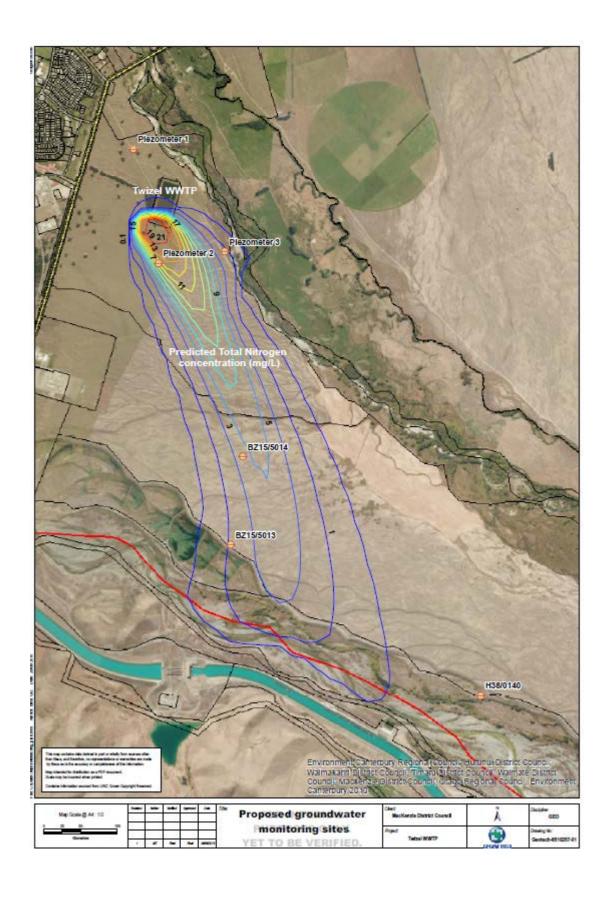
## Plan CRC172311C



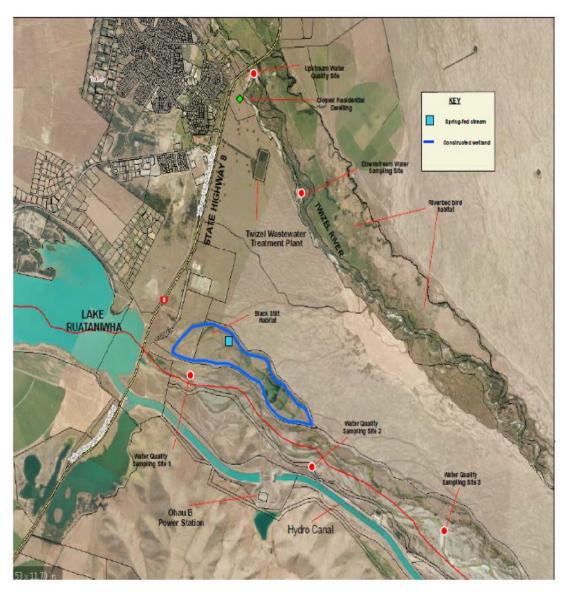
## Plan CRC172311D



## Plan CRC172311E



## **PLAN CRC172311F**



**Appendix** 

#### **CRC172311A: Content of Odour Management Plan**

Management plans, for dust, smoke and odour must describe the practices and actions, or targets where required, that the person responsible for the discharge of contaminants into air will take to ensure that the overall effect of the frequency, intensity, duration, offensiveness and location of the discharge is not offensive or objectionable.

The level of detail required for the odour, smoke or dust management plan is relative to the scale of the discharge and the likelihood of the effect being offensive or objectionable.

A management plan that does not form part of a Farm Environment Plan prepared and implemented in accordance with Schedule 7 Part A of the Canterbury Land and Water Regional Plan must include the following:

- 1. A description of the activity that will result in the discharge of contaminants into air; and
- 2. A description of how often the contaminants will be discharged e.g. constant, daily, between 10am and 2pm on weekdays, only on windy days, once a month; and
- 3. A description of the intensity and character of the discharge e.g. is the odour very pungent or light, is there likely to be a lot of dust or just a small amount and is it fine or course, is the smoke light or dark?; and
- 4. A description of the maximum duration of the effect of the discharge e.g. what is the prevailing wind and how often will *sensitive activities* or neighbours be affected by the discharge? Will the effect occur during times when neighbours would be more or less affected?; and
- 5. A description of the offensiveness of the discharge e.g. what are the characteristics of the odour? Is it an unpleasant odour such as sewage, or is it something that is often considered pleasant such as the smell of baking bread? Is the dust a particular colour that will make property appear dirty, or does it contain corrosive elements? Is the dust very fine? Is the smoke thick and acrid?; and
- 6. A description of the location of the discharge, including a description of the activities that occur on neighbouring properties and location of any sensitive activities that may be affected. A sketch plan should be prepared showing the location of the discharge and the location of sensitive receptors (such as dwellings, schools, meeting places, retail premises) and the separation distance between these receptors
- 1. and the discharge; and
- 7. An explanation as to how any adverse effects on sites that are sensitive to Ngāi Tahu, such as statutory acknowledgement areas, silent file areas or wāhi tapu or wāhi taonga are to be managed; and
- 8. A description of the management practices being implemented to minimise the discharge or the effects of the discharge of contaminants e.g. filters replaced regularly, equipment cleaned regularly, input types, limiting discharges to certain times or conditions (wind direction etc), effluent management system (design features, maintenance etc), filter types, design of stacks and vents, process features (stock numbers, feed type, type of detergent/ink/oil/chemical used), methods for dampening down dust, oiling roads, flocculent use, establishment of vegetation etc. Reference should be made to controls recommended in any relevant good practice guides for the activity; and
- 9. For smoke management, plans will address the matters set out in Schedule 3.

### Appendix 2

RM170219 The designation of a land area of approximately 33.190 hectares, an increase of approximately 26.84 hectares for the purpose of "Wastewater Treatment and Disposal".

- (1) The boundaries of the designation are as shown on Drawing 6510257-GS-004 (Attached as Attachment A) provided that the part of the designation relating to the corridors identified for access, electricity and sewage shall be uplifted in accordance with Section 182 of the RMA, when the easements for the above matters are registered on the Certificate of Title for the expanded Wastewater Treatment Plant site.
- (2) The land use activities undertaken within the designation shall generally be as shown on Drawing 6510257-GS-005 (Attached as **Attachment B**).
- (3) The Requiring Authority shall, at least 10 working days prior to commencement of construction of upgrade activities, submit a draft Construction Management Plan (CMP) to the Planning and Regulations Manager, Mackenzie District Council. No works shall commence until the CMP has been approved in writing by the Council.
- (4) All activities (other than construction activities) shall be conducted such that noise arising from such activities does not exceed the following noise limits in the Rural Zone, Section 7 of the Mackenzie District Plan.

### Rule 15.1.1h Noise

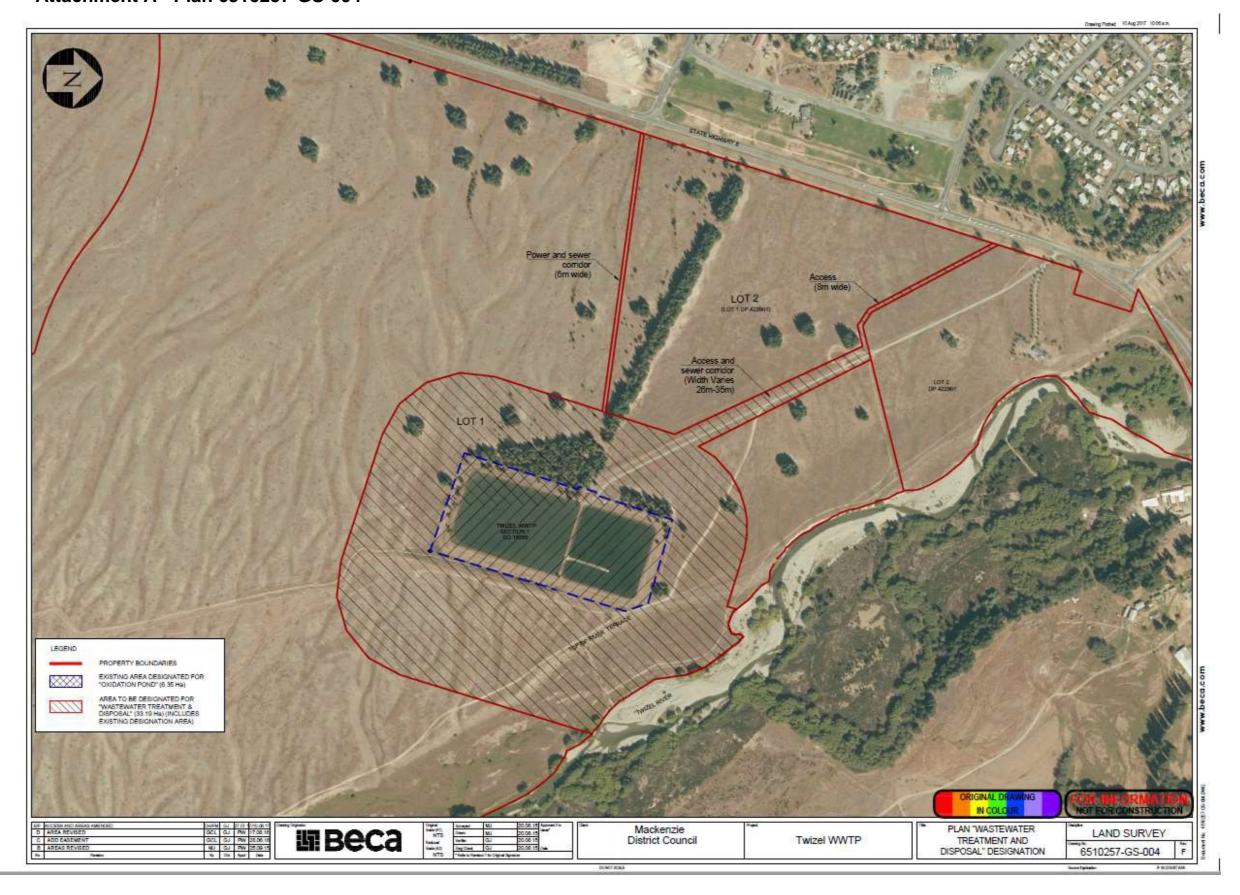
All activities, other than emergency service warning devices and sirens, shall be designed and conducted so as to ensure that the following noise limits are not exceeded at any point within Residential Zone or any point within the notional boundaries of any residential unit on another site;

Daytime 55dBA L10
Nighttime 40dBA L10
70dBA Lmax

except that for farming activities this standard shall only apply to noise from stationary motors or equipment.

- (5) Tree removal shall be limited to that reasonably required for the upgrading and effective operation of the Twizel Wastewater Treatment Plant.
- (6) Were feasible, the Requiring Authority shall include locally-sourced native planting in any landscaping.
- (7) If non-compliance with any condition of this designation occurs, the Requiring Authority shall:
  - (a) Undertake such corrective actions or remedial measures as are reasonably necessary to avoid, remedy or mitigate the adverse effects arising from the non-compliance;
  - (b) Advise the Planning and Regulations Manager, Mackenzie District Council of the nature and scale of the non-compliance within 24 hours; and
  - (c) Implement measures such that the non-compliance does not reoccur.
- (8) The Wastewater Treatment Plant will be bunded and landscaped as provided in the application received 9 August 2017 to provide a visual screen. The bund will be maintained at all times.

Attachment A - Plan 6510257-GS-004



# **Attachment B - Plan 6510257-GS-005**

