

24

Chapter 24 Aerodromes



24 Aerodromes & Aviation Matters

24.1 Background

This section of the Plan sets out the general restrictions on development in the vicinity of aerodromes within or adjoining County Kildare. It is the duty of the Irish Aviation Authority (IAA), when notified, to evaluate planning applications and to advise the Council of potential hazards to air navigation.

24.2 Terms & Definitions

The safeguarding requirements in the vicinity of civil aerodromes are principally set out as “International Standards and Recommended Practices” within “Annex 14 to the Convention on International Civil Aviation” which is published by the International Civil Aviation Organisation (ICAO). This provides dimensions and basic criteria needed for the preparation of safeguarding maps for all civil aerodromes, with dimensions and criteria varying in relation to the size, shape and usage of different aerodromes.

Reference Codes definition:

For Obstacle Limitation purposes Code 1, Code 2, Code 3 or Code 4 refer simply to the length(s) of runway(s) at an airport or aerodrome. [“Aerodrome” and “airport” have the same meaning in this context].

In this context, the International Civil Aviation Organisation (I.C.A.O.) defines:

“**Code 1**” as referring to an aerodrome (or runway) where the runway length is less than 800 metres; and

“**Code 2**” for a runway of 800m up to (but not including) 1,200m; and

“**Code 3**” for a runway of 1,200m up to (but not including) 1,800m; and

“**Code 4**” for any runway of 1,800 metres or greater in length.

The Effect of these Aerodrome Reference Codes is as follows:

For each of these runway length categories, ICAO sets out different safeguarding requirements, in the form of three-dimensional geometric shapes “Obstacle Limitation Surfaces” which limit the heights and/or closeness of any objects or structures on or in the vicinity of the aerodrome (with further variations depending on whether its runways have “instrument” status or not).

In general any new objects should not penetrate these “Obstacle Limitation Surfaces” and any existing objects which penetrate these “Obstacle Limitation Surfaces” should ideally be removed. The longer the runway, the more safeguarding is required (in order to ensure clear airspace for the safe navigation, landing and take-off of aircraft); this safeguarding can extend from 2.7 km (for the shortest [“Code 1”] runway, such as at Kilrush), to 15 km (for the longest [“Code 4”] runway, such as at Casement aerodrome).

Obstacle Limitation Surfaces

The principle Obstacle Limitation Surfaces of ICAO’s “Annex 14” (which ICAO recommends should be enacted in local zoning laws etc.) are:

- Approach Surfaces: long wedge-shapes, leading to the end(s) of each runway.
- Transitional Surfaces: to both sides of each runway, mostly contained within the aerodrome itself.
- Inner Horizontal Surface: a large race-track-shaped or circular area above an aerodrome.
- Conical Surface: a large rising ‘rim’ area just outside the Inner Horizontal Surface.
- Take-Off Climb Surfaces: also at the end(s) of each runway, and usually (but not always) narrower than the Approach Surface

Department of Defence:

Casement Aerodrome (being a military aerodrome) does not fall under the control of the Irish Aviation Authority and may set its own standards. However, ICAO Standards and Recommended Practices are applied as policy by the Department of Defence at Casement Aerodrome.

In addition, the Department of Defence applies two further inner restricted areas of its own, a circular “Inner Zone” of 2km radius, and a “Security Zone” more closely aligned with the flight strips (which are the areas around the runways) within which the aerodrome property lies. These additional restrictions do not affect Kildare.

24.3 Kilrush Aerodrome

Location and Description:

Kilrush Aerodrome is the only aerodrome wholly located in County Kildare. It is located beside the N78 road, halfway between Kilcullen and Athy. It is a small private aerodrome with two intersecting grass runways, both of Code 1 length (less than 800m). [See map 24.3]

The grass runways are of overall dimensions 600m by 22m for the principal east-west runway 11-29, and 750m by 22m for the subsidiary (but longer) north-south runway 01-19. The subsidiary runway 01-19 is partly paved (to assist microlight aircraft) but this paving does not extend as far as the runway intersection. Due to the proximity of two roads at both ends of the main runway, the thresholds are displaced at both ends, giving a Take-Off Run Available (TORA) of 570m and a Landing Distance Available (LDA) of 490m for runway 11, and a TORA of 600m and LDA of 500m for runway 29 in the opposite direction. There is no lighting or instrumentation.

The elevation of the aerodrome, taken about the centre of its main runway, is at 303 feet (92.4m) above mean sea level. Both runways fall by at least 5m over their lengths.

Safeguarding:

Safeguarding is calculated as follows in accordance with ICAO Annex 14:

Kilrush is a Code 1 aerodrome and its ICAO Code 1 Obstacle Limitation Surfaces are:

- Inner Horizontal Surface: A flat surface set at 45m above the aerodrome datum level, i.e. at 137.4m AMSL; drawn as a circle of 2 km about the centre of runway 11-29.
- Conical Surface: An inclined ‘rim’ outside the Inner horizontal Surface, rising at 1 in 20 slope by a further 35m (i.e. to 172.4m), drawn in plan as another circle 700m outside the IHS.
- Approach Surfaces: There are four of these, all of the same shape, each commencing at 30m from the threshold of its runway; drawn as 4-sided wedge-shapes in plan, 60m wide (towards the runway end) and 1600m long overall, diverging by 10% to each side so that the outer edge is 380m wide.

These four Approach Surfaces rise at gradients of 5% min. 1 commencing at ground level at 30m from each runway threshold, so that they are all at slightly different elevations [i.e. from ~87m for runway 19, ~90m for runway 11, ~94m for runway 29, and ~95m for runway 01].

- (d) Transitional Surfaces: These are four inclined surfaces to either side of each runway, commencing (for Code 1) 30m from the runway centreline, and rising at 20% (1 in 5) until they touch the Inner Horizontal Surface. These principally limit the height of objects/obstacles on the airfield itself, and are not drawn on the Development Plan maps.

Policy Statement

Kilrush Aerodrome

It is the policy of the Council:

- KA 1** That any further development within a 2.7km radius of Kilrush Aerodrome will be governed by Annex 14 as set down by the ICAO, this includes both Inner Horizontal Surface (2Km) and Conical Surface (plus 0.7Km). The planning authority will consult with the Irish Aviation Authority on development within this area.

24.4 Weston Aerodrome

Location & Description:

Weston Aerodrome is located partly in County Kildare, and partly in South County Dublin, beside Leixlip and between Celbridge and Lucan, near the border with Fingal [See map 25.1]. It is a private aerodrome with a single paved runway [07-25] of Code 1 licensed length 799m, and with permitted paving extending to 1,307m, made up of 850m runway plus 457m stopway. It has a parallel taxiway for the full length of the runway.

Safeguarding:

The obstacle limitation surfaces detailed below are consistent with the provisions of the South Dublin Development Plan (2004-2010).

Although Weston Aerodrome is currently licensed to Code 1 level (i.e. for a runway length of 799m), safeguarding is being provided in the Plan to Code 2 level (i.e. for runway length between 800m and 1200m) as that paving already exists (with planning permission obtained for 850m runway plus 457m stopway).

Safeguarding is calculated as follows, based on ICAO Annex 14 and in consultation with the IAA:

- (a) Inner Horizontal Surface: A flat surface set at 45m above the aerodrome datum level, i.e. at 91.3m AMSL; drawn for Code 2 safeguarding, as a circle of 2.5km radius about the centre of runway 07-25.
- (b) Conical Surface: An inclined “rim” outside the Inner Horizontal Surface, rising at 1 in 20 slope by a further 55m (i.e. to 146.3m, for Code 2 safeguarding), drawn in plan as another circle 1.1km outside the IHS.

[These Inner Horizontal and Conical Surfaces are over 40m lower than those for Casement Aerodrome, so that where they overlap, the Inner Horizontal and Conical Surfaces for Weston are the more critical of the surface shown.]

- (c) Approach Surfaces: Two “Approach Surfaces” of Code 2 dimensions are shown at both ends of the runway at Weston. These commence at 60m from the thresholds of runways 07 and 25, of 80m width towards the runway end, and extending to 2,500m with a divergence of 10% to each side. In accordance with general IAA policy these have been divided into Inner Areas of 1,000m length (in which no new development is generally acceptable to the IAA) and Outer Areas of 1,500m length with development permitted up to a gradient of 1.2 % [rather than up to a steeper gradient of 4% permitted by ICAO under “Annex 14” for Code 2 runways].
- (d) Transitional Surfaces: These are two inclined surfaces to either side of the runway, commencing (for Code 2) 40m from the runway centreline, and rising at 20% (1 in 5) until they touch the Inner Horizontal Surface. [These principally limit the height of objects/obstacles on the airfield itself and are not drawn on the Development Plan Maps.]

Airport/Aircraft Noise:

Airport-generated noise may affect areas around Weston and in line with its runways. Noise contours in relation to likely usage (based on noise intensity and frequency of occurrence) are indicated on Map 25.1, the normal contour indicating a 57dB Laeq noise level is generally the level at which noise is considered to become obtrusive, so that noise insulation would become desirable above that level and within that contour. Increasingly, aircraft are being made quieter, with some noisier aircraft phased out, or prohibited. [Noise contour diagrams exist for Weston and Casement].

Policy Statement

Weston Aerodrome

It is the policy of the Council:

- WA 1** To encourage the extension and improvement of Weston Aerodrome to include stopway/clearway and phased executive passenger/air freight related repository/storage buildings and airport related offices and ancillary services (but not retail development).

In relation to the foregoing, the Council will consult and co-ordinate with South Dublin County Council in all matters in relation to Weston Aerodrome.

- WA 2** To refer any application for development within 3.6Km of Weston Aerodrome (i.e. within the circle of the Conical Surface) to the Irish Aviation Authority.

- WA 3** To retain the current status of Weston Aerodrome. That any increase or change in the use of the Aerodrome will require that Kildare County Council carry out a full assessment of any significant impact that may arise from such an increase or change in use and take such action as may then be required to control any material change or material intensification of use.

24.5 Casement Aerodrome

Location and Description:

Casement Aerodrome is located wholly within South County Dublin, at about 2.5 kilometres from the nearest point on the county boundary with Kildare [see Map 25.2]. It is the principal State military aerodrome, with substantial fixed-wing training and helicopter operations. It has two intersecting paved runways (each with parallel taxiways) of which the main instrument runway 11-29 is 1,829 metres length (Code 4) with proposals for a 300m future extension towards Kildare and the subsidiary runway 05-23 is 1,463 metres length (Code 3) with proposals for a 150m future extension towards Kildare.

Safeguarding:

It is Department of Defence policy that the ICAO civil aviation standards and recommended practices (rather than any different military standards) be adopted in relation to Casement Aerodrome, and the Council fully agree with this policy.

In several areas in Kildare the land lies above various Obstacle Limitation Surfaces generated from Casement Aerodrome, see map 24.2.

- (a) The safeguarding generated in relation to the Code 4 and Code 3 runways at Casement Aerodrome restricts development (to a very significant extent in certain areas) on the Approach to its subsidiary runway 05, for a distance of up to 15km from that runway, of which more than 10km lies above County Kildare (reaching to the outskirts of Naas).
- (b) The town of Killeel and its immediate surroundings lie above the Approach to runway 05, and above the "Outer Horizontal Surface" relating to Casement Aerodrome, so that development in those areas (and in all areas above 236.6m elevation) would need to be monitored and restricted (including any masts or aerials).
- (c) Lyons Hill in Kildare lies above the "Conical Surface" relating to Casement Aerodrome, which commences at the elevation of 131.6 metres O.D. It is understood that this is located in an area regarded by the Air Corps as of significance for aircraft circling and training.

- (d) The western Approach to Casement main runway 11 lies directly to the south of Celbridge (at a distance of around 5km from that runway), however development of normal height is unlikely to be problematic in that location.

Policy Statement

Casement Aerodrome

It is the policy of the Council:

- CA 1 To refer any new development within approximately 6km of Casement Aerodrome (i.e within the the plan area of its Conical Surface) to The Department of Defence

25.6 Aviation Policy - General

It is the policy of the Council:

- GA 1 To investigate the feasibility of locating an airport in the County.

Consultation with Irish Aviation Authority

- GA 2 To consult with the Irish Aviation Authority on all applications for development that exceed 45 metres in height, or where it is considered appropriate.

Siting of Development

- GA 3 To ensure that development in the vicinity of aerodromes does not involve processes that produce atmospheric obscuration, or attract bird concentrations, which might interfere with aircraft operations.

Proposed refuse dumps within a radius of 8km of the centreline of any runway are not generally considered acceptable, any proposed refuse dumps within a radius of 13Km from any runway centreline should be notified to the Irish Aviation Authority.

Criteria for the Protection of Radio Facilities and Radio Nav aids from Interference.

GA 4

- (i) That industrial processes which involve radio frequency energy, for example induction furnaces, radio frequency heating, radio frequency welding, transmission masts, etc should not cause interference to radio nav aids.
- (ii) That ESB or Eircom overhead lines serving the Aerodrome or Navaid sites should be buried underground for a minimum distance of 100 metres, from the edge of the runway strip or from the radio installations NDB/DME facility, VHF Communications Antennae etc. at the aerodrome, whichever is the greater. Overhead lines beyond 100 metres should approach from a direction perpendicular to the runway centre line and be referred to the Irish Aviation Authority.

- GA 5 To have regard to detailed criteria relating to the subject of Obstacle Limitation Surfaces appropriate to various classifications of airport runways as contained in Annex 14 to the "Convention on International Civil Aviation" published by the International Civil Aviation Organization.

- GA 6 In the interests of public safety to seek information (including aircraft movement logs) detailing (a) the number of aircraft movements and (b) the type and capacity of aircraft using an aerodrome, in order to allow a full assessment of any significant impact that may arise in relation to a new aerodrome or to an increase or change of use of an existing aerodrome.