23-25 Talbot Road
Port Talbot

Noise Impact Assessment

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1.0 Introduction

1.1 Overview

Technical Services Consult has been commissioned to undertake a noise impact assessment of the proposed residential conversion of the Huddersfield Buildings at 23-25 Talbot Road, Port Talbot. The assessment considers the suitability of the site for the proposed residential use with respect to environmental noise, principally road traffic noise from Talbot Road (A48) at the front of the site and railway noise from the South Wales Main Line to the rear, and determines the façade sound insulation and ventilation performance required to achieve suitable internal conditions.

This report sets out the assessment methodology, findings, and recommended mitigation measures where relevant.

1.2 Site Description

The site is located on the south-western side of Talbot Road (A48) in Port Talbot town centre and comprises the existing three-storey Huddersfield Buildings at 23-25 Talbot Road, with the adjoining Royal British Legion club premises at 19-21 Talbot Road to the north-west. Talbot Road is a busy urban A-road, with a bus stop located directly outside the front of the site. The rear of the site faces a public car park serving Port Talbot Parkway station, beyond which lies the South Wales Main Line railway; the station itself is a short distance to the south-east. The site location is shown in Figure 1.2.

Figure 1.1 Site photograph: existing building frontage onto Talbot Road (July 2026)

Figure 1.2 Site location plan (site edged red; base: drg A01)

1.3 Development Proposals

The proposals, as shown on the architect's drawing series A01–A04 (including drg A03 Rev J and A04 Rev A), comprise the refurbishment and conversion of the existing building to provide 8No apartments (5No at first floor and 3No at second floor) over 3No office/commercial units, cycle and bin stores at ground floor, together with a residents' roof terrace at second-floor level to the rear and roof-mounted solar PV panels. An extract of the proposed floor plans is reproduced in Figure 1.3.

Figure 1.3 Proposed floor plans (extract, not to scale; drg A03 Rev D)

Habitable rooms are provided on both the Talbot Road (front) and rear façades. For the purposes of façade specification the building has been considered as two design zones: Zone A, the Talbot Road (north-east) façade; and Zone B, the rear (south-west) façade and returns.

1.4 Assessment Scope

The scope of the assessment comprises:

- Assessment of the external noise climate at the site, based on a continuous unattended noise survey at 2No measurement positions;
- Assessment of internal ambient noise levels within the proposed dwellings against the criteria of BS 8233:2014 and WHO guidance, and derivation of the required façade sound insulation and ventilation performance.

2.0 Assessment Guidance & Requirements

2.1 Local Authority & Planning Context

The site falls within the jurisdiction of Neath Port Talbot County Borough Council. Planning Policy Wales (PPW) requires noise to be taken into account in the planning process, supported by Technical Advice Note (TAN) 11: Noise (1997), which remains the extant Welsh Government technical guidance on planning and noise. A revised TAN 11 ('Air Quality, Noise and Soundscape') was the subject of Welsh Government consultation in 2022/23 but had not been adopted at the time of writing; the Noise and Soundscape Plan for Wales 2023–2028 sets out the national strategic context.

TAN 11 does not prescribe internal noise criteria for dwellings, and the Council has not published numerical internal noise criteria for residential development. The assessment criteria adopted below are considered robust for planning purposes. As far as we are aware no planning conditions have been proposed at this stage.

2.2 BS 8233 Assessment Methodology

BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings' (herein BS 8233) provides guidance on suitable internal ambient noise levels within residential buildings, along with recommended external amenity noise levels. The guidance draws on the World Health Organization (WHO) 'Guidelines for Community Noise' (1999) and 'Night Noise Guidelines for Europe' (2009). The recommended internal ambient noise levels for dwellings are summarised in Table 2.1.

Table 2.1 Internal ambient noise levels for dwellings (BS 8233:2014)

Activity	Location	07:00–23:00	23:00–07:00
Resting	Living room	35 dB LAeq,16h	–
Dining	Dining room/area	40 dB LAeq,16h	–
Sleeping (daytime resting)	Bedroom	35 dB LAeq,16h	30 dB LAeq,8h

In addition, following WHO guidance, individual noise events at night should not regularly exceed 45 dB LAFmax within bedrooms; this is typically interpreted as no more than 10–15 times per night. Night-time maximum event statistics are accordingly reported herein as the tenth-highest event per night.

3.0 Environmental Noise Survey

3.1 Procedure

Continuous automated noise measurements were undertaken from approximately 15:20 on Friday 10 July 2026 until approximately 08:50 on Tuesday 14 July 2026 at 2No measurement positions on site. The equipment was installed and collected by Lee Pickett of Technical Services Consult Ltd.

Weather conditions during the survey period were generally dry with light winds and therefore suitable for the measurement of environmental noise. The measurement procedure complied with ISO 1996-2:2017.

3.2 Noise Climate

The noise climate at the front of the site is dominated by road traffic on Talbot Road (A48), including frequent bus movements associated with the stop directly outside the site, together with general town-centre activity. Measured levels at the front are typical of a busy urban A-road frontage, with a clear day/night traffic profile.

The rear of the site is largely screened from Talbot Road traffic by the building itself, and the noise climate is instead governed by railway movements on the South Wales Main Line, which passes the rear of the site beyond the station car park. Passenger and freight services operate throughout the day and night: review of scheduled movements at Port Talbot Parkway indicates in the order of 125No weekday train movements, of which approximately 22No occur during the night-time period (23:00–07:00), including freight and empty-stock workings passing at speed in the early hours. The octave-band content of the regular high-level night-time events at the rear position is concentrated at 1–2 kHz, consistent with wheel/rail rolling noise from rail pass-bys.

3.3 Measurement Positions

Measurements were undertaken at 2No positions, as indicated in Figure 3.1:

- MP1 – on the Talbot Road façade of the existing building at second-floor level (façade measurement position), representative of the proposed Talbot Road (Zone A) façade; and
- MP2 – in a free-field position at the edge of the flat roof area at the rear of the existing building, overlooking the rear façade below and with a direct view towards the railway, representative of the proposed rear (Zone B) façade.

MP1 was a façade measurement position; a -3 dB correction has been applied to the measured levels to derive free-field levels. MP2 was a free-field measurement position. All levels reported herein are free-field.

Figure 3.1 Measurement positions (indicative, aerial view; MP1 front, MP2 rear)

3.4 Equipment

The survey equipment is summarised in Table 3.1. The measurement chains were calibrated prior to and following the survey and no abnormalities were observed.

Table 3.1 Survey equipment

Position	Equipment	Serial No.	Calibration
MP1 (front)	Svantek SVAN 971A sound level meter	189302	Calibrated 27 May 2026, Type 7152 calibrator (S/N 99039)
MP2 (rear)	Rion NA-28 sound analyser	00470356	Calibrated 04 Nov 2024, cert. UCRT24/2467 (expires 03 Nov 2026)

3.5 Results

A summary of the measured levels is given in Table 3.2. Time histories of the full survey are presented in Appendix A. Note that these are free-field sound levels.

Table 3.2 Summary of measured noise levels

Position	Daytime 07:00 – 23:00	Night-time 23:00 – 07:00	
	$L_{Aeq,16h}$	$L_{Aeq,8h}$	L_{AFmax}, 10th highest
MP1	64 dB	56 dB	73 dB
MP2	57 dB	54 dB	72 dB

Measured levels at the front of the building are significantly higher than at the rear, reflecting the proximity of Talbot Road. The character of the noise also differs between the two façades: the front is governed by continuous road traffic noise, whereas the rear exhibits a lower ambient level punctuated by regular high-level railway pass-by events, including through the night-time period.

4.0 Residential Noise Impact Assessment

4.1 Criteria

Based on the guidance set out within BS 8233 and the WHO guidelines, the following criteria are proposed for residential areas.

Table 4.1 Criteria for residential areas

Area	Criteria (Upper Limit)	
	Daytime	Night-time
Bedroom	35 dB $L_{Aeq,16h}$	30 dB $L_{Aeq,8h}$ 45 dB L_{Afmax}
Living Area	35 dB $L_{Aeq,16h}$	n/a

4.2 Non-Glazed Elements

The external walls are understood to be a masonry construction, which would be expected to be comfortably capable of providing the minimum sound insulation performance shown in the table below.

Table 4.2 Assumed sound reduction performance for non-glazed elements

Element	Sound Reduction Index (R dB) at Octave Band Centre Frequency (Hz)						$R_w + C_{tr}$ (dB)
	125	250	500	1k	2k	4k	
Masonry external wall	35	42	45	50	50	55	44

4.3 Glazed Elements

Minimum octave band sound reduction index (SRI) values required for all glazed elements to be installed are shown below.

The performance is specified for the whole window unit, including the frame, seals, etc. as appropriate. Sole glass performance data would not demonstrate compliance with this specification.

Table 4.3 Sound reduction performance requirements for glazed elements

Facade	Sound Reduction Index (R dB) at Octave Band Centre Frequency (Hz)							$R_w + C_{tr}$ (dB)
	63	125	250	500	1k	2k	4k	
Talbot Road (Front & Side)	15	22	25	30	32	34	34	30
Rear Elevation	15	20	22	25	28	30	30	26

4.4 Ventilation

Based on the noise levels measured on site, should trickle ventilators be used they must be selected to comply with the following specification. Note that the below spec should be achieved as a cumulative total per room, so may need to increase where more than one ventilator is proposed.

Table 4.4 Sound reduction performance requirements for ventilation elements

Facade	Element Level Difference (D_{ne} dB) at Octave Band Centre Frequency (Hz)							$D_{new} + C_{tr}$ (dB)
	63	125	250	500	1k	2k	4k	
Talbot Road (Front & Side)	33	36	36	37	31	37	40	34
Rear Elevation	31	31	36	31	38	28	28	32

In the case of mechanical ventilation, systems should be designed to meet the internal noise levels as defined in CIBSE Guide A (2015), as shown below.

Table 4.5 Mechanical building services noise level requirements

Room Type	L_{Aeq}, dB	NR
Bedrooms	30	25
Living Rooms	35	30
Kitchen	45-50	40-45

In all cases, purge ventilation may be provided by openable windows. The internal noise level requirement would not be applicable during purge conditions as this would only occur occasionally.

5.0 Conclusion

Technical Services Consult has been commissioned to undertake a noise impact assessment of the proposed residential conversion of the Huddersfield Buildings at 23-25 Talbot Road, Port Talbot (8No apartments over ground-floor office/commercial space), based on continuous measurements at the front and rear of the existing building from 10 to 14 July 2026.

The governing noise sources are road traffic on Talbot Road (A48) at the front of the site, including bus movements at the stop directly outside, and railway movements on the South Wales Main Line to the rear, including freight and empty-stock workings passing at speed during the night-time period. Assessment criteria have been drawn from BS 8233:2014 and WHO guidance.

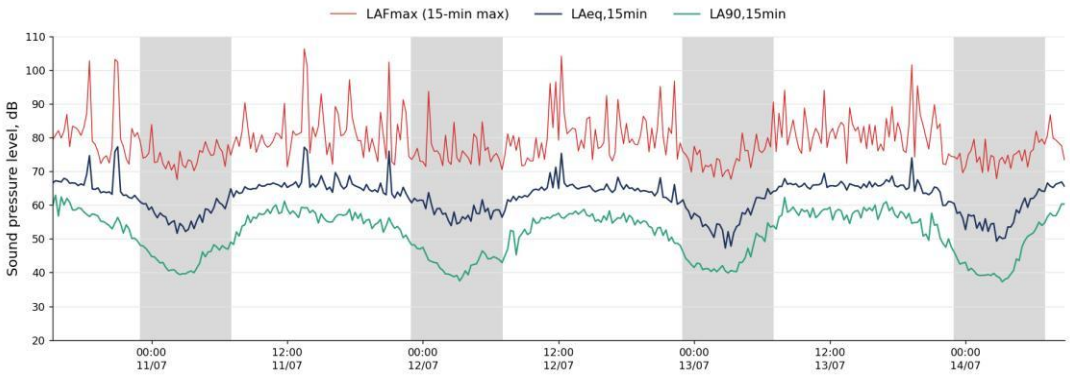
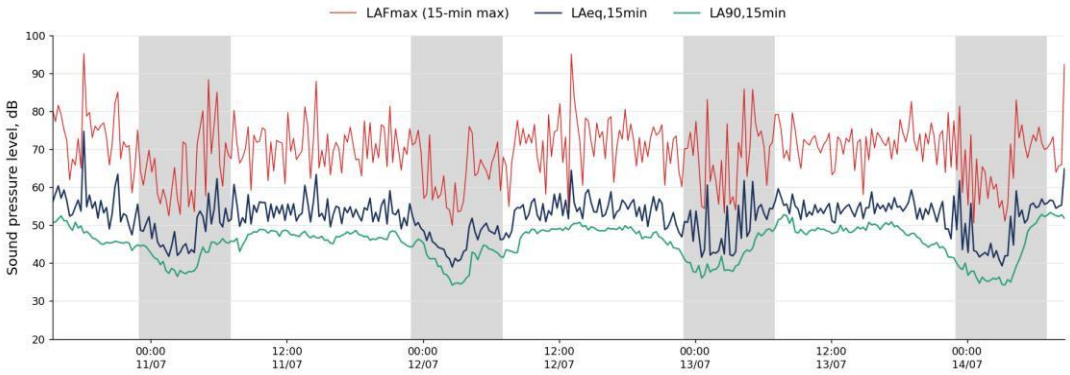
It is recommended that:

- Glazing and background ventilators are carefully selected to achieve the acoustic performance set out herein.
- The ventilation strategy does not rely on open windows.
- The nominated glazing and ventilator suppliers verify that their proposed systems meet the specified performance at each octave band; achieving an overall Rw + Ctr figure alone is not evidence of compliance.

Subject to the above, recommended internal noise levels can be achieved and it is considered that a suitable acoustic environment can be provided and the development delivered without unacceptable noise impact.

Appendix A – Environmental Noise Survey Results

MP1 (front) — time history (façade levels, as measured)



MP2 (rear) — time history (free-field)