

BEFORE THE HEARING COMMISSIONERS
APPOINTED BY CANTERBURY REGIONAL COUNCIL

UNDER THE

Resource Management Act 1991

AND

IN THE MATTER

of application CRC190445 by the Christchurch City Council for a comprehensive resource consent to discharge stormwater from within the Christchurch City area and Banks Peninsula settlements on or into land, water and into coastal environments

**SUMMARY OF SECTION 42A OFFICER REPORT OF ROWAN VINCELL
CAUDELL FREEMAN**

FOR CANTERBURY REGIONAL COUNCIL

14 November 2018

INTRODUCTION

- 1 My name is Rowan Vincell Caudell Freeman. I summarise key points of my Section 42A Officer Report, highlighting areas of agreement and disagreement between my opinion and that expressed by or on behalf of the Applicant and submitters.

CORRECTIONS TO REPORT

- 2 Paragraph 16 of my evidence should read “RMA 1991 Section 30 (1)(ca)”.

KEY POINTS RAISED

- 3 Under proposed Condition 2(a) of the CSNDC, the applicant seeks to exclude:
 - a) Any new activities
 - b) Re-development in sites, or
 - c) Development areasThat are on the Canterbury Regional Council’s Listed Land Use Register (LLUR) and considered to pose an unacceptably high risk of surface water or groundwater contamination.
- 4 Under proposed Condition 41(a) of the CSNDC, the applicant seeks to “maintain a desktop-based identification of industrial sites, ranking sites for risk relative to stormwater discharge and identify the industrial sites that pose the highest risk”.
- 5 Based on the language used under Conditions 2 and 41, CRC’s LLUR will be relied upon (to some degree), for:
 - a) Decision-making about which site are included or excluded from the CSNDC, and
 - b) Desktop identification and ranking of industrial sites that may pose the highest risk to stormwater discharges.
- 6 I support the use of the LLUR for these purposes, but I think it is important to provide an overview of the LLUR with respect to its workings and limitations. I also think it is important to highlight the

variables that should be considered when determining whether a site poses an “unacceptably high risk” or not.

- 7 The Ministry for the Environment (MfE) has published and maintains the Hazardous Activities and Industries List (HAIL). The HAIL is a list of activities and industries (current and past) which could cause or have caused land contamination. Contaminants associated with HAIL sites persist in the environment.
- 8 Under Section 30(1)(ca) of the RMA 1991, the CRC and all regional councils in New Zealand are required to undertake “the investigation of land for the purpose of identifying and monitoring contaminated land”.
- 9 My team fulfils this requirement, in part, by using the HAIL list to identify HAIL sites throughout Canterbury. This work is done through our HAIL identification programme (HAIL ID). We record and publish the information we gather on the Listed Land Use Register (LLUR).
- 10 The LLUR will be useful to the applicant for gaining some understanding of the locations and types of HAIL sites in the CSNDC coverage area. However, I would like to point out that the LLUR is neither static nor complete. It changes daily as new information is received and as existing information is updated.
- 11 Not all past and current HAIL sites are found by HAIL ID and it is not possible to know how many HAIL sites we do not know about. In some instances, we may record one HAIL activity for a piece of land and not be aware of other historical HAIL activities which may have occurred on that same piece of land. This is important since hazardous substances and contaminants of concern may be unique to a specific HAIL activity.
- 12 Not all HAIL sites included on the LLUR are contaminated or contaminated to a degree that would adversely affect stormwater quality. The applicant should also consider this if/when consulting the LLUR.
- 13 HAIL ID was last undertaken in Christchurch City and Banks Peninsula in 2013/14. HAIL sites that commenced after these dates may not be identified for some time (potentially years), unless brought to our attention through some other means (e.g. resource consent application, public complaints, resource monitoring office reporting, etc.). No date has been set for the next round of HAIL ID in Christchurch City and Banks Peninsula.

- 14 We have recorded approximately 5,500 HAIL sites within the CSNDC coverage area. Approximately 19% of land across Christchurch City is covered by those HAIL sites. HAIL activities such as orchards, market gardens, sports turfs, golf courses, landfills, and areas of waste disposal to land account for the largest HAIL coverage. Except for Lyttelton, HAIL sites are sparse on Banks Peninsula.
- 15 I would like to state that risk categories (i.e. low, medium or high) cannot be arbitrarily assigned to HAIL sites. At minimum the following must be considered when determining the degree of risk posed by a HAIL site:
- a) Chemical properties and quantities of hazardous substances being manufactured, stored, used, or disposed,
 - b) Method of hazardous substance storage,
 - c) The proximity of hazardous substances to activities that generate stormwater,
 - d) Migration pathways for hazardous substances to environmental receptors (including humans),
 - e) Stormwater treatment,
 - f) Physical setting (e.g. topography, geology, adjacent land uses),
 - g) The quality, type and value of environmental receptors,
 - h) The persistence and potential adverse effects of the hazardous substance, and
 - i) Site management protocols.
- 16 I would not in my professional capacity assign a risk category to any HAIL site without considering these factors. My point is that HAIL sites should be evaluated on a case by case basis. Failure to do this could (among other things) result in underestimating risk to the detriment of environmental receptors or overestimating risk to the detriment of a land owner's financial well-being.
- 17 Under paragraph 27 of my main evidence, I referred to the July 2014 memorandum of understanding (MoU) between CRC and CCC. Mr. Norton refers to that MoU under paragraph 220 of his main evidence and provided a copy under Appendix C of his main evidence.
- 18 The principles and processes supporting that MoU could be adopted, updated, and applied to aid informed decision-making about the level of risk posed to stormwater discharges from HAIL sites (pre and post 2025).

- 19 Under paragraphs 51-57 of my main evidence, I recognised the role of infiltration treatment facilities (ITFs) in removing both sediment and contaminants of concern (CoCs) from stormwater. Under paragraph 63 of my main evidence I also pointed out that through the action of treating stormwater, ITFs become contaminated. If not appropriately monitored and managed, ITFs could pose an unacceptable risk to groundwater quality and human health.
- 20 ITFs are subject to landscaping activities which expose council workers or contractors to dust generated while undertaking mowing. Some ITFs add an aesthetic value to the landscape and may be used by members of the public accompanied by children and pets, especially during dryer months. Human health exposure via incidental dust inhalation and unintentional or intentional ingestion of soil from ITFs cannot be ruled out.
- 21 Under paragraph 232 of his main evidence, Mr. Norton questioned my use of the term “contaminated sites” with respect to contamination build-up in ITFs. ITFs may indeed meet the literal definition of “contaminated”; however, under the current contaminated land management framework in New Zealand, ITFs are not considered HAIL sites.
- 22 Under paragraph 53 of my main evidence, I expressed concern about the lack of detail around how ITFs would be monitored and managed. Section 2 of the October 2018 DRAFT Environmental Monitoring Plan (EMP) for the CSNDC states that its purpose is “to ensure that the infiltration treatment facilities do not accumulate contaminants to a point where they may negatively impact ground or surface water quality or pose a human health risk”.
- 23 I support the purpose of the DRAFT EMP; however, although proposed sampling depths are acceptable, I encourage the applicant to consider that multiple sample locations may be required to gain a more complete understanding of contaminant accumulation and distribution in ITFs.

Factors that may affect the number of sample locations needed include:

- a) Presence of multiple low points,
- b) ITF configuration, and
- c) Overall ITF land coverage area.

- 24 Failure to consider these variables could result in poor characterisation of ITF filtration media. In the worst case, contaminants may accumulate to exceed set thresholds for the protection of human health, groundwater or surface water quality.
- 25 Mr. Norton, under paragraph 49 of his summary of evidence stated, “I have recommended minor changes to Part 2 of the Environmental Monitoring Plan.” I consider this to mean that the applicant is open to reconsidering the current sampling protocol laid out under Section 2 of the EMP.
- 26 In an email to CRC, dated 1 November 2018 1:36 p.m., Mr. Norton states, “we agree that at least one test should be conducted in the lowest parts of the basin and closest to the outfall, where the bulk of the infiltration occurs.” I ask that the applicant clarifies whether “lowest parts” means they are open to sampling multiple low points within stormwater basins where they exist. if applicable.
- 27 Section 2.2 of the EMP (Table 2) identifies the location, land use and parameters tested at 6 stormwater devices in Christchurch. The longest-serving and only industrial land use infiltration device tested was the Hornby Industrial Park infiltration basin (constructed in 1995). This basin was tested for arsenic, cadmium, chromium, copper, nickel, lead, zinc, polycyclic aromatic hydrocarbons and semi-volatile organic compounds.
- 28 If the Hornby Industrial Park infiltration basin is the only basin within the entire CSNDC coverage area receiving and treating stormwater from an industrial land use, then I do not have any further comments. However, if other infiltration basins that service industrial land are present, it is my opinion that they should be subject to the same sampling approach as undertaken at the Hornby Industrial Park infiltration basin.
- 29 Proposed Condition 41 lays out the applicant’s approach to industrial site management (audits). I am somewhat cautious about accepting that auditing 15 sites per year, as per proposed Condition 41 (b) will be sufficient; however, I fully support the applicant’s willingness to collaborate with CRC for this undertaking.

Rowan Freeman

14 November 2018