

Wokingham Borough Council
 Shute End
 Wokingham
 Berkshire
 RG40 1BN

17th January 2025 (Rev A)

RE: Noise Impact at Indigo House, Mulberry Business Park, Wokingham

Following the email received from Mark Croucher on 9th December it was asked that a noise impact assessment should be submitted.

Noise Measurements have been submitted which indicate that the noise levels will meet the requirements for daytime noise as detailed in the table below.

Time Period	Average Noise Levels L _{Aeq}	Maximum Noise Levels L _{Aeq} dB
Daytime L _{Aeq} 16 Hour between 07:00 - 23:00 Hours	36.4 dB	-
Night time L _{Aeq} 8 Hour between 23:00 - 07:00 Hours	32.3 dB	37.1 dB

Habitable Space	Time Period	Noise Level Target
Resting/Sleeping (Daytime)	23:00 - 07:00	35 dB L _{Aeq} 16 Hour
Sleeping (Nighttime)	07:00 - 23:00	30 dB L _{Aeq} 8 Hour/45 dB L _A Fmax

Additional measurements have been taken during the evening which can confirm as predicted that the noise levels would drop.

The noise measurements do as requested also include (L_AMax) which is detailed as Max. level on the reports. The reason for these being so high is as a very sensitive piece of equipment is used during the measurement and someone walking in the room during the measurement towards the equipment is to blame. The locations of the test have been shown on the attached plan.

It has also been detailed on both the daytime and evening measurements the conditions and any important information such as roadworks. I can confirm that during the daytime measurements it was an overcast day with heavy traffic and construction works. For the evening measurements it was a clear evening with low traffic and no works taking place.

Even with the levels as they are the development meets the requirements of the above table, but the applicant will be improving the rating by installing additional insulation on the external walls which will reduce noise by ca. 45dB but also improves the environmental credentials of the building. The surrounding buildings are also residential and do not have excessive noise.

The information detailed above is enough to comply with the requirements for a Noise Assessment and Mitigation.

Impact from New Development at Nigra House

There has been a recent approval at Nigra House to provide a new commercial building for employment purposes (Use Classes E(g)(ii), (iii), B2 and B8) with new vehicular access and associated infrastructure service yard.

The impact of the development on surrounding residential units was assessed as part of planning approval ref:240575 granted in June 2024. There were details provided to the impact of the development on Sorbus House which is at the closest point is 20m away from the proposed development, which is slightly closer compared to Indigo House. This can be shown below in the attached screenshot.



Measurement exercises carried out in several large manufacturing workshops indicate reasonably consistent levels in the range L_{Aeq} 75-77dB with an overall mean level of $L_{Aeq,1hr}$ 76dB and highest maximum levels in the range L_{Amax} 90-95dB. These levels are quite loud and would require shouted conversation for communication between two individuals 1m apart. For warehouse operations, a recent measurement exercise within an existing warehouse facility indicated that, over a one-hour period in an active section of the warehouse, typical sound levels were in the range $L_{Aeq,5-min}$ 50-64dB with an overall mean level of $L_{Aeq, 1-hour}$ 59dB. Short duration maximum levels were in the range L_{Amax} 80-82dB.

The assessment below has been based on the higher manufacturing sound levels. On this basis, the break-out sound level just outside the building, from standard theory, would be approximately L_{Aeq} 45dB.

The predicted break-out sound levels at the proposed residential apartments in Indigo House at a distance of 20m and a façade area of 480 m² is 36dB.

Assessment of the calculated emission levels at the nearest dwellings in accordance with BS 4142 is shown below.

Parameter	Residential Apartments in Indigo House	
	Day	Night
spl _{ext}	36	36
Character Correction (Intermittent)	+3	+3
Rating Levels at Nearest Dwelling	39	39
Typical Lowest Background L _{A90, T}	39	36
Difference	0	+3
BS:4142 Assessment-Impact	"Low Impact"	"Adverse Impact"

As detailed in the planning approval for Nigra House the main building fabric will be constructed from steel frame with an outer cladding. As a worst case, it is assumed that the outer cladding will be composite thermal panels with a minimum manufacturer's rated sound reduction of Rw 27 dB.

Detailed in the report submitted to support the application at Nigra House in order to enable B2 operations a higher performing façade building envelope has been proposed. It is calculated that a façade envelope construction with a minimum sound reduction of Rw 33 dB would be sufficient to enable a level of a low impact at the proposed during both the day and night-time periods.

Based upon the approved site layout in Application Ref:240575 the proposed apartments at Indigo House will not have a view to the service yards due to the intervening unit. As such, a screening correction of -10 dB will be assumed in the assessment for these dwellings.

An assessment of the noise from HGV movements at the proposed dwellings has, therefore, been based upon the following assumptions:

- 1 movement per hour per loading bay during the daytime (4no movements per hour)
- 1 movement per hour per loading bay during the night time (1no movement per 15-minutes)
- The typical vehicle traverse distance from Fishponds Road to, and across, the service yard is 50m which would take approximately 11 seconds at 10 mph.
- HGV reversing time of 7 seconds based upon a reversing distance of 16m at a speed of 5 mph.
- Source noise data from Hoare Lea archived measurements.
- Point source attenuation for HGV movements is based upon distances of 70 and 95 m respectively.
- Point source attenuation for HGV reversing alarms is based upon distances of 60 and 85 m respectively.
- Barrier screening calculated in accordance with the principles of CRTN.

HGV Movements:

Ambient noise levels for the purposes of assessment in accordance with the principles of BS8233 and BS4142 are derived below.

Parameter	Residential Apartments in Indigo House	
	Day	Night
Archive HGV Noise Levels (L _{Aeq,T} at 2M)	75	75
On time correction (11 + 7 + 11 seconds)	-21	-15
Specific Noise Levels (L _{Aeq,T} dB)	54	60
Movements in assessment period (dB)	+6(4)	+0(1)
Distance Attenuation (2m to 80m/95m)	-32	-32
Barrier screening	0	0
Level at Dwelling (L_{Aeq})	28	28

Predicted HGV noise levels at the nearest point of proposed dwelling.

HGV Reversing Alarms:

Manufacturers data indicates that tonal alarms the most common rating level is SWL 96-98 dB.

Parameter	Residential Apartments in Indigo House	
	Day	Night
SWL (dB)	98	98
Alarm noise level (L_{Aeq} at 1m)	87	87
On time correction (7 seconds)	-27	-21
Specific Noise Level - $L_{Aeq,T}$ dB	60	66
Movements in assessment period (dB)	+6(4)	+0(1)
Distance attenuation (1m to 70m/85m)	-37	-37
Barrier Screening	0	0
Level at Dwelling (L_{Aeq})	29	29

Predicted reversing alarm at the nearest point of proposed dwelling.

BS4142 Assessment:

From the above, the BS4142 assessment for vehicle movements at the nearest point for the proposed dwellings can be seen as follows in the below table for the proposed residential apartments in Indigo House.

Parameter	Day		Night	
	HGV	Alarm	HGV	Alarm
spl L_{Aeq}	28	29	28	29
Correction (Intermittent +3, tonal +2)	+3	+5	+3	+5
Level at Dwelling (L_{Aeq})	31	34	31	34
Total Rating Level	36		36	
Typical Lowest Background	29		36	
Difference	-3		+0	
BS4142 Assessment	"Low impact"		"Low impact"	

Assessment of vehicle activity at the proposed residential apartments.

The calculated rating sound levels from vehicle movements at the nearest point of the proposed residential dwelling to the approved commercial property achieve a condition of "Low impact" during both the day and night-time.

Plant Noise:

BS4142 can be used to derive limit noise levels at the nearest dwelling that would achieve an assessment of "low impact".

The following table derives the limit sound levels to be achieved at the nearest dwellings in order to achieve a BS4142 condition of "low impact".

Parameter	Day	Night
Background level L_{A90}	39	36
Noise Rating Level at Proposed L_{Aeq}	39	36

Maximum permissible sound pressure levels at 1m from the proposed apartments

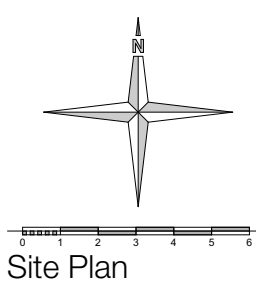
The derived limit levels for fixed plant are cumulative values to be achieved at the proposed apartments with all plant operating normally. Plant noise can be expected to attenuate with distance.

Conclusion:

This assessment carried out indicates that the noise climate in the vicinity of the proposed development site is mostly attributable to road traffic noise in the local vicinity.

Assessment of activity noise levels in accordance with BS4142 indicates that noise from the approved at Nigra House on the proposed development would achieve a condition of "low impact" at the nearest point at all times and would be unlikely to give rise to noise disturbance in

the proposed with the approved building envelope as agreed having a minimum sound insulation performance of R_w 33.

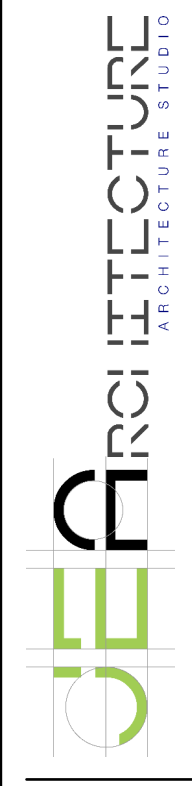


The Mulberry Centre

Notes:
These Drawings have been produced by JE Architecture and are copyright of JE Architecture Ltd.
• Do not scale from this drawings
• All dimensions are in millimeters
• All dimensions to be checked on site

These Plans are for Planning Purposes Only

D	23.10.2024	Layout Amendments
C	14.10.2024	Amendments from Client Meeting
B	10.10.2024	Class MA Application Amended
A	01.10.2024	Class MA Application Prepared
	14.08.2024	Planning Application Prepared
Rev	Date	Comments



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Drawing Status:
PRELIMINARY

Drawn On:
Friday 20 December 2024

Drawn By:
Jack Eddy

Scale:
1:200@A1

Drawing Title:
Site Layout Plan

Drawing Number:
JEA-LAY-004d



Noise measurement report

Date: 19/12/2024, 10:50

Operator: Jack Eddy

Place: Ground Floor North Elevation (Location 1)

Measurement results

Measurement time (hh:mm:ss)	00:00:31
LAeq	33.8 dB
Max. level	41.2 dB
LCpeak	62.3 dB
TWA	16.5 dB
Dose	%
Projected dose	%

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Overcast day with heavy traffic and construction works. Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 10:52

Operator: Jack Eddy

Place: Ground Floor South Elevation (Location 2)

Measurement results

Measurement time (hh:mm:ss)	00:00:31
L _{Aeq}	32.9 dB
Max. level	40.9 dB
L _{Cpeak}	62.1 dB
TWA	16.3 dB
Dose	%
Projected dose	%

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Overcast day with heavy traffic and construction works. Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 10:48

Operator: Jack Eddy

Place: Ground Floor North Elevation (Location 3)

Measurement results

Measurement time (hh:mm:ss)	00:00:34
LAeq	35.1 dB
Max. level	81.9 dB
LCpeak	66.0 dB
TWA	18.7 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Overcast day with heavy traffic and construction works. Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 10:47

Operator: Jack Eddy

Place: Ground Floor South Elevation (Location 4)

Measurement results

Measurement time (hh:mm:ss)	00:00:34
LAeq	32.6 dB
Max. level	67.3 dB
LCpeak	54.9 dB
TWA	15.4 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.
Overcast day with heavy traffic and construction works. Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 11:06

Operator: Jack Eddy

Place: First Floor North Elevation (Location 1)

Measurement results

Measurement time (hh:mm:ss)	00:00:31
LAeq	31.8 dB
Max. level	86.0 dB
LCpeak	76.1 dB
TWA	16.8 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.
Overcast day with heavy traffic and construction works. Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 11:14

Operator: Jack Eddy

Place: First Floor South Elevation (Location 2)

Measurement results

Measurement time (hh:mm:ss)	00:00:31
L _{Aeq}	30.7 dB
Max. level	45.2 dB
L _{Cpeak}	51.3 dB
TWA	12.4 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Overcast day with heavy traffic and construction works. Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 11:21

Operator: Jack Eddy

Place: First Floor North Elevation (Location 3)

Measurement results

Measurement time (hh:mm:ss)	00:00:28
L _{Aeq}	31.6 dB
Max. level	41.6 dB
L _{Cpeak}	61.5 dB
TWA	13.9 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Overcast day with heavy traffic and construction works. Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 11:27

Operator: Jack Eddy

Place: First Floor South Elevation (Location 4)

Measurement results

Measurement time (hh:mm:ss)	00:00:28
LAeq	29.2 dB
Max. level	42.9 dB
LCpeak	52.7 dB
TWA	11.2 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Overcast day with heavy traffic and construction works. Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 20:21

Operator: Jack Eddy

Place: Ground Floor North Elevation (Location 1)

Measurement results

Measurement time (hh:mm:ss)	00:00:31
L _{Aeq}	31.6 dB
Max. level	52.4 dB
L _{Cpeak}	49.8 dB
TWA	14.7 dB
Dose	%
Projected dose	%

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Clear evening with low traffic and no works taking place.

Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 20:25

Operator: Jack Eddy

Place: Ground Floor South Elevation (Location 2)

Measurement results

Measurement time (hh:mm:ss)	00:00:31
LAeq	31.2 dB
Max. level	39.9 dB
LCpeak	50.1 dB
TWA	14.9 dB
Dose	%
Projected dose	%

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Clear evening with low traffic and no works taking place.

Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 20:31

Operator: Jack Eddy

Place: Ground Floor North Elevation (Location 3)

Measurement results

Measurement time (hh:mm:ss)	00:00:34
L _{Aeq}	31.8 dB
Max. level	59.7 dB
L _{Cpeak}	54.1 dB
TWA	14.8 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Clear evening with low traffic and no works taking place.

Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 20:35

Operator: Jack Eddy

Place: Ground Floor South Elevation (Location 4)

Measurement results

Measurement time (hh:mm:ss)	00:00:34
LAeq	30.8 dB
Max. level	58.6 dB
LCpeak	53.7 dB
TWA	14.6 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Clear evening with low traffic and no works taking place.

Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 20:49

Operator: Jack Eddy

Place: First Floor North Elevation (Location 1)

Measurement results

Measurement time (hh:mm:ss)	00:00:31
L _{Aeq}	29.8 dB
Max. level	35.9 dB
L _{Cpeak}	49.6 dB
TWA	12.1 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Clear evening with low traffic and no works taking place.

Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 20:54

Operator: Jack Eddy

Place: First Floor South Elevation (Location 2)

Measurement results

Measurement time (hh:mm:ss)	00:00:31
L _{Aeq}	31.1 dB
Max. level	43.7 dB
L _{Cpeak}	51.7 dB
TWA	11.9 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Clear evening with low traffic and no works taking place.

Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 20:57

Operator: Jack Eddy

Place: First Floor North Elevation (Location 3)

Measurement results

Measurement time (hh:mm:ss)	00:00:28
L _{Aeq}	25.8 dB
Max. level	36.2 dB
L _{Cpeak}	49.9 dB
TWA	11.2 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Clear evening with low traffic and no works taking place.

Windows were closed during the measurement.



Noise measurement report

Date: 19/12/2024, 21:03

Operator: Jack Eddy

Place: First Floor South Elevation (Location 4)

Measurement results

Measurement time (hh:mm:ss)	00:00:28
L _{Aeq}	24.8 dB
Max. level	34.6 dB
L _{Cpeak}	51.1 dB
TWA	10.9 dB
Dose	0.0 %
Projected dose	0.0 %

Notes

Placed in the middle of the floor as per the position show on site plan prepared by JE Architecture LTD.

Clear evening with low traffic and no works taking place.

Windows were closed during the measurement.