

AVIATION REPORT

**RE
WAREHOUSE EXTENSION**

**AT
MAGNA DRIVE, DUBLIN 24
IN SOUTH COUNTY DUBLIN**

**FOR
ORIGO DISTRIBUTION LTD.**

14TH DECEMBER 2022



**O'DWYER & JONES DESIGN PARTNERSHIP
AVIATION PLANNING & ARCHITECTURE CONSULTANTS
28 LEESON PARK • DUBLIN 6 • TEL.:353-1-498 1893 [FAX:353-1-496 4410]**

WWW.AVIATIONPLANNING.IE

E.: ADMIN@AVIATIONPLANNING.IE / DESIGNPARTNERS@IOL.IE

INDEX

page

Section 1	
Scope of Report and Description of the Site	2
Section 2	
Aviation-Related Items in the Vicinity of the Magna Drive Site	3
Section 3	
Relevant Paragraphs in the S.D.C.C. Development Plan 2022-28	4
Section 4	
Site Layout and Elevations-OD of the Proposed Warehouse Extension	6
Section 5	
The Development in relation to Casement's Obstacle Limitation Surfaces	7
Section 6	
Wildlife Aviation Impact Assessment vis-à-vis Casement Aerodrome	8
Section 7	
Cranes on Site (and Other Aviation Considerations)	10
Section 8	
SUMMARY	11

Note: In all maps /diagrams /aerial photos in this report which do not contain a North Point, north lies to the top.

Copyright © 2022: All rights reserved. Except for the specific purpose for which it is commissioned no part of this document may be distributed, used, copied, or reproduced in any format, electronic or otherwise, without the prior written permission of O'Dwyer & Jones Design Partnership, Dublin.

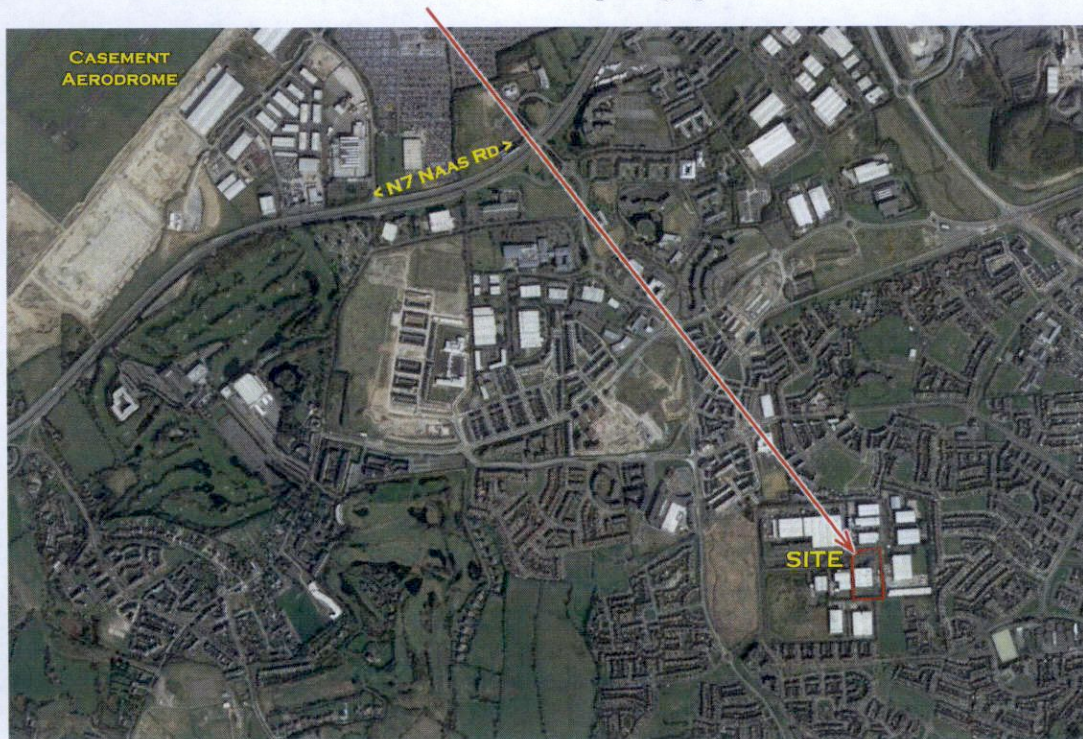
1. Scope of Report and Description of the Site.

1.1 Scope of this Report:

This report assesses the aviation aspects of a proposed warehouse extension on a site of 1.6 hectares approx. at 23 Magna Drive, Citywest, in South County Dublin. The report addresses in particular Item 4 “Aviation Safety” on page 3 of SDCC’s Additional Information request, dated 6th October 2022 (with register reference SD22A/03250) which stated:

“Due to the proximity to Casement Aerodrome, the developer should produce a Wildlife Aviation Impact Assessment and implement adequate bird control measures during the construction phase to mitigate the effects of birds on Air Corps flight operations.”

The site is shown outlined in red in the aerial photograph below.



1.2 Description of the Site:

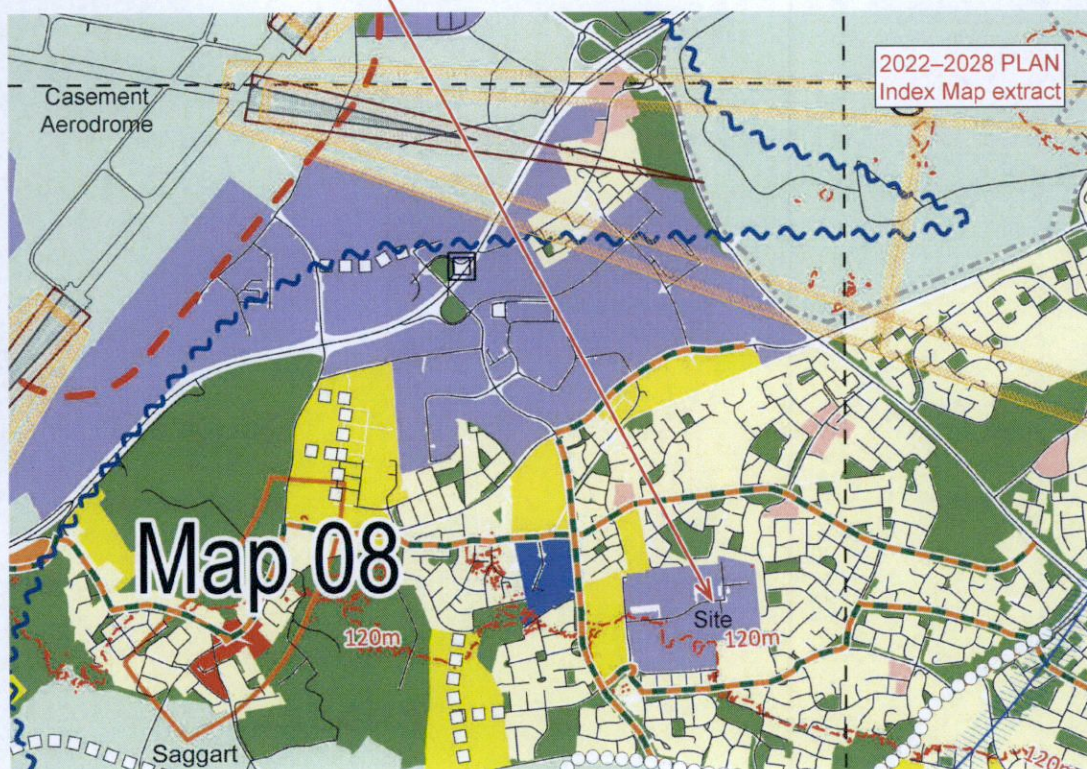
The site, to south-east of Magna Drive in Magna Business Park, Citywest, in Dublin 24, is of overall area 1.6 hectares approx. It is at 2.7km from the nearest boundary of Casement Aerodrome (to its north-west), and at 2.9km from the centreline of Casement Aerodrome’s shorter Runway 04/22.

Ground levels on the site, and the warehouse FFL level, are at 106.8m OD, which is 20m higher than Casement’s datum level (which is at 86.6m OD).

2. Aviation-Related Items in the Vicinity of the Magna Drive Site

2.1 The Department of Defence has adopted the International Civil Aviation Organization's [ICAO's] "Obstacle Limitation Surfaces" in relation to Casement Aerodrome. Being a military aerodrome, Casement is not bound by these *civil* aviation standards, but the Department of Defence has opted to apply these Standards at Casement to protect aircraft in flight. These "Surfaces" – similar to the EASA Specifications which now apply at Dublin and other Irish airports – are set out by ICAO as *International Standards and Recommended Practices* in its Annex 14 – 'Aerodromes' document, [eighth revised edition of 8th November 2018].

The site's location is arrowed on the extract below from the SDCC Index Map 2022–28:



2.2 The Site in relation to Aviation & Aeronautical Items in its Vicinity:

It can be seen (from the map extract above) that the site, zoned "EE", lies outside all Approach & Take-off-climb Surfaces to/from Casement's runways (in orange), outside Casement's Security Zone (red hatch), outside Casement's Noise Zone (blue hatch), and outside all of Casement's new Public Safety Zones (in brown).

The site, being 2.9km from Casement's Runway 04/22, does however lie under Casement Aerodrome's "Inner Horizontal Surface" which extends to 4km from all its runways (within the curved blue line at bottom right of the map extract above). As its ground levels are at 106.8m OD, the site is 20m higher than Casement's datum level (86.6m OD), and 25m below its "Inner Horizontal Surface".

3. Relevant S.D.C.C. Development Plan Paragraphs

- 3.1 Of relevance to the aeronautical/aviation assessment of the Magna Drive site are the paragraphs reproduced below from the current South Dublin County Council Development Plan 2022-2028, which include —
- 3.2 **Section 11.8 re ‘Airports and Aerodromes’ in general, on page 417 of the Plan:**

11.8 Airports and Aerodromes

This section sets out the general restrictions and requirements on development within the County for Dublin Airport, Casement Aerodrome and Weston Airport. The safeguarding requirements in the vicinity of civil aerodromes located in South Dublin (Dublin Airport and Weston Airport) are set out in:

- a. 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) and the Irish Aviation Authority Guidance Material on Aerodrome Annex 14 Surfaces (2015);
- b. Certification Specifications & Guidance Material for Aerodromes Design published in 2017 by the European Aviation Safety Agency (EASA).

Safeguarding is dealt with in more detail in Chapter 12: *Implementation and Monitoring*.

Casement Aerodrome is a fully equipped military base and includes the main centre for Air Corps Operations. Its operations and requirements are dealt with by the Department of Defence.

- 3.3 **Paragraphs 11.8.1 & 11.8.2 re ‘Casement Aerodrome,’ on page 418 of the Plan:**

Casement Aerodrome, being a military aerodrome, does not come under the control of the Irish Aviation Authority but the ICAO Standards and Recommended Practices are applied as policy by the Department of Defence. Additionally, the Department of Defence applies a ‘Security Zone’ closely aligned with the areas around the runways known as flight strips.

11.8.2 Casement Aerodrome

Casement Aerodrome is in continuous aviation use and is the only fully equipped military airbase in the State serving as the main centre of Air Corps operations. The aerodrome has two runways:

- 1 Runway 10 / 28: The existing main runway with east to west orientation (north of Newcastle and over Kingswood);
- 2 Runway 04 / 22: Existing secondary runway with a south-west to north-east orientation (04 over Rathcoole and 22 over Corkagh Park).

3.4 Policy (and Objectives) IE9 re Casement Aerodrome on pp. 418-9 of the Plan:

<p>Policy IE9: Casement Aerodrome</p> <p>Safeguard, having regard to the requirements of the Department of Defence, the current and future operational, safety and technical requirements of Casement Aerodrome and facilitate its ongoing development for military and ancillary uses.</p>
<p>IE9 Objective 1:</p> <p>To ensure the safety of military and other air traffic, present and future, to and from Casement Aerodrome with full regard for the safety of persons on the ground as well as the necessity for causing the least possible inconvenience to local communities.</p>
<p>IE9 Objective 2:</p> <p>To maintain the airspace around Casement aerodrome free from obstacles to facilitate aircraft operations to be conducted safely, as identified in the Development Plan Index map and Map 12 and as outlined in Chapter 12: <i>Implementation and Monitoring</i>.</p>
<p>IE9 Objective 3:</p> <p>To implement the principles of shielding in assessing proposed development in the vicinity of Aerodromes, having regard to Section 3.23 of the Irish Aviation Authority <i>Guidance Material on Aerodrome Annex 14 Surfaces</i> (2015) (See Chapter 12: <i>Implementation and Monitoring</i>).</p>
<p>IE9 Objective 4:</p> <p>To prohibit and restrict development in the environs of Casement aerodrome, where it may cause a safety hazard. (See also Policy IE13 Public Safety Zones and Chapter 12: <i>Implementation and Monitoring</i>).</p>

3.5 “Bird Strike Hazard” item in section 12.11.6 on p.528 of the Plan:

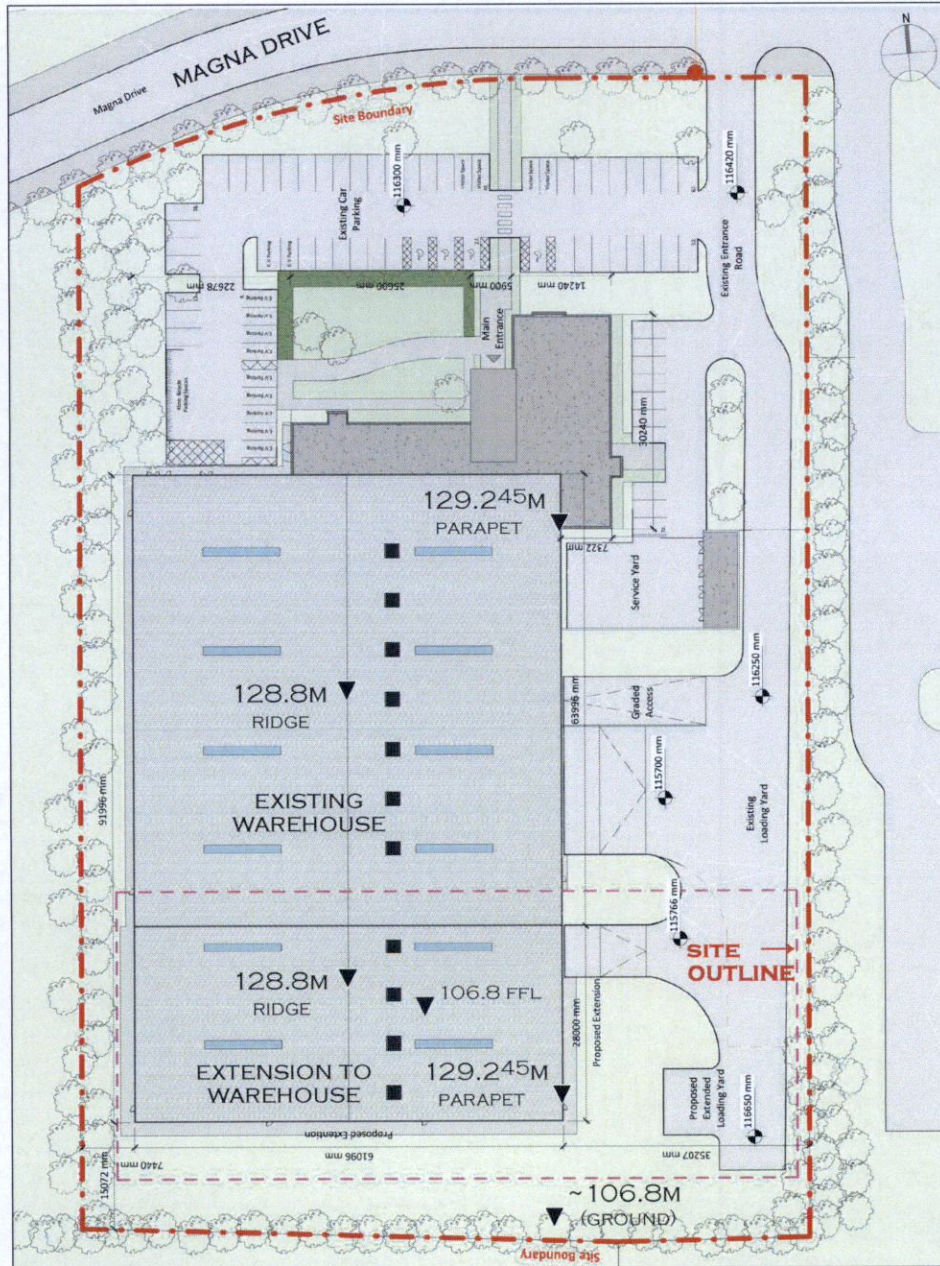
This paragraph specifically relates to SDCC’s Additional Information Request dated 6th October 2022.

<p>12.11.6 Restricted and Prohibited Development</p> <p>Bird Strike Hazard</p> <p>Irish Aviation Authority guidance provides that development which may attract birds, such as rubbish dumps, may not be located within 13km of Casement Aerodrome or Dublin Airport, or within 8km of Weston, and the approaches to runways in particular must be kept free of bird strike hazard. Uses and landscaping such as refuse tips, sewage works, reservoir, wetlands or nature reserves, or major planting schemes, which may attract birds should be avoided, particularly on runway approaches.</p>
--

4. Site Layout and Elevations-OD of the Proposed Development

4.1 Below, to approx. scale 1:1,000, is a Site Layout Plan of the proposed warehouse extension at Magna Drive, with elevations OD of its highest elements.

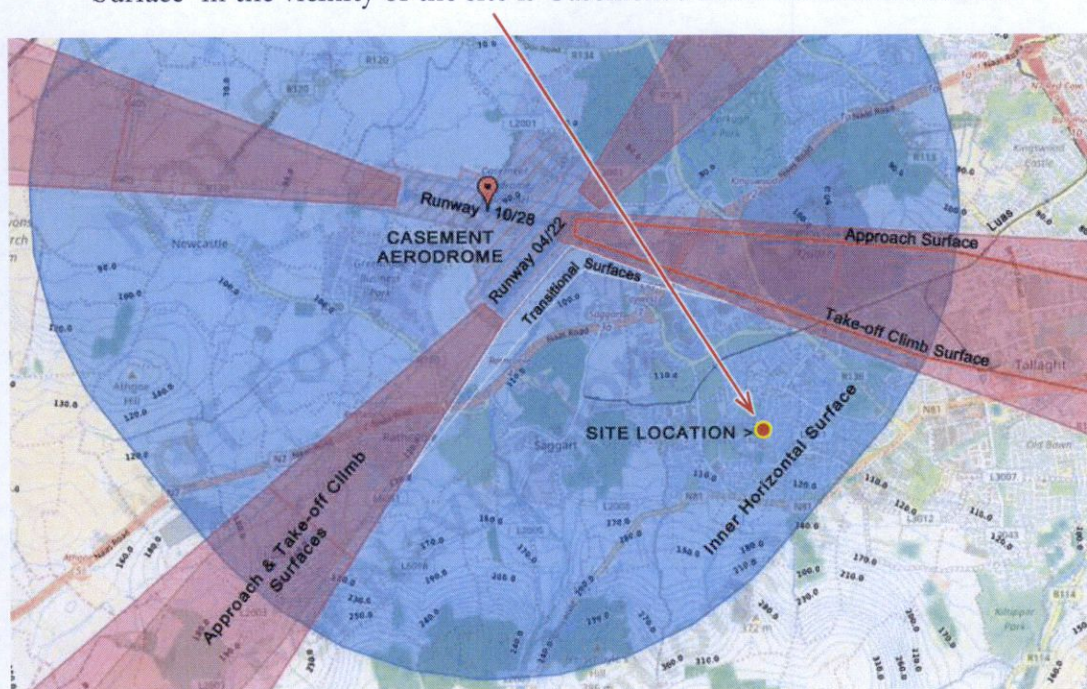
The elevations-OD of the new parapet and roof areas will match exactly the elevations-OD of the existing warehouse parapet and roof.



SITE PLAN OF PROPOSED DEVELOPMENT WITH ELEVATIONS (O.D.) OF HIGHEST PARTS SCALE 1:1000 APPROX.

5. The Development in relation to Casement's Obstacle Limitation Surfaces

5.1 The "Obstacle Limitation Surfaces" for Casement Aerodrome are indicated in the drawing below [featuring Irish Aviation Authority 'Asset' data] in which the "Inner Horizontal Surface" is shown coloured blue, and the site's location marked by a red+yellow dot. It can be seen from this drawing that the only "Surface" in the vicinity of the site is Casement's Inner Horizontal Surface.



5.2 The **Inner Horizontal Surface** at Casement Aerodrome lies at 131.6 metres OD (i.e. at 45m above the Department of Defence's chosen datum of 86.6m).

5.3 Conclusion (re Obstacle Limitation Surfaces):

As the highest proposed element (the parapet of the proposed warehouse extension, at 129.245m OD) does not reach 131.6m OD (which is the level of Casement's Inner Horizontal Surface above the site), it is confirmed that **no Obstacle Limitation Surface will be infringed by the development.**

6. Wildlife Aviation Impact Assessment vis-à-vis Casement Aerodrome

6.1 The considerations which arise in regard to wildlife & aviation impact are:

- (i) Control of any bird & wildlife attractants during construction.
- (ii) Avoidance of landscape elements which might provide avian food.
- (iii) Avoidance of unnecessary standing water features which might attract birds.
- (iv) Management of any necessary standing water elements (e.g. flood-control swales) in locations where they will be less attractive to birds.
- (v) Implementation of ongoing bird control and deterrence measures.

6.2 IAA (& FAA) Guidance re Wildlife and Aviation:

The IAA has recently published a manual >> on “Bird and Wildlife Strike Management at Aerodromes (2021)”, and the guidance in it (in regard to the items listed in 7.1 above) will be followed at the Origo Warehouse site.

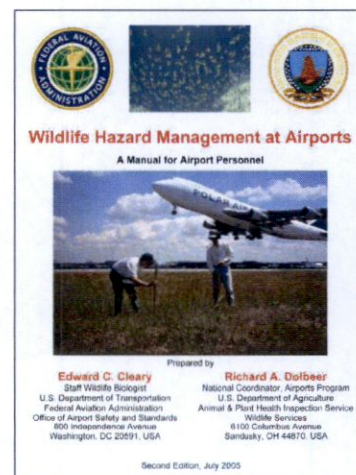
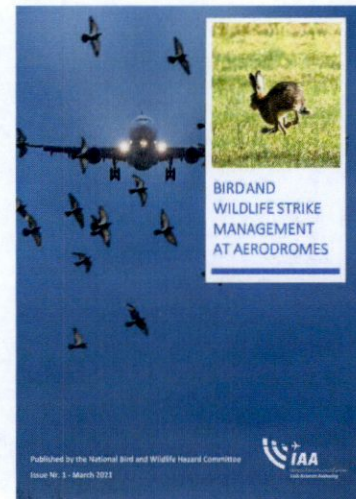
Additional useful guidance is provided in the Federal Aviation Authority’s “Wildlife Hazard Management at Airports.” >>

On this site (at c.2.7km from Casement Aerodrome) bird control is the principal wildlife concern (rather than incursions by mammals).

6.3 Wildlife control during construction:

In regard to item 6.1 (i) above, building-site management will require the contractor and subcontractors to control all debris on site and in particular any food waste. Management of trenches, topsoil removal, and earth-moving in general, will also be required, to ensure that debris or earth will not remain exposed as attractants to gulls or other birds, and that any flooded or exposed areas will be covered.

The Construction Management Plan will provide for these items. In addition to wildlife control aspects, the CMP will also require that any dust or smoke-producing operations, or use of lasers on site (which might interfere with aviation), will be strictly controlled.



6.4 Bird Control in Relation to the Proposed Development:

In regard to items (ii) to (v) above [in paragraph 6.1], all of the items listed will be provided for on the Origo Warehouse site. —

Re item (ii) – avoidance of avian food attractants – we are advised that the use of seed-bearing plants and trees will be avoided in the landscaping of the area surrounding the Origo Warehouse Extension.

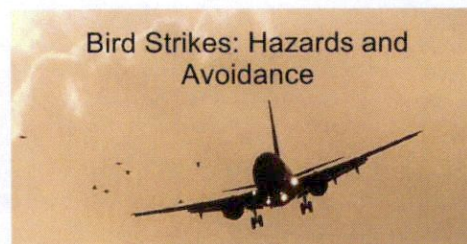
Re items (iii) & (iv) – water and flood-control elements – it is noted that flood control measures on the site involve minimal detention basins (i.e. an existing dry swale, and a new bio-retention swale) both located close to active locations (which are consequently unlikely to attract the gulls and water fowl which give rise to greatest bird strike hazard). This is in line with IAA guidance, which states (under “Dispersal Methods” on p.60 of its Wildlife manual referred to in para 6.2 above): “Human presence is the simplest method of dispersing wildlife.”

Re item (v) – ongoing bird control and deterrence measures – it is confirmed that ongoing bird strike risk will be monitored, and any bird control measures deemed necessary by the Air Corps will be implemented.

6.5 Overall Bird Strike Risk at the Site:

Overall, no increased bird strike risk is anticipated to arise when the proposed warehouse extension is completed.

During construction, all necessary bird hazard mitigation practices – including waste management, and protection of exposed surfaces during excavation – will be undertaken (and will be provided for in the CMP).



The “Bird Strike Hazard” elements mentioned in the SDCC 2022-28 Development Plan (in its Section 12.11.6 on page 528) do not arise on this site at Magna Drive, which is not near any Runway Approach or Flight Path, and which is around 3km from the aerodrome’s nearest runway.

7. Cranes on Site During Construction (and Other Aviation Considerations)

7.1 Crane/s on Site and Crane Notifications:

It is proposed that a mobile crane will be used in the construction of the warehouse extension, which may project by a very small amount above Casement's Inner Horizontal Surface, but is highly unlikely to extend above the highest point of the directly adjoining Castolin building (on Magna Avenue to its south, which extends to 140.5m OD approx.), or as high as the new nearby apartment block at Magna Drive to its west (which extends to 143.3m OD).

In any event it will be necessary [under S.I. 215 of 2005 – *Irish Aviation Authority (Obstacles to Aircraft in Flight) Order*] for prior notification of the use of any crane/s to be submitted, at least 30 days in advance, to the Irish Aviation Authority and to Casement Aerodrome, who may need to issue any necessary notices to pilots. Advance notification in regard to cranes is proposed to be given to Air Corps Air Traffic Services by email to airspaceandobstacles@defenceforces.ie and/or by telephone to 01-4037681 at Casement Aerodrome.

7.2 Other Aviation Considerations:

There are no solar/PV panels proposed as part of this development (so no Glint & Glare analysis arises).

No special external lighting considerations arise on this site, and no requirement arises for any aeronautical warning lights.

8. SUMMARY

8.1 Wildlife Considerations vis-à-vis Casement Aerodrome:

The proposed development will not give rise to any new adverse wildlife considerations which might affect aviation at Casement, and items which might give rise to bird strike hazard during construction will be avoided (and will be provided for in the Construction Management Plan).

8.2 The Development in Relation to Casement's Obstacle Limitation Surfaces:

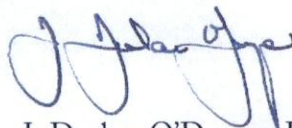
The one Obstacle Limitation Surface that lies above the site is Casement's Inner Horizontal Surface (at 131.6m OD). As the tallest proposed element (the warehouse parapet at 129.245m OD) is more than 2m lower than this Inner Horizontal Surface, it is confirmed that no part of the proposed development will breach any of Casement Aerodrome's Obstacle Limitation Surfaces.

8.3 Cranes During Construction:

It is anticipated that cranes on site during construction could extend by up to 10m above Casement's Inner Horizontal Surface (which amount is no higher than the amount by which other nearby existing buildings project above it). In any event it will be necessary for 30 days' advance notice of any proposed cranes to be given to the IAA and to the Air Corps.

8.4 Overall:

We consider that the proposed Origo warehouse extension complies fully with all aviation and aeronautical requirements affecting the location.



J. Declan O'Dwyer B.Arch MBA RIBA
14th December 2022
O'Dwyer & Jones Design Partnership
Aviation Planning Consultants

O'DWYER & JONES DESIGN PARTNERSHIP
AVIATION PLANNING & ARCHITECTURE CONSULTANTS
28 LEESON PARK • DUBLIN 6 • TEL.: 353-1-498 1893 [FAX: 353-1-496 4410]

WWW.AVIATIONPLANNING.IE

E.: ADMIN@AVIATIONPLANNING.IE / DESIGNPARTNERS@IOL.IE

J. D. O'DWYER B.ARCH MBA RIBA

S. JONES MA



O'DWYER & JONES DESIGN PARTNERSHIP
AVIATION PLANNING & ARCHITECTURE CONSULTANTS
28 LEESON PARK • DUBLIN 6 • TEL.:353-1-498 1893 [FAX:353-1-496 4410]

WWW.AVIATIONPLANNING.IE E.: ADMIN@AVIATIONPLANNING.IE / DESIGNPARTNERS@IOL.IE

J. D. O'DWYER B.ARCH MBA RIBA

S. JONES MA