

**BEFORE THE COMMISSION
APPOINTED BY THE OTAGO REGIONAL COUNCIL**

UNDER the Resource Management
Act 1991 (RMA)

IN THE MATTER Of an application by Dunedin
City Council for resource
consent being processed with
reference RM20.280

BY **DUNEDIN INTERNATIONAL
AIRPORT**
Submitter

**STATEMENT OF EVIDENCE OF CIARAN KEOGH FOR DUNEDIN
INTERNATIONAL AIRPORT LIMITED.**

DATED 6 MAY 2022



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BRIEF OF EVIDENCE OF CIARAN KEOGH

1. My name is Ciaran Keogh.
2. I am a director of Environmental Consultants Otago Limited. I practice as a senior environmental planner specialising in contaminated land investigations and associated planning practice. I hold the degrees Master of Regional and Resource Planning, and Master of Business Administration.
3. I have previously worked as the Director of Planning with Taupo District Council, CEO of Clutha District Council, General Manager of Wakool Shire Council (Australia), and CEO of Environment Southland.
4. From my time as Chief Executive Officer of Clutha District Council and then Environment Southland, I am familiar with solid waste landfill facilities in Otago and Southland.
5. As a partner in Corson Associates, a landscape architectural and planning consultancy, in the early 1990's I was engaged as a subconsultant to contribute to site the investigation report for Smooth Hill as a potential landfill site. My observation is that its primary advantage was in it being available for purchase and within the City boundary.
6. Environmental Consultants Otago Limited presently provides environmental and planning advice for Nash and Ross Limited in relation to their landfill at Burnside, Kaikorai Valley. I have personal knowledge of the consenting status of that site and of Nash & Ross's dealings with the Dunedin City Council. I am authorised by Nash and Ross Limited to give evidence of those matters.

Expert witness code of conduct

7. I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note dated 1 December 2014 and agree to comply with it. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving oral evidence before the hearing committee. Except where I state that I am

relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

8. I have been supplied with and read the Statements of Evidence of Sandra Graham, Christopher Brent Henderson, and also the proposed resource consent conditions attached to the evidence of Maurice Dale. I have noted the Residual Putrescible Waste Separation Methodology referred to as Attachment 3 in condition 75. It is my understanding that DCC now propose to sort waste at a single Bulk Waste Transfer Station prior to disposal at Smooth Hill. This presents useful opportunities to dispose different classes of wastes to different landfill facilities.

DIAL's case.

9. My understanding is that DIAL is opposed to the site being used as a Class 1 landfill due to the risk of a facility of that kind being an attractant to birds large enough to be an aviation hazard (in particular, Black Back Gulls).
10. The purpose of my evidence is to advise the Commissioners on potential alternative locations available to the Dunedin City Council in the event that putrescible waste was not able to be disposed of at Smooth Hill.
11. I am familiar with the following alternatives:
 - (a) Green Island.
 - (i) Is the existing Council owned landfill. The consents for this landfill expire in 2023, however I understand the option of extending the consented volume is not prevented by lack of space, though I understand that a major expansion of capacity does face some engineering challenges. I also understand that an extension of the life of this landfill is technically and economically achievable, particularly if undertaken in conjunction with diversion of non-putrescible

wastes to other disposal sites and waste reduction and recovery.

(b) Southland Regional Landfill

(i) A B Lime at Winton operate the Southern Regional Landfill. AB Lime operates an agricultural lime quarry at Winton. As the quarry progresses, the resulting pit is lined and backfilled as the Southern Regional Landfill.

(ii) In July 2021 AB Lime Limited received replacement resource consents to remove annual volumetric limits on the receipt of waste at that landfill. I attach the decision the full suite of resource consents as Appendix 1 to this evidence.

(iii) I have made enquiries of AB Lime's General Manager and am advised:

(1) AB Lime is currently going through the process of implementing the new resource consents and expect to operate under them by June 2022.

(2) AB Lime is already receiving substantial volumes of waste from Dunedin (from Waste Management) and from the Waitaki District utilising its fleet of agricultural lime trucks to backload waste to Southland. I am told that AB Lime would have no difficulty receiving all of Dunedin City's waste, or just the putrescible fraction, should that be required.

(c) Mt Cooe at Balclutha.

(i) Mt Cooe landfill is owned by Clutha District Council. It is a small landfill taking in less than 10,000 tonnes of waste

annually. Its consent is due to expire and is proposed to be renewed. The capacity at this landfill is relatively limited and the landfill is expensive to operate due to the low volume of waste processed. It would be advantageous to this site to have a larger volume of wastes input annually though this would shorten the life of the site. Diversion of putrescible wastes from Dunedin would likely treble the annual filling rate at this landfill. This should be able to be accommodated at this site for a decade at least and could be viable as a transition to the establishment of a regional facility. This would also utilise the available capacity at an existing facility prior to the establishment of a regional facility.

- (d) Composting plant proposal at Nash and Ross, Kaikorai Valley.
 - (i) Nash and Ross have recently acquired land adjacent to their landfill in Burnside that operates as a green waste landfill. Under the previous ownership these wastes were buried but Nash & Ross now process all green wastes through a shredder and compost the material for reuse as a soil amendment or mulch. I am advised that the shredder processes 68,000m³ (20,000 tonnes) of green waste annually. Nash and Ross landfill also includes a substantial area of industrially and rurally zoned land adjacent to State Highway 1 and the Main Trunk rail line. The site is only 5km from the City centre and has permits to discharge its leachate as trade waste to the City sewer. This location an ideal location for a recycling facility and as a transfer station. The primary difficulty with establishing any waste reprocessing facilities at this site lies with the uncertainties created by the City's decision process regarding waste collection and disposal. The City has chosen to pursue a single provider model which immediately excludes an alternative mixed supplier provision.

- (e) There are potential sites south of the City boundary that have never been seriously assessed because of “out of boundary” considerations. In the early 2000’s, while CEO of Clutha District Council, I had informally raised the idea of a regional or multi-regional approach to the disposal of waste with the then CEO of Dunedin City as Clutha District was in the process of reviewing the consents for Mt Cooee landfill at Balclutha. There is a logic to this as the centroid (waste volume by distance) for waste from Dunedin, Clutha, Southland and Central Otago would be located somewhere around Milton and Balclutha. There are also possible sites in that vicinity that have distinct geological and physical characteristics that are favourable for operating a landfill. This option was not favoured by the City at that time.
- (f) The use of rail or large capacity road transport to cart bulk wastes to landfills elsewhere in the South Island does not appear to have been assessed. Nash & Ross regularly receive consignments of non-putrescible wastes from as far away as Christchurch. These wastes have a lesser disposal value per tonne than putrescibles, yet operators find it economic to transport wastes 340km to utilise this landfill rather than the Kate Valley landfill in North Canterbury due to the substantially lower disposal charges at the Nash & Ross landfill.
- (g) Regional aggregation of some classes of waste may be necessary in the future for recycling, reprocessing or possibly even for incineration or conversion to biofuel as significant scale economies are likely to exist in these processes.
- (h) Separation of waste streams is also likely to be obliged by both economics and central government policies. In the near future, metal wastes will be treated differently to demolition wastes and plastic and glass wastes.
- (i) The waste stream is not homogenous. Some wastes are functionally inert while others are potentially reactive, nuisance causing, a health hazard, or a risk to the environment. By mixing

the different classes of waste into a single waste stream requires that all of these materials need to be managed to contain the effects of the most problematic wastes. The inclusion of putrescible wastes into the general waste stream for disposal greatly increases the cost and complexity of disposal for the entire waste stream. Putrescible wastes create gas discharges, change the landfill chemistry making it a more reactive environment, degrade leachate quality, and also result in odour generation. Putrescible wastes in the waste stream also require far more thorough containment than non-putrescible wastes and make management of disposal of the entire waste stream much more complex and expensive. To illustrate this – the Nash & Ross landfill which accepts approximately 90,000 tonnes of waste and contaminated soil annually does not generate any gas, does not generate any odour, does not attract feeding birds, and its leachate discharges are minimal and innocuous and these are contained and discharged as trade waste to the DCC sewer.

- (j) I would also note that the Nash and Ross landfill is presently consented to accept non-putrescible wastes and currently receives a substantial part of the waste stream generated by activities within Dunedin City. The Nash and Ross landfill benefits from a particularly advantageous geological setting, being a former marl quarry. The setting naturally provides containment that exceeds that required for a Class 1/Class A landfill without requiring an engineered liner. Its operating costs per tonne are far less than those that will arise from the operation of a landfill at Smooth Hill, it has capacity to accept the entire non-putrescible waste stream generated within Dunedin City under its current consents that expire 2036 and has capacity to expand beyond the currently consented life.
- (k) Nash and Ross' site is approximately 18km (as the crow flies) from the northern end of the Dunedin Airport runway.

- (l) . The Nash & Ross landfill is also no more than 5 kilometres from the City Centre, it is immediately adjacent to and accessible from the SH1 southern motorway. The reality of the relative operating costs and accessibility of the Smooth Hill landfill against those of the Nash and Ross landfill will result in there being no demand for disposal at the former for any wastes other than those that Nash & Ross cannot accept. These wastes requiring separate disposal comprise putrescible and household wastes that comprise approximately 25% of the total waste stream generated within the City. That 25% would also be expected to be reducing over time through improved recycling and treatment of the putrescible component as a biomass energy source or compost. I believe that it would be economic to transport the putrescible fraction of the City's waste stream the 250 kilometres to the Southland Regional Landfill. While Redruth in Timaru, or Mt Cooe in Clutha may appear as options, both have existing lifespan constraints that prevent them accepting the additional waste volume for any sustained period.
- (m) I believe better sites than Smooth Hill exist between Balclutha and the City's southern boundary that have not been investigated. There is no part of the City south of the airport that lies outside of the 13km buffer recommended by the International Civil Aviation Organisation (ICAO) Guidelines. This alone dictates that any landfill site serving Dunedin City that lies south of the urban area and that accepts putrescible wastes has to be located south of the City boundary.
12. I believe that there are alternative locations and alternative disposal methodologies available to the Dunedin City Council to dispose of putrescible waste in the event that the Commissioners determine that Smooth Hill is not an appropriate location for that type of waste. In the short term, it is my observation that the most immediately accessible option would be to extend the life of the Green Island landfill, the next most accessible option would be to send the putrescible fraction of the waste stream to the Southland Regional Landfill. In the longer term,

there are considerable uncertainties as to the manner in which the waste stream is to be managed. These uncertainties are being driven by the Waste Minimisation Act 2008 and consequent government policy initiatives. Any of these alternative options would provide respite for the City to either find a better site than Smooth Hill for disposing of putrescible wastes that lay outside of the 13km buffer, or to invest in facilities for processing or composting these waste to render them inert or made useful, and also to respond to Central Government requirements for waste minimisation.

13. I note that at paragraph 55, Mr Henderson's evidence records advice from Morrison Low that sending waste out of the district would result in Council losing its ability to control the full waste cycle, thereby limiting carbon emission reduction and waste diversion initiatives. I fail to understand why that should be so under a contracting model. Many Councils contract waste disposal services to third parties (such as all the Councils in Southland). The "control of the waste cycle" and the use of diversion options is a matter than can be addressed either by sorting and diversion at source (as the proposal now seems to be), or in the negotiated terms of waste supply contracts.

Ciaran Keogh

5 May 2022

Appendix 1. AB Limited resource consent decisions and resource consent suite dated July 2021.