

Project name	Himley Village		
Design note title	Reserved Matters - Conditions 14&15		
Document reference	16153		
Author	Suzy Everett		
Revision	0		
Date	25 January 2021	Approved	<input type="checkbox"/>

## 1. INTRODUCTION

Hydrock is appointed to provide acoustic engineering services to support the reserved matters application for Himley Village, Bicester.

The following noise-related planning conditions have been attached to the planning permission for the development:

*14. Each reserved matters application for a phase shall consider whether any area of that phase is subject to elevated levels of noise, principally from road traffic sources as set out in the Environmental Statement. Any dwellings that are to be constructed in any affected area within that phase shall be identified and confirmation provided that they will be designed and constructed in such a manner that they will contain elements of sound insulation that will ensure that the internal noise levels contained within BS 8233:2014 Table 4 can be achieved. Reason: To ensure that properties are not subject to high levels of noise in accordance with Policies Bicester 1 and ESD15 of the Cherwell Local Plan 2011-2031, Policy ENV1 of the Cherwell Local Plan 1996 and Government guidance contained within the National Planning Policy Framework.*

*15. Noise levels from any mechanical plant and the energy centre shall not exceed the noise emission limits contained within table 10.15 of the Environmental Statement. Any reserved matters submission for the energy centre or for development that will include mechanical plant shall include details of how the noise emission limits for that development will be met. Reason: To ensure that noise remains within acceptable levels in accordance with Policies Bicester 1 and ESD15 of the Cherwell Local Plan 2011-2031, Policy ENV1 of the Cherwell Local Plan 1996 and Government guidance contained within the National Planning Policy Framework.*

Condition 14 requires the production of a mitigation strategy to protect residential uses against road traffic noise. An environmental noise survey was carried out by Hyder Consulting in 2010, however a new noise survey is now required due to the elapsed time. Due to lockdown restrictions, it is unlikely to be possible to measure representative noise levels at present.

With regards to condition 15, the energy centre is not located in this parcel. It is understood that an alternative strategy will be employed in this area, and therefore condition 15 does not require consideration during reserved matters for this parcel.

Consultation will be undertaken with Cherwell District Council to agree a suitable methodology to address planning condition 14, noting that it will be discharged at a later date due to current lockdown restrictions.

This note details the proposed methodologies for:

- Environmental noise surveying;
- Noise modelling;
- Control of noise to external amenity areas; and
- Control of noise to habitable rooms.

## 1. SITE DESCRIPTION & PROPOSED DEVELOPMENT

At present, the site consists of open land. The development site is located near Bicester, in a rural area. To the north of the site is open farmland with a railway line beyond. To the east is Howes Lane, with residential dwellings beyond. To the south the site is the B4030, with open land beyond. To the west is open land with the M40 beyond.

The proposed development parcel comprises 500 dwellings with associated gardens and parking. Vehicular access will be via the B4030.

The red line boundary is shown in the context of the site and surroundings on the attached **Figure 1**.

The latest Indicative Masterplan, which has been considered in the assessment outlined herein, is included in the **Figure 2**.

## 2. CONSULTATION WITH CHERWELL DISTRICT COUNCIL (CDC)

The proposed noise survey and assessment methodology was sent to Cherwell District Council; however, no response has been received at the time of writing. This assessment is based on our experience with similar sites.

The assessment considers the following potential impacts:

- The effect of existing road traffic noise, together with any existing commercial noise sources at proposed sensitive receptors; and,
- The effect of any proposed ancillary equipment at existing sensitive receptors.

## 3. PROPOSED NOISE SURVEY

### 3.1 Survey Overview

When the easing of Covid-19 restrictions makes the survey feasible, in terms of capturing 'typical' baseline conditions, noise measurements will be made using Class 1, integrating sound level meter. The microphone will be positioned vertically on a tripod at least 1.2m above the ground and at least 3.5m from any other reflecting surfaces. The sound level meter will be calibrated to a reference level of 94 dB at 1kHz both prior to, and on completion of, the noise survey.

All noise monitoring will take place during conducive conditions, with wind speeds less than 5ms<sup>-1</sup> and no significant precipitation.

## 3.2 Survey Procedure

For the purposes of this assessment, in accordance with current guidance, daytime hours are taken to be 0700 to 2300 hours and night-time hours to be 2300 to 0700 hours.

It is proposed that noise monitoring be undertaken at two Monitoring Locations (MLs) considered to be representative of local noise climate.

### *Monitoring Location 1*

ML1 is proposed to be located to the north west of the site. This location will be representative of the noise generated by the M40 at the site, together with the remainder of the local road network. Measurements will be taken over a 24hour period.

### *Monitoring Location 2*

ML2 is proposed to be located on the southern boundary of the site, adjacent to the B4030. This location will be representative of the noise generated by the B4030. Measurements will be taken over a 24hour period.

### *Monitoring Location 3*

ML3 is proposed to be short term attended noise monitoring to the east of the site, adjacent to Howes Lane. This location will be representative of the noise generated by Howes Lane. Measurement at this location will be taken in accordance with the shortened measurement methodology outlined in Calculation of Road Traffic Noise (CRTN).

Noise monitoring locations are shown below the attached **Figure 1**.

## 4. NOISE ASSESSMENT

### 4.1 Overview

At this stage, detailed layouts of the proposed development are not known. For the purposes of this assessment, typical room and window dimensions will be used to determine the predicted noise levels within habitable rooms.

Due to the COVID-19 restrictions at the time of writing, no noise survey has been undertaken for the development. Therefore, this noise assessment has been simplified, and experience of developments in similar areas have been used to predict the likely scenario for Himley Village, Bicester.

The mitigation strategy will be confirmed following the completion of a noise survey, as described in Section 3.

### 4.2 Noise Modelling

In order to predict noise levels across the Site, including self-screening and reflection effects afforded by the development itself, an acoustic model will be generated using SoundPlan modelling software.

The model allows the various sound sources, which in this case are the M40, B4030 and Howes Lane, to be calibrated according to the noise levels measured on-site. The proposed buildings are built into the model and calculations, using the methodology outlined in ISO9613-2, predict both façade incident noise levels at all floor heights and selected external receptor locations in order to produce noise contour drawings for the site and surrounding area.

## 4.3 Noise Assessment

The noise assessment will be based on the up-to-date Proposed Site Plans (currently dated 18.12.20), provided by Countryside Properties. Current site plans are shown on Figure 2.

### 4.3.1 Noise Levels in Outdoor Living Areas

The Proposed Masterplan indicates multiple ground level gardens and shared open spaces

Table 1 shows the appropriate outdoor daytime noise levels, in accordance with BS8233.

Table 1: Noise Levels at the Proposed Development within Garden Areas

Proposed Receptors	Guideline values for Outdoor Levels, $L_{Aeq, T}$ dB
Dwellings within the Development Parcel	50-55

As the development site is within a mixed rural and residential area, with no nearby industrial or commercial noise sources. It is likely the development sites will achieve the guideline values set out in Table 1, with the inclusion of standard mitigation measures i.e., standard thermal double glazing, passive ventilation, and close boarded garden fences.

### 4.3.2 Daytime and Night-time Noise Levels in Living Rooms and Bedrooms

The appropriate internal daytime noise levels, in accordance with BS8233, is summarised in Table 2.

Table 2: Daytime and Night-time Noise Levels at the Proposed Development

Proposed Receptors	Daytime Level, $L_{Aeq, T}$ dB		Night-time Level, $L_{Aeq, T}$ dB Bedroom	Maximum Night-time Level, $L_{AFMax}$ dB Bedroom
	Living Room	Bedroom		
Dwellings within the Development Parcel	35	35	30	45

As the development site is within a rural area nearby a residential area therefore it is unlikely the development will need an enhanced level of mitigation to meet the levels set out in Table 2. It's likely that standard thermal double glazing and passive ventilation configurations would achieve appropriate internal levels within habitable rooms.

Proposed living rooms and bedrooms facing away from the road network will be screened from off-site noise sources by the buildings themselves. Therefore, the level of attenuation required at these facades will be less than that of those nearer the noise sources.

### 4.3.3 Noise from Proposed Fixed Plant

At this stage, detailed information relating to proposed fixed plant and/or building services is unavailable, guideline noise limits have been formulated based on the existing noise environment, in accordance with current guidance.

With reference to BS 4142, atmospheric noise emissions limits will be determined for any proposed fixed building services plant (with the exception of emergency plant i.e. back-up generators).

Noise associated with the development shall be controlled to the limits that will be set, when assessed in accordance with BS4142 at the nearest noise sensitive receptor. The limits will correspond to noise levels which are 5dB below the average background noise levels measured.

The noise limits will be subject to the final approval of the Local Authority. The responsibility to achieve the above would fall to those undertaking the building works. Proposals should be reviewed by Hydrock during technical design.

As detailed information relating to fixed plant is unknown, Hydrock highlight that provisions for the selection of low noise equipment, silencers, enclosures, screens and other acoustic attenuation measures should be made where necessary.

## 4.4 Mitigation Measures

Any mitigation measures necessary for the development will be confirmed once the noise survey has been carried out. As the development site is within a rural area nearby a residential area, is situated at least 80m back from the road, with no obvious nearby industrial or commercial noise sources, it is unlikely the development sites will need an enhanced level of mitigation to meet the levels set out in the sections above.

## 5. CONCLUSIONS & SUMMARY

Hydrock is appointed to provide acoustic engineering services to support the reserved planning matters application for Himley Village, Bicester.

Two noise-related planning conditions have been imposed upon the development.

Condition 14 requires the production of a mitigation strategy to protect residential uses against road traffic noise. An environmental noise survey was carried out by Hyder Consulting in 2010, however a new noise survey is now required due to the elapsed time. Due to lockdown restrictions, it is unlikely to be possible to measure representative noise levels at present.

With regards to condition 15, the energy centre is not located in this parcel. It is understood that an alternative strategy will be employed in this area, and therefore condition 15 does not require consideration during reserved matters for this parcel.

The proposed noise survey and assessment methodology was sent to Cherwell District Council; however, no response has been received at the time of writing. This assessment is based on our experience with similar sites.

A detailed methodology has been outlined to address condition 14 at a later date, including methodologies for:

- Environmental noise surveying;
- Noise modelling;
- Control of noise to external amenity areas; and
- Control of noise to habitable rooms.



- Approximate Site Boundary
- Approximate Monitoring Locations



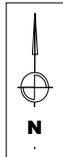
Project Title
Himley Village, Bicester

Drawing Title
Site Location and Monitoring Locations (MLs)

Job Number	16153	By	SE
Date	20.01.21	Checked	EG
Scale	NTS	Status	A1

Rev	Description	Date	By
-	-	-	-
-	-	-	-
-	-	-	-

Drawing No.	Figure 1
Issue	01



Code	Area	Area (m <sup>2</sup> )	Area (sq ft)
<b>Site Area</b>			
1	1	1000	1000
2	2	2000	2000
3	3	3000	3000
4	4	4000	4000
5	5	5000	5000
6	6	6000	6000
7	7	7000	7000
8	8	8000	8000
9	9	9000	9000
10	10	10000	10000
<b>Other Areas</b>			
11	11	11000	11000
12	12	12000	12000
13	13	13000	13000
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Project Title  
Himley Village, Bicester

Drawing Title  
Masterplan

Job Number  
16153

Date  
20.01.21

Scale  
NTS

By  
SE

Checked  
EG

Status  
A1

Rev	Description	Date	By
-	-	-	-
-	-	-	-
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-	-	-	-

Drawing No.  
Figure 2

Issue  
01