



NOTE: All heights are measured in metres above Mean Sea Level

Scale 1:50,000

# Ardmore Aerodrome

## Specification for Defining Protection Surfaces

### 1 INTRODUCTION

The purpose of this specification is to define the various protection surfaces which apply over part of Manukau City in the vicinity of Ardmore Aerodrome.

This specification is designed to be used in conjunction with controls on the height of structures etc to ensure the continued safety and efficiency of aircraft operations at the Ardmore Aerodrome. The specification forms part of the requirement of the authority responsible for the operation of the aerodrome.

### 2 LOCATION OF RUNWAY CENTRELINES

At the outer ends of the approach and takeoff surfaces, the extended centrelines for the two sealed runways pass through the following coordinates:

Runway 03/21	Northeast End (A)	685622.19 N 321337.19 E
	Southwest End (C)	680398.65 N 315993.55 E
Runway 07/25	East End (B)	683323.04 N 322309.31 E
	West End (D)	683322.82 N 314843.93 E

The above co-ordinates are in terms of the Mt Eden Meridional Circuit Grid, Geodetic 1949.

The centreline for the grass runway 03/21 is parallel to and 150 metres from the centreline of the sealed runway 03/21.

### 3 LOCATION OF BASES

For Ardmore Aerodrome, the bases for the approach and takeoff surfaces for the sealed runways are each 90 metres long, ie extending for 45 metres at each side of the runway centreline. The bases are perpendicular to the runway centrelines, are horizontal, and the elevation of each base is the level of the ground above its centrepoint reduced by 1.5 metres.

The centres of the bases are located at the following co-ordinates:

Runway 03/21	Northeast End (R)	683525.31 N 319192.10 E
	Southwest End (S)	682495.52 N 318138.64 E
	East End (P)	683322.95 N 319309.59 E
	West End (Q)	683322.91 N 317843.65 E

The above co-ordinates are in terms of the Mt Eden Meridional Circuit Grid, Geodetic 1949.

The bases for the grass 03/21 runway lie 30 metres beyond the ends of the runway and are 80 metres long, extending for 40 metres at each side of the runway centreline.

### 4 APPROACH AND TAKEOFF SURFACES

Each approach and takeoff surface rises from a base.

Approach and takeoff surfaces for the sealed runways rise from P, Q, R and S respectively. These widening surfaces rise at a gradient of 2.5 per cent (1:40) and continue upwards and outwards for a horizontal distance of 4000 metres from the strip edge. The length of the approach and takeoff surface is 3000 metres. Each approach and takeoff surface is symmetrically disposed about the extended centreline and its sides diverge uniformly outwards at a rate of 15 per cent.

Approach and takeoff surfaces for the grass runway rise from the bases defined for the runway at a gradient of 2.5 per cent (1:40) for a horizontal distance of 2600 metres. These approach and takeoff surfaces are symmetrically disposed above the extended centreline of the runway strip and their sides each diverge uniformly outwards at a rate of 10 per cent.

### 5 SIDE CLEARANCES (TRANSITIONAL SURFACES)

Side clearances rise upwards and outwards from the sides of the flight paths, and also from the lines joining the ends of each pair of bases (ie P to Q, and R to S) for the sealed runways at a gradient of 1 in 7 to intercept the horizontal surface at 80 metres AMSL.

For the grass runway, side clearances rise upwards and outwards from the side of the flight path and from the lines joining the ends of the pair of bases at a gradient of 1:5 to intercept the horizontal surface at 80 metres AMSL.

### 6 HORIZONTAL SURFACE

The horizontal surface overlays the aerodrome and extends from above the aerodrome for a radius of 4000 metres from bases P and Q. This flat horizontal surface is at 80 metres AMSL. The aerodrome level is 30 metres AMSL. This corresponds to a level 1.5 metres above reference mark "J" on S.O.49594.

### 7 CONICAL SURFACE

The sloping conical surface rises upwards and outwards from the periphery of the horizontal surface at a gradient of 5 per cent (1 in 20) for a further 2100 metres until it reaches a height of 185 metres AMSL.

### 8 BUILDINGS OR STRUCTURES PENETRATING SURFACES

Any proposed building, structure, mast pole, tree or other object which will penetrate the approach and take off surfaces, the transitional surfaces, the horizontal surfaces or the conical surfaces will have to comply with Designation 234 as set out in Schedule 5A.