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17 July 2024

Ref: 27236.240611.LT1RevC

Greystar Europe Holdings Limited
The Gilbert
40 Finsbury Square
London
EC2A 1PX

Dear whom it may concern,

27236: FIZZY HAYES, 8 PRESSING LN, HAYES UB3 1HA

This technical note contains the findings of our survey conducted onsite to assess the effectiveness of the balcony soffits installed at Fizzy Hayes.

1.0 INTRODUCTION

At the above-mentioned residential site, external absorptive balcony soffits have been installed in response to a requirement at the planning stage in order to control environmental noise in external amenity areas and to reduce noise break in.

Since this time, these soffits have degraded significantly (see Figure 1.1), and therefore require replacement.

Figure 1.1: Image showing the degraded balcony soffits.

Onsite noise surveys have been undertaken to ensure that the proposed replacement soffit materials can provide adequate acoustic conditions.

2.0 PLANNING REQUIREMENTS

The original planning permission for the scheme was conditioned as follows:

> "*Unless otherwise agreed in writing by the Local Planning Authority, prior to the commencement of development of each phase a sound insulation scheme for protecting the proposed residential development (including balconies and podium level & rooftop outdoor amenity areas) from rail, commercial and other noise shall be submitted to and approved in writing by the Local Planning Authority. Thereafter, the approved mitigation measures shall be fully implemented in accordance with the approved details and shall be retained and maintained in good working order for so long as the buildings remain in use.*
>
> *REASON To ensure that the amenity of the occupiers of the proposed residential development is not adversely affected by road traffic, railway noise, commercial noise and other noise in accordance with policy OE5 of the Hillingdon Local Plan, Pt*
>
> *II, 2012 and London Plan (July 2011) Policy 7.15. "*

Page 8, Section 4.1 of *"The Old Vinyl Factory – Material Store, Acoustic Report, Stage C / Planning"* dated 30/03/2015 submitted with the planning application by Max Fordham LLP notes the following, which has driven the requirements for acoustically absorbent balcony soffits.

> *"To minimize the effect of balconies on the noise levels at the facades the underside of the balconies floor will be treated with an acoustic absorbent material where required."*

In addition to the above, the following glazing has been specified at the worst affected facades (see Appendix A):

- *Living Rooms: 38-46dB R_w+C_{tr} Secondary glazing/ double glazing*
- *Bedrooms: 47-51dB R_w+C_{tr} Secondary glazing with large cavity*

3.0 NOISE IMPACT ASSESSMENT

3.1 Procedure

In order to assess the acoustic impact of the balcony soffits, measurements have been undertaken on two balconies at locations most exposed to the train line, the primary environmental noise source noted in the original acoustic report, where one absorptive soffit is intact and the other has been removed.

The microphones were installed at a distance 1m from the glazing at equivalent locations the same distance from the railway line.

The locations are shown in Figure 3.1 and the soffit condition at both locations are described below:

- **N1: Absorptive soffit stripped out.**

  Steel balcony underside visible.

  Soffit absorption coefficient of approximately $\alpha_w = 0.05$

- **N2: Absorptive soffit in-tact.**

  Absorptive soffit intact.

  Understood to be 25mm QSL Slab with at least 50mm airgap $\alpha_w = 0.90$ (datasheet Appendix B)

3.2 Results

The survey results are presented in the enclosed figures 27236.TH1 and 27236.TH2 as Time History Graphs. The overall results are presented in the table below.

Period		N1 Soffit stripped out	N2 Absorptive Soffit
Daytime L_{eq} (dB)	**07:00-23:00**	68	68
Night-time L_{eq} (dB)	**23:00-07:00**	62	62
15th Highest Night-time L_{Amax} (dB)		84	85

Table 3.1 Results of noise surveys in both locations (include local reflections of the façade)

3.3 Discussion

As shown in Table 3.1, there is no notable difference in the results measured (less than 1dB).

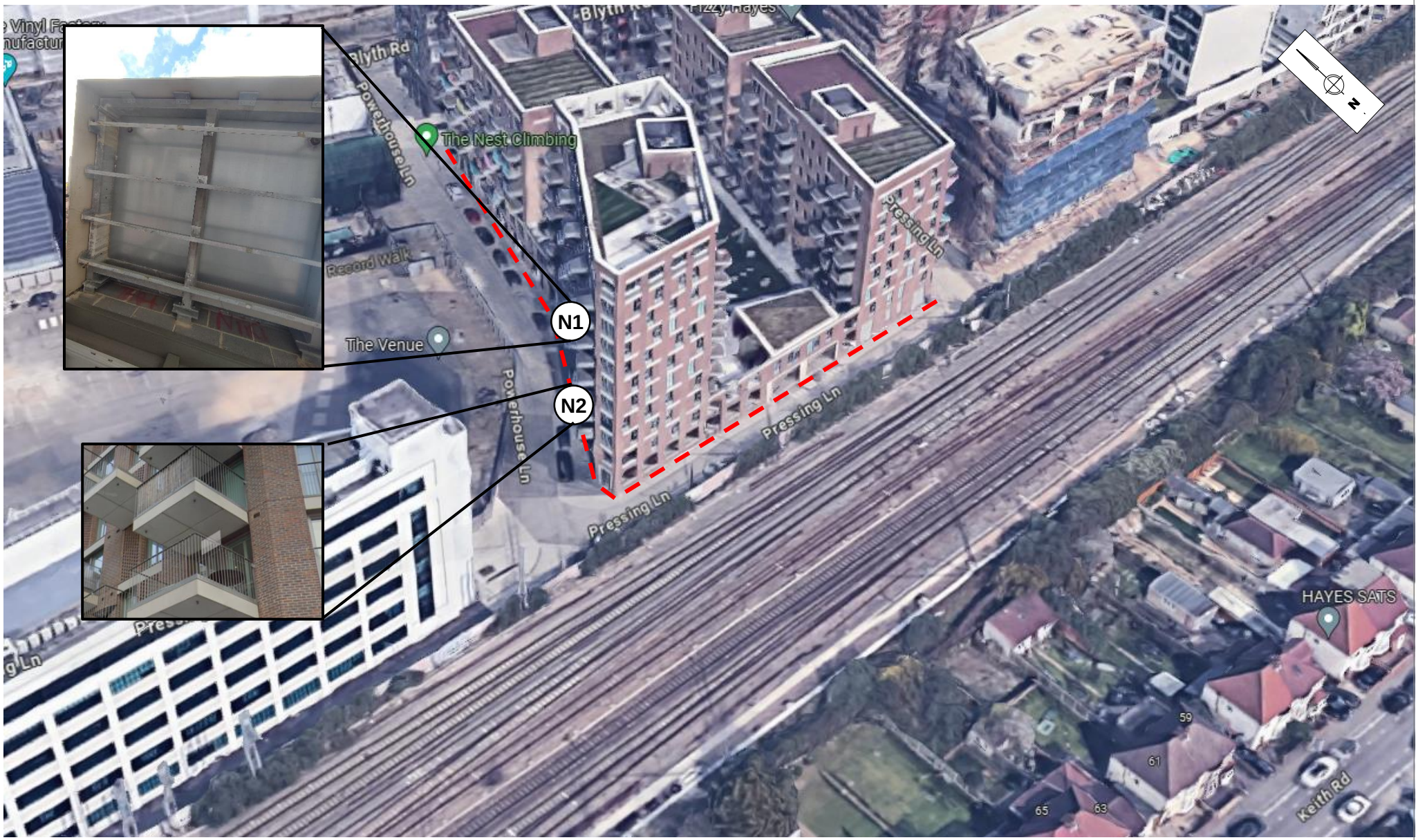
Our calculations and survey results indicate that noise break in via the façade would be unaffected, whether an absorptive soffit or a non-absorptive soffit is used.

3.4 External Building Fabric Required

Further to the above, we have calculated the minimum acoustic specifications for the glazing based on the external levels measured onsite at N1 (balconies without a soffit). These are shown in Table 3.2. The calculated specification has been compared with the specification from the original Max Fordham (MF) Acoustic Report which was based off predictive techniques before the development was built. It is understood that the glazing installed on site achieves the MF specification.

Location	125	250	500	1k	2k	4k	Required $R_w + C_{tr}$	*MF Spec* $R_w + C_{tr}$	Pass/ Fail
Living Rooms	26	27	34	40	38	46	**33**	***38***	**Pass (+5dB)**
Bedrooms	26	34	44	56	53	52	**38**	***47***	**Pass (+5dB)**

Table 3.2 Glazing performance required (dB SRI at octave band centre frequency, Hz)



KP acoustics™	Project Title: Fizzy Hayes	Drawing Title: Illustrative Site Boundary, Monitoring Locations	Legend: Monitoring Locations (ML); Approximate Site Boundary	Job Number: 27236	By: DS	Drawing No. Figure 3.1
				Date: 03.062.2024	Version: 01	
				Scale: NTS		

The table above shows compliance with the planning condition, as the required sound insulation performance calculated from the noise levels measured with the absorptive balcony soffit is less onerous then the glazing specified and installed in the original planning report (see Appendix A).

3.5 Recommendations

On the basis of the findings above, we understand that the current planning condition requires the maintenance of the approved mitigation measures, including the use of acoustically absorptive surfaces for the balcony soffits. However, our assessment indicates that these absorptive soffits are not actually required to meet the necessary noise levels. Therefore, we recommend submitting a request to the planning authority in Hillingdon to approve the removal of this specific requirement.

4.0 CONCLUSION

It is concluded based on the assessments undertaken, the use of an acoustically absorptive balcony soffit is not required in order to suitably protect the residential flats from noise as shown in the following assessments:

- Acoustic surveys undertaken with and without the soffit in place show no difference in noise levels;
- The acoustic glazing requirements based on levels without the absorptive soffit are less onerous then specified in the original planning report and installed onsite.

Furthermore, we confirm that the intended choice of materials for the balcony soffit, specifically aluminium, will provide an equivalent level of performance as noted within the findings shown under ‘N1 – Soffit Stripped Out’ on page 3 of the report.

On the basis of the above, we advise the requirement for an acoustically absorptive soffit should be removed.

Yours sincerely,

Daniel Stuart MIOA

KP Acoustics Ltd

APPENDIX B

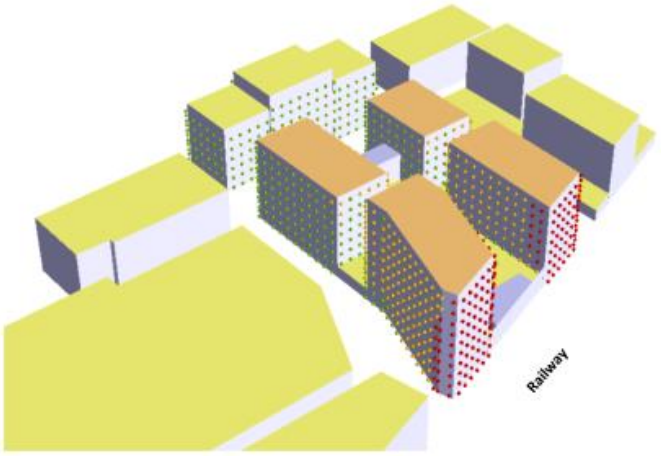
MAX FORDHAM GLAZING SPECIFICATION (EXCERPT)

4.1 Residential Façade Performance Requirements

Figure 5 and Figure 6 illustrate, respectively, typical bedroom and living room glazing requirements. The current design allows for provision of double or secondary glazing, which will be refined by location as the design develops. Table 4 illustrates the typical sound insulation range covered by each glazing type.

	Glazing Requirements dB Rw+Ctr
Double Glazing	32 – 37
Secondary Glazing / Double Glazing	38 – 46
Secondary Glazing large Cavity	47 - 51

Table 4 Range of sound reduction index, Rw+Ctr, associated with each glazing type.



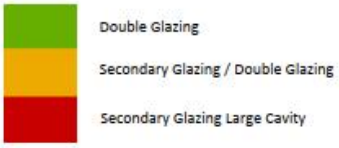
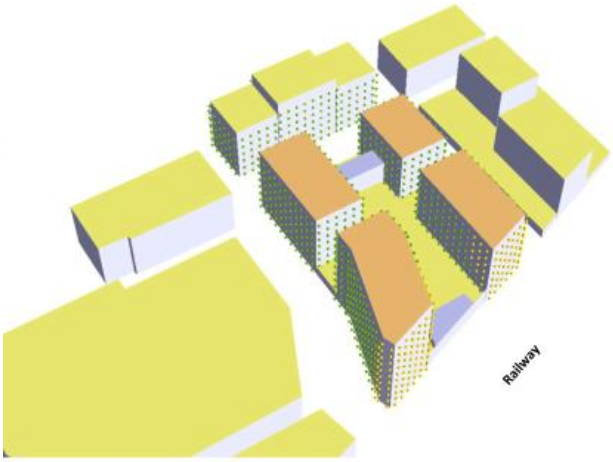


Figure 5: 3D Map showing Glazing requirements in bedrooms



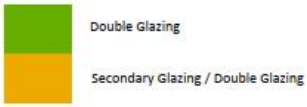


Figure 6: 3D Map showing Glazing requirements in living rooms

LABORATORY TEST DATA: ABSORPTIVE SOFFITS

02/03 2007 08:35 FAX 004

BS EN ISO 354:2003

Acoustics - Measurement of absorption in a reverberation room

Client: Sound Absorption UK Ltd
Melville House, Melville Road
Hurdsfield Ind Est, Macclesfield
Cheshire. SK10 2BN

Object: 25mm QSL
1.0 - 2.0mm
50mm air gap

Size:

Receiving room:

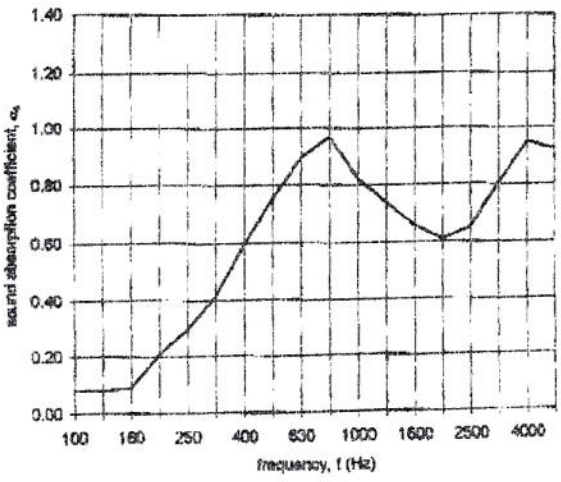
Volume: 220 m³
Condition: clean
Type: large reverberation room
Location: acoustic transmission suite

These are provisional results which may change in the issued report.

Sample out: Temperature [°C]: 21.1 Humidity [%]: 39.6
Sample in: Temperature [°C]: 18.3 Humidity [%]: 42.7

Sound absorption coefficient α_s

Frequency Hz	α_s
100	0.08
125	0.08
160	0.09
200	0.21
250	0.30
315	0.41
400	0.59
500	0.75
630	0.89
800	0.97
1000	0.82
1250	0.74
1600	0.66
2000	0.61
2500	0.65
3150	0.80
4000	0.95
5000	0.92



Test reference number. AC/07/03/03 Date: 01/03/07

University of Salford, School of Computing, Science & Engineering SSV1

Fizzy Hayes - Position 1 - Soffit Not in Tact
Environmental Time History
24/05/2024 to 27/05/2024

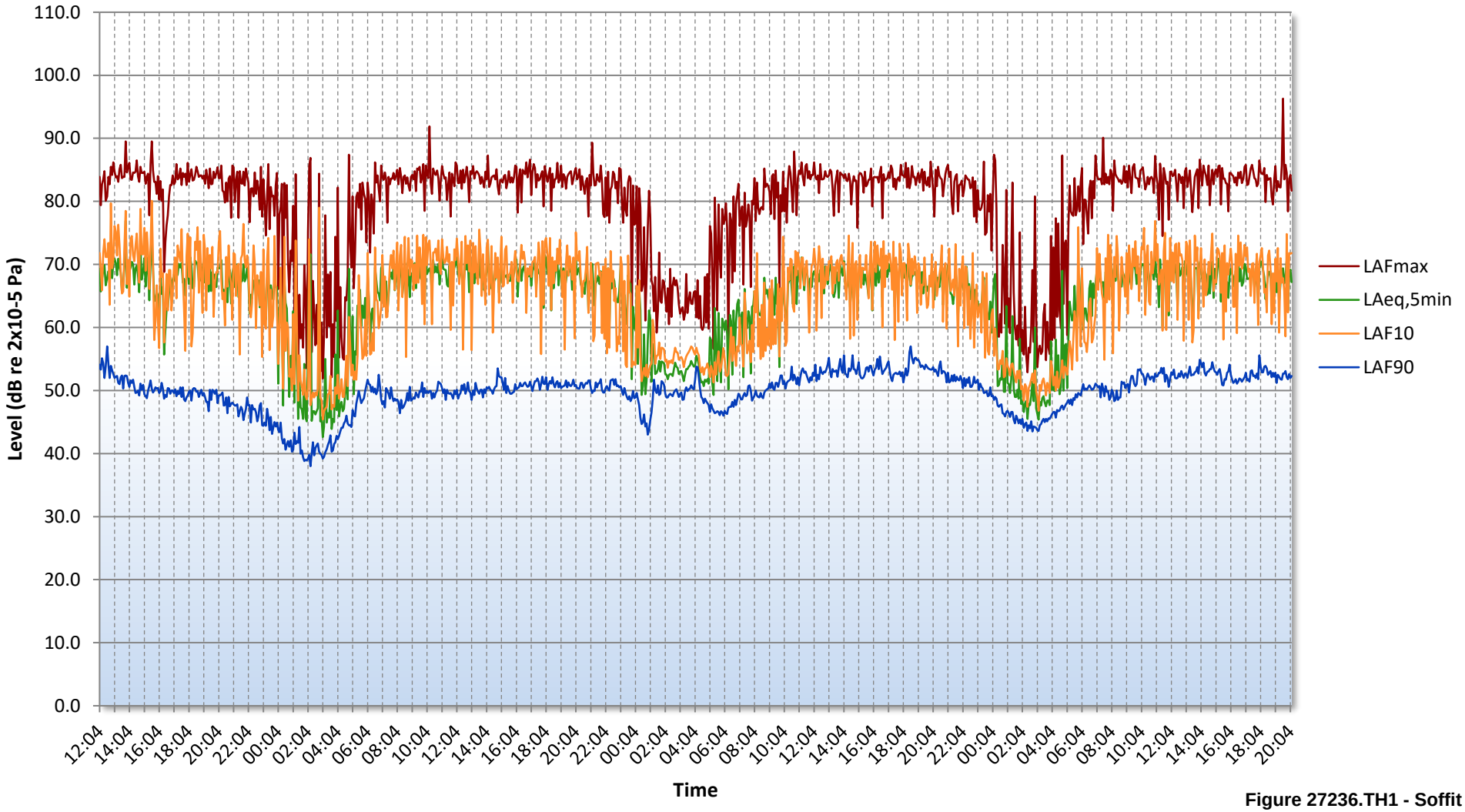


Figure 27236.TH1 - Soffit Not in Tact

Fizzy Hayes - Position 2 - Absorptive Soffit
Environmental Time History
24/05/2024 to 27/05/2024

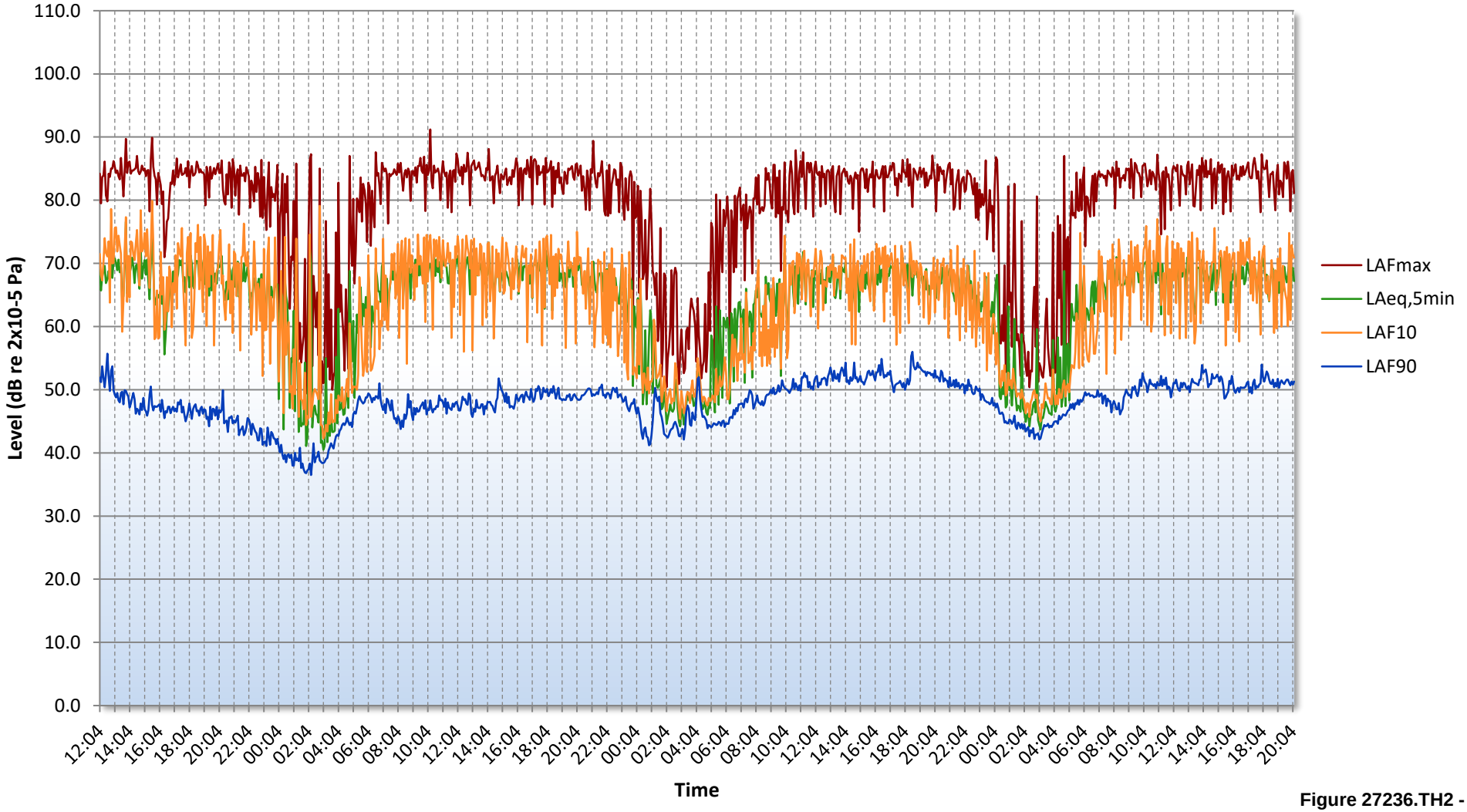


Figure 27236.TH2 - Absorptive Soffit