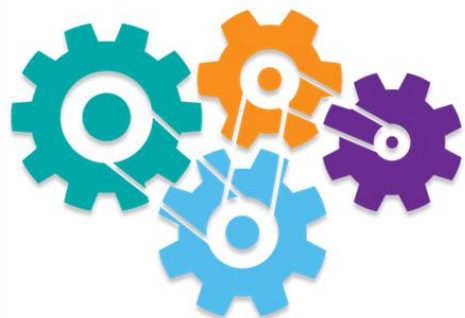




108 Friar
Street,
Reading, RG1
1EP

Noise Impact Assessment

August 2018



Ref: 18-4510

Rev. B

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<i>Revision</i>	-	<i>Rev. A</i>	<i>Rev. B</i>
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Forecast cost estimates do not include such costs associated with any negotiations, appeals or other non-technical actions associated with the agreement on measures to meet the requirements of the authorities, nor are potential business loss and interruption costs considered that may be incurred as part of any technical measures.

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1. Executive Summary

This report has been prepared to assess the noise impact of the proposed operations at **108 Friar Street, Reading, RG1 1EP**. The current use of the premises is Class A4 (Bar) and the proposed use is an entertainment venue (as detailed in the accompanying Planning Statement). The purpose of this report is to assess the impact of extending the opening hours from 0000 hrs (midnight) to 0300 hrs. The midnight closing time is set in Planning Condition 3 as detailed in the Planning Permission for application reference 130752 (dated 11th October 2013). No reason is given for the opening hours restriction other than to *"maintain the character and amenities of the town centre"*.

The proposed use as an entertainment venue is likely to result in lower noise levels than a traditional bar, due to a lower level of customer movements to and from the property through a lack of larger groups and quieter music/activities inside the property.

108 Friar Street is located within a predominantly commercial area, with retail premises and public houses, restaurants and night-clubs located along Friar Street and the nearby West Street. The rear of Clas Ohlson is located immediately to the south of 108 Friar Street. There is student accommodation located above ground floor level on the corner of Friar Street and Greyfriars Street and some of the premises on West Street may contain residential flats at first floor level. 108 Friar Street is located close to The Hope Tap public house and Pop World/Sub 89 night-club. The smoking area of 108 Friar Street is located at the rear of the property, at first floor level close to the rear of Clas Ohlson.

Liaisons with the Environmental Health Department of the Local Authority (Reading Borough Council) concluded that:

- Noise on Friar Street would not be expected to be an issue, as music noise levels should be relatively low compared to other nearby premises, assuming that sensible noise management policies are in place.
- The impact of noise from people using the smoking area should be assessed at the possible 1st floor flats on West Street.

The results of the noise measurement study and previous noise measurements of similar activity noise have been utilised to determine the noise impact on the nearest noise sensitive receptors. **It has been identified that the use of the rear smoking area should not cause any significant adverse impacts to future residents. The predicted noise levels are low when compared against the existing noise climate and the requirements of BS 8233:2014 and the WHO Guidelines, and the use should therefore be acceptable.**

In order to minimise the risk of excessive music noise break-out onto Friar Street, a noise management policy will be in place to ensure that at least one set of lobby doors between Friar Street and the main ground floor room are closed as much as possible. Additionally, the Dispersal Policy will minimise noise from patrons on Friar Street immediately outside the venue.

It can therefore be concluded that the proposed operations would achieve the aims of the Council in that it will avoid noise from giving rise to significant adverse impacts on the health or quality of life of local residents and adverse effects from patron and music noise on Friar Street will be minimised. Accordingly, the proposed extension of opening hours from 0000 hrs to 0300 hrs should be acceptable on noise grounds.

3. Local Authority Policy and Guidance Documents

3.1. Local Authority Policy

The site is located within the administrative boundary of Reading Borough Council (RBC).

Syntegra have liaised with Ross Jarvis, Environmental Health Officer at Reading Borough Council, by telephone on Friday 3rd August 2018 in respect of the potential extension of opening hours.

Mr. Jarvis confirmed that noise on Friar Street would not be expected to be an issue, as music noise levels should be relatively low compared to other nearby premises, assuming that sensible noise management policies are in place.

In respect of noise at the rear of the premises, Mr. Jarvis stated that the impact of noise from people using the smoking area should be assessed at the possible 1st floor flats on West Street.

Accordingly, in order to protect the residents and the operation of the business in the future, Syntegra advise that the aim of the assessment should be to show that **no significant adverse impacts on the health or quality of life of the residents at first floor level on West Street would occur.**

3.2. Assessment Criteria for Noise from External Areas

There are no specific noise criteria that particularly relate to the impact of activity noise from the use of outdoor smoking areas on noise sensitive receptors. BS 8233:2014 *“Guidance on sound insulation and noise reduction for buildings”* and the World Health Organization’s *“Guidelines for Community Noise”* both contain relevant noise criteria and set out guideline noise limits that would normally be considered acceptable for a range of noise sources. BS 8233 states that these noise levels relate to *“sources without a specific character”*. Whilst not strictly applicable to this sort of activity noise, which could be described as having a *“specific character”*, the criteria can assist in providing an indication as to the acceptability of noise from this specific source.

Noise predictions can be made of the likely anticipated noise levels arising from the activities at the closest residential receptors and these can be compared to guideline noise levels, in order to determine the acceptability of the proposals. Accordingly, the proposed acceptability criteria for this development are outlined in **Table 3.1** below.

	Criterion	Location	Ambient Noise Level $L_{Aeq,T}$
WHO	Sleep disturbance, window open (outdoor values)	Outside bedrooms	45
BS 8233	Sleeping	Internal	30

Table 3.1: Summary of Noise Criteria: BS 8233 & WHO

It should be noted that the above criteria relate to the entire night-time period, which is normally defined as 2300 hrs to 0700 hrs.

Additionally, it is important to understand the extent to which noise from the proposed activity areas would potentially intrude over and above the existing ambient noise levels. Therefore, a comparison of typical activity noise with existing ambient noise levels has also been made.

Table 4.1 below displays a summary of the measured noise levels during the proposed hours of extended opening (0000 hrs to 0300 hrs) and the hour immediately after (0300 hrs to 0400 hrs). Detailed measurement results are presented in **Appendix 3**.

Dates	Period (hours)	L _{Aeq,T} (dB)
Saturday 4 th August 2018	0000 – 0100	59.4
	0100 – 0200	55.2
	0200 – 0300	55.6
	0300 – 0400	54.5
Sunday 5 th August 2018	0000 – 0100	59.6
	0100 – 0200	55.0
	0200 – 0300	56.6
	0300 – 0400	54.1
Monday 6 th August 2018	0000 – 0100	58.6
	0100 – 0200	56.2
	0200 – 0300	52.7
	0300 – 0400	52.3

Table 4.1: Summary of Free Field Semi-Permanent Noise Levels

Note: The average noise levels stated are logarithmic.

5. Activity Noise Levels

To represent the noise levels in the rear smoking area, Syntegra have utilised noise measurement data from a previous noise study in order to provide a sound power level of 81 dBA for approximately 50 people talking in a similar space. This is considered to be a very worst case for the smoking area.

5.1. Predicted Noise Levels

The noise levels from the use of the rear smoking area at the nearest noise sensitive receptors have been predicted utilising standard noise attenuation formulae. The receptor location noise predictions are summarised in **Table 5.1**.

The assessment location is the rear of the possible 1st floor flats on West Street. The possible flats are 45m from the smoking area and shielded from the smoking area by the intervening 2-storey Clas Ohlson building.

Possible 1 st Floor Flats on West Street	
Sound Power Level	81 dB L _{WA}
Potential Reverberant Field Correction	+ 3 dB
Minimum Distance to Receptor	45 m
Distance Correction	- 33 dB
Noise Reduction from Shielding (worst-case)	- 10 dB
Predicted Noise Level at Receptor	33 dB L_{Aeq}

Table 5.1: Predicted Noise Levels at the Possible First Floor Flats on West Street

6. Noise Impact Assessment

In order to determine the noise impact and the acceptability of the noise from the use of the rear smoking area, a comparison has been carried out against the noise criteria identified in **Section 3.2**. **Table 6.1** provides a summary of the assessment against the existing ambient noise level and against the BS 8233 and World Health Organization Guidelines criteria (refer to **Section 3.2**).

Receptor	Predicted External Noise Level L_{Aeq} (dB)	Existing Ambient Noise Level L_{Aeq} (dB) ¹	Comparison against Existing Ambient Noise Level (dB)	Predicted Internal Noise Level ² L_{Aeq} (dB)	Compliance with Criteria ³	
					WHO Guidelines (45 dB L_{Aeq} external)	BS 8233 (30 dB L_{Aeq} internal)
Possible 1 st Floor Flats on West Street	33	52	-19	18	☑	☑

Table 6.1: Noise Impact Assessment from the Use of the Rear Seating Area

Notes: (1) The existing ambient noise level has been selected as the lowest ambient noise level during the assessment hours, as presented in Table 4.1.

(2) Where internal noise levels are concerned we have assumed a reduction of 15 dB(A) with windows open.

(3) The assessment against the WHO and BS 8233 noise criteria considers the predicted noise from the activities only, and not the existing ambient noise level.

It can be identified from **Table 6.1** that the activity noise levels associated with the use of the proposed rear seating area should readily achieve the BS 8233 and WHO Guidelines criteria.

Table 6.1 also identifies that the activity noise levels should be significantly below the existing ambient noise level at the first floor windows of the possible 1st floor flats on West Street and therefore no adverse impacts would be expected.

It is also noted that predicted activity noise levels are significantly greater than 10 dB below the lowest measured background noise level during the same time period (52 dB $L_{A90,1hr}$) and the noise from smoking area is therefore likely to be generally inaudible at the first-floor windows of the possible 1st floor flats on West Street.

It can therefore be determined that the use of the rear smoking area would not be expected to result in any significant adverse impacts on the health or quality of life of existing local residents.

7. Noise Management Measures

It has been agreed with RBC that music noise at the front of the venue is not likely to be an issue. The most likely noise break-out path is through the entrance doors. As a lobby system is in place from the entrance to the main ground floor room, it is recommended that the following noise management policy is followed in order to minimise the risk of music noise break-out:

At least one of the pairs of doors leading from the main entrance on Friar Street through the reception area into the main ground floor room should remain closed where possible.

Additionally, in order to control the level of noise from patrons immediately outside the premises, the following Dispersal Policy will be followed:

- *“Throughout the evening patrons will be given any assistance via security to find places for food and taxi’s on leaving the venue.*
- *Internally we will be playing music till 3am with licensable entertainment, by 2.45am we will walk round to let all customers and staff know that we will be stopping at 3 am.*
- *At 3am all music will be reduced to a low level and the bar will be closed to any sales which should start the egress of customers.*
- *Over the period 3am -3.30am we will be allowing any drinks purchased to be finished off and for cabs etc to be called if needed.*
- *Over the time period 2.30am – 3.30am the door will be manned and high vis tabards worn to highlight our security on the pavement whilst helping our patrons leave the immediate area of Friar Street.*
- *The security will ensure that there is no alcohol leaving the premises at any time and also to ensure no re entry’s occur once our admissions desk closes at 2am.*
- *All staff are to leave once the last customer has gone and left the immediate area.*
- *From 2am onwards we will leave the front doors closed as a member of security will be manning the door at all times and they can open and close the doors for leaving patrons to ensure noise break-out is minimised.*
- *When all patrons and staff have left security will complete door log book and record anything of note before leaving themselves.”*

8. Conclusion

This report has been prepared to assess the noise impact of the proposed operations at **108 Friar Street, Reading, RG1 1EP**. The premises currently has restricted opening hours (up to 0000 hrs) and the proposals are to extend this to 0300 hrs.

The results of the noise measurement study and previous noise measurements of similar activity noise have been utilised to determine the noise impact on the nearest noise sensitive receptors. **It has been identified that the use of the rear smoking area should not cause any significant adverse impacts to future residents. The predicted noise levels are low when compared against the existing noise climate and the requirements of BS 8233:2014 and the WHO Guidelines, and the use should therefore be acceptable.**

In order to minimise the risk of excessive music noise break-out onto Friar Street, a noise management policy will be in place to ensure that at least one set of lobby doors between Friar Street and the main ground floor room are closed as much as possible. Additionally, the Dispersal Policy will minimise noise from patrons on Friar Street immediately outside the venue.

It can therefore be concluded that the proposed operations would achieve the aims of the Council in that it will avoid noise from giving rise to significant adverse impacts on the health or quality of life of local residents and adverse effects from patron and music noise on Friar Street will be minimised. Accordingly, the proposed extension of opening hours from 0000 hrs to 0300 hrs should be acceptable on noise grounds.

9. Appendix 1: Glossary of Acoustic Terminology

Term	Description
'A'-Weighting	<i>This is the main way of adjusting measured sound pressure levels to take into account human hearing, and our uneven frequency response.</i>
Decibel (dB)	<i>This is a tenth (deci) of a bel. The decibel can be a measure of the magnitude of sound, changes in sound level and a measure of sound insulation. Decibels are not an absolute unit of measurement but are an expression of ratio between two quantities expressed in logarithmic form.</i>
$L_{Aeq,T}$	<i>The equivalent steady sound level in dB containing the same acoustic energy as the actual fluctuating sound level over the given period, T. T may be as short as 1 second when used to describe a single event, or as long as 24 hours when used to describe the noise climate at a specified location. $L_{Aeq,T}$ can be measured directly with an integrating sound level meter.</i>
L_{A10}	<i>The 'A'-weighted sound pressure level of the residual noise in decibels exceeded for 10 per cent of a given time and is the L_{A10T}. The L_{A10} is used to describe the levels of road traffic noise at a particular location.</i>
L_{A50}	<i>The 'A'-weighted sound pressure level of the residual noise in decibels exceeded for 50 per cent of a given time and is the L_{A50T}.</i>
L_{A90}	<i>The 'A'-weighted sound pressure level of the residual noise in decibels exceeded for 90 per cent of a given time and is the L_{A90T}. The L_{A90} is used to describe the background noise levels at a particular location.</i>
L_{Amax}	<i>The 'A'-weighted maximum sound pressure level measured over a measurement period.</i>

10. Appendix 2: List of Equipment

Equipment Type	Manufacturer	Serial Number	Calibration Certification Number	Date of Last Calibration Check
Nor-140 Type 1 Sound Level Meter	Norsonic	1406389	27193	December 2017
Nor-1225 Microphone	Norsonic	225519	27192	December 2017
Nor-1209 Preamplifier	Norsonic	20598	27193	December 2017
Nor-1251 Sound Calibrator	Norsonic	35115	022-2017-8679	December 2017

11. Appendix 3: Detailed Noise Measurement Results

Measured Noise levels – 3rd August 2018

Time	L _{Aeq,T} (dB)	L _{AF(max)} (dB)	L _{A10} (dB)	L _{A90} (dB)
1430-1500	61.4	82.7	62.6	57.1
1500-1600	58.0	76.9	59.0	56.6
1600-1700	58.1	73.3	59.2	56.7
1700-1800	59.3	84.8	60.4	57.2
1800-1900	59.5	77.6	60.7	57.9
1900-2000	59.2	81.6	60.4	57.3
2000-2100	60.5	85.3	60.6	57.6
2100-2200	60.6	74.1	62.2	58.3
2200-2300	61.6	76.5	63.4	59.0
2300-0000	60.7	72.9	62.2	58.8
Daytime 1430-2300	60.0	79.2	60.9	57.5
Night-time 2300-0000	60.7	72.9	62.2	58.8

Measured Noise levels – 4th August 2018

Time	L _{Aeq,T} (dB)	L _{AF(max)} (dB)	L _{A10} (dB)	L _{A90} (dB)
0000-0100	59.4	88.0	57.7	55.2
0100-0200	55.2	80.0	55.8	53.7
0200-0300	55.6	70.4	56.6	54.0
0300-0400	54.5	73.5	55.2	53.2
0400-0500	54.6	80.2	54.7	52.2
0500-0600	54.1	77.0	54.6	51.8
0600-0700	54.0	71.1	55.2	52.4
0700-0800	54.2	71.9	55.3	52.5
0800-0900	55.9	71.4	56.9	54.6
0900-1000	56.3	78.2	57.3	54.9
1000-1100	56.9	71.0	58.0	55.4
1100-1200	57.2	80.5	58.3	55.5
1200-1300	57.8	80.0	58.1	55.7
1300-1400	57.9	83.4	59.2	55.9
1400-1500	58.5	76.0	59.9	56.6
1500-1600	57.7	71.9	58.9	56.1
1600-1700	58.7	81.8	59.7	57.2
1700-1800	59.7	87.9	60.5	57.8
1800-1900	61.0	83.9	61.6	58.4
1900-2000	61.3	86.1	62.5	59.0
2000-2100	61.4	79.1	62.7	59.0
2100-2200	60.3	79.5	61.6	57.8
2200-2300	60.5	78.5	61.9	58.5
2300-0000	60.3	78.4	61.9	58.0
Daytime 0700-2300	58.9	78.8	59.5	56.6
Night-time 2300-0700	56.6	77.3	56.5	53.8

Measured Noise levels – 5th August 2018

Time	L _{Aeq,T} (dB)	L _{AF(max)} (dB)	L _{A10} (dB)	L _{A90} (dB)
0000-0100	59.6	88.6	57.5	54.9
0100-0200	55.0	64.1	55.7	54.1
0200-0300	56.6	85.5	55.4	53.9
0300-0400	54.1	66.3	54.8	53.2
0400-0500	54.0	76.9	55.0	52.4
0500-0600	55.6	79.5	56.4	52.5
0600-0700	54.8	76.4	56.3	52.7
0700-0800	54.1	68.9	55.2	52.0
0800-0900	54.9	80.4	55.5	53.0
0900-1000	55.3	69.5	56.4	53.9
1000-1100	58.8	78.8	59.0	54.8
1100-1200	61.5	90.8	62.6	54.7
1200-1300	56.3	77.4	57.3	55.0
1300-1400	56.7	81.1	57.8	55.2
1400-1500	56.3	78.0	56.9	55.1
1500-1600	56.6	82.3	57.2	55.0
1600-1700	56.3	68.9	57.1	55.3
1700-1800	56.9	81.6	57.8	55.3
1800-1900	56.6	81.9	57.4	55.1
1900-2000	56.9	76.0	58.0	55.6
2000-2100	58.8	75.5	60.1	56.0
2100-2200	56.4	67.3	57.2	55.4
2200-2300	55.6	67.7	56.6	54.3
2300-0000	54.4	73.4	55.3	53.4
Daytime 0700-2300	57.1	76.6	57.6	54.7
Night-time 2300-0700	55.9	76.3	55.8	53.4

Measured Noise levels – 6th August 2018

Time	L _{Aeq,T} (dB)	L _{AF(max)} (dB)	L _{A10} (dB)	L _{A90} (dB)
0000-0100	58.6	90.5	56.6	53.0
0100-0200	56.2	86.3	56.2	51.5
0200-0300	52.7	59.1	53.4	51.8
0300-0400	52.3	59.4	53.0	51.6
0400-0500	53.1	79.1	53.7	51.3
0500-0600	54.5	80.7	54.8	51.9
0600-0700	55.1	77.0	56.1	53.1
0700-0800	55.5	68.9	56.4	53.8
0800-0900	56.0	79.6	57.1	54.2
0900-1000	57.0	79.9	58.3	54.8
1000-1100	56.5	78.5	57.8	54.8
1100-1200	59.4	86.2	59.5	55.7
1200-1300	57.7	80.2	58.6	55.8
1300-1345	60.2	93.9	59.7	56.0
Daytime 0700-1345	57.8	81.0	58.2	55.0
Night-time 0000-0700	55.2	76.0	54.8	52.0

