

**SUPPLEMENTARY
AERONAUTICAL ASSESSMENT REPORT**

**RE
BLOCK D4 (OF REDUCED HEIGHT)
AT
COOLDOWN COMMONS SITE
CITYWEST ROAD, DUBLIN 24
IN SOUTH COUNTY DUBLIN**

**FOR
PLANNING APPLICATION**

**BY
CAIRN HOMES PROPERTIES LTD**

25TH APRIL 2022



**O'DWYER & JONES DESIGN PARTNERSHIP
AVIATION PLANNING & ARCHITECTURE CONSULTANTS
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1. Scope of Report & Location of Building

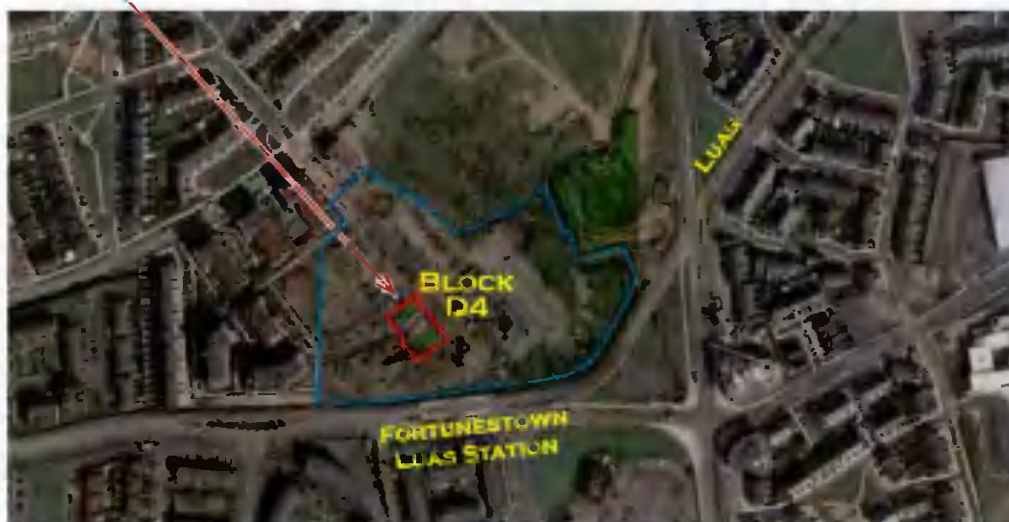
1.1 Scope of This Report

This Report assesses whether there might be any new aviation effect arising from a proposed reduction in the height (from 13 storeys as previously submitted and permitted, to 9 storeys as now proposed) of the building “Block D4” at Cooldown Commons beside Fortunestown Luas Station in the Saggart-Citywest area of Dublin 24.

- 1.2 Planning permission was received from An Bord Pleanála in October 2021 for a residential development of several buildings [under SHD permission ref. ABP-310570-21] including permission for Block D4 of 13 storeys. Following subsequent discussion – and engagement and agreement made with the Department of Defence – it is now proposed that Block D4 be reduced in height from 13 to 9 storeys, with the height of its topmost points reduced by 12 metres from 155.7m OD to 143.7m OD.

1.3 Location of the Reduced Block D4 Building

The location of Block D4 (which is unchanged) is indicated in the aerial view below, in which the site of the building that is the subject of this application is outlined in red, and the overall site (that was the subject of the Bord Pleanála permission granted in October 2021) is outlined in blue.



2. Aviation & Aeronautical Assessment

2.1 Previous Assessment

Block D4, as previously envisaged (of 41.05m in height above adjoining Plaza level which is at 114.65m OD), was the subject of a 40-page Aeronautical Assessment Report, dated 21st May 2021, done by this firm. Much of that report dealt with analysis of Block D4 – being the tallest proposed element on the site – and it was concluded, for various stated reasons, that the development (including the 41.05m-tall Block D4) complied “with ICAO* guidance and with all international aviation and aeronautical requirements affecting the location.”

[ICAO = The International Civil Aviation Organization, whose Standards and Recommended Practices have been adopted as policy at Casement Aerodrome.]*

2.2 Current Assessment Summary

It was established that the taller building (of 41.05m height above adjoining ground) would be in accordance with ICAO guidance and with the aviation requirements affecting the site; and, as would be expected, a lowered building in the identical location (of 29.05m height above adjoining ground) will also be in compliance with all aviation requirements and with ICAO guidance.

2.3 Casement’s Inner Horizontal Surface (summary)

At 143.7m OD max. height, Block D4 will still be above Casement Aerodrome’s Inner Horizontal Surface [IHS] by 12 metres. However, for multiple reasons including —

- (i) the substantially rising ground in that sector which itself projects above the IHS by up to 204 metres;
- (ii) the presence of other nearby objects of similar and of greater elevations OD, including in particular Saggart Church tower; and
- (iii) the prohibition on circling by aircraft in this particular sector (given that the stated purpose of an IHS is to protect circling aircraft),

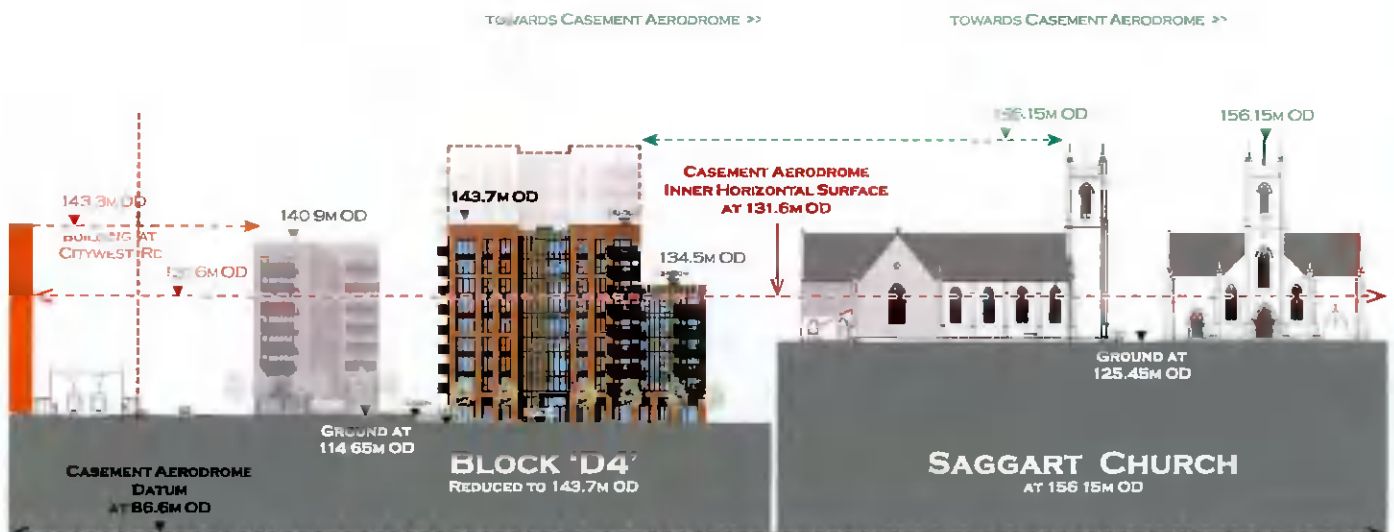
— this relatively small projection above Casement’s Inner Horizontal Surface is not significant, and would not cause any new adverse aviation effect.

Other existing objects in the building’s vicinity, of similar elevations-OD, are mentioned briefly on the following two pages.

2.4 Increased Shielding Effect

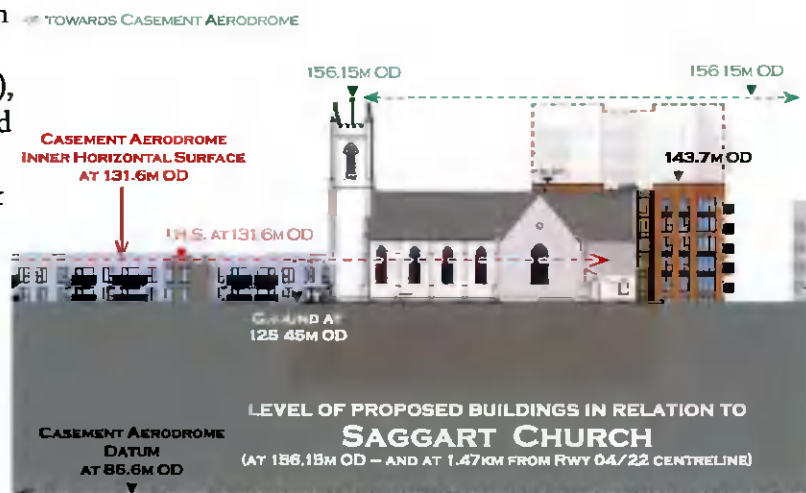
Saggart Church, rising to 156.15m OD (24.55m above Casement’s IHS), effectively establishes an “obstacle height” for the surrounding area in that sector, south of Casement Aerodrome. At its new (reduced) max. height of 143.7m OD, Block D4 will be more than 12 metres lower than the nearby church tower, so that this tower will therefore provide an increased “shielding” effect for the lower Block D4.

The relationship of the lowered apartment block D4 to Saggart Church – which church is on higher ground and nearer to Casement’s Runway 04/22 – is illustrated below. [These illustrations may be compared with the similar ones appearing on page 22 of our previous Aeronautical Assessment Report of 21st May 2021 re Cooldown Commons.]



2.5 The views above ^ look towards the south-east (from Fortunestown towards Saggart), and the combined view at right > looks north-east from Saggart to Fortunestown.

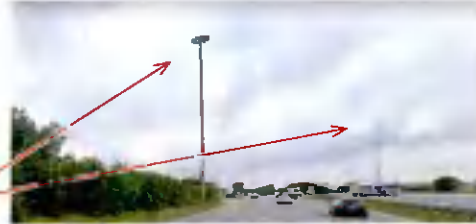
All buildings are shown at their actual relative elevations OD /amsl.



2.6 Other Existing Objects of Similar Height/Elevation

At 29.05 metres tall, the D4 building – reduced to nine storeys – is of similar height (and at broadly similar elevation-OD) as other existing objects in the same sector to the south of Casement Aerodrome.

Examples of these other items include — the 27.5m-tall masts which extend across the approach to Casement’s Runway 04 (at the N7–Rathcoole interchange), whose tops reach 142m OD (and which themselves are the equivalent of 9 storeys in height).



And on a nearby site along Citywest Road, another recently-permitted apartment building also extends to 143.3m OD.

And trees in the surrounding area extend to higher elevations.

Given the presence of these items in the vicinity, the reduced Block D4 can have no additional adverse effect on aviation.

- 2.7 In an separate note sent to SDCC in 2021, the Department of Defence has provided the following guidance in relation to building heights, and the reduced D4 building (being 29.05m in height) complies fully with this Department of Defence guidance (as also do the structures mentioned in paragraph 2.6 above). —

(2) It is recognised that terrain rises to the South of Baldonnel, therefore developments which penetrate the Inner Horizontal Surface may be acceptable that have a maximum height of 30m above ground level subject to appropriate assessment.



2.8 Solar/PV Panels on the Reduced Block D4

The Solar/PV panels on the roofs of all of the permitted apartment blocks on the Cooldown Commons site (including those on the permitted taller Block D4) were the subject of a satisfactory Glint and Glare assessment by Innovision Ltd., and it is proposed that the lowered Block D4 will have the same solar/PV panels on its roof.

At 2km+ distance from Casement Aerodrome, it is highly unlikely that the reduction in elevation of Block D4’s solar panels (down to *the same elevation and orientation* as those permitted on Block D2) will give rise to unwanted glint or glare. However, in the event that the Air Corps or Department of Defence may advise that any of the panels on Block D4 produce unsatisfactory reflections which might affect aviation, it has been agreed by Cairn Homes that panels will be adjusted to the Air Corps’s satisfaction.

3. SUMMARY

- 3.1 We consider that the proposed adjusted Block D4 – of reduced height from 41.05m to 29.05m above adjoining ground – which is part of the permitted residential development at Cooldown Commons, complies with all aviation and aeronautical requirements affecting its location at Fortunestown.
- 3.2 Prior to submission of this supplementary report, the proposed reduction in the height of Block D4 at Cooldown Commons (from 155.7m OD elevation to 143.7m OD elevation) has been discussed with and agreed with the Department of Defence.



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25th April 2022
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