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Mr Simon Ash
Chief Operating Officer
Winton

UPDATE TO AVIATION PEER REVIEW (SUNFIELD MASTERPLANNED COMMUNITY)

Dear Simon,

Avlaw welcomes the opportunity to provide a peer review of the document *Proposed Sunfield Development Ardmore Airport Safeguarding* (B22156AR001 Rev6, March 2025) prepared by L+R Airport Consulting (L+R) as an aviation safeguarding and airport compatibility assessment of the proposed Sunfield Masterplanned Community project. Avlaw confirms that this peer review has not identified any major differences to the conclusions drawn in the report and that the relevant criteria for determining potential interactions between airport operations and the proposed development have been considered.

Whilst the L+R report presents a very detailed account of the analysis undertaken for each of the assessment criteria considered, it has been difficult to find a concise summary of the critical findings particularly as they relate to additional studies or analysis that may be required in the detailed design phase of the project.

Accordingly, the following information has been prepared to provide a concise summary of the key findings in the analysis undertaken by L+R for the purpose of assisting the Avlaw team undertake the requested review and to help inform any changes to the master plan now by identifying where there are strict limitations that need to be accepted, whilst also identifying potentially underutilised lots to facilitate maximising the economic potential for the entire site.

Summary of Findings

The Sunfield Masterplanned Community project is the proposed development of a 244-hectare site proposal that includes a 55-hectare Business Park located adjacent to the western boundary of Ardmore Airport. As indicated in the image below (sourced from the Ardmore Airport website) aircraft approaching to land on Runway 03 will overfly the development site.

Figure 1: Ardmore Airport – Runway 03 Approach with Business Park zone in foreground

The Community site, being in close proximity to Ardmore Airport, is subject to the provisions and development restrictions promulgated by Designation 200 – *Ardmore Airport* of the Auckland Unitary Plan. The purpose of the designation is to provide for the efficient operation and growth of Ardmore Airport by enabling airport activities and flights while defining airport approach and land use controls.[1]

It is acknowledged that Revision 6 of the L+R report includes identification of the 21 development lots in the Business Park zone by numbers which facilitates presentation of the detailed analysis.

Following consideration of the Designation 200 criteria, the Business Park planning has incorporated building restrictions on Lots 17, 18, 19 and 20 to ensure developments on those lots do not interfere with airport operations.

It is noted that the L+R report nominates that, as the development complies with the Designation 200 criteria, referral to Ardmore Airport Ltd as the designated Requiring Authority is not an obligation on the proponent. Whilst that statement may be accurate, consultation and liaison with the airport is encouraged by Avlaw and will in any event still be required to ensure all potential hazards to aircraft operations are assessed and mitigated wherever necessary – particularly in relation to windshear and turbulence risk management and airport operations during the construction phase (i.e. erection of temporary construction equipment) of each identified building lot.

With respect to the impacts of the proposed development on airport operations during construction, it is noteworthy that temporary structures are not anticipated to reach heights greater than buildings to ensure compliance with the AUP height restrictions. It is acknowledged that although future planning applications will need to be supplemented with a detailed construction methodology which will not be available until an appropriately qualified contractor is engaged, any preliminary advice which conceptually describes how the construction can be completed within these

[1] https://unitaryplan.aucklandcouncil.govt.nz/Images/Auckland%20Unitary%20Plan%20Operative/Chapter%20K%20Designations/Ardmore%20Airport%20Ltd.pdf

parameters would be beneficial to include now in anticipation of reasonable concerns which are expected to be raised by Ardmore Airport upon review of the proposal.

The analysis undertaken of the Business Park proposal has identified that mechanical plant exhaust plumes have the potential to interact with airport operations when the exit velocity of the plume exceeds 4.3 metres per second. The detailed design and analysis of developments for each of the 21 lots in the Business Park will need to consider the potential risks generated by mechanical plant exhaust plumes.

The analysis undertaken of the Business Park development proposal has also identified that 17 of the 21 sites within the Business Park zone have the potential to create adverse wind shear and turbulence effects for airport operations. The development of those sites will require additional analysis and design input to ensure the airport operational risks associated with wind shear and turbulence are mitigated to an acceptable level.

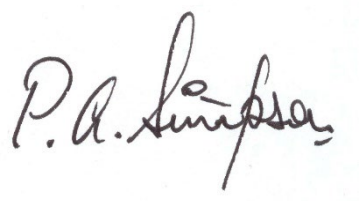
The Community site is within the boundary of the area identified by the NZ CAA and the Auckland Unitary Plan that has the potential to present a risk to airport operations through increased wildlife activity, particularly birds. Detailed design activities for the Community development need to be undertaken in consultation with the airport to mitigate the associated risk.

The analysis has identified the potential risk to airport operations that light sources and associated glare may generate. Detailed design of the developments within the Business Park zone and the overall Community site need to consider the potential effects of lighting provisions.

Lastly, the consideration of helicopter downwash and outwash mentioned by L&R is based on the advice published by CASA and others but that only refers to the rotorwash effects when the helicopter is hovering over a heliport. The information published by CASA makes reference to the potential for rotorwash effects during the final approach and initial departure phase of flight but does not elaborate further. Helicopters generate wake turbulence vortices which trail behind the aircraft whilst the forward velocity exceeds what is known as the translational lift speed, generally around 15 knots (28 kph). Below that speed, the wake turbulence becomes more vertical and presents as the rotorwash phenomenon and is the region in close proximity to the landing and takeoff position. The length of that segment varies between aircraft and the approach gradient of the flight profile. It is acknowledged however that the distance between the Sunfield site and the runway threshold is around 450 metres as noted by L&R which is in excess of the usual length of the segment where the helicopter speed is less than 15 knots. Accordingly, Avlaw agree the rotorwash effects will not extend over the site, but for the reasons stated above. The wake turbulence vortices from a helicopter have a greater horizontal than vertical vector but do settle over time.

Thank you for the invitation and opportunity to provide this peer review of the L+R Airport Consulting report. We trust this response has provided sufficient information for your needs and remain available for further assistance if required.

Yours sincerely,



Peter Simpson

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