

**FORM 18****NOTICE OF REQUIREMENT FOR DESIGNATION  
TO BE INCLUDED IN PROPOSED PLAN  
WITH MODIFICATION**

**TO:** Queenstown Lakes District Council

**FROM:** Queenstown Airport Corporation (a requiring authority in respect of the operation of Queenstown Airport)  
Private Bag 50072  
**QUEENSTOWN**

**NOTICE:** In accordance with Clause 4 of the First Schedule of the Resource Management Act 1991 (the Act), the Queenstown Airport Corporation (QAC) gives notice that it seeks to have Designation 4 – Airport Approach and Land Use Controls included in the proposed Queenstown Lakes District Plan (the District Plan or the Plan). The QAC wishes to modify Designation 4 in accordance with subclauses (1) and (3) of Clause 4 of the First Schedule to the Act.

**1. INTRODUCTION**

- 1.1 Designation 4 (the Designation) of the District Plan is in place and currently provides for take-off climb and approach surfaces and transitional surfaces (together the Surfaces) in relation to the main runway and cross wind runway at Queenstown Airport. These Surfaces impose height and obstacle clearance restrictions around the Airport which are important for the safe and efficient functioning of the Airport, and, in particular the safety of aircraft operations.
- 1.2 The QAC seeks that the existing surfaces and restrictions as shown in Figures 1 – 4 of the operative District Plan are retained in the Proposed District Plan, but that modifications be made to the Designation 4 text to ensure it is clear in its intent and application.

**2. THE NATURE OF THE MODIFICATIONS AND REASONS:**

- 2.1 The modifications that are necessary to the Designation 4 text are described below and shown in Appendix A to this notice.

**Text Amendments**

- 2.2 Minor amendments to the Designation 4 text are required to ensure that the purpose and application of the obstacle limitation surfaces is clear. Designation 4 currently contains an objective which sets out that the purpose of these restrictions is to limit the construction of any structure or facility which may inhibit the safe and efficient operation of Queenstown Airport. While this is entirely consistent with the intent of the Surfaces, it is not clear why such an objective is required to be stated in the Designation. The Designation is in place to enforce

the obstacle limitation surfaces. The identification of an objective is therefore not considered necessary and is to be deleted.

- 2.3 This objective is to be replaced with confirmation that Designation 4 is in place to give effect to Civil Aviation rules and regulations and is a mandatory requirement for all aerodromes in New Zealand.

#### **Measurements**

- 2.4 Designation 4 currently sets out that all measurements detailed are in metres above mean sea level. This is incorrect. The measurements to establish the obstacle limitation surfaces has actually been taken from the Airport datum level which is 355 metres for the main runway and 354m for the cross-wind runway. This is consistent with Figures 1 – 4 of the District Plan. A modification to reflect this is required.

#### **Definition of Object**

- 2.5 The effect of Designation 4 is to control the establishment of new objects into the Surfaces. It is however not clear that object includes structures (both permanent and temporary), as well as vegetation (ie.g. trees) or construction machinery (e.g. cranes) that might also penetrate the surfaces. A definition of object has been included to clarify this and provide certainty for users of the District Plan.

#### **Prohibited Activities**

- 2.6 As set out above Designation 4 is in place to prohibit or control (depending on the surface) the establishment of new structures or objects that may temporarily or permanently intrude into the obstacle limitations surfaces. This is currently set out as a “note” within the Designation text. This does not provide sufficient certainty in that it is more than an advisory type note. It is proposed to incorporate this note so that it applies to each Surface identified in the Designation (i.e. take off and approach, transitional, conical etc).
- 2.7 Currently the Designation sets out that penetration of the conical surface or inner horizontal surface is not permitted, except when the object is shielded by an existing immovable object, or the Council has consented to a penetration as a discretionary activity. Pursuant to section 176 of the Act, QAC is responsible for governing its designation and it is therefore unclear why the Council would issue consent to penetrate the surfaces. It is proposed to revise this to reflect that it is the responsibility of the party who seeks to penetrate the surfaces to commission an aeronautical study in order to demonstrate to QAC that the object will not adversely affect the safety or regularity of airport or aircraft operations. QAC will provide its written approval on this basis.

#### **Inner Edge**

- 2.8 In describing the take off climb and approach surfaces the Designation refers to a 75m strip being applied, which is applied for the purpose of setting the location of these Surfaces. The Designation text as it relates to the transitional surfaces does not make reference to the point at either side of the main runway where these surfaces originate. However, the relevant District Plan Figure 1 – Queenstown Airport Approach and Protection Measures shows where these

transitional surfaces originate, and this is at a point 150m either side of the main runway centre line. To ensure that the text is consistent with the figure in the District Plan it is necessary to amend the designation to note that the transitional surfaces originate from a point 150m either side of the main runway centreline.

**3. THE EFFECTS THAT THE MODIFICATION WILL HAVE ON THE ENVIRONMENT AND THE WAYS IN WHICH ANY ADVERSE EFFECTS WILL BE MITIGATED ARE:**

- 3.1 The modifications will have no material effect on the existing obstacle limitation surfaces that are currently in place around the Airport. There are no changes to the size, scale or extent of these surfaces and therefore associated restrictions, rather the modifications seek to amend the designation text to provide certainty to all parties who may be affected by the existing surfaces. Given this the effects associated with the modifications explained above, and set out in **Appendix A** are minimal.

**4. THE PROPOSED ALTERATION TO THE DESIGNATION IS REASONABLY NECESSARY FOR ACHIEVING THE OBJECTIVES OF THE REQUIRING AUTHORITY BECAUSE:**

- 4.1 The objectives of the requiring authority are:

- To provide for the safe operation of aircraft approaching and departing the Airport.
- To maintain and enhance operating capacity at the Airport.
- To meet international aviation standards and CAA rules in relation to protection of flight paths
- To provide the community with certainty and clarity as to the height restrictions for properties affected by obstacle limitation surfaces

- 4.2 The proposed modifications are considered to be reasonably necessary for achieving these objectives because:

- They are the most effective and efficient method of achieving the safety obligations placed on the Airport by CAA rules, thereby ensuring that the Airport's operating capacity is maintained.
- They provide the most effective method of controlling obstacle heights around the Airport thereby assuring the safe operation of aircraft using the Airport for the long-term.
- The Designation text has been modified so as to provide better clarity and ensure certainty as to the effect of the obstacle limitation surfaces and to ensure consistency with the Figures within the District Plan depicting the Surfaces.

**5. CONSULTATION:**

Consultation has not been undertaken in the preparation of this notice. The Designation, as modified, will be available for public submissions when the District Plan is publically notified.

**6. ALTERNATIVE METHODS:**

As there are no significant adverse effects arising from these modifications, alternative methods have not been considered.

Signed for Queenstown Airport Corporation by its Chief Executive:

Signature:   
.....  
Scott Paterson

Date: 30 March 2015

**Address for Service:**

c/- Mitchell Partnerships  
PO Box 489  
DUNEDIN

Contact: John Kyle  
Phone: 03 477 7884  
Fax: 03 477 7691  
Email: [john.kyle@mitchellpartnerships.co.nz](mailto:john.kyle@mitchellpartnerships.co.nz)

# **APPENDIX A**

## **Modifications to Designation 4 – Airport Approach and Land Use Controls**

Changes shown as underline or ~~striketrough~~.

### **D.3 Airport Approach and Land Use Controls**

#### **Objective**

~~The objective of these restrictions is to limit the construction of any structure or facility which may inhibit the safe and efficient operation of Queenstown Airport. These restrictions directly relate to the runways specified in Designation 2 – Aerodrome Purposes.~~

#### **Overview**

~~The following height restrictions are based on combinations of various Civil Aviation (CAR 139-6 and 139-7) and ICAO Annex 14 obstacle limitation surfaces. The main runway take off climb surfaces are for Code 3 or 4 aerodromes. These are set out below.~~

Civil Aviation Rules require an airport operator to provide obstacle limitation surfaces around the airport to ensure the safe operation of aircraft approaching and departing the airport. This is done by means of height controls based on a series of geometric surfaces projecting up from the edges of the strips which surround the runways, the intention being to prevent objects such as structures and trees from penetrating these surfaces in areas critical to operational safety and efficiency.

The obstacle limitation surfaces contained in this designation protect Queenstown Airport from possible intrusion of over-height obstacles into the necessary approach and take-off areas required for the safe operation of the airport by all types of aircraft in use, or expected to be in use, at the airport.

The obstacle limitation surfaces in this designation are based on combinations of various Civil Aviation (CAR 139-6 and 139-7) and ICAO Annex 14 obstacle limitation surfaces. The main runway take off climb surfaces are for Code 3 or 4 aerodromes. These are set out below.

Note: All measurements are in metres above airport datum level of 355 metres for the main runway and airport datum level of 354 metres for the cross wind runway. ~~average mean sea level unless otherwise stated.~~

Note: Objects (as referred to throughout this designation) include but are not limited to vegetation (including trees), structures (including buildings masts and poles), cranes and construction machinery or other equipment that might penetrate the surfaces.

#### **Airport Protection**

~~Written consent of Queenstown Airport Corporation is to be obtained prior to a resource consent or building consent application being made to the Queenstown Lakes District Council or prior to the carrying out of any works involving the construction of any temporary or permanent structure including any building, aerial, antennae, or other object which in any way penetrates any of the surfaces described in D3 and indicated on the Planning Maps.~~

~~These surfaces are as follows:~~

#### **Take-off Climb and Approach Surfaces**

There is a take off climb and approach protection surface at each end of the main runway and cross wind runway strips. The takeoff and approach surfaces differ in detail, but both are protected by a slope extending upward and outward from each end of the strip.

The take off climb/approach surface at the western and eastern end of the main strip rises at a gradient of 1.6% (1 in 62.5) over a horizontal distance of 18,750m and continues along the extended runway centreline. The inner edge of the main strip is 150 metres either side of the main runway centreline and the rate of lateral divergence from the inner edge is 12.5% (1 in 8) on each side of the fan.

The take off climb/approach surfaces at each end of the crosswind runway strip rises at a gradient of 5.0% (1 in 20) over a horizontal distance of 1600 metres. The inner edge of the crosswind strip is 30 metres either side of the runway centreline and the rate of divergence from the inner edge is 10.0% (1 in 10) on each side of the fan.

There is also a curved take-off climb and approach surface at the northern end of the crosswind runway, which turns to the north at the end of the runway strip with a radius of 900 metres and rises at a gradient of 5.0% (1 in 20) over a horizontal distance of 1600 metres. The inner edge of the crosswind strip is 30 metres either side of the runway centreline and the rate of divergence from the inner edge is 10.0% (1 in 10) on each side of the fan.

New objects or extensions of objects that penetrate the take off and approach surfaces shall be prohibited except where the new object or extension is shielded by an existing immovable object or the penetration is a temporary short term penetration (e.g. construction machinery or equipment) of these surfaces that has been authorised by the Queenstown Airport Corporation Limited.

### **Transitional Surfaces**

The transitional surface provides for a situation where an approaching aircraft is either off centreline or where it has executed a missed approach and allows for an area free of obstacles to protect aircraft in the final phase of the approach to land manoeuvre.

These extend upwards and outwards from the sides of each runway strip starting at the inner edge of 150m from the main runway centreline and 30m from the crosswind runway centreline. For the main strip the gradient is 14.3% (1 in 7). For the crosswind strip the gradient is 20% (1 in 5) to a height of 45 metres above the aerodrome.

Transition slopes extend at the same heights beyond each end of the runway strip to intercept the approach protection surfaces.

New objects or extensions of objects that penetrate the transitional surfaces shall be prohibited except where the new object or extension is shielded by an existing immovable object or the penetration is a temporary short term penetration (e.g. construction machinery or equipment) of these surfaces that has been authorised by the Queenstown Airport Corporation Limited.

### **Inner Horizontal Surface**

The inner horizontal surface is a plane surface at a height of 45 metres above the airport datum level of 355 metres enclosed within a 4000 metres radius drawn from the periphery of the main runway strip, and a 4000 metres distance either side of the main runway strip.

New objects or extensions of objects that penetrate the inner horizontal surface shall be prohibited except where the object is shielded by an existing immovable object, or the party on whose land the object is located or who is otherwise responsible for the object has provided to the Queenstown Airport Corporation Limited an aeronautical study prepared by a suitably qualified and independent person which has determined the object will not adversely affect the safety or regularity of airport or aircraft operations, and that study has been accepted by the Queenstown Airport Corporation Limited, and the Queenstown Airport Corporation Limited has provided its written approval to the penetration.

### **Conical Surface**

The conical surface extends from the periphery of the inner horizontal surface upwards and outward at a slope of 5.0% (1 in 20) to a height of 150m above the aerodrome datum level.

New objects or extensions of existing objects that penetrate the conical surface shall be prohibited except where the object is shielded by an existing immovable object, or the party on whose land

the object is located or who is otherwise responsible for the object has provided to the Queenstown Airport Corporation Limited an aeronautical study prepared by a suitably qualified and independent person which has determined the object will not adversely affect the safety or regularity of airport or aircraft operations, and that study has been accepted by the Queenstown Airport Corporation Limited, and the Queenstown Airport Corporation Limited has provided its written approval to the penetration.

### **Lake Hayes Flight Path**

The centreline of the engine failed take-off surface for light and medium weight aircraft at the eastern end of the proposed extended strip follows the heavy aircraft take off climb/approach surface for a distance of 78 metres from the end of the strip. At this point the engine failed take off surface turns left through an angle of 32 degrees, at a radius of 1442 metres before continuing straight ahead for 3550 metres when it make a further left turn through 50 degrees around Slope Hill at a radius of 3250 metres.

Immediately on completing this turn a right turn through 195 degrees at a radius of 1475 metres is initiated. When this third turn is completed, Northeast of Morven Hill the path continues straight ahead for 2625 metres before turning right through 67 degrees at a radius of 1475 metres between Morven Hill and The Remarkables. After completing this last turn it passes straight back over the Airfield.

The sides of the engine failed surface follow a 12.5% lateral divergence from each end of a 75 metre long strip inner edge either side of the extended runway centreline for a horizontal distance of 4200 metres and thereafter continues at a constant width of 600 metres either side of the centreline. The upward slope of the engine failed protection surface is 1.6% (1 in 62.5) for a distance of 78 metres at which point the surface drops 4.6 metres. The surface then continues to rise at 1.6% (1 in 62.5) terminating overhead the runway.

#### **Note:**

- ~~A. New objects or extensions to objects shall be prohibited activities above the approach or transitional surfaces except when the new object or extension is shielded by an existing immovable object, provided that temporary short term penetrations of these surfaces may be authorised by the Queenstown Airport Corporation.~~
- ~~B. New objects or extensions of existing objects shall not be permitted above the conical surface or inner horizontal surface except when the object is shielded by an existing immovable object, or the Council has consented to a penetration as a discretionary activity following an aeronautical study which has determined that the object will not adversely affect the safety or significantly affect the regularity of operations or aeroplanes.~~

#### **Note:**

Pursuant to Part 77 of the Civil Aviation Rules, a person proposing to construct or alter a structure must notify the Director of Civil Aviation of the proposal if the proposed structure or alteration to a structure is located below the approach or take-off surfaces described in this designation and shown on the Planning Maps and extends to a height greater than a surface extending outwards and upwards at one of the following:

- (i) A slope of 1:83 from the fan origin if the take-off surface of a runway where the runway is used or intended to be used by aircraft with a Maximum Certified Take-Off Weight above 5700kg.
- (ii) A slope of 1:50 from the fan origin of the take-off surface of a runway where the runway is intended to be used by aircraft with a Maximum Certified Take-Off Weight at or below 5700kg.



Notification must be in the form specified in Rule 77-13 and be submitted at least 90 days before the proposed date of commencement of construction or alteration.

