

Premier Inn Huddersfield Central, Huddersfield HD1 6SB

Noise Assessment

for Whitbread Group PLC

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Executive Summary

Environoise Consulting Limited has been commissioned by Whitbread Group to undertake a noise assessment for the development of an extension to the Premier Inn Huddersfield Central site at St Andrew's Road, Aspley, Huddersfield HD1 6SB.

A separate extension building is proposed to the west of the existing Premier Inn building together with a formed breakfast room in the existing building. This report presents assessment of the noise emission from new building services plant associated with the extension and noise ingress into the newly formed hotel bedrooms.

Noise Survey

An unattended noise survey was undertaken between 10.41hrs, Thursday 30th May and 09.41hrs, Monday 3rd June 2024 at two positions on the existing Premier Inn site.

Plant Noise Impact

Plant noise limits at the nearest residential receptors are predicted to be met for the daytime and night-time periods.

Noise ingress from proposed additional plant into existing and proposed Premier Inn bedrooms will be suitably low to meet PI specification NR20 $L_{eq,T}$ criteria with existing and proposed façade strategies.

A detailed review of proposed roof-top plant noise break-in to new bedrooms below will be required, to determine compliance with the PI specification NR20 $L_{eq,T}$ criteria.

Noise Ingress into Bedrooms

Recommendations for window sound insulation performances have been given to meet the target internal noise levels in bedrooms:

Windows to north facing bedrooms:	$\geq 33\text{dB } R_w + C_{tr}$
Windows to south facing bedrooms:	$\geq 37\text{dB } R_w + C_{tr}$

We recommend for south-facing bedrooms (only), 1m length rigid or semi-flexible duct attenuators are specified internally on atmosphere-side terminations to external vents instead of the Premier Inn standard 1m length of acoustically treated 100mm flexi-duct.

1 Acoustics Requirements

1.1 Local Authority

- 1.1.1 The Kirklees Local Plan (Kirklees Local Plan Strategy and Policies) adopted 27th February 2019¹ has been reviewed. Relevant passages of the policies have been reproduced below:

POLICY LP15: Residential use in town centres

Proposals for residential uses (including student accommodation) within the defined town centres as set out on the Policies Map will be supported subject to:

- *The protection of the amenity of existing residents and future occupiers of the proposed residential use in accordance with amenity and design policies within the plan, and will in particular consider matters such as privacy, noise and air quality;*

POLICY LP52: Protection and improvement of environmental quality

- Proposals which have the potential to increase pollution from noise, vibration, light, dust, odour, shadow, flicker, chemicals and other forms of pollution or to increase pollution to soil or where environmentally sensitive development would be subject to significant levels of pollution, must be accompanied by evidence to show that the impacts have been evaluated and measures have been incorporated to prevent or reduce the pollution, so as to ensure it does not reduce the quality of life and well-being of people to an unacceptable level or have unacceptable impacts on the environment. Such developments which cannot incorporate suitable and sustainable mitigation measures which reduce pollution levels to an acceptable level to protect the quality of life and well-being of people or protect the environment will not be permitted.

- 1.1.2 Kirklees Borough Council specify relevant objective noise criteria within their Noise Design Advice, May 2007 for new developments and are included as follows:

New Residential Properties near to Transportation Noise Sources (such as busy roads) or in Areas of Mixed industrial and Transportation Sources

- 1.1.3 Section 2 of the guidance provides internal noise criteria to be achieved in residential developments and are reproduced in Table 1.1.

Table 1.1 Kirklees Council internal noise criteria for residential developments

Period	Noise level
Daytime (07.00 – 23.00hrs)	≤35dB L _{Aeq,16hour}
Night-time (23.00 – 07.00hrs)	≤30dB L _{Aeq,8hour} ≤55dB L _{Amax,fast}

New Industrial or Commercial Use near to Residential Use

1.1.4 Section 1.1 of the guidance provides noise impact criteria associated with developments with industrial / commercial noise sources to be achieved at nearby noise sensitive properties as follows:

- *Developers should carry out an assessment in accordance with BS4142 to determine the rating level of the new development.*
- *It is recommended that during normal daytime hours (0700 to 2300 hours), the BS4142 rating level, measured over 1 hour, should be 5dB below the background (LA90).*
- *During the night-time period (2300 to 0700 hours), the BS4142 rating level, measured over 5 minutes should be 5dB below the background (LA90).*
- *Where such potential exists, a noise impact assessment should be carried out at the façade of noise sensitive premises to demonstrate that the following criteria will be met:*

1.2 BS 4142:2014+A1:2019

1.2.1 BS 4142ⁱⁱ provides a method of determining the 'impact of specific sound' on dwellings due to industrial and commercial noise sources through comparison between the measured background noise level (LA90) and the noise source rating level (L_{Ar,Tr}) under consideration. The rating level is the specific noise level plus penalties of up to 18dB added for features to account for the character of the noise as follows:

- **Tonality:** +2dB penalty: Just perceptible; +4dB penalty: Clearly perceptible and +6dB penalty: Highly perceptible.
- **Impulsivity:** +3dB penalty: Just perceptible; +6dB penalty: Clearly perceptible and +9dB penalty: Highly perceptible.
- **Intermittency:** +3dB penalty: identifiable on/ off conditions.
- **Other:** +3dB penalty: where the specific sound features characteristics that are neither tonal nor impulsive, nor intermittent.

1.2.2 When comparing the rating plant noise level against the background noise level, BS 4142 provides the following noise impact descriptors:

- +10dB(A) is likely to be an indicator of ‘a significant impact, depending on the context’.
- +5dB(A) is likely to be an indicator of ‘an adverse impact, depending on the context’.
- No excess of the background noise level is an indicator of ‘a low impact, depending on the context’.

1.3 Premier Inn

Internal Noise Levels

- 1.3.1 All new Premier Inn developments and extensions are to be constructed so as to control noise ingress in line with the requirements of the Premier Inn Generic Specification for a Turnkey Developmentⁱⁱⁱ, hereinafter referred to as the “PI specification”. Revision N (January 2024) of the PI specification contains external noise ingress requirements for guestrooms as presented in Table 1.2.

Table 1.2: Premier Inn internal noise level requirements.

Period	Noise level
Daytime (07.00 – 23.00hrs)	≤35dB L _{Aeq,1hour}
Night-time (23.00 – 07.00hrs)	≤30dB L _{Aeq,1hour} ≤42dB L _{Amax,fast}

- 1.3.2 The maximum criterion applies to all vehicles and railway train passbys and all aircraft flyovers. It also applies to the noise from all street activities including those associated with patrons attending and leaving adjacent, neighbouring or connected entertainment venues; noise associated with commercial and industrial neighbouring premises including delivery activities and process equipment; seagulls and church bells. Genuinely infrequent and unpredictable sources such as sirens or car alarms occurring no more than twice a night are excluded.
- 1.3.3 The standards have been chosen to complement the Good Night Guarantee offered by Premier Inn, which refunds guests if they have been disturbed by noise while trying to sleep. These standards are more onerous than those recommended in British Standard 8233^{iv}, the usual guidance adopted for controlling noise ingress into residential accommodation. It is therefore intended to control noise ingress into the hotel in line with the requirements of the PI specification. Complying with these requirements can also be expected to satisfy any reasonable Planning requirements for noise ingress into the hotel.
- 1.3.4 The Premier Inn target criteria is more onerous compared to that required by Kirklees Council presented in section 1.1.3. Therefore, compliance with the Premier Inn in requirements will also see that the requirements of Local Authority are met.

Plant Noise Impact

- 1.3.5 The PI Specification also requires that the Rating noise level from all plant associated with the hotel be designed to be equivalent to the lowest measured background sound level at night with all plant operating simultaneously, when assessed at the boundary (assumed to be any normally occupied position) of the nearest noise sensitive property.
- 1.3.6 The Premier Inn target is more onerous in this case compared to that required by Kirklees Council presented in section 1.1.4 due to the requirement to refer to lowest background noise levels rather than a 'typical' value. Therefore, compliance with the Premier Inn in requirements will also see that the requirements of Local Authority are met.

2 Noise Survey

2.1 Site Description

- 2.1.1 The proposed building will be situated at the location of the Aspley Table restaurant on the site of the existing Premier Inn Huddersfield Central. The new building will accommodate 25 additional bedrooms with a 37-cover breakfast room formed in the existing building. The building will be situated overlooking Aspley Wharf Marina to the south with the A629 (Wakefield Road) 45m further south. 44m to the east is the B6432 (St. Andrews Road); Borad canal and commercial / office units are situated to the northwest and north.
- 2.1.2 The nearest existing residential receptors not associated with the existing Premier Inn hotel is a student accommodation building situated on Firth Street, at a nearest distance of 109 metres southeast of the proposed extension building.

2.2 Noise Survey Details

- 2.2.1 An unattended noise survey was done between 10.41hrs, Thursday 30th May and 09.41hrs, Monday 3rd June 2024 at two positions as follows:
- **Position 1:** Within 1m of hotel façade. Exposed to road traffic noise along A629 and B6432 for the assessment of external noise ingress.
 - **Position 2:** Exposed to road traffic noise along B6432 for the assessment of external noise ingress. Also used as a position representative of the nearest existing residential receptors on Firth Street for the assessment of plant noise impact.
- 2.2.2 A-weighted contiguous ambient, background and maximum noise levels ($L_{Aeq,T}$, $L_{A90(T)}$, $L_{Amax,fast}$) and associated octave band noise levels were measured at a height of 1.5m for 1-minute periods at Position 1 and 15-minute periods at Position 2.
- 2.2.3 The sound level meter was calibrated at the start and end of the noise survey. The meter was calibrated to 94.0dB at 1kHz with no recorded drift greater than 0.2dB at 1 kHz; therefore, the measurements are acceptable. Details of instrumentation used are given in Table 2.1. The noise survey positions are indicated in Figure 2.1.
- 2.2.4 Weather conditions throughout the survey were observed to be generally calm (≤ 5 m/s) and dry based on local weather data¹ and suitable for reliable noise survey measurements.

¹ <https://www.timeanddate.com/weather/uk/huddersfield/historic>

Table 2.1: Instrumentation details for noise survey.

Manufacturer	Equipment type	Serial number	Laboratory calibration date
Rion	NL-52 sound level meter	00654072	23 rd October 2023
	NH-25 preamplifier	54117	
	UC-59 Microphone	08333	
	NL-52 sound level meter	00520927	9 th August 2023
	NH-25 preamplifier	11774	
	UC-59 Microphone	21324	
	NC-74 calibrator	34904967	

Figure 2.1: Site and noise measurement positions.

2.3 External Ambient and Maximum Noise Levels

2.3.1 Tables 2.2 and 2.3 present the highest logarithmically averaged 1-hour daytime and night-time ambient (L_{eq}) noise levels together with the night-time maximum ($L_{max,fast}$) noise levels during the night-time period to inform the external noise ingress assessment. A time history of noise levels measurements is shown in Figures A1 and A2, Appendix A.

Table 2.2: Highest logarithmically averaged octave-band ambient free-field noise levels.

Position	Period	$L_{eq,1hour}$ at octave band centre frequency (Hz)							$L_{Aeq,1hour}$ (dB)
		63	125	250	500	1k	2k	4k	
1	Daytime (07.00 – 08.00, Mon 03/06/24)	69	62	58	55	59	53	44	61
	Night-time (06.00 – 07.00, Mon 03/06/24)	66	60	57	54	56	50	41	59
2	Daytime (18.00 – 19.00, Sat 01/06/24)	66	58	56	55	57	54	42	60
	Night-time (06.00 – 07.00, Mon 03/06/24)	65	59	58	54	55	51	40	58

2.3.2 The highest maximum noise level obtained during the night-time period was due to high-performance vehicles passing and the sirens of blue light vehicles which occurred on the local road network more than two times per night. Both have been included in the assessment given that noise from high-performance vehicle passings contains higher levels at low frequency where glazing performances are typically lower whereas sirens contain high levels of noise at the 2kHz. Infrequent events such as an emergency vehicle siren and ‘revving’ of a motorcycle have been excluded from the analysis.

Table 2.3: Night-time maximum noise levels.

Position	Period	$L_{max,fast}$ at octave band centre frequency (Hz) dB							$L_{Amax,fast}$ (dB)
		63	125	250	500	1k	2k	4k	
1	Night-time (Siren, 23.25hrs, 31/05/24)	73	64	56	58	71	84	62	85
	Night-time (High performance vehicle, 06.18hrs,30/05/24)	73	80	83	82	83	77	70	85
2	Night-time (Siren, 00.30hrs, 02/06/24)	53	46	48	53	49	88	67	90
	Night-time (High performance vehicle, 04.15hrs,03/06/24)	58	67	78	85	80	72	53	85

2.4 Background Noise Levels

2.4.1 As per the requirements of the PI specification, the lowest background noise level measured for the daytime and night-time periods have been determined and are given in Table 2.4.

Table 2.4: Measured background noise levels.

Position	Period	Lowest measured background noise level [L _{A90} (15min) (dB)]
2	Daytime (07.00 – 23.00hrs)	43
	Night-time (23.00 – 07.00hrs)	37

3 Plant Noise Impact

3.1 Plant Noise Emission Limits

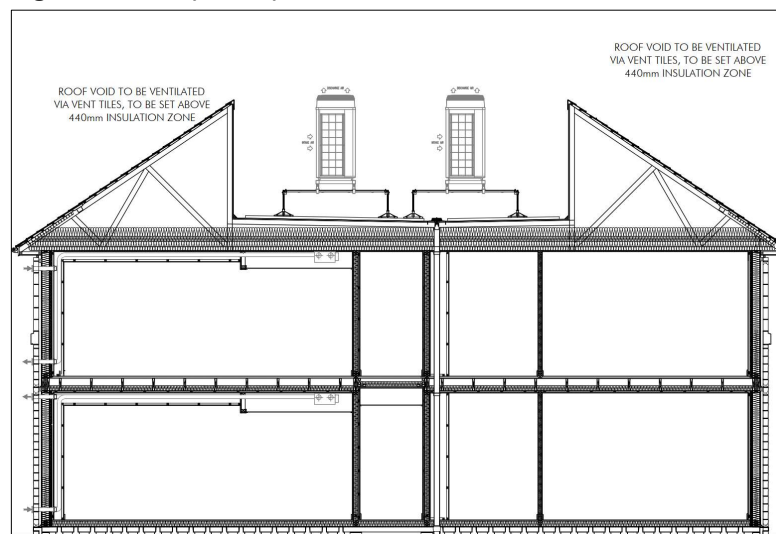
- 3.1.1 Table 3.1 provides plant noise limits for proposed external plant to be assessed at 1m from the nearest noise sensitive receptor (NSR) property based on the lowest measured background noise levels given in Table 2.4. This is to meet the requirements of the PI specification and will also be an indication of a 'low impact, depending on the context', as per BS 4142.

Table 3.1: Plant noise emission limits at NSRs.

NSRs	Period	Plant noise limit at 1m from NSR [$L_{A,T,r}$ (dB)]
Student accommodation on Firth Street	Daytime (07.00 – 23.00 hrs)	43
	Night-time (23.00 – 07.00hrs)	37

3.2 Proposed Plant

- 3.2.1 Two outdoor condenser units (Mitsubishi PURY-EP200YNW-A2) and one heat pump unit (Mitsubishi Qton ESA30EH-25) are proposed to be installed in an open roof area of the proposed building similar to that shown in Figure 3.1. We have considered two outdoor condenser units (Mitsubishi PUMYSP140YKM) associated with the breakfast room situated on an external wall.
- 3.2.2 Kitchen extract ventilation is proposed to be installed internally to serve the proposed breakfast room of the extension. This equipment is to be located internally, and ducted externally and therefore noise is more readily controlled by the use of in-duct attenuators. We have assumed that the specific sound level from any atmosphere side termination will be controlled to meet a target of $\leq 50\text{dB } L_{Aeq,T}$ at 1m externally. The kitchen ventilation system, and associated attenuators, can be reviewed in more depth during the detailed design stage, if necessary.
- 3.2.3 The nearest receptors to the plant compound are the residential dwellings 109-metres away on Firth Street to the southeast.

Figure 3.1: Proposed plant locations.

- 3.2.4 The air-conditioning equipment (2No. Mitsubishi PURY-EP200 units) are able to be controlled to 70% duty during the daytime (07.00 – 23.00hrs) and to 50% duty overnight (23.00 – 07.00hrs).
- 3.2.5 The sound power levels for the air-conditioning equipment and water heater have been provided by the manufacturer and are presented in Table 3.2. The equipment has the highest operational noise level whilst operating in heating mode; therefore, data for the heating condition has been used in the assessment.

Table 3.2: Manufacturer provided sound power level data for plant.

Unit	Sound power level (L_w) at octave band centre frequency (Hz)							L_{wA} (dB)
	63	125	250	500	1k	2k	4k	
PURY-EP200 70% duty	79	74	69	67	65	62	64	71
PURY-EP200 50% duty	75	68	60	59	56	53	57	63
Q-ton ESA30EH-25	68	63	57	57	60	55	51	63
PUMYSP140YKM*	77	76	72	71	69	65	58	74

*Manufacture provided octave band sound pressure levels converted to sound power by applying a +20dB correction.

3.3 Noise Impact Assessment

3.3.1 Specific plant noise levels have been calculated at the façade of the nearest NSR for the daytime and night-time periods. The noise impact assessment is predicted in Table 3.3.

Acoustic Feature Correction

3.3.2 The guidance in BS 4142 requires that decibel corrections be added to the *specific sound level* if the noise contains unusual acoustic characteristics. The corrected sound level is known as the *rating level*. The following characteristics have been considered:

- **Tonality** – Noise from the proposed air-conditioning units and water heater will typically be airflow noise at maximum duty, which is broadband in character, and therefore not expected to contain tonal qualities. However, a precautionary +2dB correction has been included to allow for “just” perceptible tonality.
- **Impulsivity** – When properly maintained, noise from the proposed new equipment is not expected to exhibit impulsive characteristics, therefore this correction has not been applied.
- **Intermittency** – The duty of each individual air-conditioning unit and water heater will adjust depending on the cooling/heating duty requested by the occupants. The equipment is, however, expected to operate with gradual stop/starts, so it is unlikely that an intermittent characteristic would be experienced at the neighbouring properties. However, a precautionary +3dB correction has been included.
- **Other** – The units are not expected to emit any other characteristics that would be readily distinctive against the existing acoustic environment, therefore no correction has been applied.

Table 3.3: Plant noise impact assessment at the nearest NSR.

	Noise impact at nearest NSR	
	Daytime (07.00 – 23.00hrs)	Night-time (23.00 – 07.00hrs)
Specific noise level at NSR (dBA)	26	24
Acoustic feature correction (dB)	+5	+5
Rating plant noise level [$L_{Ar,Tr}$ (dB)]	31	29
Plant noise limit (dBA)	43	37
Level of excess (dB)	0 (-12)	0 (-8)

Discussion

- 3.3.3 As can be seen in Table 3.3 targets are met at the daytime and night-time periods with no further mitigation measures required.

3.4 Noise Impact on Premier Inn Bedrooms

Existing Bedrooms

- 3.4.1 We have considered a minimum distance of 10m from the proposed roof-top plant area, including a 90° angle of incidence to the existing bedroom windows at the hotel. The proposed plant noise break-in levels have been calculated to determine compliance with PI specification NR20 $L_{eq,T}$ criteria within bedrooms, see Table 3.4. We have assumed that existing window glazing comprises of standard thermal double-glazing (i.e. 4mm pane / 12mm cavity / 4mm pane) with a minimum sound insulation performance of 31dB R_w . Bedrooms are mechanically ventilated.

Table 3.4: Calculated proposed plant internal noise levels within existing bedrooms.

Item	$L_{eq,T}$ at octave band centre frequency (Hz) dB							$L_{Aeq,T}$ (dB)
	63	125	250	500	1k	2k	4k	
Predicted plant noise level at existing bedroom façade	45	40	35	34	32	28	29	37
Predicted internal plant noise level within bedroom	26	16	16	6	0	0	0	10
NR20 criteria dB	51	39	31	24	20	17	14	
Level of excess dB	0	0	0	0	0	0	0	

Discussion

- 3.4.2 As can be seen in Tables 3.4 plant noise levels are met within existing and proposed bedrooms. No further mitigation measures are required.

Proposed Bedrooms

- 3.4.3 Roof-top plant noise break-in to proposed bedrooms below should meet the Premier Inn NR20 criteria. The plant and roof constructions should be designed accordingly to provide suitable sound reduction performances, so the targets are met. This may require attenuator kits and enhanced ceilings in bedrooms. This can be reviewed in more depth during the detailed design stage.

4 Noise Ingress into Bedrooms

4.1 Assessment Method

- 4.1.1 The façade-incident external noise levels in Tables 2.2 and 2.3 have been used to calculate noise ingress within proposed bedrooms. A correction of -3dB has been applied to the ambient noise levels obtained at Position 1 to convert from 'façade' to 'free-field' noise levels to account for the measurement position being within 1-metre of the hotel building. North façade-incident external noise levels have been determined by applying distance attenuation corrections of 3dB and 6dB to the measured ambient and maximum noise levels respectively² as measurement Position 2 was nearer to the St. Andrews Road than the proposed southwest façade position (40m).
- 4.1.2 Calculations consider a reverberation time of 0.5 seconds for bedrooms. Room, external wall and window dimensions have been determined from drawings received. All bedrooms are to be mechanically ventilated to provide comfort cooling and meet background ventilation requirements. Trickle ventilation units or partially openable windows are not proposed as part of the ventilation strategy and therefore have not been considered in the assessment.

4.2 Recommendations

- 4.2.1 The PI Specification bedroom internal noise targets can be met where the glazing achieves the octave band sound reduction indices recommended in Table 4. The glazing performances correlate with the recommended locations given in Figures 4.1 and 4.2.

² The ambient noise level sources are considered line sources whereas the maximum noise level events are considered point sources. This results in a greater level of attention for the maximum noise level events than the ambient noise level (i.e. Ambient: $10 \times \log(40/20)$, Maximum: $20 \times \log(40/20)$).

Table 4.2: Recommended minimum sound insulation performances for glazing.

Key	Octave band (Hz) sound reduction indices (dB)						R_w (dB)	$R_w + C_{tr}$ (dB)	Example specification
	125	250	500	1k	2k	4k			
	26	34	41	44	45	54	43	37	Double glazed: Futura+ 8.4/20/10 (8.4mm laminated pane / 20mm cavity / 10mm pane)
									Triple glazed: Abbey Glass 'Premierfon' (12.8mm pane / 8mm cavity / 6mm pane / 8mm cavity / 8.8mm laminated pane)
	21	28	38	43	41	4	39	33	Double glazed: Abbey Glass "LITE" (8.8mm pane / 20mm cavity / 6mm pane)
									Triple glazed: Abbey Glass 'Urban' (6mm pane / 14mm cavity / 8.8mm pane / 14mm cavity / 4mm pane)

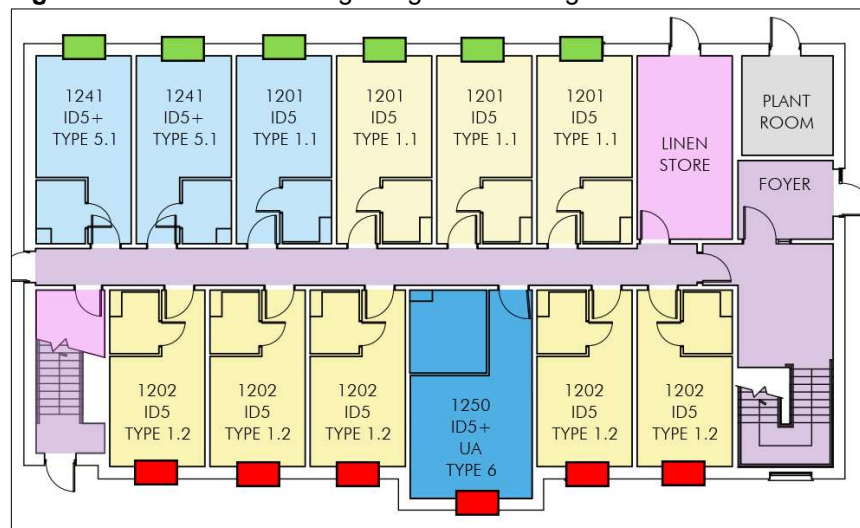
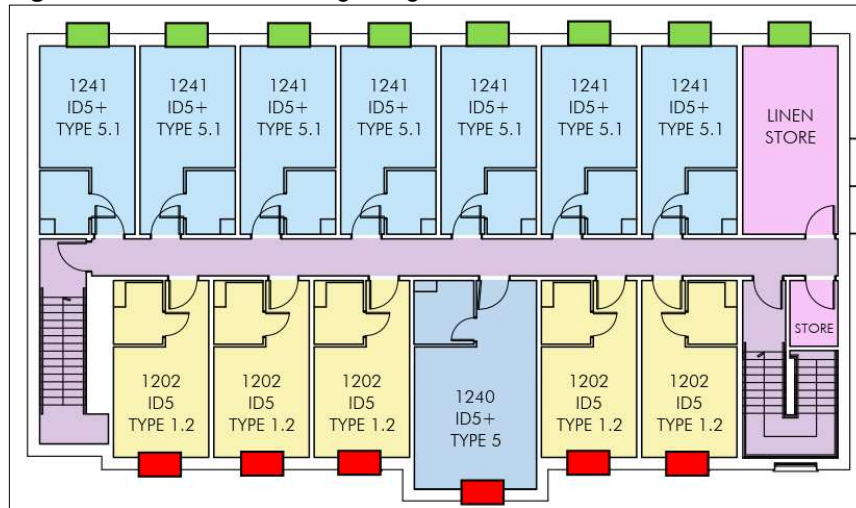
Figure 4.1: Recommended glazing locations – ground floor.

Figure 4.2: Recommended glazing locations – first floor.

4.3 Ventilation

- 4.3.1 A standard Premier Inn detail comprising of a 1m length of acoustically treated 100mm flexi-duct, located internally on atmosphere-side terminations to external vents on bedroom facades is proposed for the MVHR system. The ducting is to be situated within the bedroom ceiling void with one layer of 12.5mm standard plasterboard ($\geq 7.5\text{kg/m}^2$) forming the ceiling.
- 4.3.2 The standard detail has been reviewed for external noise ingress contribution and it has been determined that sound insulation enhancement is not required where the façade-incident external noise levels given in Table 4.3 are not exceeded.

Table 4.3: Maximum façade-incident external noise levels with standard Premier Inn MVHR duct detail.

Period	Maximum façade-incident external noise level
Daytime (07.00 – 23.00hrs)	67dB $L_{Aeq,1\text{hour}}$
Night-time (23.00 – 07.00hrs)	62dB $L_{Aeq,1\text{hour}}$ 75dB $L_{Amax,fast}$
Maximum noise levels are assessed on a site-by-site basis due to the greater variance in spectral values.	

Recommendation

- 4.3.3 Ambient (L_{Aeq}) noise levels are suitably low to facilitate the use of the standard duct detail; however, excess of the $L_{Amax,fast}$ maximum noise level target is predicted when considering the cumulative level of noise ingress via the MVHR duct detail, glazing and façade systems. We recommend that 1m length rigid or semi-flexible duct attenuators are specified for south-facing bedrooms (i.e. those marked red in Figures 4.1 and 4.2).

Appendix A: Noise Data

Figure A1: Time history of measured noise levels at Position 1.

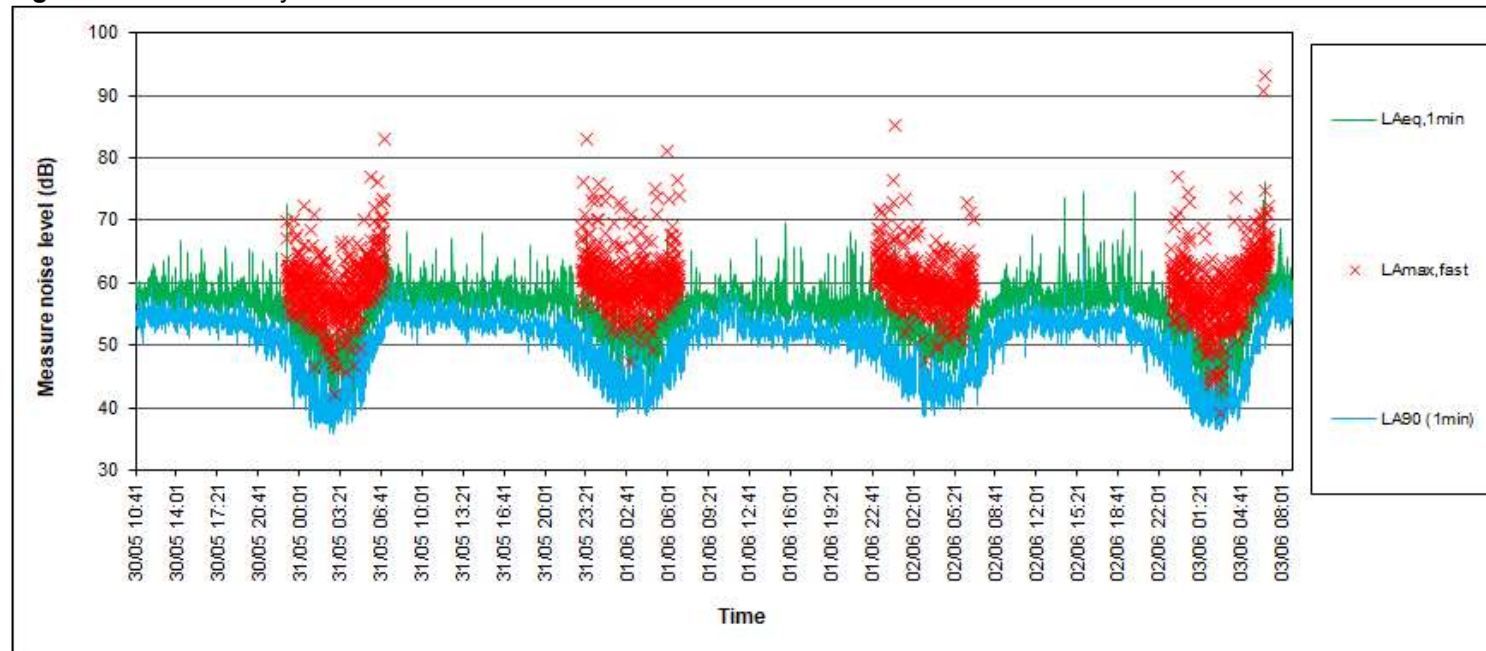


Figure A2: Time history of measured noise levels at Position 2.

Appendix B: Risk Management Schedule

Table B1: Assessment of risks with control measures.

Severity Classifications (S)	Probability Classifications (P)	Degree of Risk (R)
1. Minor – Minor accident, resulting in no serious injuries or lost time; little or no damage to property or the environment.	1. Improbable – no known instances of such an event occurring.	0 – 5 = Low Risk; ensure controls are adhered to and activity need not alter.
2. Moderate – Potential injury necessitating less than 3 days off work; damage to property or the environment requiring remedial work.	2. Remote – past experience suggests that event rarely occur.	6 – 10 = Moderate Risk; tolerable, but efforts should be made to reduce the risk where cost effective and reasonably practicable.
3. Serious – Accident reportable under RIDDOR 95; serious damage to property or the environment.	3. Possible – experience shows that events occur on occasions.	11 – 15 = Substantial Risk; all practicable measures must be taken to reduce the level of risk; tolerable only where further risk reduction is impracticable or disproportionate to the risk involved.
4. Major – Accident resulting in serious or permanent injury; major or permanent damage to property or the environment.	4. Probable – experience shows that events occur frequently.	16 – 25 = Extreme Risk; Unacceptable except in extraordinary circumstances; all control measures must be taken regardless of cost.
5. Catastrophic – Accident resulting in death or severe disablement; destruction of property; irreversible damage to the environment.	5. Likely – very likely to happen unless actively prevented.	>26. Works must be aborted and project need to be reviewed.

Table B1 (continued): Assessment of risks with control measures.

Activity	Hazard	Consequence	Degree of Risk			Risk Control Measures	Residual Risk			Risk Owner
			S	P	R		S	P	R	
Access to/from site	Tripping or slipping hazards and falling objects.	Low risk	2	2	4	Take due care and attention to avoid tripping hazards. Do not work externally at height. Always sign in and out of site if required.	2	1	2	Contractor and consultant
Lifting or moving blockwork	injury through heavy load or improper lifting technique	Low risk	2	3	6	Blocks should be less than 20kg. Workers should wear gloves, steel toe cap boots and protective glasses. Workers must lift by bending their knees not their back. Make sure path is not obstructed by items being carried.	2	2	4	Contractor
Handling sheets of plasterboard	Injury through heavy load or improper lifting technique	Low risk	2	3	6	Plasterboard handled should be less than 20kg per sheet. Regardless of the mass several contractors may be needed to carry boards. Workers should wear gloves, steel toe cap boots and protective glasses. Workers must lift by bending their knees not their back. Make sure path is not obstructed by items being carried.	2	2	4	Contractor
Handling sheets of glass	Injury through heavy load/ improper lifting technique or laceration	Moderate	3	3	9	Detailed review of handling and positioning of glass to be done before installation by contractor. Glazing may need to be craned into position due to high mass. All glazed units must be clearly marked with tape/ marker to avoid people walking into the glass. Glazing must be handled with appropriate gloves only. Regardless of the weight, several contractors may be needed to carry units. Workers should wear gloves, steel toe cap boots and protective glasses. Workers must lift by bending their knees not their back. Make sure path is not obstructed by items being carried.	3	2	6	Contractor
Dust inhalation	Injury through being temporarily blinded of damage to lungs	Low risk	2	3	6	Only work in well ventilated space and wear appropriate PPE including dust mask. If cutting material make sure gloves are worn. Signage may be required to prevent other workers entering the space.	2	2	4	Contractor
Hearing damage	Injury to hearing or consequence of verbal communication not being heard	Moderate	3	3	9	Review of construction or demolition methods and all workers exposed to high levels of noise to be provided with suitable hearing protection. In the case of sound insulation testing, suitable signage should be used to warn contractors of high noise risk to certain rooms.	3	2	6	Contractor. Contractor and acoustic consultant for sound insulation tests.

References

- ⁱ Kirklees Local Plan (Kirklees Local Plan Strategy and Policies) adopted 27th February 2019
- ⁱⁱ BS 4142:2014+A1:2019 'Methods for rating and assessing industrial or commercial sound'
- ⁱⁱⁱ Premier Inn Generic Specification for a Turnkey Development, Revision N (January 2024).
- ^{iv} BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings'