20 October 2022

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

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Tēnā koe Sukhi

Return of application for resource consent

Record Number/s:	CRC231559 CRC231560 CRC231561 CRC231562 CRC231563 CRC231564 and CRC231565
Applicant Name:	South Island Resource Recovery Limited
Activity Description:	To excavate and deposit material, to use and storage hazardous substances, to take groundwater for dewatering purposes, to discharge construction-phase stormwater to land and to discharge dewatering water to water, to discharge contaminants into land from an onsite wastewater system, to discharge operational stormwater to land and to discharge contaminants to air from waste incineration and discharge to air from diesel generators.

In accordance with Section 88(3), the Canterbury Regional Council (**Council**) has conducted an initial review of the above application, with a lodgement date of 23 Sep 2022. To complete the review, we have had guidance from technical experts concerning the areas of highest environmental risk.

The review has concluded that the application is incomplete in terms of Section 88 of the Resource Management Act 1991 (the **RMA**). Noting that due to scale and complexity of the proposal the timeframes to conduct the s88 check were doubled to 20 days pursuant to s37A(4)(b)(i).

It has been determined that the application does not include the information relating to the activity and its effects on the environment required by Schedule 4 of the RMA. As such, **Council is returning the application to you as incomplete**. We will also return your initial fixed fee to you, less any processing costs incurred to date.

The key concern is that the level of assessment of environmental effects is considered inadequate given the scale and significance of the effects that the activity may have on the environment. This is a very large proposal traversing many activities. As the application points out, the proposed energy from waste plant is the first of its kind sought to be consented in New Zealand.

Accordingly, it therefore involves many technologies which have never been tested in this country, or assessed in the context of our environment, particularly when the discharges to air are concerned. Given the scale of this proposal, we would expect a full Cultural Impact Assessment to be completed and submitted with the application that assesses both the bio-physical and the metaphysical impact of the proposal on mana whenua, and this has not occurred.

With this in mind, and along with other information which the Council considers essential to understand the effects associated with the proposed wastewater and stormwater discharges, we consider the application incomplete pursuant to Section 88(3), and therefore we are returning it in accordance with Section 88(3A). For a more detailed explanation of the reasons for this please see **Attachment 1.**

If you wish to proceed with an application, you must submit a full new application. This must include all the information listed as missing in Attachment 1 to this letter and must be accompanied by the relevant initial fixed fee.

The resubmitted application will be assigned a new application number, and again reviewed for completeness.

If you disagree with our decision that your application is incomplete you can lodge an official objection. Information about the objection process can be found on our website.

If you have any queries, please contact me via email (richard.purdon@ecan.govt.nz) or phone (03 365 3828).

Yours sincerely/ Ngā mihi

Richard Purdon
Principal Consent Planner

cc:
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ATTACHMENT 1

Information identified as incomplete pursuant to Section 88 of the Resource Management Act 1991

Application Number/s: CRC231559, CRC231560, CRC231561, CRC231562, CRC231563, CRC231564 and CRC231565

1. Schedule 4 Clause 2 (1)(a) - A description of the activity

A detailed description of the proposed activity is required. In addition to the information provided, this must include:

a. Detailed description of the proposed discharge to air including the following:
    i. The contaminant identification process has inadequate detail, the contaminant properties evaluation stage is absent, the contaminant health or other impacts stage is absent and there is no detail on the method proposed to assess the potential impacts of each contaminant and its suitability.
    ii. The process description in Technical Report 1 does not address process matters relating to air emissions. As there are a range of sources within the process that will result in discharges to air, the process description and impacts must fully outline all sources.
    iii. There is inadequate information on the nature of contaminants and the relationships of these to the waste stream.

b. Detailed description of the proposed stormwater discharge including the following information
    i. Describe the quality of stormwater discharges.
    ii. Quantify the pollutants and treatment efficiency of the stormwater system.
    iii. Describe and identify the catchment areas.
    iv. Details on the deposition of particulate matter on roofs and this possibly affecting stormwater quality.
    v. Describe the construction-phase stormwater discharges and management thereof.

c. Detailed description of the proposed dewatering including the following information:
    i. Describe the expected duration timing and rate of the dewatering.
    ii. Provide a map of where the discharge from the dewatering will occur. The report only mentions the paddocks at the northern portion of site.
    iii. Provide the separation distance between the dewatered area and Whitney's Creek.

2. Schedule 4 Clause 2(1)(b) - A description of the site at which the activity is to occur

A detailed description of the site is required. In addition to the information provided, this must include:

A detailed description of the site's cultural values. We consider the following an inadequate description of the site:

"Project Kea is located in rohe Te Rūnanga o Waihao, Te Rūnanga o Arowhenua, Te Rūnanga o Moeraki and Te Rūnanga o Ngai Tahu".

3. Schedule 4 Clause 2(3)(c) - Significance and Scale of the Assessment

The detail provided within an assessment of effects on the environment (AEE) must correspond to the scale and significance of the effects that the activity may have. The AEE provided must be expanded to address the following key matters for this requirement to be met:

a) Cultural Values

While there has been some attempt to assess cultural effects against the relevant Iwi Management Plans, a comprehensive assessment of effects on cultural values, both bio-physical and metaphysical, has not been provided to a level of detail required given the nature, scale and potential impacts of the proposal.

Further, Objective 4.3.7 of the Canterbury Regional Policy Statement states that, on a case-by-case basis, Canterbury Regional Council should seek a cultural impact assessment or cultural values assessment as part of the assessment of environmental effects where an application is likely to impact on a significant resource management issue for Ngāi Tahu.

Overall, we conclude that to be consistent with Objective 4.3.7 a Cultural Impact Assessment is required to be provided with the AEE due to the scale and significance of the proposal, and to enable the assessment of cultural effects of the proposal.

b) Ground Water

Whilst an assessment of effects on the groundwater environment was undertaken, we consider there is insufficient detail given the scale and significance of the effects that the activity may have on the environment. Key components that were omitted include (but are not limited to):

i. No assessment of the ground water quality effects, in particular from the proposed wastewater discharge.
ii. No assessment of the expected extent of the drawdown and well interference effects caused from construction phase or any other dewatering that may be necessary given the shallow groundwater table (mapped spatial extent drawdown extent caused by the dewatering).

c) Surface Water

Whilst an assessment of effects on surface water environments was undertaken we consider there is insufficient detail given the scale and significance of the effects that the activity may have on the environment. Please provide a detailed assessment of effects of all the activities on Whitney's Creek, including but not limited to:

- Impacts of dewatering during bunker construction on flows;
- Impacts of the discharge of dewatered water to land/groundwater;
- Impact on the water quality and flows from the discharge of stormwater to groundwater;
- Discharge of operational stormwater during high rainfall events; and
- Discharge of construction phase stormwater on the creek?

d) Air Quality

Additional information required in respect of the discharges to air include:

i. Discharges to air – combustion discharge via 75 metre stack

- Contaminant origin identification. Critical aspects of the AEE (air quality) have been based on parameters of unknown origin.
- The emission rates for contaminants are referred to as the "Proposed Plant designer guaranteed emission values for the site operations" with no detail as to their genesis. As the emission rates are critical to the effects assessment, the application is not complete without the detail that would enable a thorough scientific evaluation of their applicability (including *inter alia* testing protocols, plant, fuels) and any associated risks.
- There is no detail provided on the basis for the gas flow rate used for modelling, the actual flow rate and its relationship to fuel (including variability in calorific value).

ii. Odour

- Inadequate detail is provided on the negative pressure air system intended to control odour from the MSW unloading and storage bunker. The pressure required to ensure odour does not escape around the storage bunker (building tightness) and at the vehicle entry point (open air) has not been detailed adequately for a proposal of this kind. Key questions include:
  - What is the air flow rate through the combustion chamber required to maintain a negative pressure throughout the facility?
  - What factors influence the air flow rate enabled by the combustion process?
  - What happens if the calorific value of the fuel drops?
  - What happens if a single combustion chamber is shut down effectively halving the air flow?
  - What safeguards and contingencies will be implemented?
- The scrubber system is described as a back-up for when the incinerator is not operating but no detail is provided on the impact of use of the scrubber system on maintaining the negative pressure required for odour control within the building (e.g., flow rate limitations).
- Inadequate details are provided on the odour scrubber system generally including justification for the selection of the odour emission rate from the scrubber.

iii. Health Risk Assessment

- An evaluation of the health risk assessment (Technical report 6) has been undertaken by our technical expert and it has been determined that for a small number of contaminants adequate detail has been provided. However, for several key contaminants this evaluation was absent, or the detail was not consistent with the scale, significance, and potential risks to health from the discharge. The health risk assessment requires more detail on current understanding of health impacts and consequent selection of exposure-response relationships. For example, current understandings underpinning the WHO (2021) revised air quality guidelines and the significance of New Zealand studies (e.g., HAPINZ). The selection of standards/ guidelines for the comparison of modelled GLCs and background to assess effects also needs more a thorough health impacts basis.
- For example, the risk assessment discounts NO_2 as not significant enough to warrant further evaluation yet the air quality assessment predicts a maximum 24-hour average of 24.6 $\mu g/m^3$ (excluding background) which compares with a WHO 2021 guideline of 25 $\mu g/m^3$. The combination of the background NO_2 and the modelled

discharge NO_2 exceed the WHO (2021) NO_2 guidelines. The modelled annual concentration of 3.7 µg/m^3 compares with a WHO (2021) guideline of 10 µg/m^3. HAPINZ (2021) identifies both $PM_{2.5}$ and NO_2 as key contaminants of concern in New Zealand.

- Further, in light of an insufficient description of the nature of the discharges to air (see below), the contaminant health or other impacts stage is absent and there is no detail on the method proposed to assess the potential impacts of each contaminant and its suitability.

iv. Impact of the waste stream (quality and variability)

- Inadequate detail is provided on the impact of the waste stream and variability of it in on the discharge of contaminants to air. As indicated above this has impacts for the combustion process including combustion temperatures.
- The quality of the fuel also impacts on the contaminant emission rates. There is inadequate information on the nature of contaminants and the relationships of these to the waste stream. Dioxin emissions will depend on the waste stream (fuel) including the chlorine content, the combustion temperature (which will also depend on the fuel) and excess air (none of which are addressed in the AEE (air quality).
- Other contaminants with serious health risks such as mercury will also be waste stream dependent and require more context. Contaminants such as dioxins will likely be of interest to the community. The detail provided on dioxins throughout the application is not consistent with the scale and significance of the activity.
- Inadequate detail is provided on the impact of fuel on the combustion, flow rates and negative pressure systems and in particular the discharges to air. All subsequent assessments of the impact of discharges of contaminants to air rely on these emission rates and the combustion parameters which would seem highly variable and fuel dependent. A very high level of detail on this is required because the process, as described, does not include physical checking of the waste so there is high potential for variability in fuel quality. It is also unclear how the process maintains adequate temperature.

4. If the activity includes the discharge of any contaminant, a description of—

i. the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and

ii. any possible alternative methods of discharge, including discharge into any other receiving environment.

Discharge of Stormwater

There is insufficient information on the likely quality of the stormwater discharges.

Discharge to air

To understand the range of effects of the discharge of contaminants to air, detail is required on any properties of the contaminant that may have influence on the effects assessment. With discharges to air, this typically focuses on health impacts leading into guideline values, providing both understanding around the nature of health impacts, those most susceptible and the extent to which guidelines are protective or minimise risk. However, there may be other characteristics of the contaminant that might influence the way emissions are calculated or effects are examined. In the AEE (air quality) this process is absent. The contaminant identification process has inadequate

detail, the contaminant properties evaluation stage is absent, the contaminant health or other impacts stage is absent and there is no detail on the method proposed to assess the potential impacts of each contaminant and its suitability.

General Comments about the Nature of the Discharges and Alternatives

Whilst the application claims all discharges will have less than minor effects and provides some detail on the nature and sensitivity of the receiving environments for certain activities, it does not account for others e.g. cultural effects, effects on groundwater from dewatering activities, and wastewater discharges. Further, no assessment has been undertaken for any possible alternative methods for many of the discharges.