

File With

SECTION 131 FORM

Appeal No

ABP— 314485-22

Defer Re O/H

☐

Having considered the contents of the submission dated/received 13/12/2023
from Kevin O'Donoghue and others I recommend that section 131 of the Planning
and Development Act, 2000 be/not be invoked at this stage for the following reason(s):

no new material issues

Section 131 not to be invoked at this stage.

☒

Section 131 to be invoked — allow 2/4 weeks for reply.

☐

Signed

Pat B

Date

20/12/2023

EO

Signed

Date

SEO/SAO

M

Please prepare BP — Section 131 notice enclosing a copy of the attached submission.

To

Task No

Allow 2/3/4 weeks

BP

Signed

Date

EO

Signed

Date

AA

P. BUCKLEY



Planning Appeal Online Observation

Online Reference
NPA-OBS-002928

Online Observation Details

Contact Name
Kevin O'Donoghue

Lodgement Date
13/12/2023 20:48:25

Case Number / Description
314485

Payment Details

Payment Method
Online Payment

Cardholder Name
Manus Rogan

Payment Amount
€50.00

Processing Section

S.131 Consideration Required

☒ Yes — See attached 131 Form

☐ N/A — Invalid

Signed

Pat 3

EO

Date

20/12/2023

Fee Refund Requisition

Please Arrange a Refund of Fee of

€

Lodgement No

LDG— 068767-23

Reason for Refund

Documents Returned to Observer

☐ Yes ☐ No

Request Emailed to Senior Executive Officer for Approval

☐ Yes ☐ No

Signed

EO

Date

Finance Section

Payment Reference

ch_3OMzLxB1CW0EN5FC1Cy17BtH

Checked Against Fee Income Online

EO/AA (Accounts Section)

Amount

€

Refund Date

Authorised By (1)

SEO (Finance)

Authorised By (2)

Chief Officer/Director of Corporate Affairs/SAO/Board Member

Date

Date

The Secretary,
An Bord Pleanála,
64 Marlborough Street,
Dublin 1, D01 V902.

Myra Manor Residents Association
C/O Kevin O'Donoghue
19 Myra Manor
Malahide Road
Malahide
Co Dublin

Dec 14th 2023

OBSERVATION

An Bord Pleanála Case No: PL06F 314485
Planning Authority Case Reference: F20A/0668
Location of Planned Development: Dublin Airport

An Objection.

Dear Sir/Madam,

The purpose of this submission is to object to the An Bord Pleanála Case No: PL06F 314485 for the reasons as set out below.

Executive Summary

Excessive Noise Impact: The primary concern is the excessive noise experienced by the Myra Manor residents, particularly due to the use of the North runway during prevailing Westerly wind conditions. The noise levels have been empirically proven to be significantly higher than those suggested by ANCA's modelled contour maps, leading to severe annoyance and health concerns.

Health Risks due to Excessive Noise: The noise levels documented in the attached acoustic survey exceed the World Health Organization's recommended limits, posing increased risks of ischemic heart disease, hypertension, sleep disturbance, hearing impairment, tinnitus, cognitive impairment and mental health issues. The inconsistency between these observed impacts and ANCA's reports needs urgent rectification.

Health Risks due to Aircraft Gas and Particulate Pollution: Considerable past evidence suggests that air pollution is an important factor that enhances pulmonary disease, while also causing greater harm in susceptible populations, such as children and the elderly. Asthma, chronic obstructive pulmonary disease, lung cancer, and respiratory infections all seem to be

exacerbated because of exposure to a variety of environmental air pollutants with the greatest effects because of particulate matter, ozone and nitrogen oxides.

Operational Concerns and Planning Condition Breaches: The history of Dublin Airport Authority (DAA) breaching planning conditions, such as exceeding the passenger cap, excessive night flight limits and deviating from approved flight paths, casts doubt on the efficacy of current and future regulatory compliance. This history necessitates stringent monitoring and enforcement.

Inadequate Environmental Impact Assessments: The outdated Environmental Impact Study (EIS) does not align with the current standards and fails to capture the current scale and impact of the airport's operations. An updated, comprehensive EIS is essential, one which factors in the extensive urban expansion that has occurred since 2007.

Insufficient and Inauthentic Engagement with Stakeholders including Residents' Groups. Request for Extended Time Frame and Oral Hearing: Given the complexity and the significant impacts of the proposed development, an extended timeframe is requested for the residents to engage expert support for a detailed response. In addition, An Bord Pleanála's decision to not grant an Oral Hearing should be overturned.

(A) Excessive Noise

(A1) Empirical Evidence in Engineer's Acoustic Report compared to ANCA's modelled contour maps.

Excessive noise is the principal reason for our objection. In addition to severe annoyance, Excessive Noise is well known to:

- Have negative effects on our health – increased risk of ischemic heart disease, hypertension, sleep disturbance, hearing impairment, tinnitus, cognitive impairment and mental health issues ⁽¹⁾ and
- Interfere with our enjoyment of our homes and gardens

Due to Myra Manor's geographical location (Schedule 1) and the current Planning Conditions (Schedule 2), we are most concerned about noise due to landing on the North runway during Westerly wind conditions which due to the prevailing wind in Ireland occurs 70% of the time. The Conditions of the planning permission for the North Runway means the North runway is only to be used for landing over Myra Manor:

"in cases of safety, maintenance considerations, exceptional air traffic conditions, adverse weather, technical faults in ATC systems for declared emergencies."

During 2023, in Myra Manor we had many difficult nights due to the resulting noise of arriving aircraft on the North runway due to maintenance on the South runway and / or emergency landings.

Please refer to the attached Acoustic Survey Report (Schedule 3) produced by Mr. Karl Searson, CEng., MIEI., MIOSH., MIOA., ACI Arb., conducted on the night of 11th and 12th July 2023 at the home of Bart Glover (BG) in Blackwoods.

- **Blackwoods** is an estate of eleven dwelling houses inclusive of a neighbouring home on an adjacent site, all located at the intersection of the R124 and Blackwood Lane, Malahide. It lies **270 meters** from the centre line of the flightpath for runway 28R (the North runway), used by landing aircraft in a Westerly direction and is **5.3Km from Dublin airport**.
- **Myra Manor** is an estate of 30 houses located off the Malahide Road at the Feltrim Cross junction in Malahide. It is **under the centre line** of the flightpath for runway 28R (the North runway) and **4.1 Km from Dublin airport (Schedule 1)**.
- Being nearer the airport, inbound aircraft flying over Myra Manor are at a lower altitude and therefore closer to our houses in Myra Manor. In addition, as the flight path is right over head the logical conclusion is that the excessive noise measurements in Mr Searson's comprehensive report for the Blackwood estate would only be worse for Myra Manor residents.
- Due to the impending deadline for Planning Observations plus the fact that we get little to no advance warning of when the North Runway will be used for inbound aircraft we do not have our own acoustic survey report. However there can only be one conclusion from any fair minded review of the Mr Searson's report (attached here with BG's permission) and the negative impact of excessive aircraft noise on Myra Manor residents.

In the Blackwood case, ***External readings of up to 92 decibels SEL and Internal readings of up to 70 decibels SEL were recorded in bedrooms.*** A good median to take is External 86 decibels and Internal 66 decibels. These readings are excessive by any standards and within Myra Manor most likely even more pronounced for the reasons noted above.

This has been our experience since the opening of the new North runway albeit intermittently, a situation which can only worsen over time.

(A2) Aircraft Noise Competent Authority (ANCA)

In Oct 2022, ANCA published a report showing the Noise Contour maps for L_{den} and L_{night} for areas surrounding Dublin Airport. Schedules 4 and 5 show Contour maps from that report and also the GPS location of Myra Manor. For both day and night contour maps, Myra Manor is seen to be in the lowest category of noise disturbance with a Day, Evening, Night measure of 45-49 dB and Night measure of 40-44 dB. This is completely at odds with our reality and what we have experienced albeit on an intermittent basis. This a result of a desk top modelling exercise as opposed to on the ground, location specific, real time acoustic measurement as shown the in the attached Searson report (Schedule 3).

(A3) World Health Organisation (WHO)^{(1) (2)}

In 2022, the World Health Organisation (WHO) issued a “Compendium of WHO and other UN Guidance on Health and Environment” (Schedule 6) and it states that average aircraft noise levels:

- Daytime (L_{den}) – should be less than 45dB
- Night- time (L_{night}) – should be less than 40dB

L_{den} is the **average** sound pressure level over all days, evenings and nights (den) in a year i.e. **365 days**.

L_{night} is the **average** sound pressure level over all nights in a year i.e. **365 days**

Consistent noise exposure above these limits will have adverse effects on our health as noted by WHO in Section 1) above. WHO recommends that mitigation measures should be implemented to ensure these issues are addressed.

Conclusion from A1, A2 and A3:

In Section A1 and associated Schedules it can clearly be deduced that Myra Manor has been / will be subjected to noise levels far in excess of the above WHO recommended noise dB thresholds albeit on an intermittent basis. However when averaged over 365 days of the year the effect is diluted down so that it appears as per ANCA's contour maps in A2 (Schedule 4 and 5) that we are residing in a 40-49dB band all year around which is not the case as illustrated by the attached Searson acoustic study report. This anomaly in data collection and contour map preparation needs to be rectified so that the true effect on estates such as Myra Manor is captured and addressed. As noted below in B(1) below these real life acoustic scenarios need to be considered as part of an up to-date Environmental Impact Study.

A study published in April 2023 involving 35,225 nurses and 90 US airports, conducted between 1996 and 2015, concluded: “We found evidence for adverse effects on sleep at exposures as low as DNL 45 dB(A), the lowest modelled noise level, and evidence further showed an exposure–response relationship between aircraft noise and short sleep duration”⁽³⁾.

(A4) Volume of Flights – Noise and Pollution Effects

Condition No 5 of the North Runway Planning Permission (Schedule 2) states that the average number of night time aircraft movements shall not exceed 65 per night (between 2300 hours and 0700 hours) when measured over the 92 day modelling period as set out in the further information request received by ABP on 5th March 2007.

The proposed amendment to the Planning Conditions to use a Noise Quota System will naturally lead to a significant increase in more planes flying over night. Why else would they

propose such a scheme other than to game the system? Planes may be more modern and slightly quieter than their predecessors but they are still excessively noisy.

We believe that a Noise Quota System will result in an increase from 65 flights per runway per night to:

- 148 per runway per night
- 21 flights per runway per hour
- One flight every 3 minutes

In the attached Searson's acoustic report they measure the noise emitted by aircraft type. These measurements include the "best of breed" latest Airbus A320 and Boeing 737 aircraft. Whilst slightly less noisy than older aircraft, by any fair assessment they are still excessively noisy to Myra Manor residents. When combined with the resulting combination of a > 2.3X increase in flight volume there is no doubt that this will cause extreme annoyance and the other health issues highlighted in Section A1.

The freedom for commercial interests to have such an increase in night flight volume would enable DAA to achieve their 40 million passenger per year at Dublin airport BUT at the great expense of the airports neighbouring communities. In fact the greater Dublin area is also affected by aircraft take-off and landing via noise and pollution depending on wind direction.

(A5) Some Facts on Increased Air Pollution from Aircraft Gas and Particulate Emissions

- Considerable past evidence suggests that air pollution is an important factor that enhances pulmonary disease, while also causing greater harm in susceptible populations, such as children and the elderly. Asthma, chronic obstructive pulmonary disease, lung cancer, and respiratory infections all seem to be exacerbated because of exposure to a variety of environmental air pollutants with the greatest effects because of particulate matter, ozone, and nitrogen oxides⁽⁴⁾.
- While the aviation industry is more fuel efficient, overall emissions have risen as the volume of air travel has increased. By 2020, aviation emissions were 70% higher than in 2005 and they could grow by 300% by 2050⁽⁵⁾.
- Aviation is the main human source of ozone, a respiratory health hazard, causing an estimated 6,800 premature deaths per year⁽⁶⁾.

(A6) The Irish Government and it's Departments Position – Stark Contradictions

The Irish Government is pushing its environmental credentials internationally (e.g. COP28, United Arab Emirates, December 2023). Meanwhile on the 8th December 2023 in the Climate Change Performance Index (CCPI) it was announced that Ireland dropped six places to 43rd among 59 countries i.e. bottom quartile performance. With this back drop how could the Irish Government and it's Departments possibly allow DAA and commercial operators to make Dublin airport a leading noise and pollution hub for other country's international travellers?

(B) OPERATIONAL ISSUES AND CONCERNS

(B1) Lack of Proper, Recent Environmental Impact Studies

The Environmental Impact Study (EIS) carried out in 2006/2007 was not robust or comprehensive.

In 2014 new regulations came in under Amending EU Directive 2014/52/EU. This Directive came into force on 15th May 2016, Circular letter 1/2017 issued by the Department of Housing, Planning, Community and Local Government (DHPCLG) and sets out the transitional arrangements in advance of the commencement of the transposing legislation (which took place via Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018). The original Grant of Planning to which these Planning Conditions were attached was extended in 2017. We believe that this grant of extension was not in accordance with the law as no Updated Environmental Assessment (EIA) (and no AA either during the original application or extension application) was carried out as required.

It is our understanding that substantial works had not taken place prior to the extension application in 2017. As such no legal assessments under the new provisions of the 2014 EIA Directive (to include risk of major accident and Population and Human Health) were ever carried out.

We request that the DAA be required to submit a retrospective EIA and AA on the cumulative impacts of both the North and South Runways and associated Dublin Airport development infrastructure and flight paths before any decision can legally be made on the impact of amending the planning conditions. In particular, the EIS should factor in the extensive urban expansion in communities adjacent to the airport that has occurred since 2007 e.g. in Malahide, Portmarnock and Kinsealy.

(B2) DAA's Poor Track Record of Adhering to Planning Conditions.

- **Breaching the Planning Condition of the annual Passenger Cap of Thirty-Two Million**

DAA actually announced that in 2019 that they had achieved 32.9 million passenger movements thereby declaring that they had breached the 32 million passenger cap allowed in the Planning Conditions ⁽⁷⁾.

- **Breaking the 65 Night Flight Limit. Planning Condition No 5.**

Hundreds of complaint letters have been reported to the DAA by neighbouring communities, TDs and County Councillors about the breaching of the sixty-five aircraft movements per night rule. In excess of 100 flights per night have been recorded by residents in the locality. This resulted in four Warning Letters being issued to the DAA. Fingal CoCo found DAA in breach of Planning Conditions and initiated enforcement action requiring DAA to comply with Planning Conditions regarding night flights.

- **Deviations in Take-Off Flight Paths, Standard Instrument Departures (SID's)**

An Bord Pleanála granted Planning Permission in 2007 to the DAA, for straight ahead (Westerly) departures by aircraft taking off from the new north runway (28R/10L). However, these were not implemented but instead the DAA instigated SIDs directing aircraft to turn sharply right and depart to the north, circle east and leave the mainland close to Rush. Residents having brought this to the attention of the DAA were informed these were the licenced departures granted by the Irish Aviation Authority (IAA). Furthermore, the DAA claim these headings were always meant to be the correct SID's for this runway, despite the contrary An Bord Pleanála planning permission.

In Myra Manor we have also observed on a number of occasions deviations from Approved Flight Corridors. This has occurred during Easterly wind conditions leading to flights departing on the South Runway (Runway 10R) but in a Easterly direction. Aircraft have deviated early from the SIDs and have taken sharp left turns resulting in flights flying nearly over Myra Manor and close to Malahide village. That cannot be allowed to continue.

(B3) Concern over Operational Decisions at Dublin Airport re: Runway Selection.

The Planning Conditions governing the control of operational decisions regarding runway selection uses the terms (i) "shall be the preferred" and (ii) "except in cases". The interpretation and application of these terms are purely in the hands of commercial interests. This makes us deeply uncomfortable for the future operation of the North runway especially when in mid-November 2023 DAA committed to submitting a development plan in mid-December 2023 re: taking the Dublin airport passenger numbers from 32 million to 40 million annually. Again with DAA's commercial interest and ambition combined with their poor track record on adhering to planning conditions as noted above we believe commercial interest already have too much power in key decisions relating to Runway Selection.

Any new changes to the Planning Conditions relating to night time flight times and aircraft quotas as proposed will only make the situation worse and give even more operational power to commercial interests to achieve commercial gain through inflicting even more noise and misery on the airports neighbouring communities.

(B4) Advanced Notice of Operational Decisions

To-date we have had periods of spontaneous night time flights over Myra Manor. These excessively noisy in-bound flights on the North Runway have be related to maintenance on the South Runway and some emergency landings. It is fair to assume that contractors are lined up well in advance and hence notice can be provided communities months ahead. There have been times where works were planned and then cancelled at short notice. If communities know well in advance when the works are scheduled and excessively noisy aircraft are due to fly over their houses they can make plans to be away from home and cancel/reschedule family events and get together.

(C) Fairness, Expert Opinion and Request for an Oral Hearing

(C1) Fairness

The communities neighbouring Dublin Airport are a disparate group and affected in diverse ways depending on location and distance from the airport. Some are affected by aircraft taking off and others landing aircraft, as is our case Myra Manor. Hence our requirements for information and consultation whilst having some commonalities, differ in detail.

(C2) Scale of DAA's Application for Planning Permission

The application submitted by the DAA for Planning Permission was in excess of 550 pages of information, impossible for small communities like ours to absorb in the allotted five weeks and an impossibility to brief and appoint expert opinion.

Submission

For the reasons stated above:

- Condition 3(d) of the North Runway Planning Permission should remain unchanged i.e. Runway 10L-28R shall not be used for take-off and landed between the hours of 2300 hours and 0700 hours except in cases of safety maintenance considerations, exceptional air traffic conditions, adverse weather, technical faults in ATC systems for declared emergencies.
- Condition No 5 of the North Runway Planning Permission should remain unchanged i.e. the average number of night time aircraft movements shall not exceed 65 per night (between 2300 hours and 0700 hours) when measured over the 92 day modelling period as set out in the further information request received by ABP on 5th March 2007.
- Ensure that the commercial operators at Dublin airport adhere to the approved flight paths and Standard Instrument Departures (SIDs) as laid out in the 2007 Planning Approval for the North Runway. Failure to do so should be met with punitive measures.
- Adopt the World Health Organization recommendation of 45 decibels for ALL Day, Evening and Night flights and not just as an annual average of flights as that does not reflect reality.
- Tighter independent monitoring and control over operational decisions and practices should be adopted to avoid further breaches of planning conditions for commercial benefit. Fingal CoCo need to become even more aggressive in monitoring and enforcing all deviations from approved Planning Conditions. Additional resources should be provided to enable Fingal CoCo to specifically police these types of breaches of Planning Approvals.
- For the reasons and information contained in this document we request that An Bord Pleanála reconsiders its decision to not grant an Oral Hearing.

REFERENCES

- (1) Compendium of WHO and other UN guidance on health and environment 2022 update, Chapter 11, Environmental noise.
- (2) Environmental noise guidelines for the European Region. Copenhagen: WHO Regional Office for Europe; 2018.
- (3) <https://ehp.niehs.nih.gov/doi/10.1289/EHP10959>
- (4) <https://pubmed.ncbi.nlm.nih.gov/26761628/>
- (5) https://en.wikipedia.org/wiki/Environmental_effects_of_aviation
- (6) Eastham, Sebastian D.; Barrett, Steven R. H. (1 November 2016). "Aviation-attributable ozone as a driver for changes in mortality related to air quality and skin cancer"
- (7) Oireachtas Transport Committee meeting with DAA CEO on Nov 23rd 2023.

MYRA MANOR RESIDENTS - SIGNATURES

Maureen Rogan

Family Name: ROGAN
Number 16 Myra Manor

Jackie O'Donoghue

Family Name: O'Donoghue
Number 13 Myra Manor

Sue Kelly

Cora Kelly.

Family Name: KELLY
Number 12 Myra Manor

Patricia Murphy

Family Name: MURPHY
Number 14 Myra Manor

Ava O'Callaghan

BURKE

Andrew Burke.

John Burke.

Family Name:

Number 15 Myra Manor

Caroline Burke

Killian Burke.

Family Name:

Number Myra Manor

Family Name:

Number Myra Manor

MYRA MANOR RESIDENTS - SIGNATURES

Kevin O'Donoghue Barbara O'Donoghue

Family Name: O'Donoghue
Number 19 Myra Manor

Fiona CASHMAN J. CASHMAN

Family Name: CASHMAN
Number 18 Myra Manor

Alfred Dunne
Gillian Dunne

Family Name: DUNNE
Number 22 Myra Manor

Anthony Darcy
Family Name: Darcy

Number 21 Myra Manor

Antoinette Darcy

Mick Darcy
Pm Darcy

Family Name: McLaughlin - Cmel Bmel
Number 25 Myra Manor

Family Name: O'Reilly
Number 23 Myra Manor

Gerone O'Reilly

Family Name: BARDENS
Number 20 Myra Manor

Family Name: E. Kavanagh
24 Myra Manor

MYRA MANOR RESIDENTS - SIGNATURES

O'Brien

Family Name:

Number 7 Myra Manor

Jul O'Brien Catherine O'Brien
Alex O'Brien Michael O'Brien

Ahorne

Family Name:

Number 8 Myra Manor

Nh Ah
DM A

COLLINS

Family Name:

Number 6 Myra Manor

Frank Collins Katie Collins
Paul Collins Sarah Collins Hannah Collins

VAN ECKEN

Family Name:

Number 10 Myra Manor

W. Ecken

Family Name:

Number Myra Manor

Family Name:

Number Myra Manor

Family Name:

Number Myra Manor

MYRA MANOR RESIDENTS - SIGNATURES

Lia Jackson ~~Ellie~~ Charlotte Jackson Ella Jackson
 Family Name: JACKSON
 Myra Manor: ELISHMORE HOUSE

NOLAN Elaine Nolan, Tien Nolan
 Family Name: Ruth Nolan.
 2 Myra Manor:

Collins ~~Sam Collins~~ Susie Collins.
 Family Name: SAM COLLINS. SIENNA COLLINS.
 3 Myra Manor:

Collins Robbie Collins, Lauren Collins, Jamie Collins
 Family Name: Emily Collins
 Myra Manor: ELISHMORE MEWS, MYRA MANOR, MALAHIDE
 Co. DUBLIN.

DUFFY
 Family Name: Mr & Mrs Emma Cowley, J. M. M. H. H.
 Myra Manor: ELISHMORE FARM, Myra Manor Malahide
 Co Dublin

Jackson
 Family Name: Jackson
 4 Myra Manor:

Croly
 Family Name: Hilda Croly Joseph Croly Katehryn Croly
 Myra Manor: Jodie Croly Chloe Croly Ciara Croly
 Craig Croly Jessie Croly Sophie Croly

MYRA MANOR RESIDENTS - SIGNATURES

Leah Keay

Leah Keay

Family Name:

Number Myra Manor

Jack O'Dwyer

Jack O'Dwyer

Family Name: O'DWYER / HUDSON

Number Myra Manor

Leafield

Maggie O'Dwyer

Family Name:

Number Myra Manor

Family Name:

Number Myra Manor

Family Name:

Number Myra Manor

Family Name:

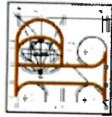
Number Myra Manor

Family Name:

Number Myra Manor



An Bord Pleanála



SCHEDULE 2

PLANNING AND DEVELOPMENT ACTS 2000 TO 2006

Fingal County

Planning Register Reference Number: F04A/I755

An Bord Pleanála Reference Number: PL 06F.217429

3. On completion of construction of the runway hereby permitted, the runways at the airport shall be operated in accordance with the mode of operation – Option 7b – as detailed in the Environmental Impact Statement Addendum, Section 16 as received by the planning authority on the 9th day of August, 2005 and shall provide that –

- (a) the parallel runways (10R-28L and 10L-28R) shall be used in preference to the cross runway, 16-34,
- (b) when winds are westerly, Runway 28L shall be preferred for arriving aircraft. Either Runway 28L or 28R shall be used for departing aircraft as determined by air traffic control,
- (c) when winds are easterly, either Runway 10L or 10R as determined by air traffic control shall be preferred for arriving aircraft. Runway 10R shall be preferred for departing aircraft, and
- (d) Runway 10L-28R shall not be used for take-off or landing between 2300 hours and 0700 hours,

except in cases of safety, maintenance considerations, exceptional air traffic conditions, adverse weather, technical faults in air traffic control systems or declared emergencies at other airports.

Reason: In the interest of clarity and to ensure the operation of the runways in accordance with the mitigation measures set out in the Environmental Impact Statement in the interest of the protection of the amenities of the surrounding area.

5. On completion of construction of the runway hereby permitted, the average number of night time aircraft movements at the airport shall not exceed 65/night (between 2300 hours and 0700 hours) when measured over the 92 day modelling period as set out in the reply to the further information request received by An Bord Pleanála on the 5th day of March, 2007.

Reason: To control the frequency of night flights at the airport so as to protect residential amenity having regard to the information submitted concerning future night time use of the existing parallel runway.

SEARSON ASSOCIATES

CONSULTING
ENGINEERS

KARL V SEARSON

C Eng MIEI MIOASH MIOA ACIArb

SCHEDULE 3

Phone (087) 2588061

(089) 2158958

Email searsonassociates@gmail.com

OUR REF: 8569/23 rev 2.1

YOUR REF: BG

DATE: 5th October 2023.

Mr Bart Glover,
4, Blackwoods,
Blackwood Lane,
Malahide.
Bart@kayskitchen.ie

Re: No 4, Blackwoods: Aircraft Noise Assessment, index of noted events.

Dear Mr. Glover,

I am setting out below details of the 101 *significant events* which were recorded at/in your home over the measurement period which commenced shortly after 15:00 hours on 11th July and terminated at 09:00 hours on 22nd July 2023. During this 127 hour-odd period specific attention was paid to night time events, night-time commencing at 23:00 hours and terminating at 07:00 hours the next morning. The specific events were proximate aircraft fly-by's which provoked excessive in-bedroom noise levels. You had been advised that certain "test periods" had been selected by DAA for new flight paths and the measurement sessions were intended to analyse the levels associated with these new nighttime fly-by events.

An aircraft identification application - with acronym FR - was initially used to identify those in-bedroom noise signals which characterised "events", but that application left many events unidentified. A subsequent package, with acronym WT and available on the internet, was accessed. It proved useful in reviewing the flight passes with respect to Dublin Airport during the above-mentioned measurement period and traces of specific fly-paths were noted and compared to the gathered acoustical data. It proved possible to identify the flight identification number and aircraft type and time of passage (with respect to Blackwoods) and correlate such results with the time stamp of the fast-logged acoustical data. In this respect the primary time metric was that accompanying the highest in-bedroom fast level (defined below as L_{AFmax}) and the corresponding flight, gauged from "inching" the incoming aircraft icon proximate to Blackwoods and noting the corresponding time, aircraft type and flight identification number. In all the 101 events noted, the maximum time difference between the fast logged (primary) acoustical data and the WT time display was 22 seconds. As the minimum interval between incoming flights was typically six times this interval, no significant error arises.

The acoustical data refers to both indoor and outdoor locations, the indoor location being in a bedroom with the window ajar for fresh air admission and the outdoor location being some 3,5m out from the façade of that bedroom, and at a height of 4m overground.

There are a number of acoustical metrics of interest, as follows:

- **LAF_{max}**: This is the noisiest portion of an event, assessed with the fast time constant and expressed in A-Weighted decibels, dB(A).
- **LAS_{max}**: This is the noisiest portion of an event, assessed with the slow time constant and expressed in A-Weighted decibels, dB(A).
- **SEL**: This is the total acoustical energy associated with a given event but normalised back to a 1-second time interval. It is expressed in A-Weighted decibels, dB(A). It is an acronym for “single event level” or, alternatively, “sound energy level”.

Considerable data have been gathered and to present same in a coherent fashion I have prepared appendices showing the relevant data for each day and, additionally, tabulated the LAF_{max} trace from outdoors and indoors directly under each other to enable the contours to be visualised. For each outdoor event provoking excessive in-bedroom levels, I have tabulated and included the above metrics. The primary time is the Brüel & Kjær time (B & K time).

I Report as follows:

1. The first series of data refers to the night-time profiles on 11th July 2023. There were six notable events, numbered accordingly, and I have tabulated the metrics, times and details in table 1A, below. I have also prepared and attached, as appendix 1, the Comparative fast trace, 23:29 – 00:00, 11th July 2023. This trace depicts the outdoor profile in the upper (1A) portion and, directly below, the corresponding provoked in-bedroom level (1B).

TABLE 1: 6 noted events of 11th July, # 1 - #7.

#	B & K time	WT Flight Id.	Type	OUTDOORS - A			INDOORS - B		
				SEL	LAF _{max}	LAS _{max}	SEL	LAF _{max}	LAS _{max}
1	23:31:27	RYP2PC	B738	85	76	73	65	56	55
2	23:33:38	EIN40W	A320	86	81	77	67	61	59
3	23:36:24	GEC 8582	A321	85	77	75	66	59	57
4	23:39:24	EIN611	A320	86	79	77	66	61	58
5	23:47:02	RYP9M	B738	85	79	76	65	60	58
6	23:50:43	EIN24K	A320	87	79	77	67	60	58
7	23:57:57	SWR878C	BCS3	83	73	71	62	54	53

The above table give a useful insight into the reduction in certain acoustic metrics going from outside to inside via a window ajar for ventilation (fresh air admission). While the SEL values have a significant effect on the 5-minute (or 15-minute) L_{Aeq} level obtained, the maximum values (fast or slow) are subject to a numerical ceiling. This ceiling applies

during night-time, from 23:00 to 07:00 hours, and, in the case of the L_{AFmax} , the in-room level should not exceed 45 dB(A) and in the case of the L_{ASmax} , the level should not exceed (about) 42 dB(A).

Taking the two periods from the 23:00 hours until 23:30 (no significant events) and the following period from 23:30 until midnight (7 notable events as set out above), there are significant differences. Via the B&K Evaluator software the following results have been established:

TABLE 2: 30-minute night-time comparisons, no events Vs 7 events

Time (T)	Events ?	OUTDOORS - A			INDOORS - B		
		L_{AeqT}	L_{AFmax}	L_{ASmax}	L_{AeqT}	L_{AFmax}	L_{ASmax}
23:00 – 23:30	No	47	63	60	27	42	39
23:30 – 00:00	Yes, 1 - 7	61	81	77	42	61	59

There are good and reliable criteria for a bedroom, at night, with fresh air admission. The L_{AeqT} (sometimes called the decibel average) should not exceed 30 dB(A), and this should be maintained for the duration of the night. The first 30-minute test (no events) has all three metrics comfortably within their guideline values. Once the “events” occur (itemised and recorded as 1 to 7) those levels are *grossly* exceeded.

- The next day (in a 24-hour sense) was 12th July. 32 night-time events were noted, and their combined result are set out in table 2 below:

TABLE 2: parts 1 & 2, 32 noted events of 12th July, #8 - #40.

#	Time	WT Flight Id.	Type	OUTDOORS - A			INDOORS - B		
				SEL	L_{AFmax}	L_{ASmax}	SEL	L_{AFmax}	L_{ASmax}
8	00:00:23	RYR4YC	A320	83	75	73	66	61	58
9	00:03:05	RYR2WK 779	B38M	83	76	73	64	58	55
10	00:08:24	EIN70V	B752	92	86	82	70	62	59
11	00:11:27	RYR5YV	B738	87	80	78	67	61	58
12	00:14:56	RYR11YP	B738	85	76	74	66	59	57
13	00:18:01	EIN459	A320	86	76	74	66	61	59
14	00:26:38	RYR9QY	B738	86	79	76	66	58	57
15	00:29:21	RYR275Y	B38M	84	78	75	64	57	55
16	00:31:55	RYR56SP	B738	85	76	73	66	59	57
17	00:34:44	RYR38ZY	B738	85	78	75	65	60	57
18	00:38:00	RYR72GD	B738	86	78	76	66	59	58
19	00:40:26	RYR4JW	B38M	83	74	73	64	56	55
20	00:42:58	RYR212	7M8	85	77	74	65	58	56
21	00:45:49	EIN4RL	A320	86	80	77	67	60	58
22	00:48:13	RYR8Q2	B38M	83	80	77	65	56	54
23	00:51:14	RUK95CX	B738	85	76	74	65	58	56
24	00:57:24	EIN4GJ	A320	87	79	76	67	61	58
25	01:01:59	EIN43N	A320	89	79	76	67	62	58

TABLE 2: Continued.

#	Time	WT Flight Id.	Type	OUTDOORS - A			INDOORS - B		
				SEL	LAF _{max}	LAS _{max}	SEL	LAF _{max}	LAS _{max}
26	01:04:07	EIN7VT	A320	89	79	72	66	60	58
27	01:06:48	RYR927E	B38M	83	75	72	63	57	54
28	01:09:50	RYR8L	B738	84	79	76	64	60	57
29	01:13:42	RYR6VL	B738	84	76	74	65	59	57
30	01:21:39	TOM239	A320	85	79	76	66	61	58
31	01:25:10	EIN799	A320	86	78	76	66	60	58
32	01:27:37	AZD358	AT72	87	80	76	66	59	56
33	01:30:41	EIN499	A320	87	79	77	67	62	59
34	01:38:43	EIN38JC	A320	86	79	76	67	60	58
35	01:51:06	EIN5HL	A320	87	81	78	67	63	60
36	01:54:10	EIN44Y	A320	87	80	77	68	63	60
37	02:10:53	EIN584	A320	86	79	77	67	60	58
38	02:16:10	EIN56V	A320	87	81	78	67	62	59
39	02:20:57	EIN34V	A320	87	79	77	67	61	59
40	04:25:50	EIN104	A333	89	79	77	69	61	59

Appendices 2, parts 1 and 2, show the indoor and outdoor traces. Considerable air traffic movements ensued from just after midnight (event #8) until 02:22 (event #39). A single event (#40) occurred at 04:25 - 04:27 hours.

- The next few days – until the early hours of 18th July - passed without any **significant** nighttime events occurring.
- A single event occurred in the early hours of 18th July. There were other signature passes both before and after the particular event, but the in-room level associated therewith were all below the threshold LAF_{max} level of 45 dB(A). Appendix 3 details the relevant combined trace, the results being set out in table 3 below

TABLE 3: Noted single event of 18th July.

#	Time	WT Flight Id.	Type	OUTDOORS - A			INDOORS - B		
				SEL	LAF _{max}	LAS _{max}	SEL	LAF _{max}	LAS _{max}
41	01:41:41	AZD358	AT72	77	70	66	58	55	51

- There were no notable event on 19th July.
- The 20th July proved to be particularly busy - from the point of view of notable events. A total of 30 events were recorded and analyzed. Appendix 4, the comparative LAF_{max} traces, is broken down into three parts, the tabular data being set out below in table 4:

TABLE 4: parts 1, 2 & 3, noted events of 20th July, #42 - #72.

				OUTDOORS - A			INDOORS - B		
#	Time	WY Flight Id.	Type	SEL	LAFmax	LASmax	SEL	LAFmax	LASmax
42	00:53:55	RYR275Y	B738	85	75	74	64	57	55
43	00:55:58	RYR7120	B38M	85	75	74	65	61	57
44	00:58:17	RYR77JN	B738	84	75	74	64	57	56
45	01:00:42	TOM7DX	A320	82	72	71	62	54	53
46	01:00:42	RYR1391	B738	84	74	74	65	57	56
47	01:04:54	EIN4RL	A320	84	75	74	65	57	56
48	01:09:04	RYR7FL	B738	85	75	74	65	58	57
49	01:11:34	RYR6E	B738	85	75	75	65	56	55
50	01:13:48	RYR30UE	B738	85	77	76	65	58	56
51	01:18:32	EIN499	A320	85	78	76	65	60	58
52	01:25:56	AZD 358	AT72	84	74	73	654	55	54
53	01:29:17	EIN58R	A320	84	75	74	665	57	56
54	01:40:23	RYR3TD	B38M	84	74	73	64	55	54

TABLE 4: continued.

				OUTDOORS - A			INDOORS - B		
#	Time	WT Flight Id.	Type	SEL	LAFmax	LASmax	SEL	LAFmax	LASmax
55	02:26:54	TOM3HD	A320	83	73	72	63	54	53
56	02:43:38	EIN5HL	A320	84	75	75	65	56	55
57	03:43:46	EIN104	A333	86	76	75	66	58	57
58	04:00:08	AAL724	B772	87	76	75	66	57	56
59	04:04:07	EIN1TC	A21N	83	73	72	63	54	53
60	04:13:28	EIN13K	A333	87	77	76	67	58	57
61	04:27:58	BCS2886	B734	87	78	78	67	60	59
62	04:37:25	FPO7SN	B738	86	81	79	66	62	60
63	04:39:45	UPS248	B763	86	76	75	66	57	56
64	04:42:51	BCS5QC	A321	85	77	76	66	58	57
65	23:36:18	RYR66PG	B738	83	72	71	63	54	53
66	23:38:30	5F711	A320	85	77	75	65	59	57
67	23:41:01	RYR45HY	B738	86	78	76	66	60	57
68	23:43:30	RYR3CH	B738	84	74	73	64	56	55
69	23:46:22	GEC8352	A321	84	75	74	64	56	55
70	23:50:42	RYR1SB	B38M	84	75	74	64	56	55
71	23:55:58	RYR86EY	B38M	84	75	74	64	56	55
72	23:58:25	RYR51JX	B38M	84	73	72	63	55	54

7. The pattern of notable events carried on into the early hours of 21st July. A further 28 events were noted and analyzed. Appendix 5, divided into two parts, sets out the comparative LAFmax traces with the individual results being tabulated in table 5 below.

TABLE 5, parts 1 & 2, 28 notable events of 21st July.

#	Time	WT Flight Id.	Type	OUTDOORS - A			INDOORS - B		
				SEL	LAFmax	LASmax	SEL	LAFmax	LASmax
73	00:00:49	EIN3AV	A320	85	78	76	66	59	57
74	00:03:44	RYP9QY	B738	85	76	75	65	57	56
75	00:06:13	RYP45TC	B38M	83	74	73	63	55	53
76	00:08:59	EIN70V	B752	89	82	79	69	62	59
77	00:11:42	EIN7VT	A320	84	77	75	65	57	55
78	00:13:50	RYP8CK	B738	85	75	74	65	57	56
79	00:16:05	RYP2BY	B38M	85	76	75	63	55	54
80	00:18:36	EIN76HJ	A320	84	75	74	65	57	56
81	00:21:23	RYP2WK	B738	85	76	75	64	56	55
82	00:23:34	EIN799	A320	85	76	75	65	58	57
83	00:26:44	EIN38JC	A320	85	76	75	65	57	56
84	00:29:29	RYP7BW	B738	85	76	75	65	59	57
85	00:32:19	TAP26T	E190	84	77	75	65	59	57
86	00:39:49	FIA711	A320	86	77	76	66	58	57
87	00:50:57	NYX300	SF34	80	70	69	59	50	49
88	00:53:55	RYP8TE	B738	85	75	74	65	56	55
89	00:56:22	RYP38ZG	B38M	84	73	72	64	56	54
90	00:59:07	EIN4GJ	A320	85	76	76	66	58	57
91	01:01:42	RYP87YJ	B738	85	75	74	65	57	56
92	01:11:13	RYP11YP	B738	85	76	74	65	58	56
93	01:15:18	EIN56V	A320	85	78	76	66	60	58
94	01:22:29	AZD358	AT72	84	76	74	63	54	52
95	01:42:49	EIN58R	A320	85	76	75	65	59	57
96	02:00:48	EIN499	A320	85	78	76	66	59	58
97	02:03:45	EIN5HL	A320	85	77	75	65	59	57
98	03:31:45	TOM59H	A320	83	73	72	63	55	54
99	03:57:35	EIN104	A333	88	79	77	68	60	59
100	04:09:32	AAL724	B772	87	77	75	67	58	57
101	04:13:52	EIN13K	A333	88	78	77	68	60	58

8. The above results – and appendices – indicate a clear and significant issue in respect of the given events. You have indicated that the DAA e-contacted you (and others) indicating that “tests” were being conducted.
9. From my interpretation of the WT trace, these events are all associated with incoming aircraft, at night, availing of the North Runway.
10. The crux of the night-time issues, in respect of the 101 events tabulated above, mean that each and every one of the above tests provoked in-bedroom noise levels well in

excess of the published levels geared towards a good night's sleep. Furthermore, on the occasions when these tests were **not being conducted** proper and suitable levels were measured, post 23:00 hours, in your bedroom, the window ajar for fresh air admission.

11. These findings are applicable to your immediate neighbours, assuming they rely on natural ventilation for fresh air admission.
12. Even were the tests to have been conducted for potential "emergency" or "one-off operational conditions", the data, now to hand, means that **unless** and **until** significant upgrades/modifications to your home (and that of your immediate neighbours) are completed (thereafter being suitably commissioned, confirmed and maintained) these flight paths must not be availed of.

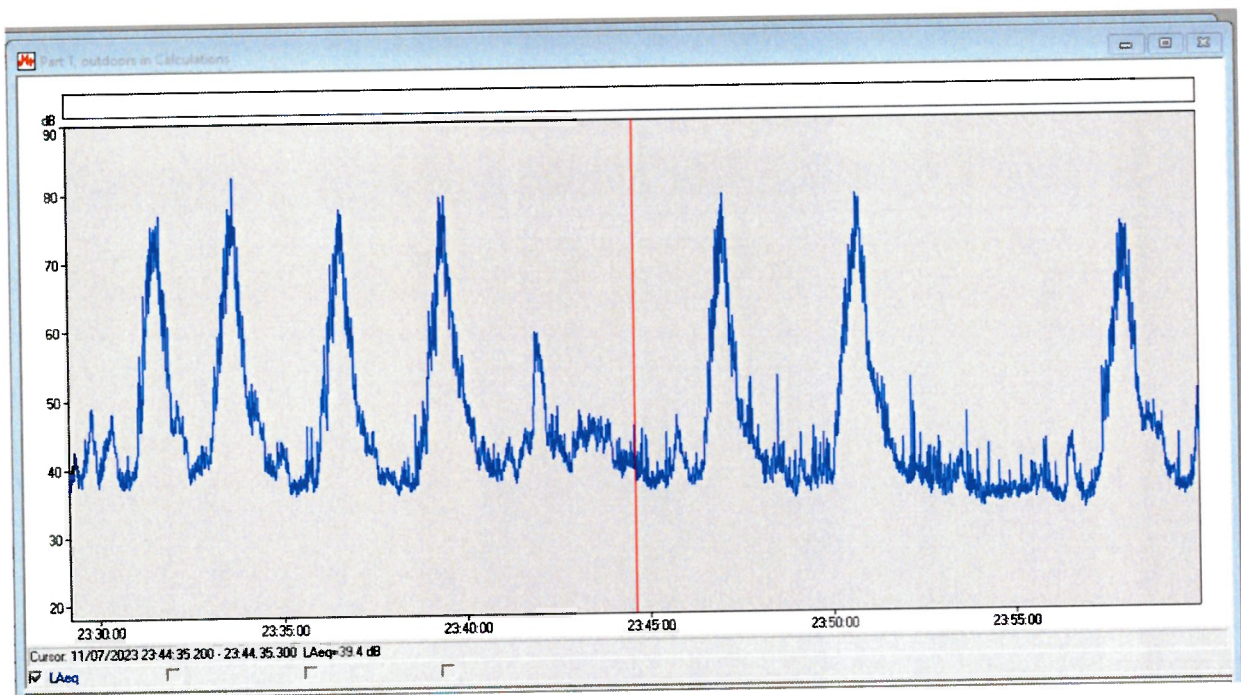
Yours sincerely,

Karl Searson

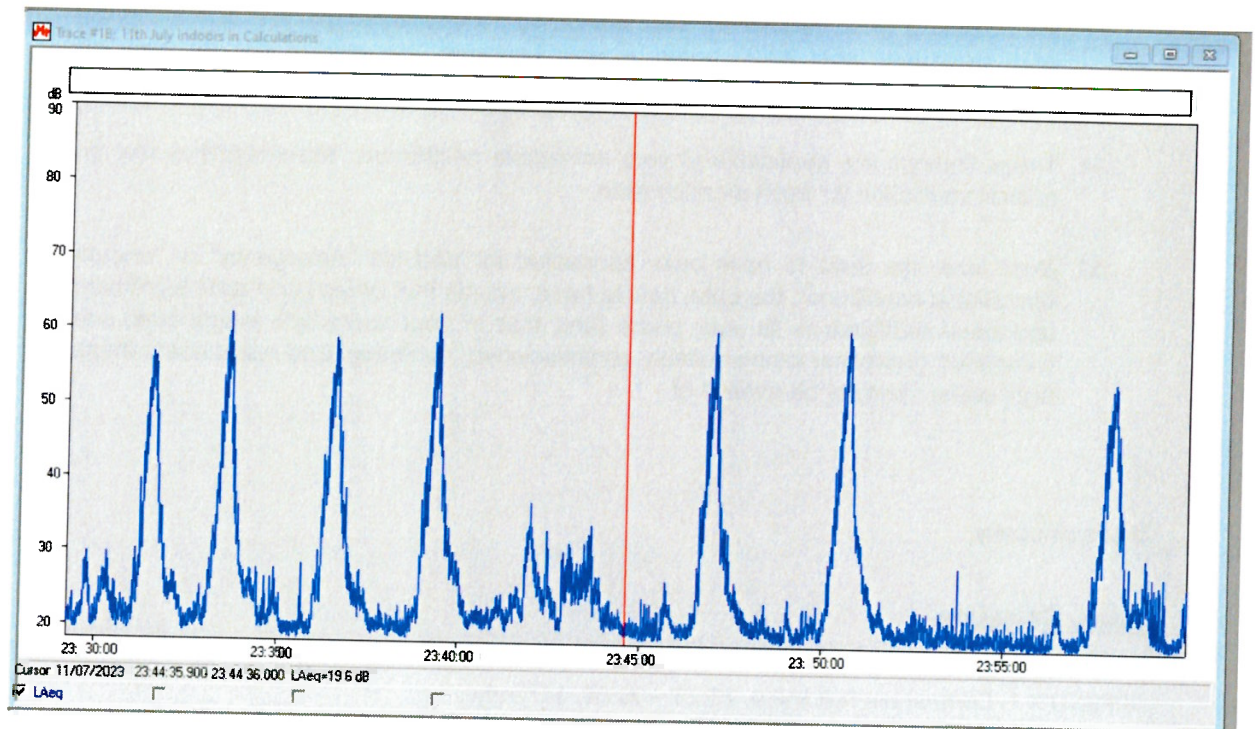
Chartered Engineer.

APPENDIX 1: Comparave fast trace, 23:29 – 00:00, 11th July,

2023. 1A: OUTDOORS

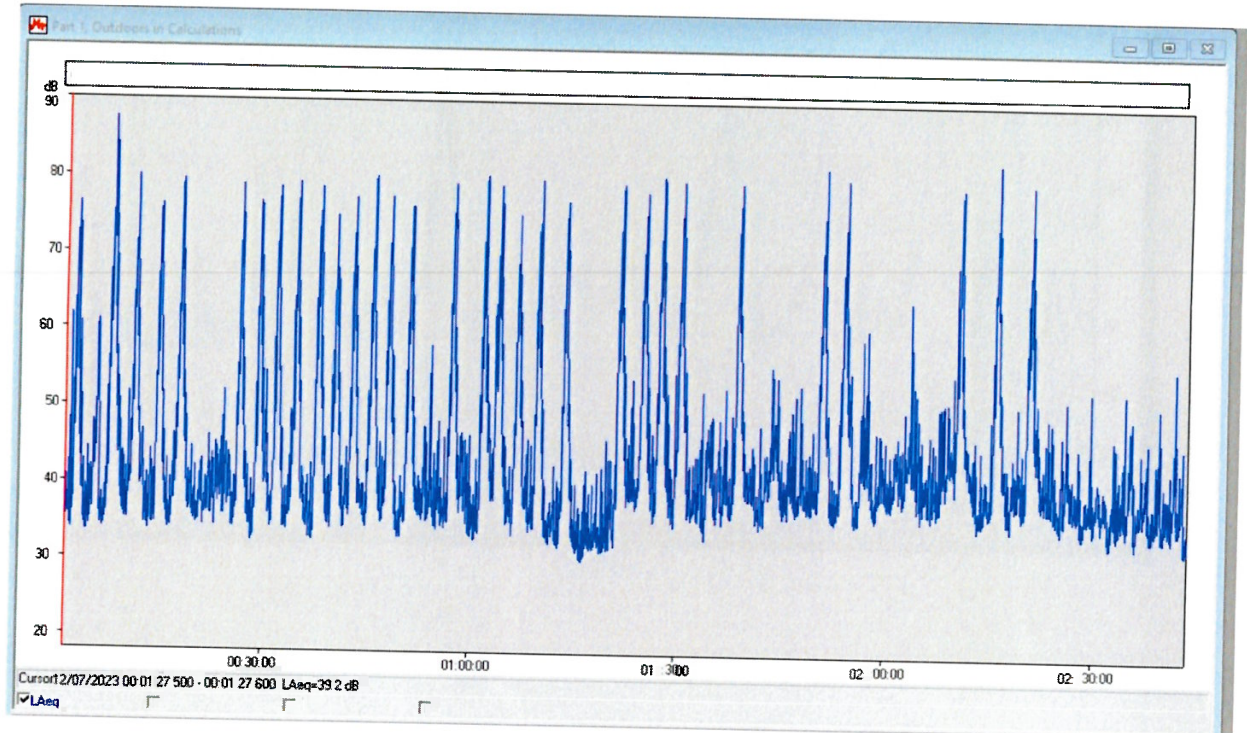


1B: INDOORS

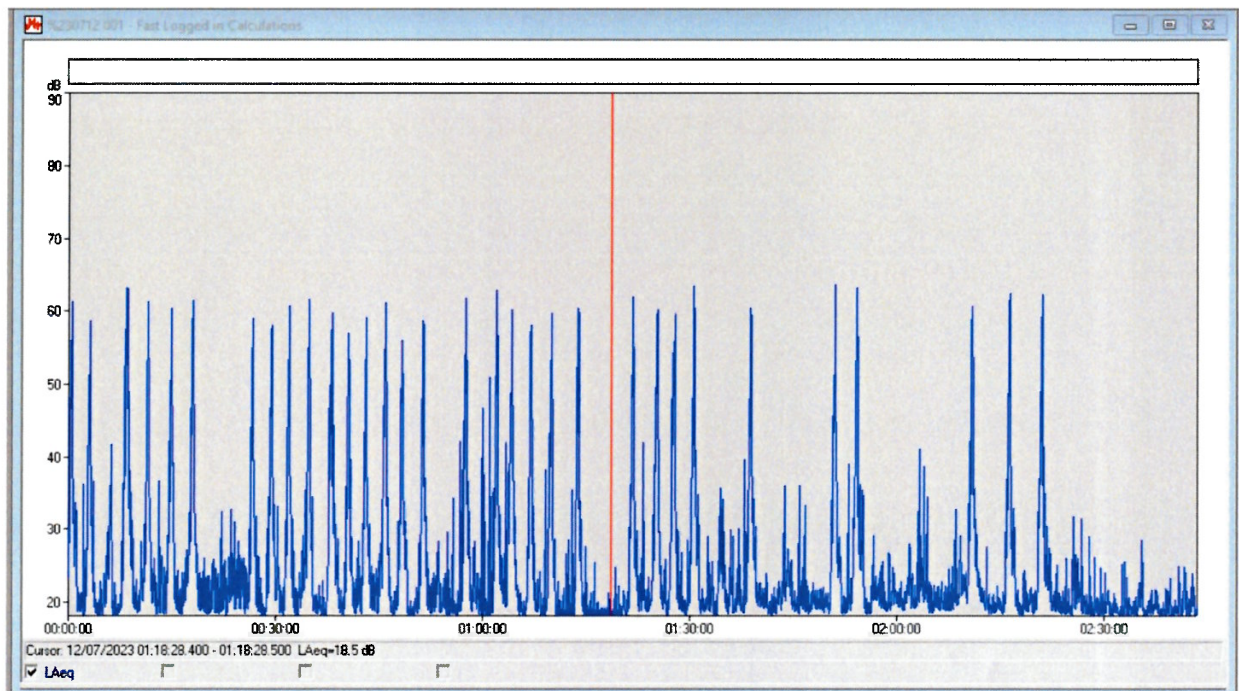


APPENDIX 2, Comparave fast trace, 12th July, part 1, 00:00 – 02:43

2A ,pt 1: OUTDOORS

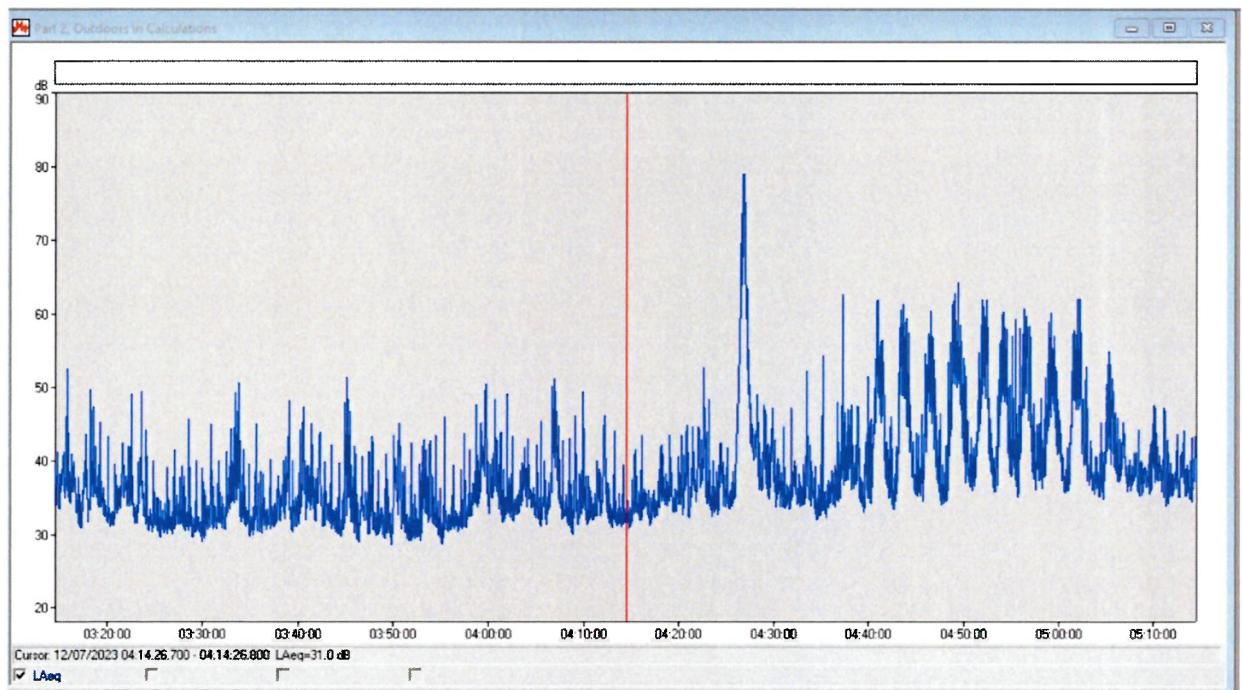


2B, pt 1: INDOORS

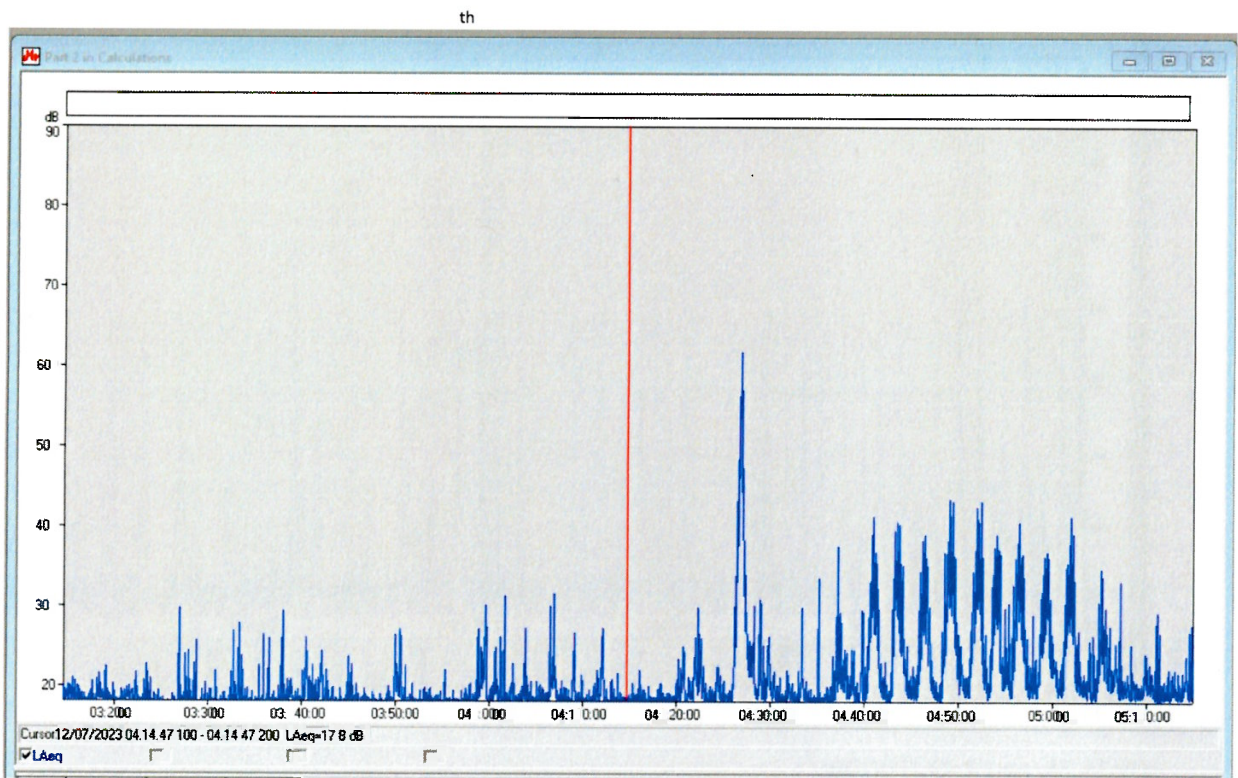


APPENDIX 2, Comparave fast trace, 12 July, part 2, 03:14 –

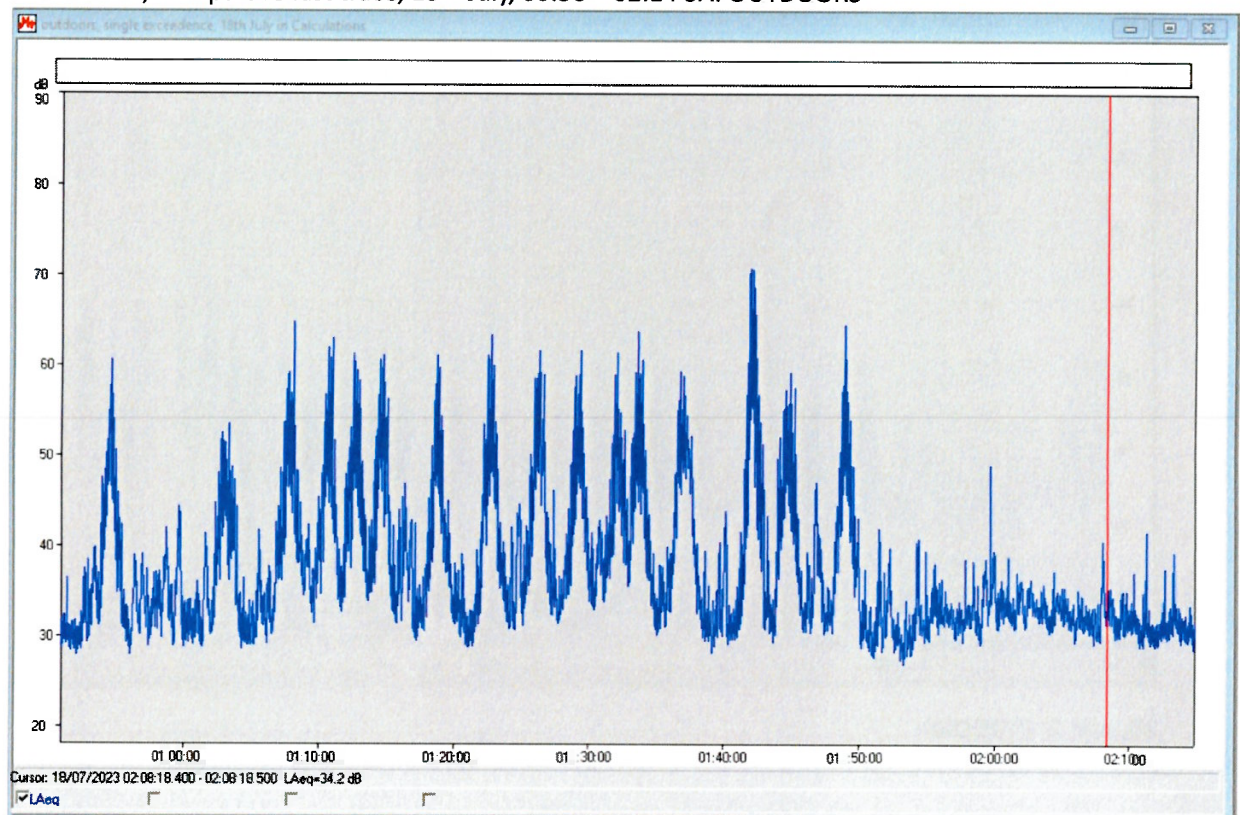
05:14 2A, part 2: OUTDOORS



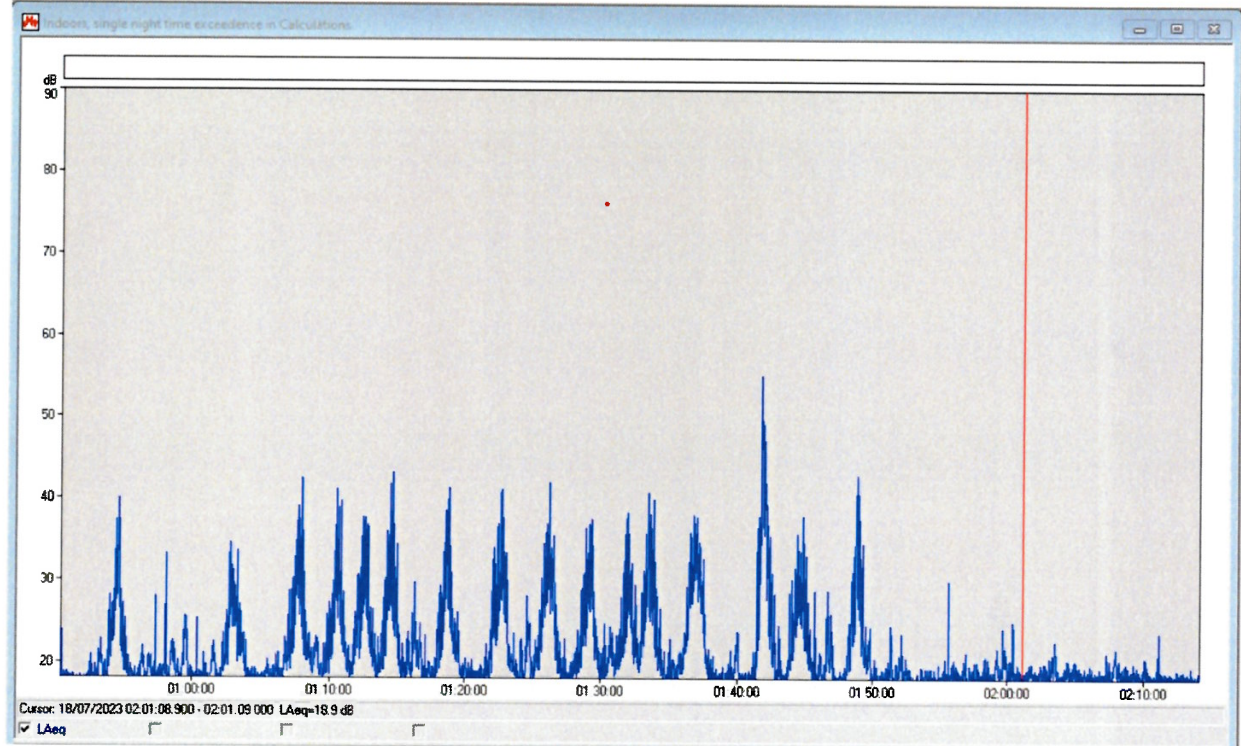
2B, part 2, INDOORS



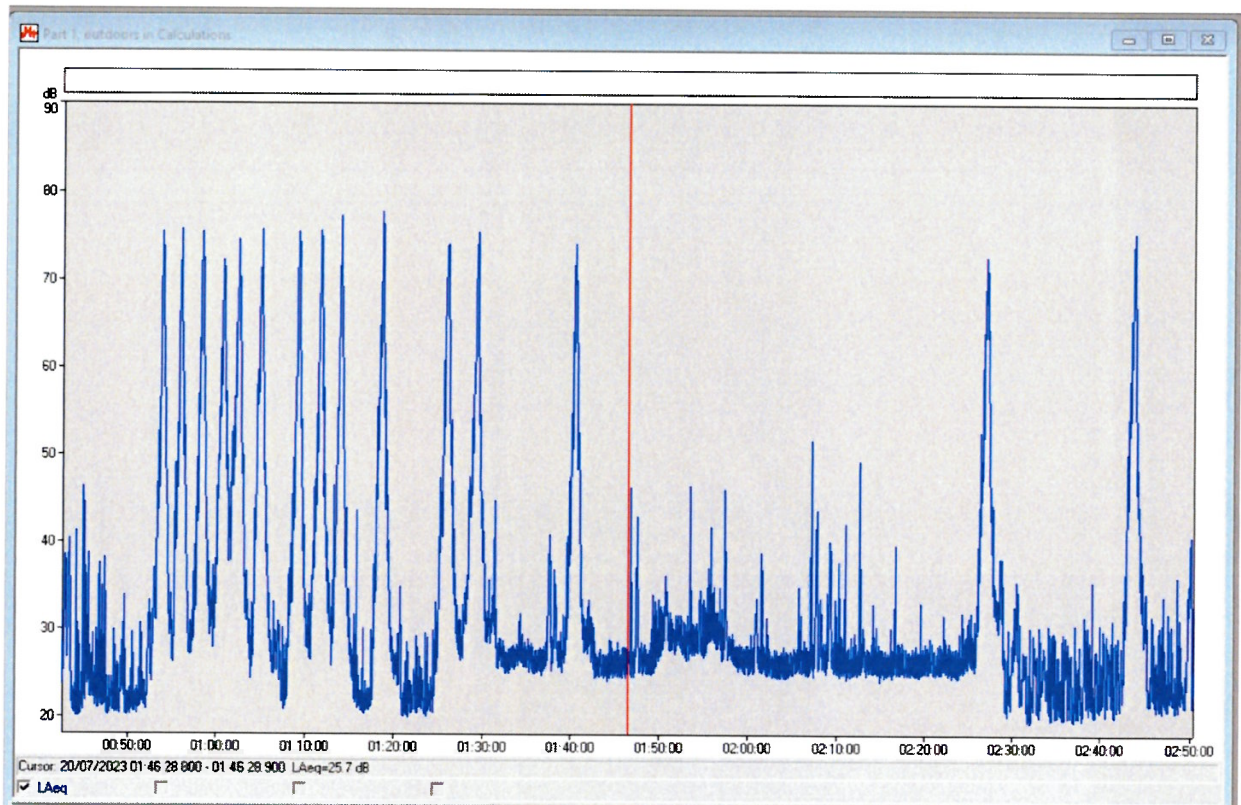
APPENDIX 3; Compare fast trace, 18 July, 00:50 – 02:14 3A: OUTDOORS



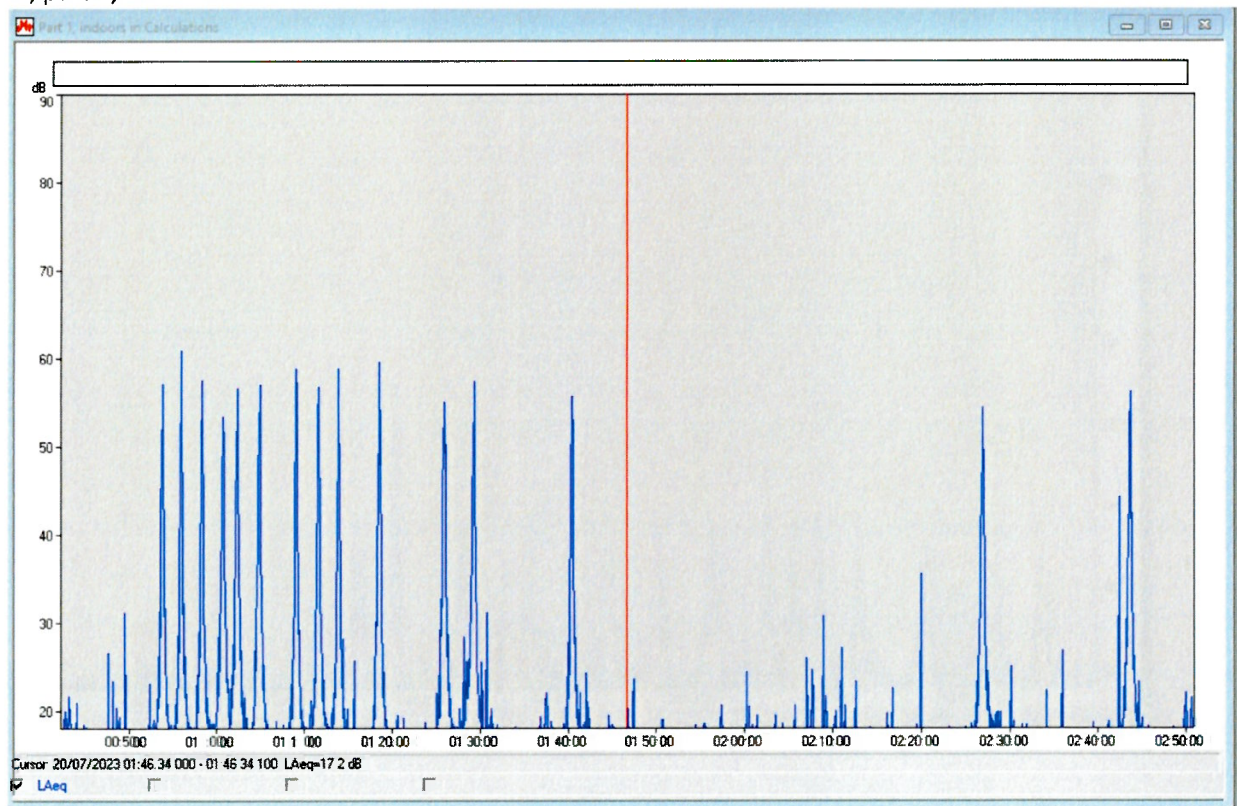
3B: INDOORS



APPENDIX 4, Comparative fast trace, 20 July, part 1: 00:42 –
02:50 4A, part 1, OUTDOORS

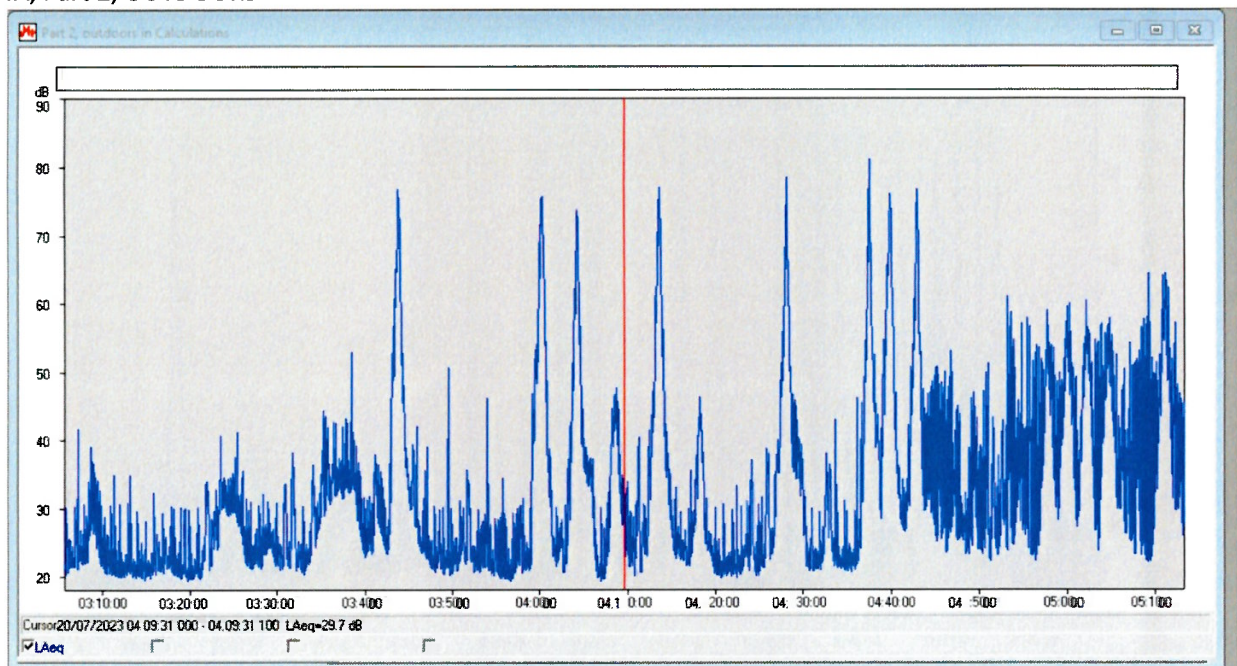


4B, part 1, INDOORS

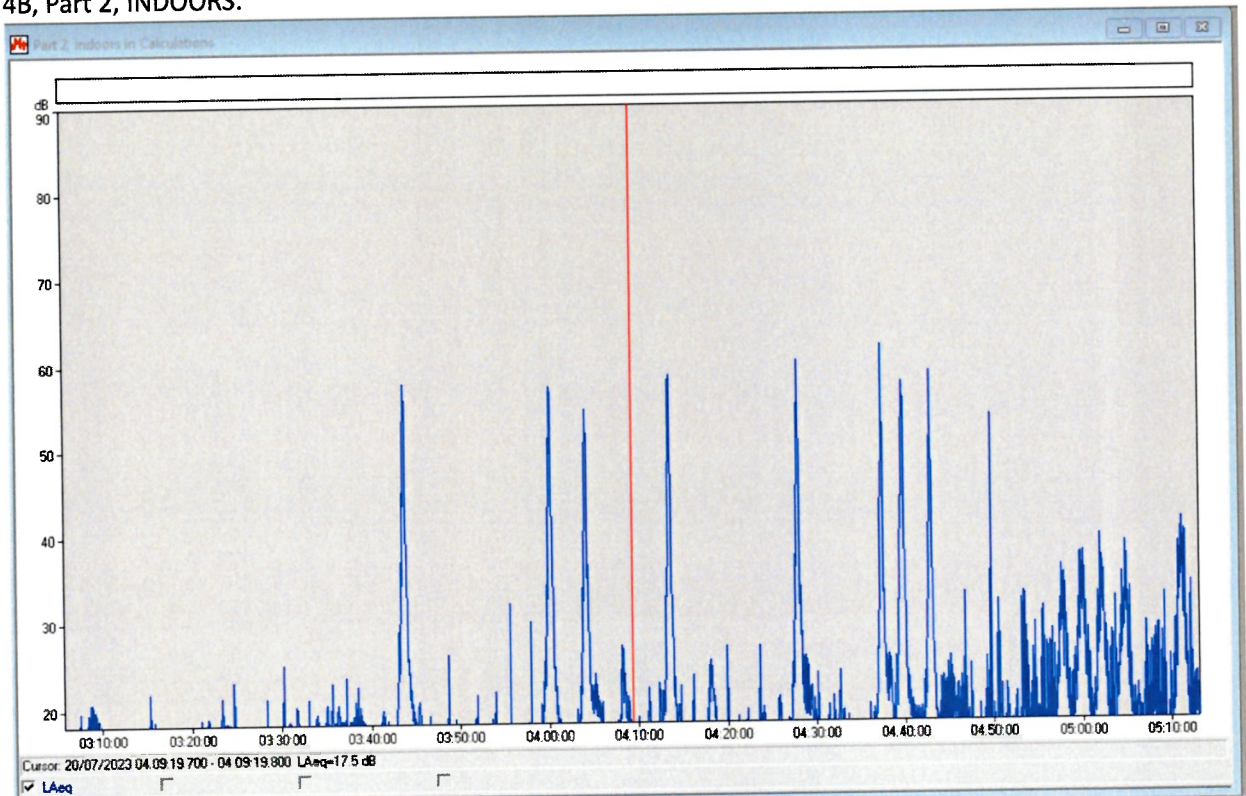


APPENDIX 4, Comparave fast trace, 20th July, part 2, 03:05 – 05:13

4A, Part 2, OUTDOORS

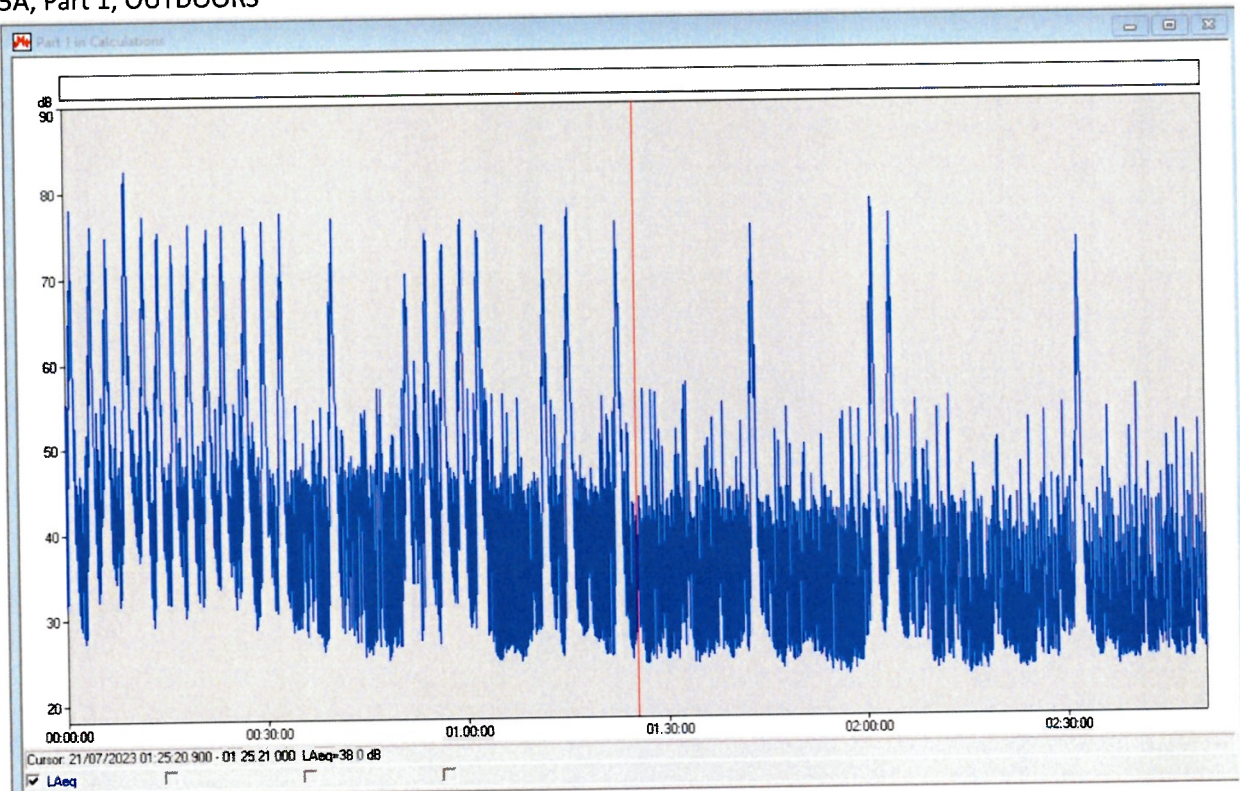


4B, Part 2, INDOORS.

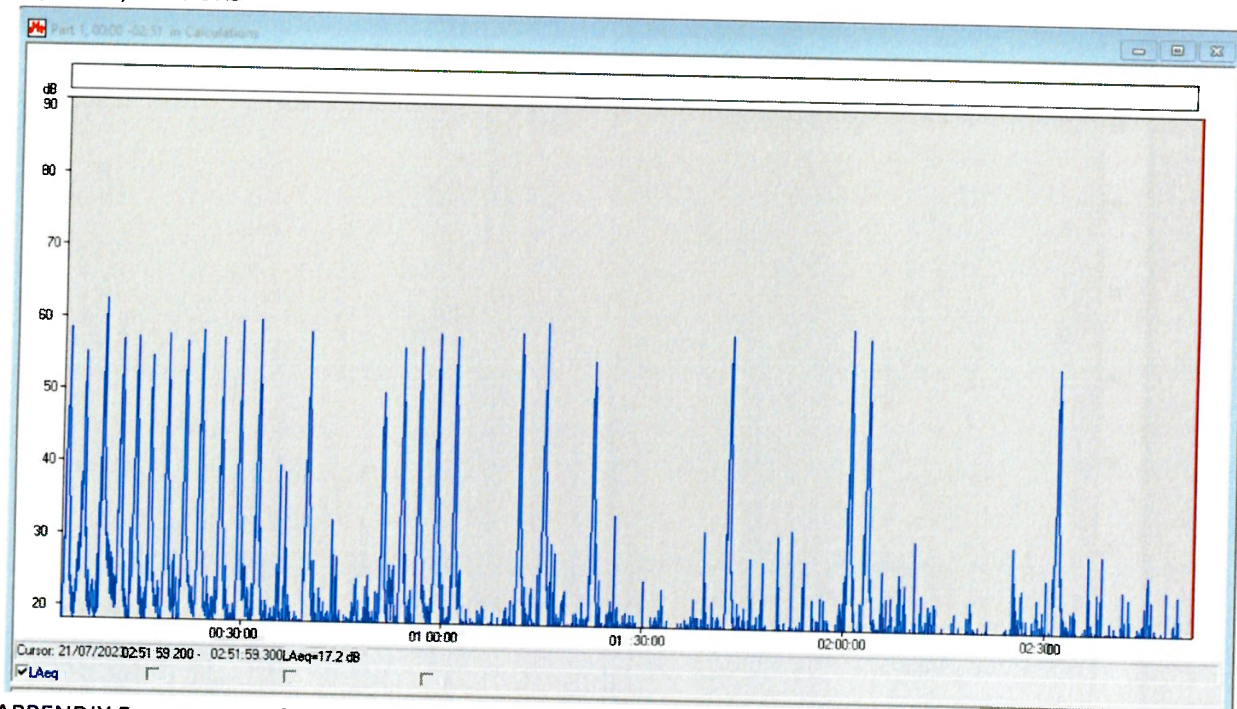


APPENDIX 5, 21st July, part 1, 00:00 – 02:52

5A, Part 1, OUTDOORS

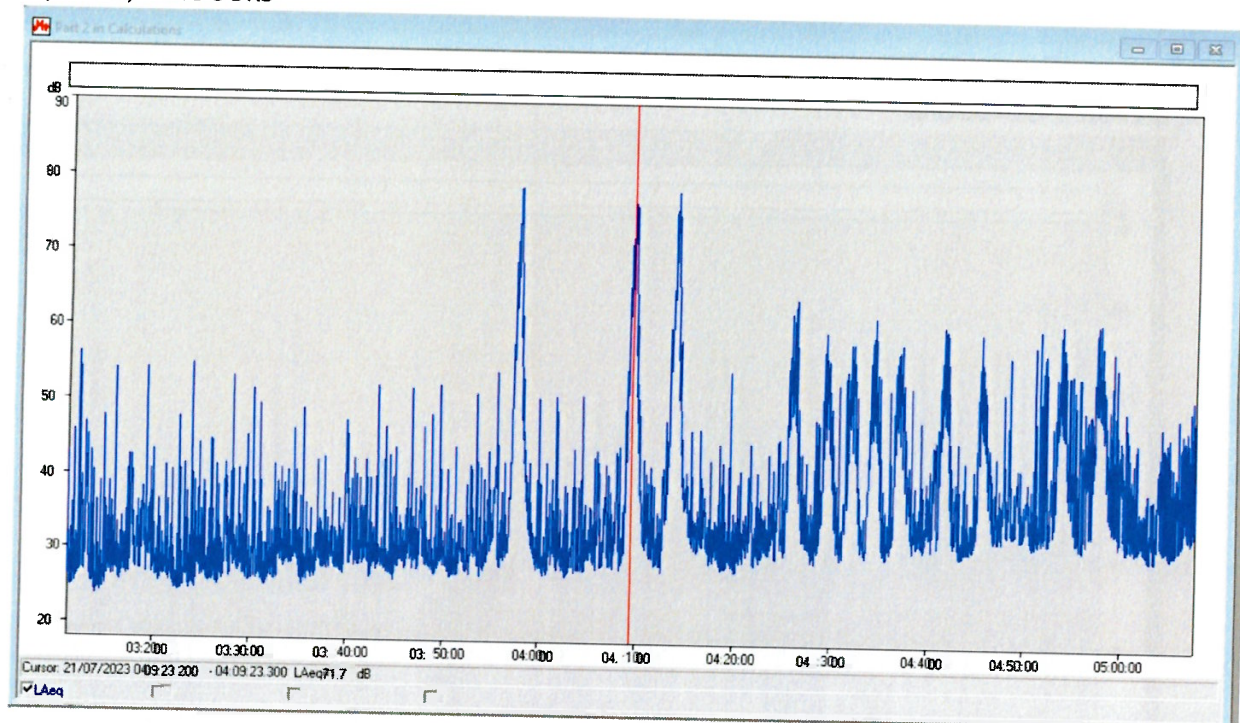


5B, Part 1, INDOORS

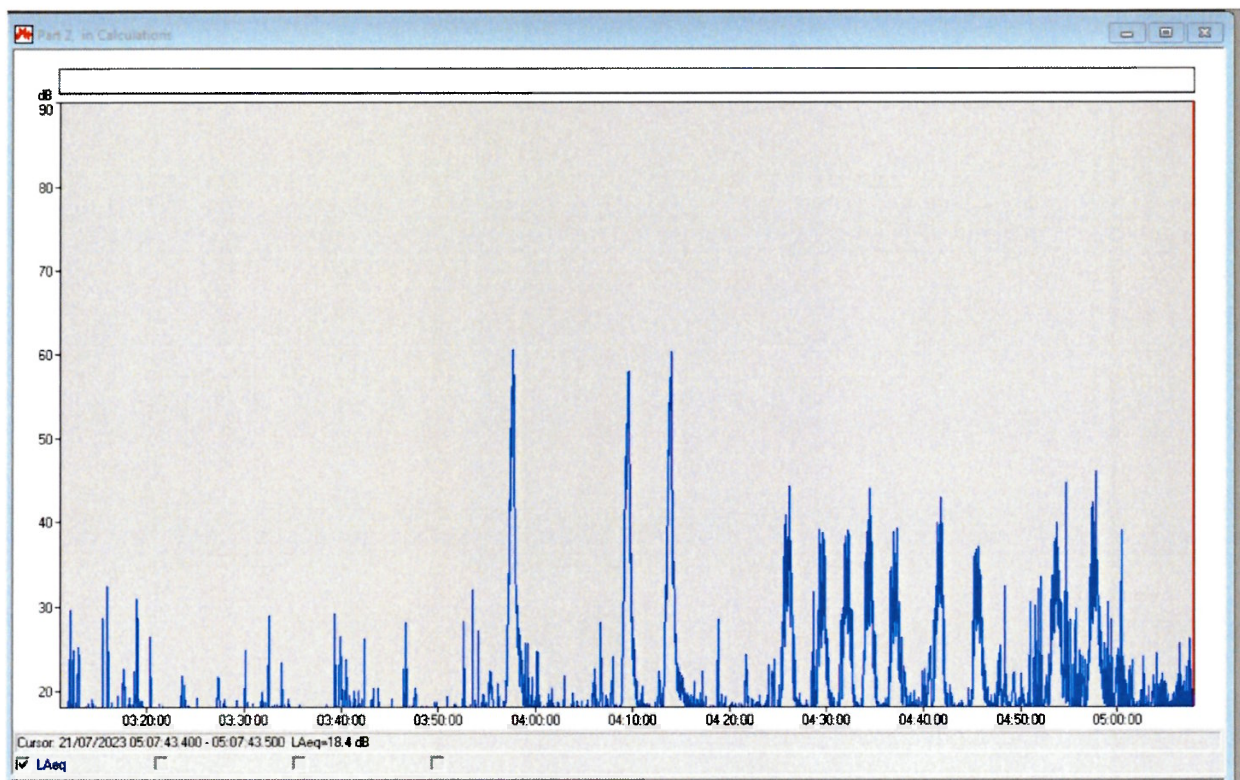


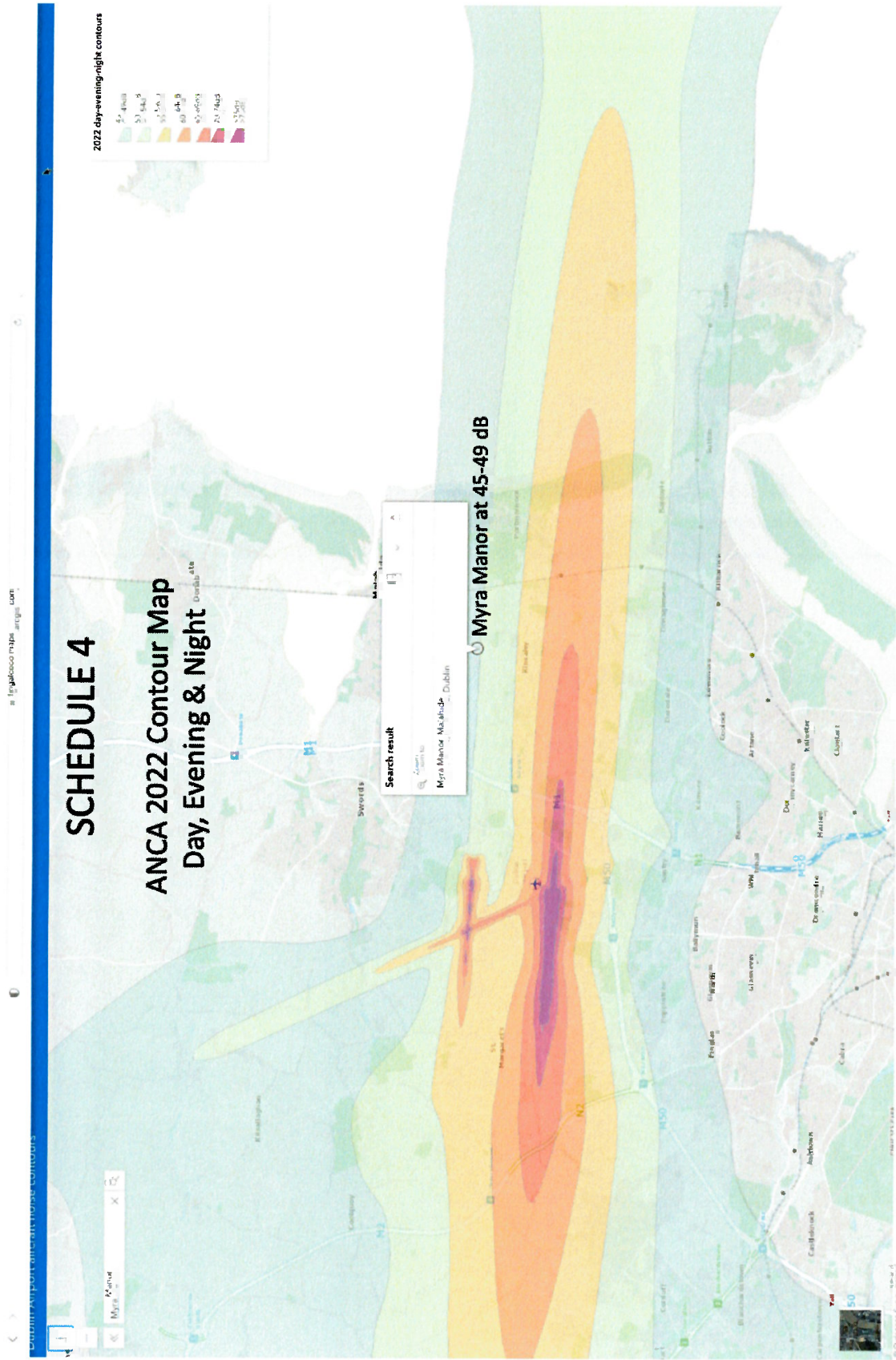
APPENDIX 5, comparative fast trace, July 21st, part 2, 03:11 - 05:07

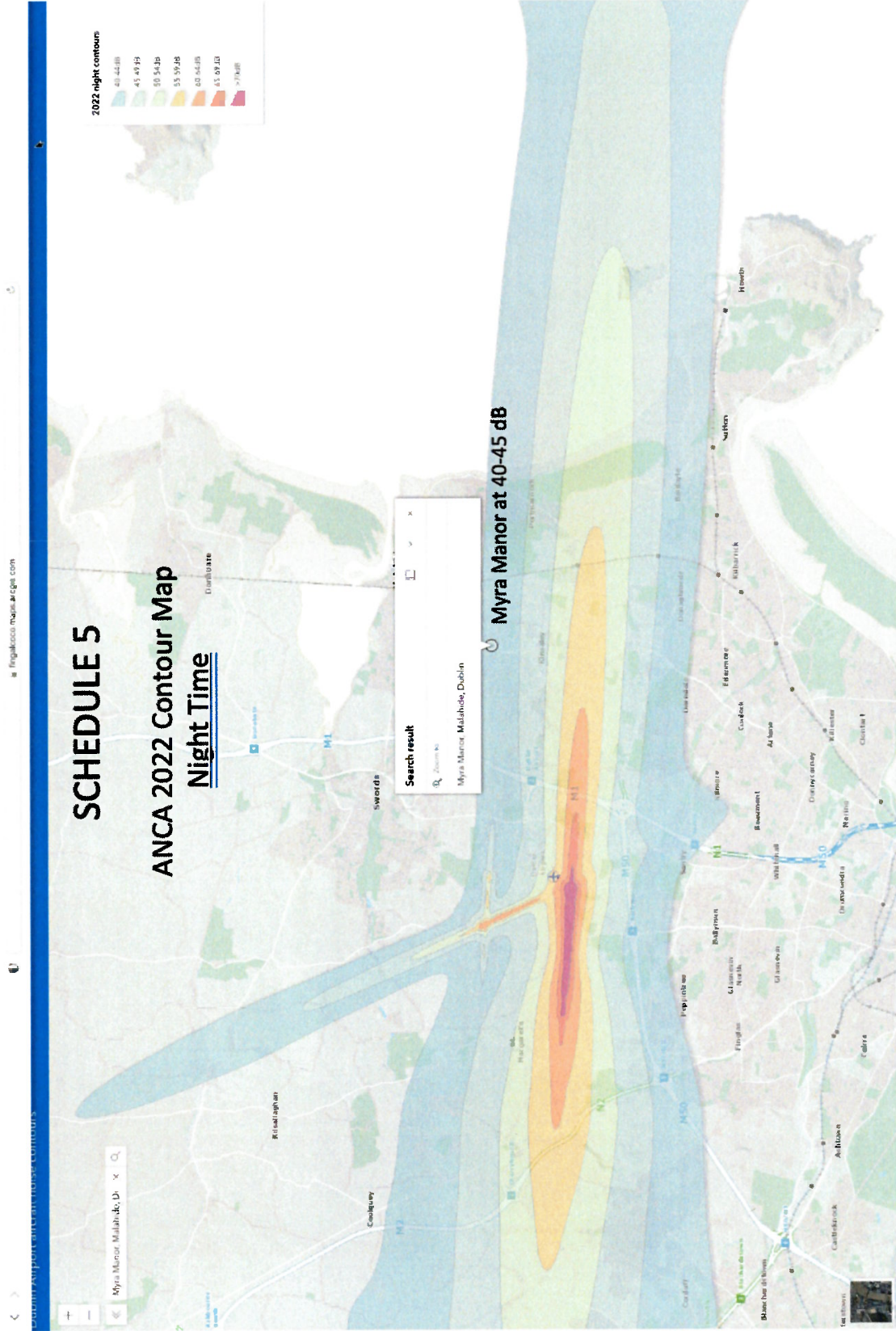
5A, Part 2, OUTDOORS



5B, Part 2, INDOORS









This section addresses exposure of the general population to environmental noise, such as noise from various forms of traffic or industry. It includes amplified music in the framework of leisure activities as well. It does not specifically include occupational noise exposure. Occupational risks, including noise exposure, are covered in section 11.3 on workplaces.

Overview

In 2011, an estimated one million healthy life years were lost from traffic-related noise in the western part of Europe only (1). Important sources for environmental noise exposure are road, railway and air traffic, or building noise. Noise exposure can also occur through other sources such as wind turbines, and leisure activities such as listening to loud music or other audio content including participation in e-sports (video and computer game competitions). Excessive noise can cause annoyance; in addition research shows it increases the risk for IHD and hypertension, sleep disturbance, hearing impairment, tinnitus and cognitive impairment, with increasing evidence for other health impacts such as adverse birth outcomes and mental health problems (2).

What is the proportion of people impacted by environmental noise in my country?

The noise indicators below are taken from guidelines that were developed for the WHO European Region. In terms of their health implications, the recommended exposure levels can be considered applicable in other regions and suitable for a global audience (2).

Noise indicators are based on the European Union Directive 2002/49/EC (3) in the European Region.

- L_{Aeq} is an average sound pressure level over all days, evenings and nights in a year.
- $L_{Aeq,T}$ is the equivalent continuous sound pressure level when the reference time interval is the night.
- $L_{Aeq,T}$ is the A-weighted (a frequency weighting to better reflect the human ear), equivalent continuous sound pressure level during a stated time interval starting at t_1 and ending at t_2 , expressed in decibels (dB), at a given point in space.

The first two indicators are used particularly for noise monitoring and exposure assessment. The third is used for measuring leisure noise exposure. For more information on these and other noise indicators consult the *Environmental noise guidelines for the European Region* (2). These noise indicators can be converted to other indicators used in other settings (4).

Several countries use surveys to assess the perception of noise in the general population. The last European Quality of Life survey, carried out 2016–2017, found that 32% of more than 30 000 participants across Europe reported problems with noise in the immediate neighbourhood of their home (5).

What is the proportion of people impacted by environmental noise in my country?

What are the levels of noise exposure we want to achieve?

Based on the systematic review of evidence available at the time of the development of the environmental noise guidelines (2), the following recommended levels for specific noise sources can be defined.

For average noise exposure, the following sound pressure levels are recommended (2, 6):

- < 53 dB L_{Aeq} for road traffic noise
- < 54 dB L_{Aeq} for railway noise
- < 45 dB L_{Aeq} for aircraft noise
- < 45 dB L_{Aeq} for wind turbine noise
- yearly average from all leisure source noises combined to ≤ 70 dB $L_{Aeq,24h}$
- yearly average from all leisure sources (such as personal listening devices¹⁾) ≤ 80 dB(A) or 1.6 Pa^2h
- short-term average from occasional exposure to leisure source noise ≤ 100 dB $L_{Aeq,15min}$

For night noise exposure, the following sound pressure levels are recommended (2):

- < 45 dB $L_{Aeq,T}$ for road traffic noise
- < 44 dB $L_{Aeq,T}$ for railway noise
- < 40 dB $L_{Aeq,T}$ for aircraft noise

Different categories of noise mitigation interventions along a continuum from source reduction to behaviour change can be defined. Interventions in the guidance section below are marked with A–E as defined hereafter (2).

- Source intervention:**
 - change in emission levels of sources
 - time restrictions on source operators.
- Path intervention:**
 - change in the path between source and receiver
 - path control through insulation of receiver/receiver's dwelling
- New/closed infrastructure:**
 - opening of a new infrastructure
 - closure of an existing one
 - planning controls between (new) receivers and sources.
- Other physical intervention:**
 - change in other physical dimensions of dwelling/neighbourhood.
- Behaviour change intervention:**
 - change in individual behaviour to reduce exposure
 - avoidance of exposure or reduced duration of exposure
 - community education and communication.