

**Before the Hearing Panel appointed by Canterbury
Regional Council**

IN THE MATTER OF The Resource Management
Act 1991

**AND
IN THE MATTER OF** Applications CRC204106,
CRC204107, CRC204143,
CRC211629 and RC204105 to
establish, operate, maintain
and rehabilitate an aggregate
quarry by Taggart Earthmoving
Limited

SUMMARY STATEMENT

**SECTION 42A REPORTING OFFICER
CANTERBURY REGIONAL COUNCIL
CONTAMINATED LAND – SAMANTHA ILES**

DATED: 7TH MAY 2021

INTRODUCTION

1. My name is Samantha Iles. I am a Senior Scientist for Contaminated Land and Waste at Canterbury Regional Council.
2. While this is a Council Hearing, I acknowledge that I have read the Environment Court's Code of Conduct for Expert Witnesses as contained in section 7 of the Environment Court Practice Note 2014, and have complied with it in the preparation of this summary.

SCOPE OF REPORT

3. This report is an addendum to my primary evidence appended to the Section 42A Officer's Report, which is included as Appendix 5 of the Section 42A Officer's Report circulated on 8 April 2021. The purpose of this addendum is to provide a summary of my report and respond to matters raised in the Applicant's evidence, through the course of the hearing and during expert conferencing.
4. In preparing this addendum report, I have reviewed statements of evidence provided for Taggart Earthmoving Ltd (19 April 2021) by:
 - a. Mr Tracy Singson,
 - b. Dr Michael Durand,
 - c. Mr Neil Thomas, and
 - d. Mr Paul Taggart.
5. I will also make reference to the joint witness statements signed by myself and Mr Singson as well as verbal evidence provided by experts for the applicant during days 1 and 2 of the hearing.

SECTION 42A REPORT SUMMARY

6. The proposed backfill management procedures align with the Draft WasteMINZ Technical Guidelines for Disposal to Land 2018. I am supportive of the general alignment to these guidelines as they are considered to be current best practice. However, to my knowledge, the WasteMINZ Guidelines do not foresee the establishment of a facility within a community drinking water protection zone. Therefore, the waste acceptance procedures need to go beyond those outlined in the guidelines to provide sufficient protection for sensitive receptors.
7. For cleanfill sites, the waste acceptance criteria are the sole mitigation mechanism for avoiding contaminant discharges to the environment (chiefly groundwater), minimising human health risks, and for ensuring unrestricted, unencumbered use of the site after completion of cleanfilling activities and rehabilitation.
8. I support the proposal to accept only virgin excavated natural material (VENM) as backfill and agree with the Waste Acceptance Criteria reference values outlined in the Quarry and Backfill Management Plan. The key issue is ensuring that sufficient procedures are in place to provide confidence that any backfill material placed in the pit is actually VENM.

MATTERS RAISED IN EVIDENCE

Waste acceptance procedures

9. Mr Singson's evidence included a proposed process for quality assurance, acceptance and screening of backfill material from offsite sources. This included a flowchart for the pre-selection process. Mr Singson agreed during his verbal evidence and in our updated joint witness statement that the assessment of whether backfill material meets the waste acceptance criteria should be completed by a Suitably Qualified and Experienced Practitioner, or SQEP.
10. In paragraph 5.27 of Mr Durand's evidence, he suggests that as sampling of every load of backfill material or redesigning the landfill was not specifically suggested, it must not be recommended by CRC. I disagree with this conclusion. Sampling of each load of backfill material was specifically discussed as a recommendation of best practice, if we were unable to reach agreement on the pre-screening process. In my original statement of evidence, I considered that it was inappropriate to direct the applicant and instead recommended reconsidering their proposed methodology. Not specifically recommending the sampling of every load does not mean that I do not consider that the most stringent waste acceptance processes should be applied in this proposal. Rather, a thorough assessment of the entire source site by a SQEP, as well as the agreed verification sampling and auditing procedures is a more robust means of reviewing waste acceptance than selective sampling of material off the back of every truck load.
11. In his statement of evidence as well as our expert conferencing, Mr Singson agreed with my recommendation that temporary stockpiling of material awaiting sample results must be located away from the other VENM stockpiles. Backfill material awaiting results should be assumed to be contaminated until the results are received and compared against the waste acceptance criteria. This means that good erosion and sediment control procedures should be implemented to minimise the risk of contaminated stormwater runoff and dust. This should be included in the updated Quarry and Backfill Management Plan.

12. It is critical that material awaiting assessment or verification sampling should not be used as emergency backfill when groundwater levels rise. How this will be ensured is not clear from the proposal.

Audits and verification sampling

13. My recommendations regarding compliance with the WasteMINZ Technical Guidelines for auditing and verification sampling have largely been agreed to and incorporated into the evidence of Mr Singson, as discussed in the joint witness statement.
14. However, further detail into exactly what the auditing procedure will involve needs to be provided.

Potential onsite sources of contamination

15. Mr Taggart describes in his evidence how overburden silts from the next stage will be placed in the bottom of the excavation before backfilling with VENM. My previous understanding was that the overburden would be placed on top of the VENM at the end of the rehabilitation process.
16. I agree that the silts within the excavation area are suitable for deposition in the bottom of the excavation if they contain less than 2% vegetative matter in accordance with the waste acceptance criteria and the WasteMINZ Guidelines. However, it is unclear how the organic matter (grass) will be separated from the silts prior to depositing in the excavation.
17. In my original statement of evidence, I noted two areas of potential soil contamination on the existing site including a potential waste pit and stockpiles of soil and gravel from an unknown source. In accordance with Mr Singson's evidence as well discussions during our expert conferencing, I agree that the level of investigation of these two areas should be dependent on the activity to be performed.
18. I consider both areas to be potentially contaminated with regards to the Land and Water Regional Plan and note that a stormwater consent is now sought by the applicant for the access road. Mr Taggart stated in his evidence that this stormwater will be managed via a discharge to ground using swales and soakage pits.
19. As the extent and level of contamination of the potential waste area has not been defined, there is a risk that the discharge of stormwater to land through potential waste material could result in the migration of contaminants to groundwater. I consider that further investigation is required prior to allowing the discharge of stormwater from this area.
20. Ms. Thomas indicated in her evidence that the waste pit would be investigated and remediated prior to development of the access road. Remediation of the potential landfill area is not a straightforward process. Depending on the scale of the fill, remediation can involve significant earthworks and management of highly contaminated material, as well as expensive disposal to landfill.
21. Therefore, I support Ms. Dawson's proposal that this consent is addressed separately when the necessary information is available.
22. In slide 15 of Mr. Taggart's summary evidence, he provided a figure which indicated the approximate location of downgradient groundwater monitoring bores. These bores are indicated to be in the location of the potential waste pit area. Leachate from the waste could impact the shallow groundwater quality depending on the level of contamination.


23. Further consideration into whether this location is acceptable for the monitoring wells is needed, and if the location is not acceptable, where should the downgradient wells go? If the wells are to be in this potentially contaminated area, this will need to be considered in the interpretation of the baseline and ongoing groundwater monitoring. In addition, drilling of wells through waste material can result in preferential pathways for contaminants in the fill and on the surface to migrate to groundwater.


CONSENT CONDITIONS

24. On 6th May, Mr Singson and I undertook expert conferencing to discuss consent conditions relating to waste acceptance criteria and procedures. The results of this conferencing are provided in a joint witness statement.
25. In general, we were in agreement and have prepared a range of conditions regarding:
- a. The waste acceptance criteria and definition of VENM. This includes an update to Schedule 1 of the consent to include limits of vegetative matter and incidental inert materials,
 - b. The waste acceptance procedures including assessment by a SQEP, load inspections, verification sampling, and auditing,
 - c. Procedures for identification and removal of unacceptable backfill material that had been deposited into the excavation,
 - d. Procedures for when unanticipated contaminated material is encountered during gravel extraction, and
 - e. Procedures and controls for backfill material awaiting sample results and approval.

CONCLUSIONS

26. There are gaps in the information about the contaminated land status of the existing environment which need to be addressed and considered due to implications on groundwater monitoring and stormwater discharges.
27. The discharge of contaminated backfill material may result in an impact on groundwater quality. The proposed waste acceptance procedures are thorough and will help minimise the risk of discharging contaminated material. However, it is not possible to fully eliminate this risk if quarrying and backfilling is to occur.

Signed:  Date: 7th May 2021
Name: Samantha Iles
Senior Scientist – Contaminated Land

Reviewed:  Date: 7th May 2021
Name: Michael Massey
Principal Advisor – Contaminated Land