

Dunedin City Council

Discussion of Possible HAIL Status of Land Associated with Resource Consent for Vegetation Removal at Shetland Reserve, Dunedin

Background

Dunedin City Council is proposing to replace various stormwater and sewer pipes within an alignment that runs between Bishopscourt Reserve and School St, through the Shetland Reserve and Kaikorai Common. The project will involve the removal of a significant extent of existing plantings within the two reserve areas and the inevitable disturbance of soil, both during the vegetation clearance and then for the pipe replacement works as well.

DCC wishes to have an expert opinion provided as to whether or not the proposed works will require resource consent under the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations (the NES) because of disturbance of soil on a HAIL site in quantities greater than that allowed as a permitted activity by the NES.

Summary and Interpretation of Information Provided

The works for the pipelines replacement project will commence at the boundary of the Bishopscourt Recreation Reserve and the Shetland Reserve and terminate at the southern boundary of Kaikorai Common at School St. The total length of the alignment is around 960m. The exact extent of soil disturbance (in terms of volume) required to facilitate the works is not clear and, besides the actual volume disturbed by trenching activities there will be a further significant, but uncertain, volume of disturbance associated with the vegetation clearance. What is clear however is that the volume in total would exceed the permitted activity criteria of the NES (i.e. would be greater than 25m³ of volume disturbed per 500m² area of "the site").

However the applicability of the NES to the proposed activity rests on other considerations as well; in fact these are more fundamental and clear-cut. Thus the NES applies if disturbance of a piece of land is proposed and if this "piece of land" is either or both of a HAIL site or is or has been affected by activities that appear on the HAIL. In this context, the piece of land is the alignment through which the pipeline replacement project will pass.

The PSI Report prepared by Opus has determined that there is likely to have been HAIL activity (viz. the application of persistent pesticides) that has occurred on various playing fields at Bishopscourt Recreation Reserve and Balmacewan Intermediate School. In both cases these properties share common boundaries with the Shetland Reserve. The inference is that migration of contaminants from these adjacent properties could have resulted in contamination of the soils along the alignment (within the Shetland Reserve) and that transport within the Kaikorai Stream tributary could have contributed to this contamination migration. It should be kept in mind that the PSI has not found any indication of actual HAIL activities having taken place on the Shetland Reserve land itself.

Thus the issue is whether or not the Shetland Reserve soils could have been significantly impacted by the application of persistent pesticides on adjacent sites, given that the Shetland Reserve itself is obviously not a HAIL site.

As noted in the PSI it is safe to assume that there will have been at least intermittent applications of pesticides (probably herbicides in fact) to the various adjacent playing fields. It should also be noted that the application of fertilisers (which is also highly likely to have taken place at these playing fields) is not relevant to any HAIL considerations.

I have highlighted the word "persistent" in relation to pesticides use since this significantly limits the nature of the pesticides likely to have been used. For example, current use of "Round-Up" and similar glyphosate herbicides that may be ongoing at the adjacent playing fields does not fit the context of persistent pesticides use since these types of pesticides are rapidly biodegraded.

In fact the types of pesticides possibly used historically would be likely to have been formulations based on DDT, lindane and other organochlorine compounds used to control grass grub and other insect infestations. Such pesticides are indeed persistent in soils but have not been available for commercial use in New Zealand since before 1980. Even allowing for their persistence biodegradation does occur over time and it will be at least 35 years since any such pesticides were ever used at Bishopscourt Recreation Reserve and/or Balmacewan Intermediate School, if indeed they ever were. The likelihood of significant residual contamination of the relatively remote soils of Shetland Reserve by migration of persistent pesticides from the adjacent playing fields is considered to be negligible.

While the PSI has quoted HAIL category A10 (persistent pesticides bulk storage or use) as being applicable, in my opinion HAIL category H is more relevant. This refers to *"Any land that has been subject to the migration of hazardous substances from adjacent land in sufficient quantity that it could be a risk to human health or the environment"*.

The key wording here is *"in sufficient quantity that it could be a risk to human health or the environment"*. In my opinion it is inconceivable that the historical migration of persistent pesticides from the adjacent areas of land where they may have been applied in the past could have taken place to such an extent in both quantity and over a lengthy time period (and given the spatial distances involved) that any risks to human health or the environment would have ensued.

Conclusion

All of this evidence is considered to clearly establish that the land that is the subject of this project has not itself seen any HAIL activity and that the potential migration of contaminants from adjacent sites cannot conceivably have occurred *"in sufficient quantity that it could be a risk to human health or the environment"*, in the wording of category H of the HAIL.

The NES (Soil) does not therefore apply to the proposed disturbance of soil associated with the project and no consent under the NES is required.



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