14.0 Noise & Vibration

14.1 Introduction

This chapter has been prepared by WYG Environment and considers the noise impacts related to the proposed development.

The chapter sets out the methodology followed in undertaking the assessment and provides a review of the baseline features and resources of the proposed road site and surrounding area. Within this Chapter an assessment of noise from the construction phase and occupation phase road traffic noise has been undertaken.

Where relevant, mitigation measures are proposed to minimise the impacts of the proposed development during both the construction and occupation phases. The expected residual effects of the proposals are then stated.

The chapter is supported by the following appendix.

Appendices	Title
Appendix N1	Noise Technical Report

14.2 Scoping and Consultation

Consultation was undertaken with West Berkshire Council Environmental Health in August 2014 and the following comments with regards to Noise were received:

"The layout shows new residential receptors are in close proximity to the existing Newtown Road Household Waste and Recycling Centre. The EIA for Noise should include this noise source. Also, the noise impact from any new part of the development will need to be suitably assessed, for example the energy centre".

Comments by West Berkshire Council Environmental Health from the previous applications referred to in *Chapter 1* have been addressed within this assessment.

On the basis of consultation undertaken, the potential noise effects relating to the proposed development include:

- Construction noise;
- Impacts on future residents from existing noise sources;
- Impacts on existing and future residents from new noise sources, including traffic.

An assessment has been undertaken of each of the above impacts and the results are set out in this chapter and the accompanying technical report (*Appendix N1*).

It should also be noted that the 'energy centre' referred to in the scoping response is not being proposed part of the current scheme.

14.3 Assessment Methodology

14.3.1 Policy Background

The National Planning Policy Framework[1] specifies in sections 170, 180, 182 and 183 that planning policies and decisions should aim to:

"170. Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans"

A further 2 short statements are presented at paragraph 180, which state:

"180. Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

"mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life

identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason."

Furthermore, paragraphs 182 and 183 state:

"182. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

183. The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities."

The Explanatory Note to the Noise Policy Statement for England (Department for the Environment, Food and Rural Affairs) provides further detail with regard to establishing broad

[1] National Planning Policy Framework, Ministry of Housing, Communities and Local Government, February 2019

parameters to defining significant adverse impacts. However, specific noise measures such as limits or thresholds are not presented and it states that:

''It is not possible to have a single objective based measure that defines 'significant effect levels' that is applicable to all sources of noise in all situations. As such there remains the requirement to establish relevant criteria based on currently available guidance documents and standards such as the WHO Guidelines and DMRB."

With respect to Government policy for noise, the national Planning Practice Guidance[2] (PPG: Noise) provides the following summary of the effects of noise exposure that gives more definition to the terms used in the Noise Policy Statement for England[3] (and NPPF) (*Table 14.1*).

These definitions help to confirm that the change in noise levels in the magnitude of impact table (*Table 14.3*) and noise levels based on World Health Organisation and BS8233[4] levels used in the technical report remain appropriate:

[2] National Planning Practice Guidance, July 2019

[3] Noise Policy Statement for England (Department for the Environment, Food and Rural Affairs), May 2010.

[4] BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings', The British Standard Institution 2014

Table 14.1 - Noise Exposure Hierarchy			
Perception	**Examples of Outcomes**	**Increasing Effect Level**	**Action**
Not present	No Effect	No Observed Effect	No Specific Measures Required
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No Specific Measures Required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Observed Adverse Effect	Prevent

Noise Insulation Regulations

The Noise Insulation Regulations (Amended 1988) provide criteria for assessing the eligibility for noise mitigation or properties based on variations in traffic noise due to a new or improved road scheme. Noise level criteria are given within the Regulations which, if satisfied, indicate whether properties in the vicinity may be entitled to the installation of additional noise insulation or to a grant to cover the cost of the noise insulation.

The entitlement conditions of the Noise Insulation Regulations are triggered when:

I. "the $L_{A10\ (18\ hour)}$ predicted figure is greater by at least 1 dB than the prevailing noise level"

II. "the $L_{A10\ (18\ hour)}$ predicted figure is not less than the specified level ($L_{A10\ (18\ hour)}$ = 68 dB)"

III. "the noise caused, or expected to be caused, by traffic using or expected to use the new highway makes an effective contribution to the $L_{A10\ (18\ hour)}$ predicted figure of at least 1 dB."

14.3.2 Assessment Methodology

This assessment has been based on a widely used and accepted 'significance matrix assessment approach' which is based on the characteristics of the impact (magnitude and nature) and the sensitivity of the receptor. This allows the relative significance of effects to be determined on a scale and ultimately the significant effects determined, as explained in the following subsections. Where a deviation from this approach has been undertaken, reference has been made in the appropriate sections.

Given the stage of the proposals, for the construction phase, given the proposals are currently at outline stage, the impact assessment has been undertaken based on the professional judgement of the assessor.

The effects of noise during the construction phase have been assessed quantitatively in the Noise Technical Report (*Appendix N1*), with the significance of construction effects based on whether adopted criteria are exceeded.

Defining the study area

The extent of the study area for the site is comparable to that assessed within the Transport Assessment. With regard to the impact of noise sources on proposed residential receptors, the assessment is based on the overall study area although, in reality, only localised noise sources will have an influence on the assessment.

Sources of Information

The information such as plans and traffic flows used within this chapter can be found in greater detail within Section 3 of the noise technical report (*Appendix N1*).

Receptor Sensitivity

Key receptors to noise generally include individual or groups of residential properties, hospitals and schools. *Table 14.2* provides examples of the different sensitivities which can be assigned to different receptors according to WYG's assessment methodology.

In accordance with the NPPF, the tranquillity of the Site and surrounding area has also been considered. The tranquillity assessment has been based on the mapping data published by Campaign to Protect Rural England (CPRE). The CPRE data present the results of a semi-quantitative assessment. Tranquillity scores are calculated by determining a location's proximity to perceived positive and negative features such as natural landscape, hearing birdsong or streams, and roads, aircraft and built-up areas.

The calculations make a simple distinction between major and minor roads and do not consider detailed, measured noise levels. Tranquillity scores, particularly close to major roads may be affected by the presence of subjective, positive features that 'outweigh' the negative score attributable to the major road or other features such as aircraft movements. For the purpose of this assessment, the sensitivity of the area in terms of its tranquillity has been classified. The Zones specified in *Table 14.2* relate to CPRE tranquillity ratings with Zone 1 being an area with the 'least- tranquil' and Zone 10 being 'most-tranquil'.

Table 14.2 - Methodology for Assessing Sensitivity of Noise and Vibration

Sensitivity	Example of Receptor
High	Residential properties (Permanent tenants) and schools and hospitals CPRE rated tranquillity (Zones 8 - 10)
Medium	Transient residential receptors such as users of hotels Financially involved residential receptors CPRE rated tranquillity (Zones 4 – 7)
Low	Commercial premises CPRE rated tranquillity (Zones 1 - 3)

Magnitude of Impact

Guidance with regard to assessing the magnitude of noise impact is available within the Guidelines for Noise Impact Assessment[5] issued by the Institute of Environmental Management and Assessment (IEMA) in 2014.

The guidance (though never formally published) indicates broad parameters with respect to categorising the significance of the basic noise change. For the purpose of this ES, the categories outlined in *Table 14.3* below form a broad basis to present the impact magnitude.

The guidance does not specify what a negligible impact is and therefore, as a change in noise level of less than 1 dB(A) is imperceptible, changes in noise levels of between 0.1 – 0.9 will refer to a negligible impact.

[5] IEMA Guidelines for Environmental Noise Impact Assesment 2014

Table 14.3 - Method for Assessing the Magnitude of the Impact		
Change in noise level (dB(A))	**Magnitude**	**Description**
0	No Impact	No change from base line
0.1 – 0.9	Negligible Impact	Inconsequential or no change from baseline conditions.
1.0 – 2.9	Slight Impact	Minor change from the baseline conditions. The changes are measurable, but not material in the sense that the changes are similar to those pre-development.
3.0 – 4.9	Moderate Impact	Loss / gain or variation to one or more key elements / features of the baseline conditions so that the post-development character / configuration of the baseline condition would be materially changed.
5.0	Substantial Impact	Entire loss / gain or major variation to key elements / features of the baseline conditions so that the post-development character / configuration of the baseline condition would be fundamentally changed.

As human perception to noise is subjective, a flexible approach to the categories specified in *Table 14.3* will be undertaken in the context of the proposals and the location of the proposed road site.

The IEMA guidance stipulates that the noise level categories should not be used strictly to define the description of the noise change as there is no simple formulaic approach for relating noise change to a verbal description such as ‘slight’ or ‘moderate’. Therefore, the magnitude of noise impact should be stated as the predicted dB(A) level and not simply as an impact category.

With regard to road traffic noise, Tables 3.54a &b of DMRB (LA 111 published in November 2019) present example classifications of the magnitude of noise impacts in the short and long term suitable for the assessment of changes in traffic noise levels.

Tables 3.54a &b of DMRB has equivalent categories as those presented in *Table 14.3* of this ES. Therefore, the magnitude of road traffic noise impacts in the short term is based on the method presented in *Table 14.3*. For long term impacts, the impact magnitude classification is presented in *Table 14.4* below. To ensure consistency with the WYG framework terminology, the DMRB descriptors have been translated into WYG terminology.

Table 14.4 - Classification of Magnitude of Road Traffic Noise Impacts		
Change in noise level (dB(A))	**Magnitude**	**Magnitude**
0	No Impact	No change from base line
0.1 – 2.9	Negligible	Entire loss / gain or major variation to key elements / features of the baseline conditions so that the post-development character / configuration of the baseline condition would be fundamentally changed.
3 – 4.9	Slight Impact	Loss / gain or variation to one or more key elements / features of the baseline conditions so that the post-development character / configuration of the baseline condition would be materially changed.
5 – 9.9	Moderate Impact	Minor change from the baseline conditions. The changes are measurable, but not material in the sense that the changes are similar to those pre-development.
10+	Substantial Impact	Inconsequential or no change from baseline conditions.

Determining the Significance of Potential Effects (Based on a Matrix Approach)

The level of significance of each impact is determined by combining the impact risk with the sensitivity of the receptor. *Table 14.5* shows how the interaction of magnitude and sensitivity can be combined to determine the significance of an environmental effect.

If an impact magnitude is negative then the resulting effect is described as being adverse; if an impact magnitude is positive the resulting effect is classed as being beneficial.

Table 14.5 - Significance of Effects Matrix				
Sensitivity of Receptor	**Magnitude of Impact**			
	Substantial	**Moderate**	**Slight**	**Negligible**
High	Substantial	Substantial	Moderate	Negligible
Medium	Substantial	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor	Negligible

For the purpose of this ES, where predicted noise levels are determined to fall within the adopted noise limits the effect will be negligible (i.e. not significant).

14.3.3 Limitations of the Assessment

The assessment is based on traffic flow data provided by Vectos and as such, is reliant on this accuracy of this data to inform the assessment.

The traffic data provided by Vectos included VISSIM traffic flow data. These VISSIM traffic flow data included 100 dwellings from Sandleford Park West accessed via Warren Road, so an assessment of the proposed scheme in isolation was not possible.

As the proposed development is currently at outline stage, the proposals are based on a set of development parameters with an Illustrative Masterplan. Therefore, specific details in relation to future receptors and noise sources are not currently available.

As specific details regarding the construction techniques and types of plant are not currently known, the construction-phase assessment is based on professional judgement and a typical build.

14.4 Baseline Conditions

14.4.1 Existing Baseline

A number of key receptors have been selected to enable an assessment to be undertaken of the potential noise effects of the proposed development.

The location of the identified key receptors associated with the proposed scheme are visually shown in *Appendix N1* and below in *Table 14.6*.

Table 14.6 - Receptor Locations

Ref.	Description	Height (m)
TR01	2, Copperbeech Place	4.0
TR02	260, Andover Road	4.0
TR03	Woodlands, Garden Close Lane	4.0
TR04	2 Gorselands	4.0
TR05	Charlcombe, Kendrick Road	4.0
TR06	214, Andover Road	4.0
TR07	243, Andover Road	4.0
TR08	241, Andover Road	4.0
TR09	2, Sunley Close	4.0
TR10	1, Sunley Close	4.0
TR11	Oakhaven, Warren Road	4.0
TR12	Warren House, Warren Road	4.0
TR13	Park Cottage, Warren Road	4.0
TR14	Enville House, Warren Road	4.0
TR15	Meadowside, Warren Road	4.0
TR16	Park House School, Warren Road	4.0
TR17	204, Andover Road	4.0
TR18	194, Andover Road	4.0
TR19	1, Dormer Close	4.0
TR20	150, Andover Road	4.0
TR21	3, Essex Street	4.0
TR22	225, Andover Road	4.0
TR23	15, Monkswood Close	4.0
TR24	136, Andover Road	4.0
TR25	82, Monks Lane	4.0
TR26	75, Monks Lane	4.0
TR27	71, Monks Lane	4.0

Table 14.6 - Receptor Locations		
Ref.	**Description**	**Height (m)**
TR28	12, Heather Gardens	4.0
TR29	38, Monks Lane	4.0
TR30	25, Monks Lane	4.0
TR31	2, Sandleford Parade	4.0
TR32	Oaklands, Newtown Road	4.0
TR33	Hilton Newbury Centre, Pinchington Lane	4.0
TR34	4, Deadmans Lane	4.0
TR35	Unit 7, Sandleford	4.0
TR36	Lodge, Sandleford Place	4.0
TR37	20, Heather Gardens	4.0
TR38	52, Monks Lane	4.0
TR39	Copse View, Monks Lane	4.0
TR40	30, Monks Lane	4.0
TR41	28, Monks Lane	4.0
TR42	27, Monks Lane	4.0

In terms of tranquillity, the site and surrounding areas are located in Campaign to Protect Rural England (CPRE) Zones 4-5 and are therefore considered to have medium sensitivity.

A baseline noise monitoring programme has been undertaken and the results have been used to validate the results of the computer modelling for baseline conditions. The noise survey has been undertaken in accordance with the 'shortened measurement procedure' described in paragraph 43 of the Calculation of Road and Traffic Noise (CRTN) (Department for Transport, Local Government and the Regions (DTLR), 1998). $L_{A10,\ 3\ hour}$ noise levels have been adjusted by subtracting 1 decibel to provide $L_{A10,\ 18\ hour}$ noise levels in accordance with CRTN guidance

The results of the baseline monitoring survey can be found in the Noise Technical Report (*Appendix N1*).

14.4.2 Future Baseline

It is considered that the future baseline at the identified receptors will be broadly similar to the existing conditions given their locality to the local road network.

14.5 Mitigation Measures

14.5.1 Inherent Mitigation Measures

A stand-off distance of approximately 280m has been provided between the nearest dwelling and the Household Waste Recycling Centre (HWRC).

14.5.2 Standard Mitigation Measures

Construction

Industry standard mitigation measures with regard to noise and vibration during the construction phase are presented in Table 6.1 of the draft Construction Environmental Management Plan (CEMP) in *Appendix D1*.

Dwellings within approximately 25 metres of Monks Lane with sensitive facades facing the roads will require enhanced glazing in order to meet internal target noise levels.

An alternative means of ventilation will be required in order to meet both ventilation and internal ambient noise criteria for façades facing Monks Lane (within 70m), Newbury College Car Park (within 40m) and the A339/ HWRC, Andover Road (within 400m/300m). Alternative ventilation can be provided in several ways such as acoustic trickle vents (which need to have a minimum sound reduction equal to or greater than the glazing), other passive ventilation systems or mechanical ventilations systems.

14.5.3 Actionable Mitigation Measures

No actionable mitigation measures are proposed at this stage in relation to noise.

14.6 Assessment of Environmental Impacts

14.6.1 Impact *Assessment*

Construction Phase

The most notable impacts due to increases in noise and vibration during construction would be during periods of site preparation, construction of infrastructure and the construction of substructures. In addition to on-site sources, increased noise may be caused by HGV movements travelling to and from the site during construction particularly along Monks Lane.

Given the nature of the construction works, there is the likelihood that during certain periods of the construction phase, noise would be audible at residential receptors located within 100m to where the works are being undertaken, however, impacts would be temporary in nature and can be appropriately controlled through the use of industry standard noise control measures.

An assessment of construction effects is included in Section 5.3 of *Appendix N1*. The assessment found that noise levels at all receptors are within the recommended fixed noise limit and therefore, construction effects are deemed to be **negligible**.

Table 14.7 - Summary of Impact Assessment – Construction Phase						
Receptor	**Sensitivity**	**Description of Impact**	**Inherent & Standard Mitigation Measures**	**Magnitude of Effect**	**Type of Effect**	**Significance of Effect**
Residential and education receptors around the site's boundary	Medium to High	Earthworks	See draft CEMP in *Appendix D1*	N/A to method	Temporary, Direct	Negligible
		Construction				

Occupation Phase

Road Traffic Noise (Existing Receptors)

In accordance with the provided traffic data, as contained within the supporting Traffic Assessment (TA), the occupation phase assessment has been undertaken with an assumed future year of 2031. The future year scenario assumes that there are 3 access routes to the proposed development site; the west and east access roads off Monks Lane and the A339 road access.

The assessment scenarios are therefore:

- 2017 Baseline = Existing baseline conditions;
- 2031 'Do Minimum' (DM) = Baseline conditions + committed development flows;
- 2031 'Do Something 1' = Baseline conditions + committed development flows + proposed development flows (Bloor Homes development traffic flows, three accesses in operation) (DS1)

This section presents a summary of the findings and the associated effects of the proposals.

The results in *Table 14.8* show that short term traffic noise levels associated with DS1 will increase at properties around the site by up to 0.9 dB which is **negligible**. As the receptors are of high sensitivity, the overall effect will be **negligible**.

Table 14.8 - Changes in Road Traffic Noise Levels 2031 (DS1)

REF		Short-Term Traffic Noise Assessment 2031		
		Do Minimum	Do Something	Difference
TR01	2, Copperbeech Place	65.7	65.5	-0.2
TR02	260, Andover Road	68.2	68.2	0.0
TR03	Woodlands, Garden Close Lane	66.2	65.9	-0.3
TR04	2 Gorselands	67.8	67.8	0.0
TR05	Charlcombe, Kendrick Road	67.0	67.0	0.0
TR06	214, Andover Road	67.9	67.8	-0.1
TR07	243, Andover Road	66.0	65.9	-0.1
TR08	241, Andover Road	66.9	66.9	0.0
TR09	2, Sunley Close	61.1	61.2	0.1
TR10	1, Sunley Close	59.5	59.6	0.1
TR11	Oakhaven, Warren Road	58.6	58.7	0.1
TR12	Warren House, Warren Road	60.6	60.7	0.1
TR13	Park Cottage, Warren Road	59.9	60.0	0.1
TR14	Enville House, Warren Road	57.1	57.2	0.1
TR15	Meadowside, Warren Road	56.3	57.0	0.7
TR16	Park House School, Warren Road	58.2	58.4	0.2
TR17	204, Andover Road	68.8	68.8	0.0
TR18	194, Andover Road	67.0	67.0	0.0
TR19	1, Dormer Close	68.2	68.2	0.0

Table 14.8 - Changes in Road Traffic Noise Levels 2031 (DS1)				
REF		Short-Term Traffic Noise Assessment 2031		
		Do Minimum	Do Something	Difference
TR20	150, Andover Road	66.2	66.1	-0.1
TR21	3, Essex Street	64.8	64.8	0.0
TR22	225, Andover Road	69.7	69.7	0.0
TR23	15, Monkswood Close	67.5	67.7	0.2
TR24	136, Andover Road	67.8	68.1	0.3
TR25	82, Monks Lane	67.4	67.3	-0.1
TR26	75, Monks Lane	67.5	67.4	-0.1
TR27	71, Monks Lane	66.9	66.8	-0.1
TR28	12, Heather Gardens	64.9	64.7	-0.2
TR29	38, Monks Lane	65.8	65.0	-0.8
TR30	25, Monks Lane	65.8	64.8	-1.0
TR31	2, Sandleford Parade	62.7	62.7	0.0
TR32	Oaklands, Newtown Road	67.9	68.0	0.1
TR33	Hilton Newbury Centre, Pinchington Lane	69.3	69.4	0.1
TR34	4, Deadmans Lane	68.1	68.2	0.1
TR35	Unit 7, Sandleford	73.6	73.7	0.1
TR36	Lodge, Sandleford Place	69.3	70.2	0.9
TR37	20, Heather Gardens	64.7	63.1	-1.6
TR38	52, Monks Lane	66.7	63.2	-3.5
TR39	Copse View, Monks Lane	66.7	65.3	-1.4
TR40	30, Monks Lane	65.1	64.2	-0.9
TR41	28, Monks Lane	63.6	62.7	-0.9
TR42	27, Monks Lane	65.1	64.2	-0.9

Tranquillity

An assessment of the existing tranquillity level of the site has been based on the mapping data published by Campaign to Protect Rural England (CPRE). This uses a colour coded system and a 500m assessment grid for the whole of England, and a tranquillity rating of between 1 and 10 is assigned (1 being least tranquil and 10 being most). By reference to these maps the scheme is assessed as falling into Zone 4-5.

There is a public right of way that falls within the site (GREE/9/1) which provides access from Warren Road to the A339. As this footpath does not provide access to areas of greater tranquillity and is being incorporated into the development, it is considered that the proposed development will enhance the use of the footpath and the effect on tranquillity of the area will be **negligible**.

Table 14.9- Summary of Impact Assessment – Occupation Phase DS1						
Receptor	**Sensitivity/ Importance/ Value**	**Description of Impact**	**Inherent & Standard Mitigation Measures**	**Nature of Effect**	**Type of Effect**	**Significance of Effect**
Existing residential and Educational Receptors	High	Impact of noise on existing receptors generated by road vehicles during operational phase	See draft CEMP (*Appendix D1*)	Negligible	Permanent, Short-term, Direct	Negligible
Proposed residential and Educational Receptors	High	Impact of noise on existing receptors generated by road vehicles during operational phase	Improved glazing in certain dwellings and construction measures in draft CEMP (*Appendix D1*)	Negligible	Permanent, Long-term, Direct	Negligible
Users of the existing PROW	Medium	Effects on tranquillity	Enhancement of PROW as part of proposed development	Negligible	Permanent, Long-term, Direct	Negligible

14.6.2 Residual Impact Assessment

As no actionable mitigation measures are proposed, the residual effects are as set out in *Section 14.6.1*.

A further assessment was undertaken with regard to the eligibility of existing residents for mitigating works in accordance with the Noise Insulation Regulations. The assessment establishes that the threshold for eligibility is not reached.

14.7 Cumulative Impact Assessment

14.7.1 Sandleford Park West

The assessment has taken into consideration the cumulative effects of the proposed development with Sandleford Park West with the following scenario assessed:

- 2031 'Do Something 2' = Baseline conditions + committed development flows + proposed development flows (Entire Allocated Area + Sanfoin traffic flows, all four accesses in operation) (DS2)

The results for the short-term assessment are shown in *Table 14.10*.

Table 14.10 - Changes in Road Traffic Noise Levels 2031 (DS2)

REF		Short-Term Traffic Noise Assessment 2031		
		Do Minimum	Do Something	Difference
TR01	2, Copperbeech Place	65.7	65.6	-0.1
TR02	260, Andover Road	68.2	68.3	0.1
TR03	Woodlands, Garden Close Lane	66.2	66.0	-0.2
TR04	2 Gorselands	67.8	68.0	0.2
TR05	Charlcombe, Kendrick Road	67.0	67.1	0.1
TR06	214, Andover Road	67.9	68.0	0.1
TR07	243, Andover Road	66.0	66.1	0.1
TR08	241, Andover Road	66.9	67.3	0.4
TR09	2, Sunley Close	61.1	63.0	1.9
TR10	1, Sunley Close	59.5	62.0	2.5
TR11	Oakhaven, Warren Road	58.6	61.0	2.4
TR12	Warren House, Warren Road	60.6	65.2	4.6
TR13	Park Cottage, Warren Road	59.9	65.1	5.2
TR14	Enville House, Warren Road	57.1	61.0	3.9
TR15	Meadowside, Warren Road	56.3	63.0	6.7
TR16	Park House School, Warren Road	58.2	63.1	4.9
TR17	204, Andover Road	68.8	68.9	0.1
TR18	194, Andover Road	67.0	67.1	0.1
TR19	1, Dormer Close	68.2	68.3	0.1
TR20	150, Andover Road	66.2	66.2	0.0

Table 14.10 - Changes in Road Traffic Noise Levels 2031 (DS2)				
REF		Short-Term Traffic Noise Assessment 2031		
		Do Minimum	Do Something	Difference
TR21	3, Essex Street	64.8	65.0	0.2
TR22	225, Andover Road	69.7	69.8	0.1
TR23	15, Monkswood Close	67.5	67.7	0.2
TR24	136, Andover Road	67.8	68.0	0.2
TR25	82, Monks Lane	67.4	67.2	-0.2
TR26	75, Monks Lane	67.5	67.3	-0.2
TR27	71, Monks Lane	66.9	66.7	-0.2
TR28	12, Heather Gardens	64.9	64.7	-0.2
TR29	38, Monks Lane	65.8	66.3	0.5
TR30	25, Monks Lane	65.8	66.1	0.3
TR31	2, Sandleford Parade	62.7	62.8	0.1
TR32	Oaklands, Newtown Road	67.9	67.7	-0.2
TR33	Hilton Newbury Centre, Pinchington Lane	69.3	69.0	-0.3
TR34	4, Deadmans Lane	68.1	67.9	-0.2
TR35	Unit 7, Sandleford	73.6	73.3	-0.3
TR36	Lodge, Sandleford Place	69.3	70.0	0.7
TR37	20, Heather Gardens	64.7	63.3	-1.4
TR38	52, Monks Lane	66.7	64.1	-2.6
TR39	Copse View, Monks Lane	66.7	66.6	-0.1
TR40	30, Monks Lane	65.1	65.5	0.4
TR41	28, Monks Lane	63.6	64.0	0.4
TR42	27, Monks Lane	65.1	65.5	0.4

The results in *Table 14.10* show that short term traffic noise levels associated with DS2 will increase at properties along Sunley Close and Warren Road by between 5.2 and 6.7 dB which is moderate adverse. As these receptors are of high sensitivity, the overall effect will be **substantial adverse** without mitigation measures implemented. This impact is due to a relatively large change in traffic flows in a relatively quiet area.

The results for the long-term assessment are shown in *Table 14.11*.

Table 14.11 - Changes in Road Traffic Noise Levels 2017 vs 2031 (DS2)				
REF		Long-Term Traffic Noise Assessment 2017/2031		
		Do Minimum	Do Something	Difference
TR01	2, Copperbeech Place	64.1	65.6	1.5
TR02	260, Andover Road	66.6	68.3	1.7
TR03	Woodlands, Garden Close Lane	64.7	66.0	1.3
TR04	2 Gorselands	66.2	68.0	1.8
TR05	Charlcombe, Kendrick Road	65.4	67.1	1.7

Table 14.11 - Changes in Road Traffic Noise Levels 2017 vs 2031 (DS2)				
REF		Long-Term Traffic Noise Assessment 2017/2031		
		Do Minimum	Do Something	Difference
TR06	214, Andover Road	66.3	68.0	1.7
TR07	243, Andover Road	64.4	66.1	1.7
TR08	241, Andover Road	65.4	67.3	1.9
TR09	2, Sunley Close	60.0	63.0	3.0
TR10	1, Sunley Close	58.5	62.0	3.5
TR11	Oakhaven, Warren Road	57.7	61.0	3.3
TR12	Warren House, Warren Road	59.7	65.2	5.5
TR13	Park Cottage, Warren Road	59.1	65.1	6.0
TR14	Enville House, Warren Road	56.5	61.0	4.5
TR15	Meadowside, Warren Road	56.3	63.0	6.7
TR16	Park House School, Warren Road	57.7	63.1	5.4
TR17	204, Andover Road	67.3	68.9	1.6
TR18	194, Andover Road	65.5	67.1	1.6
TR19	1, Dormer Close	66.6	68.3	1.7
TR20	150, Andover Road	64.6	66.2	1.6
TR21	3, Essex Street	63.7	65.0	1.3
TR22	225, Andover Road	68.2	69.8	1.6
TR23	15, Monkswood Close	65.8	67.7	1.9
TR24	136, Andover Road	66.1	68.0	1.9
TR25	82, Monks Lane	66.3	67.2	0.9
TR26	75, Monks Lane	66.4	67.3	0.9
TR27	71, Monks Lane	65.8	66.7	0.9
TR28	12, Heather Gardens	63.9	64.7	0.8
TR29	38, Monks Lane	65.2	66.3	1.1
TR30	25, Monks Lane	65.2	66.1	0.9
TR31	2, Sandleford Parade	62.2	62.8	0.6
TR32	Oaklands, Newtown Road	67.5	67.7	0.2
TR33	Hilton Newbury Centre, Pinchington Lane	68.9	69.0	0.1
TR34	4, Deadmans Lane	67.8	67.9	0.1
TR35	Unit 7, Sandleford	73.3	73.3	0.0
TR36	Lodge, Sandleford Place	69.6	70.0	0.4
TR37	20, Heather Gardens	63.8	63.3	-0.5
TR38	52, Monks Lane	65.9	64.1	-1.8
TR39	Copse View, Monks Lane	66.1	66.6	0.5
TR40	30, Monks Lane	64.5	65.5	1.0
TR41	28, Monks Lane	63.0	64.0	1.0
TR42	27, Monks Lane	64.5	65.5	1.0

The results in *Table 14.11* shows that long term traffic noise levels associated with DS2 will increase at properties along Sunley Close and Warren Road by between 5.4 to 6.7 dB which is moderate adverse. As these receptors are of high sensitivity, the overall cumulative effect will be **substantial adverse** without mitigation measures implemented. This impact is due to a relatively large change in traffic flows in a relatively quiet area.

All receptors or locations which are representative of groups of receptors, within 300m of off-site highway works have been assessed in accordance with the guidance provided within the Noise Insulation Regulations (NIR). Based on the predicted changes in noise level specified within the tables above, no properties are above the threshold for eligibility for mitigation works under the NIR, it should be noted that the NIR only apply to noise from new or altered highways, i.e. the proposed main access road through the site.

All other cumulative effects will be **negligible**.

14.8 Summary

A noise assessment has been undertaken to assess the potential noise impacts of the proposed development during both the construction and occupation phases. The baseline noise environment has been established with existing and proposed receptors identified. A supplementary Noise Technical Report has been provided at *Appendix N1*.

Assuming a worst case scenario, during the construction and occupation phases, the results of the assessment found that noise levels at all receptors are within the recommended fixed noise limit and therefore, construction effects are deemed to be **negligible**.

During the occupation phase for Scenario DS1, the noise effects are all assessed as **negligible**.

During the occupation phase for Scenario DS2, there will be **substantial adverse** cumulative effects on properties on Sunley Close and Warren Road, without mitigation measures implemented, due to the changes in traffic flows in a relatively quiet area. All other receptors will experience **negligible** cumulative effects.

A noise assessment has also been undertaken with regard to the impact of existing and potential future noise generation at proposed receptors (i.e. future residents) in order to demonstrate that acceptable levels of amenity can be achieved.

Based on the assessment, it is likely that dwellings within approximately 25 metres of Monks Lane with sensitive facades facing the roads will require enhanced glazing in order to meet internal target noise levels. An alternative means of ventilation will also be required in order to meet both ventilation and internal ambient noise criteria for façades facing Monks Lane (within 70m), Newbury College Car Park (within 40m) and the A339/ HWRC, Andover Road (within 400m/300m). Alternative ventilation can be provided in several ways such as acoustic trickle vents (which need to have a minimum sound reduction equal to or greater than the glazing), other passive ventilation systems or mechanical ventilations systems.