

Memorandum

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Company	Christchurch International Airport Limited
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From	Phil Shaw (reviewed by Alexandra Stone)
Reference	Response to Birdstrike Risk for Ryans Road Industrial Development Application
Project No.	250958

Introduction

This memorandum has been prepared by Avisure Pty Ltd to review the proposed industrial development at 104 Ryans Road, Yaldhurst, Christchurch with respect to bird hazards to aviation.

We reviewed documents we believed to be relevant to the development application and birdstrike risk to aircraft operating at and in the vicinity of Christchurch Airport including:

1. Memorandum of Counsel (Appendices 2, 3, 4, & 6; and Appendices F & H)
2. Application Documents (Appendices 9, 13 & 18)
3. Christchurch Replacement District Plan: 6.7.4.3 Activity status tables
- Birdstrike Management Areas

The development and bird strike risk

The proposed industrial development occupies two parcels of land, measuring 33.67 hectares and 24 hectares, respectively, located immediately within and adjacent to the undershoot of Runway 20. This location is significant from a birdstrike perspective because even short local flights of birds attracted to the site could enter aircraft flight paths, increasing the likelihood of collisions. Additionally, the site lies directly beneath a frequently used helicopter flight path, where helicopters operate at low altitudes, further elevating the potential for birdstrikes. This bird hazard poses a risk during both the construction and operational phases of the development.

Review of application documents

From our review the following is noted:

1. The original application included stormwater basins that each exceed 1000m² and were within 500m of each other. This has been modified to meet the standard under 6.7.4.3 of the Christchurch District Plan General Rules and procedures. We note that this does not

necessarily eliminate the risk, and that monitoring and remedial actions should be included in the proposed Wildlife Hazard Management Plan (WHMP).

2. The development could provide bird attracting habitats that will need to be monitored and/or mitigated:
 - a. Drains and trenching: if they do not drain quickly (i.e. within 48 hours) they could attract waterfowl.
 - b. Flat roofs could attract birds for perching and nesting.
 - c. Trees are expected to be fewer under the development than currently, but it is unclear if the tree structures will be less appealing to roosting and nesting birds. Of particular note is the proposed vegetated buffer. Dense planting of *Pittosporum eugenioides* could become a roost for finches and sparrows.
3. In Appendix 9 of the Application documents, Section 10.1.5 Landscape Design includes recommended plant species that are not listed in Appendix 11.
4. The species mentioned In Appendix 9, Section 10.1.5 Landscape Design for planting are unfamiliar to Avisure, but a Google search of each species with the words “.....bird attraction” indicates varying levels of attraction to birds. For instance, the result for red maple returns:
 - a. *“Red maple trees are attractive to birds for several reasons, including the seeds they produce, the insects they host, and the shelter they offer. The red flowers in spring, the red fruits in summer, and the vibrant fall foliage also contribute to their appeal.”*

An independent ecologist who is familiar with New Zealand plant and bird species should be engaged to review the plant species selected for landscaping, with a view to minimising the attraction of birds to the site.

5. In Appendix 11– Landscape and Visual Impact Assessment, Section 9.2 Mitigation Measures, the species mentioned for planting are unfamiliar to Avisure, but a Google search of each species with the words “.....bird attraction” indicates varying levels of attraction to birds. For instance, the result for *Pittosporum eugenioides* returns:
 - a. *“Pittosporum eugenioides, commonly known as Lemonwood, attracts birds due to its fragrant, nectar-rich flowers and the seeds it produces in autumn. The flowers, which are cream-colored and appear in spring, are particularly attractive to nectar-loving birds, while the seed pods that develop later in the year provide a food source that birds will forage on for extended periods.”*

An independent ecologist who is familiar with New Zealand plant and bird species should be engaged to review the plant species selected for landscaping, with a view to minimising the attraction of birds to the site.

6. Item 99 of the proposed consent conditions (Appendix H) indicates how the stormwater basin will be monitored but offers little detail on how birds that are attracted to the site will be managed. The suggestion that *“Birds on the ground are no threat to aircraft”* is misguided. Birds attracted to the site for whatever reasons will need to transit to and from the site, potentially through aircraft flight paths at any moment. Additionally, any threat to such birds or a startling

event could cause them to flush up and into aircraft flight paths. It is imperative that the bird attractive features of the site are minimised.

7. Soil stockpiles may provide food resources for opportunistic species such as gulls. Avisure could not see anywhere that this was considered in the application documents.
8. Grassing / Seeding – Certain grass seeds are a highly attractive food source to a range of bird species and if they are accessible during and after sowing, attraction of these birds increases and the associated strike risk. Species selected for sowing and the prescribed method has not been mentioned.
9. Sprinkling / Irrigation – Excessive sprinkling and irrigation may allow ponding and could attract gulls and other species.

Conclusion

Based on our review of the Ryans Road Fast Track Application, we consider the applicant has not satisfactorily addressed the potential to increase the risk of birdstrike. Given the proximity to the Airport and nature of the development, as discussed above, there is a significant risk the proposal will increase the birdstrike risk. The Applicant needs to address this significant risk prior to any approval of the application. This should include, but not be limited to, provision of a comprehensive high quality Wildlife Hazard Management Plan that identifies all monitoring and mitigation actions, review of the proposed landscaping and its attractiveness to birds by an independent ecology expert, and design controls preventing the establishment of flat roofed buildings on the site.