

APPENDIX F

OAMARU AIRPORT - SPECIFICATIONS FOR FLIGHT PROTECTION AREA

1. **Main Runway**

The existing main sealed runway (known as 18/36) is 1280 metres long by 30 metres wide and is orientated on a bearing of 026° 42' 42" True.

2. **Main Runway Strip**

The main runway strip is of grass. It contains the sealed runway symmetrically within it. For the purposes of this specification the main runway strip is 1402 metres long by 152 metres wide. Thus, each end of the runway strip extends for 61 metres beyond the end of the runway.

3. **Subsidiary Runways and Runway Strips**

Each of the grass runways is incorporated within a "runway strip". For the purposes of this specification:

- (a) The runway strip 11/29 is 930 metres long by 152 metres wide and is orientated on a bearing of 134° 30' 09" True.
- (b) The runway strip 02/20 is 792 metres long by 45 metres wide and is orientated on a bearing of 044° 52' 48" True.

4. **Inner Edges**

Inner edges are established to provide a reference to the location of the base of each take-off/climb and approach surface.

There is an inner edge at each end of each runway strip defined above. Each inner edge is horizontal, and perpendicular to the centreline of the associated runway, its elevation being the level of the ground above its centre point reduced by 1.5 metres.

The length of each inner edge is as follows:

- (a) Main Runway 18/36 - 152 metres.
- (b) Runway 11/29 - 152 metres.
- (c) Runway 02/20 - 60 metres.

5. **Approach Surfaces**

The approach surfaces defined in this specification also include take-off/climb requirements. Each approach surface rises from an inner edge.

(a) **Main Runway 18/26**

Each approach surface is symmetrically disposed about the extended centreline of the main runway, and its sides each diverge uniformly outwards at a rate of 15 percent ($8^{\circ} 32'$). Each approach surface rises at a gradient of 1.6 percent (1:62.5) from the inner edge of a horizontal distance of 19 kilometres.

(b) **Runway 11/29**

Each approach surface is symmetrically disposed about the extended centreline of the runway strip and its sides each diverge uniformly outwards at a rate of 15 percent ($8^{\circ} 32'$). Each approach surfaces rises at a gradient of 2 percent (1:50) from the inner edge for a horizontal distance of 10 kilometres.

(c) **Runway 02/20**

Each approach surface is symmetrically disposed about the extended centreline of the runway strip and its sides each diverge uniformly outwards at a rate of 10 percent ($5^{\circ} 43'$). Each approach surface rises at a gradient of 2.5 percent (1:40) from the inner edge for a horizontal distance of 7 kilometres.

6. **Transitional Slopes**

Transitional slopes extend upwards and outwards from the sides of the runway strips and from the sides of the approach surfaces.

(a) For the main runway 18/36 and runway 11/29, these rise at a gradient of 1:7.

(b) For runway 02/20, these rise at a gradient of 1:5.

Transitional slopes rise until they intercept the horizontal surface (at 74 metres AMSL).

7. **Horizontal Surface and Conical Surface**

(a) The horizontal surface overlays the main runway strip and extends horizontally outwards from above each edge of the main runway strip for a distance of 4000 metres.

Each outer boundary line of the horizontal surface is extended to complete the surface with tangential curves having a radius of 1500 metres.

The horizontal surface is at an elevation of 74 metres AMSL.

(b) The conical surface consists of sloping planes extending upwards from the periphery of the horizontal surface. They extend outwards over a horizontal distance of 4240 metres, rising at a gradient of 1:40 (2.5 percent) to reach a maximum height of 180 metres AMSL.

(c) Where the existing ground level is close to or penetrates the horizontal or conical surface, then the surface may be adjusted at that place in conformity

with the natural shape of the ground below it in order to provide a vertical clearance of 11 metres above the natural ground level.

OMARAMA AIRPORT - SPECIFICATIONS FOR FLIGHT PROTECTION AREA

1. **Runway and Runway Strip**

It has been assumed:

- (a) The runway and runway strip lies within the existing aerodrome boundaries.
- (b) The centreline of the runway is 150m from, and parallel to, the existing Category 7 runway.
- (c) The dimensions of the runway strip are *1500 metres by 90 metres.

*1500 metres being the maximum strip length the current site can accommodate, 90 metres being the standard width for Category 6 operations.

2. **Inner Edges**

The inner edges are located at the ends of the strip. It is assumed that the runway slope of 1 in 168.83 for the existing runway also applies to the new strip, so the heights of the inner edges are estimated as:

- eastern end 411 metres AMSL
- western end 420 metres AMSL.

3. **Protection Surfaces**

3.1 **Approach/Take-off Surfaces**

Western End

The approach and take-off surfaces are combined. The surface rises from the inner edge at a gradient of 1:62.5, its sides splaying uniformly at 15 percent. This surface continues out for 7 kilometres or until it intercepts high ground.

Eastern End

Approach Surface: The surface rises from the inner edge at a gradient of 1:62.5, its sides splay uniformly about the extended centreline at 15 percent. This surface continues out for 5 kilometres.

Take-off Surface: This surface is centred about an approximate bearing of 105° (i.e. 10 degrees off the extended centreline bearing). The surface rises at a gradient of 1:62.5, its sides splaying uniformly at a rate of 12.5 percent.

2550 metres from the inner edge the surface begins a left turn with a centreline radius of 1900 metres through approximately 220°. At the commencement of the turn the surface is deemed to drop by 5 metres. The surface continues to splay at 12.5 percent throughout the turn.

3.2 **Transitional Surface**

This rises at a gradient of 1:7 off the edge of the runway strip and approach/take-off surface until reaching the horizontal surface.

3.3 **Horizontal Surface/Conical Surface**

The horizontal surface overlays the aerodrome and environs at 457 metres AMSL. It extends 4000 metres from the edges of the runway strip, its edges joined by curves having a radius of 1500 metres.

The conical surfaces rises at a gradient of 1:40 off the edges of the horizontal surface to reach 563 metres AMSL.