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Alderholt Meadows, Fordingbridge

Environmental Impact Assessment Scoping Report for
Dudsbury Homes (Southern)
15 November 2022
Our Ref: SRS/22-00541

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Appendices

Quality Assurance

This report has been prepared within the quality system operated at Rapleys LLP according to British Standard ISO 9001:2015.

We confirm that the undersigned is an appropriately qualified and experienced Chartered Surveyor/Planner [delete as appropriate] experienced in the commercial property sector.

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1 INTRODUCTION

BRIEF

1.1 Rapleys LLP has been instructed by Dudsbury Homes (Southern) (the 'Applicant') to undertake an Environmental Impact Assessment (EIA) Scoping Report for the Proposed Development of Alderholt Meadows, Fordingbridge (the 'Site').

1.2 An outline planning application is currently being worked up for the creation of a Garden Village of up to 1,700 dwellings, 10,000sqm employment space, local centre, green infrastructure including provision of Suitable Alternative Natural Greenspace (SANG) and associated highway/drainage and other services, either side of the Ringwood Road to the south of Alderholt. Pre-application advice was sought in respect of highway matters in the Autumn of 2021 and Natural England in 2022. Discussions have also taken place with the planning policy team at Dorset Council but no formal pre-application has been submitted. Appendix 1 identifies the boundaries of the Site. The Scoping Area reflects this, although for some topics such as transport, air quality or landscape/visual impact, depiction of the scoping area on a plan is not practicable as the potential influence of the Proposed Development extends beyond the Site boundaries and immediately adjacent land (see paragraph 5.5).

1.3 The intention is to submit an outline planning application with access in detail, before the end of this year.

LEGISLATIVE CONTEXT

1.4 The requirement for an EIA is derived from EU Directive no. 2011/92/EU. This directive is transposed into UK law through the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 ('The Regulations'). The EIA Regulations require that prior to the grant of planning permission the likely significant effects of a project on the environment should be assessed.

1.5 The outcome of this process will be the production of an Environmental Statement (ES) submitted with the planning application. The ES shall consist of the Scoping Study, the EIA main text, a set of Technical Appendices and a Non-Technical Summary (NTS).

Screening Opinion

1.6 In preparing development proposals for the Site, consideration was given at an early stage to whether the proposals, by virtue of the location and scale of development, would trigger the requirement for EIA to be undertaken. Reference was made to the Regulations together with guidance contained in the Planning Practice Guidance (PPG). The Applicant has determined that an EIA would be required as the size of the scheme exceeds the determining thresholds in each case set out in Schedule 2, section 10 'urban development project' of the 2017 Regulations, for the following reasons:

- The development includes more than 1 hectare of urban development which is not dwellinghouse development;
- the development includes more than 150 dwellings;
- the overall area of the development exceeds 5 hectares.

1.7 In addition, the Site is located adjacent to a 'sensitive area' as defined by the Regulations, this being a European site, Dorset Heathlands Special Protection Area, Ramsar and Special Area of Conservation. Consequently, the Applicant is voluntarily submitting an ES.

Scoping Report/Opinion

1.8 In order to refine the information and aspects of the environmental topics that the EIA will consider, this Scoping Report has been produced with the intention that the Council can subsequently adopt this document as the formal Scoping Opinion confirming the EIA content to accompany the planning application for the Site. The ES is being prepared on this basis and will take account of any subsequent matters identified by the Council as necessary.

1.9 Regulation 15 of the EIA Regulations allows for a request for a Scoping Opinion from the Local Planning Authority (LPA) and requires the following to be submitted:

- A plan sufficient to identify the land,
- A brief description of the nature and purpose of the development, including its location and technical capacity,
- An explanation of the likely significant effects of the development on the environment, and

- Such other information or representations as the person making the request may wish to provide or make.

1.10 The Scoping Report includes, as a minimum, the information required. It is produced in accordance with the requirements of the EIA Regulations. It is not concerned with matters under other environmental regulatory contexts, albeit there may be some overlap.

1.11 The Scoping Report identifies those topics which have been scoped out of the ES and the reasons why these are considered not to cause significant effects as a result of the development. Where appropriate, stand-alone assessment reports for these topics, outside of the remit of the EIA Regulations, will be submitted as part of the planning application documentation in any event.

Structure Of the Scoping Report

1.12 This Scoping Report is structured as follows –

- Background Context of the Development – providing a summary of the background history to the development as well as the physical environment context (site and surroundings,)
- Proposed Development – providing information of the proposal,
- Alternatives – describing alternatives considered, where appropriate,
- Approach to the Environmental Impact Assessment – setting out the approach, describing the baseline conditions, construction methods and approach to cumulative assessment where relevant,
- Technical Assessment chapters – setting out the likely significant effects,
- ES Structure – identifying the intended structure of the resulting ES.

EIA TECHNICAL TEAM

1.13 This Scoping Report is prepared by Rapleys LLP with technical input from competent experts as set out in the table. The ES will be prepared by the competent experts and will be accompanied by a statement outlining the relevant expertise or qualifications of such experts.

Scoping Topic Areas For Consideration	Responsibility
Transportation	Paul Basham Associates
Landscape, Townscape and Visual Amenity	Urban Initiatives Studio
Air Quality	Waterman
Flood Risk/Drainage	Campbell Reith
Ecology and HRA	EPR
Archaeology and Heritage	Wessex Archaeology
Ground Conditions	Waterman
Noise/Acoustics	Waterman
Socio Economics	Rapleys
Cumulative Impacts	Rapleys
Climate Change	Hydrock

2 BACKGROUND CONTEXT OF THE DEVELOPMENT

SITE

2.1 The Site (as shown in Appendix 1) is approximately 122ha in area located either side of the Ringwood Road, immediately south of the settlement of Alderholt. The land within the Site to the north and west of the existing solar array will be used for SANG purposes. Its eastern extent is formed by the Hillbury Road; to the south are agricultural fields and Ringwood Forest (Site of Interest for Nature Conservation (SINC)); the western extent is also agricultural fields and the SSSI of Cranborne Common (part of the Dorset Heathlands Special Protection Area (SPA), Ramsar and Special Area of Conservation (SAC)), and to the north is the built up area of Alderholt.

2.2 The Site comprises three farmsteads – Sleepbook Farm in the northern part of the Site accessed via a gravel track from Ringwood Road, Warren Park to the south and Oak Tree Farm to the east of Ringwood Road – and is predominantly in arable production with some improved grassland for animal husbandry. Land classification identifies the land as grade 3.

2.3 The Alderholt Riding and Livery Yard located to the west of Ringwood Road is excluded from the Site, although the menage and several associated paddocks are included within it. The existing community recreation ground and playing fields on the other side of the road are similarly excluded from the Site boundaries.

2.4 The Site is gently undulating at heights ranging from 60m AOD on its northern edge to 50m AOD on its southern and eastern boundaries.

2.5 The Site lies within Flood Zone 1. Within the Site there are several drains which flow to two ponds just south of the Site, which in turn flow to the Hamer Brook and onto the River Avon and Avon Valley. Sleep Brook runs north to south on the western edge of the Site also to the Hamer Brook. There are four distinct drainage catchments across the Site.

2.6 Trees are present along the Site boundaries and around field edges where hedgerows predominate.

SURROUNDINGS

2.7 Alderholt is located in the north-east of Dorset close to its boundary with Hampshire and the New Forest District. To the north-west of the settlement the land rises to Cranborne Chase and the West Wiltshire Area of Outstanding Natural Beauty (AONB); to the east is the New Forest National Park and to the south the South East Dorset Green Belt.

2.8 The settlement lies on land that rises up from the valleys of the River Avon and Ashford Water to a height of circa 75m.

2.9 Alderholt lies approximately three kilometres to the south-west of Fordingbridge, which provides much of Alderholt's day to day service needs. Ringwood is approximately nine kilometres to the south and Verwood eight kilometres to the south-west.

2.10 Alderholt is a settlement of circa 3,000 population which has primarily developed to the south of the B3078 which runs between Shaftesbury to the north-west and Fordingbridge to the north-east. Both Hillbury Road and Ringwood Road head south from this road. It comprises predominantly twentieth century suburban development with a primary school, recreation field, community hall, churches, a pub and a Co-op store.

PLANNING HISTORY

2.11 There is no planning history of relevance associated with the Site.

2.12 The Site, or parts thereof, has been promoted within a number of local plan policy document reviews, including -

- The call for sites of the Christchurch and East Dorset Local Plan Review, November 2016 – two parcels comprising some 15ha for 450 dwellings and 16ha as SANG,
- East Dorset Local Plan Review – Options Consultation, September 2018 – a self-sustaining settlement of circa 1,700 dwellings,
- Dorset Local Plan Regulation 18 Consultation, March 2021 – 'transformational development' as a garden village, now the subject of this Scoping Report.

PLANNING POLICY

2.13 The adopted Development Plan comprises the Joint Christchurch and East Dorset Local Plan Part 1 Core Strategy 2013-2028 (2014) and the saved policies of the East Dorset Local Plan 2002.

2.14 Alderholt is classified as a Rural Service Centre village under Core Strategy policy KS2 where residential development will be allowed of a scale that reinforces its role as a provider of leisure and retail services.

2.15 Other Core Strategy policies that are or may be of relevance to the development proposed at Alderholt from an environmental perspective, as opposed to principle, include –

- KS1 Presumption in favour of sustainable development
- KS11 transport and development
- ME1 safeguarding biodiversity and geodiversity
- ME2 protection of Dorset Heathlands
- ME3 sustainable development standards for new development
- ME4 renewable energy provision for residential and non-residential development
- ME5 sources of renewable energy
- ME6 food management and mitigation
- HE1 valuing and conserving historic environment
- HE3 landscape quality
- HE4 open space provision
- LN2 design, layout and density of new housing development
- LN3 provision of affordable housing
- LN7 community facilities and services

2.16 Similarly, the saved policies include –

- HODEV2 form of development
- LTDEV1 lighting
- TEDEV3 local cabling
- DES6 landscaping
- DES7 tree removal
- DES11 design of roads, cycle and pedestrian routes

2.17 Within the ES, the individual environmental technical topic chapters will detail the policies, both national and local, relevant to the topic in hand.

3 PROPOSED DEVELOPMENT

3.1 The Proposed Development is the creation of a garden village settlement adjoining the southern edge of Alderholt either side of the Ringwood Road, on a total Site area of 122ha, comprising:

- up to 1,700 dwellings,
- 10,000sqm employment space,
- local centre,
- green infrastructure including provision of Suitable Alternative Natural Greenspace (SANG),
- associated highway/drainage and other services.

KEY DESIGN PRINCIPLES

3.2 The design of the development is based on the Garden Village philosophy combined with the 15 minute neighbourhood concept in order to deliver a sustainable place. It is built on three themes –

- Beautiful – Quality design, green /blue infrastructure, long term stewardship,
- sustainable – low energy/carbon, climate resilient, walkable, and
- smart – digitally enabled, flexible, future proofed.

3.3 Over 50ha of publicly accessible open space will be provided through a network of spaces and green routes, using and retaining the natural features of hedgerows, mature trees and watercourses. Improvements and enhancements to the adjacent heathland will also be provided.

3.4 The new centre of the settlement on the Ringwood Road will provide a range of services clustered round a village square. Such use will include the school, doctor's surgery/health centre, local shops, public house, community café, new community buildings. It will be within 1200m of nearly every house.

3.5 The existing sport facility will be enhanced with the provision of all weather surfaces, upgraded changing facilities. Exercise trails will extend through the settlement, community gardens, allotments and orchards will be created.

3.6 Buildings will be designed to incorporate the latest technology and will be flexible; electric charging for every home.

3.7 An enterprise hub providing desk and workspace for local businesses, meeting rooms is to be located within the local centre, alongside larger spaces to rent for companies and employees and other employment space located on Hillbury Road within 400m of the village centre.

3.8 Two main access points into the Site are proposed:

- Off the northern end of Ringwood Road through the creation of a re-prioritized junction through the Site as the primary route, which will cross the southern end of Ringwood Road through the eastern part of the Site to...
- A three arm roundabout junction on Hillbury Road.

3.9 The existing section of Ringwood Road between the two new Development junctions will be retained but traffic calmed to allow access only to existing properties as well as pedestrian and cycle access through to the local centre, recreation ground and school.

3.10 A network of pedestrian and cycle routes to prioritize these modes throughout the Proposed Development, connecting it to the existing settlement and surrounding countryside, are prevalent throughout the Development, providing opportunities for non-car use for daily life.

3.11 The local centre will also act as a mobility hub with a car club, cycle hire, electric charging points. A bus route will pass through and around the settlement.

3.12 Buildings will be energy and carbon efficient through construction and enduring lifespan, reducing their running costs and environmental impact. Renewable energy sources will provide the settlement with energy - including from the solar farms to the west of the Site and at Warren Park Farm, district heating systems and ground source heat pumps.

3.13 A network of Suds, rain gardens, attenuation ponds will manage the surface water and an on-site water treatment plant will manage waste water, phosphate/nitrate levels and enable recycling of water to homes.

4 ALTERNATIVES

4.1 Under Schedule 4 Part 2 of the Regulations, an ES must provide 'an assessment of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects'.

4.2 The consideration of alternatives can be viewed in a number of ways, including alternative site locations and different designs/layouts/access strategies, etc.

4.3 The Applicant has acquired control of the Site subject to this scoping report and as such therefore no appropriate alternative site locations that can be considered.

4.4 Alternatives, therefore, will be considered in terms of alternative designs/layouts/energy strategies/access strategies and the 'no development' scenario.

5 APPROACH TO THE ENVIRONMENTAL IMPACT ASSESSMENT

5.1 The approach to identify the scope of the ES is set out below.

SCOPING METHODOLOGY

5.2 This report considers all the aspects of the environment which are likely to be significantly affected by the development, and which are identified in paragraph 4 of Schedule 4 of the EIA Regulations.

5.3 The potential effects of development on these topics will be considered during the construction and operational phases (as relevant). The EIA Regulations require only an assessment of the likely significant effects, and thereby a judgement of significance must be applied. Therefore, those environmental topics, or specific elements of topics, which are not considered to have significant environmental effects (notably as a result of survey work already undertaken) are to be excluded, i.e., scoped out.

5.4 In this Scoping Report, the aspects of the environment are considered on a topic-by-topic basis and the baseline conditions, likely receptors (particularly those classed as sensitive) and any likely significant environmental effects that would arise from the development are set out. If potential significant effects are identified, the assessment sets out the methodology which will be adopted in reviewing those effects.

5.5 The Scoping Area identified in Appendix 1 has been identified as the immediate area most likely to be affected by the Proposed Development. It includes the site itself, immediately adjacent properties and land that might be directly impacted on along Ringwood Road. A wider scoping area has been used for topics such as transport, which will examine traffic flows along road networks within the surrounding area, although this is not identified on a plan for the purposes of this Report.

5.6 The following commentary is not meant to be exhaustive but rather a brief description of the potential sources of environmental impact, in order that the appropriate level of resources can be applied to surveys, predictive assessments and where necessary mitigation of the potential impacts.

5.7 The purpose of the scoping process is to ensure, by means of proper responses from consultees, that all of the relevant issues are set out and agreed to provide a basis for the EIA process.

Approach to identifying significant effects

5.8 The approach to identifying significant effects is one that develops an understanding of the baseline (as set out above in this case); identifying environmental effects and evaluating the magnitude of their effect to determine significance; considering whether there will be cumulative effects; designing mitigation methods to minimise significance of effects and identifying residual effects post mitigation.

Approach to assessing significant effects

5.9 The methodology used to assess the relative magnitude of significance of the effects to be reviewed in the ES is based on a standardised scale, as set out in Tables below. Each of the specialist consultants have based their assessment on this general approach, but the accepted good practice criteria within each topic may lead, in some cases, to modifications to this general approach.

5.10 The magnitude of an impact is judged by comparing the extent of the change with particular standards and criteria relevant to each environmental topic. The magnitude is generally estimated as combination of the magnitude of the impact and the sensitivity or value of the affected receptor. The process is described in tables 5.1 and 5.2.

Table 5.1 Magnitude of impact

Magnitude of Impact	Description – include subject specific examples
High	Very large or large change in environmental conditions (e.g., pollution levels, destruction of habitat). This could result in exceedance of Statutory objectives and/or breaches of legislation.
Medium	Intermediate change in environmental conditions.
Low	Small change in environmental conditions.
Negligible	No discernible change in environmental conditions.

Table 5.2: Sensitivity/value of receptor

Sensitivity/value of a Receptor	Description
Very High	Change resulting in a high degree of deterioration or improvement.
High	Change resulting in a material deterioration or improvement.
Medium	Change resulting in a low degree of deterioration or improvement.
Low	Change resulting in a negligible degree of deterioration or improvement.
Neutral	No change.

5.11 Table 5.3 proves a matrix showing impact significance and magnitude of change. The effect is determined by combining the predicted magnitude of impact with the assigned sensitivity of the receptor. The level at which a significant effect arises will be provided within the topic method section of each chapter of the ES. Unless stated otherwise, effects of moderate significance or above are considered to be significant in EIA terms.

Table 5.3: Impact significance matrix

	Magnitude of Impact			
Sensitivity/ value of a Receptor	High	Medium	Low	Negligible
Very High	Substantial	Substantial	Moderate	Slight
High	Substantial	Moderate	Slight	Negligible
Medium	Moderate	Slight	Negligible	Negligible
Low	Slight	Negligible	Negligible	Negligible

6 TECHNICAL ASSESSMENT CHAPTERS

6.1 This chapter of the report reviews the potential environmental topics on a sequential basis and follows an identical format in terms of presenting the information:

- Baseline conditions setting out those conditions with reference to any assessments already undertaken and any likely receptors,
- Potential environmental effects,
- Assessment methodology to be adopted, and
- Potential mitigation.

6.2 It should also be noted that in each case, the ES will identify and consider appropriate mitigation measures and resulting residual impacts. Cumulative impacts are dealt with as a separate topic.

6.3 In each case, appropriate national and local policy and guidance, technical guidance and industry references will be used throughout the assessment process and ES.

TRANSPORT

Baseline Conditions

6.4 The Site lies either side of the Ringwood Road and west of Hillbury Road, adjoining the southern edge of Alderholt.

6.5 Ringwood Road is subject to a 40mph speed limit, reducing to 30mph as the road enters Alderholt. It is circa 4.9m wide and is classed as a rural lane without footways or street lighting. Mature trees and hedgerow characterise the Site frontage along this road.

6.6 Hillbury Road is also an unlit rural road of some 5.5m width. The speed limit is 60mph, reducing to 40mph as it enters Alderholt. Mature trees and hedgerow characterise the Site frontage. There is a footway on the western side of this road which extends south from Alderholt but only as far as the Hillbury Mobile Home Park to the north of the Site.

6.7 The nearest existing bus stops are on Earlswood Drive and Birchwood Drive. Limited bus services are provided by the No.97 which winds its way through Alderholt to the north of the Site between Hillbury and Ringwood Roads. It provides three services per day Monday to Friday between Ringwood and Fordingbridge.

6.8 There are no railway stations in the Site vicinity, the nearest being Salisbury some 21.8km north providing services to London, Portsmouth, Southampton, Worcester, Cardiff, Bristol and Chandlers Ford.

6.9 None of the above roads are designated cycle routes, and there are very limited footpaths/Public Rights of Way within the Site. A bridleway runs along the very northern boundary to the west of Ringwood Road.

6.10 Assessment work carried out to date indicates the following,

- That the existing highway network in and around Alderholt is lightly trafficked and should be capable of accommodating the development traffic in capacity terms, albeit there may be a need for some junction improvements,
- Hillbury Road is subject to higher volumes of traffic than Ringwood Road, on account that it is the connecting route to the A31,
- Hillbury Road/B3078, Verwood Road/B3081 would likely require works to improve the junction capacity as a result of the development,
- Verwood Road/A31 slip would likely require improvements to capacity to be agreed with Highways England.

Receptors

6.11 The following receptors have been agreed in principle with the Highway Authority:

- Local highway junctions,
- The pedestrian amenity and safety, and
- The cycle amenity and safety.

Potential Environmental Effects

6.12 Potential environmental effects are likely to include:

- Increase in traffic flow along the adjacent roads,
- Decrease in junction capacity arising from an increase in vehicular trips,
- Change in pedestrian/cycle amenity and safety along the local roads,
- Increased traffic flows during construction – there will be an increase in traffic flows on local roads during construction, including a temporary increase in HGV movements,

Increased traffic flows post-construction.

Potential Mitigation

6.13 Appropriate mitigation will be identified, including any need for a Travel Plan. Such mitigation may include:

- Improvements to key junctions – for example the Hillbury Road/B3078, Verwood Road/ B3081, Verwood Road/A31 slip,
- Sustainable transport measures such as –
  - provision of new bus stops,
  - a new hourly bus services Monday to Saturday between Cranborne, Alderholt, Fordingbridge and Ringwood,
  - Improvements to footpaths, notably extending those southwards from Alderholt along both the Ringwood Road and Hillbury Road,
  - Provision of cycleways.

Assessment Methodology

6.14 Categories of sensitivity and magnitude of impact will be defined and assessed following the principles set out by the Guidelines for the Environmental Assessment of Road Traffic published by The Institute of Environmental Assessment in 1993 (now the Institute of Environmental Management and Assessment) (the 'IEMA Guidelines').

6.15 The principles held in the Design Manual for Roads and Bridges (Highways Agency et al) (DMRB) Volume 11 – Environmental Assessment, will be followed with Section 2 of Volume 11 setting out the principles of Environmental Impact Assessment, and Section 3 giving specific guidance on environmental impact assessment methods for specific topic areas.

6.16 The methodology to be utilised in the assessment of traffic impact will broadly reflect that contained within the Department for Transport's (DfT's and the Departments for Communities and Local Government (DCLG)) "Guidance on Transport Assessment" (March 2007) (GTA).

6.17 DfT's Circular 02/2013 The Strategic Road Network and the Delivery of Sustainable Development will be utilised to address the wider traffic impact issues.

6.18 Considerable traffic assessment work has already been undertaken over a number of years. The scope of junction modelling has already been agreed with Dorset County Highways (back in June 2018), including trip distributions, trip rates and development scenarios. As well as the two proposed site access locations, the following junctions have been modelled:

- Ringwood Road/B3078 Station Road,
- Hillbury Road/B3078,
- Ringwood Road/Hillbury Road,
- Verwood Road/B3081,
- Verwood Road/A31 slip road, and
- Verwood Road/Hurn Lane.

6.19 Modelling of the junction has been informed by speed and volume surveys on Hillbury Road and Ringwood Road, and turning count and queue lengths on the aforementioned junctions.

6.20 Trip generation has been forecast based on a first principles basis for the development operating at its planned capacity, ie, peak hour. Census 2011 Journey to Work Data was obtained for the Middle

Super Output area of East Dorset 001. The assessment assumes that the majority of trips (some 35%) will travel south to London, Southampton, Poole and Winchester; 34% west to Shaftesbury, Wimborne and 31% north to Andover, Salisbury and Fordingbridge.

6.21 TEMPRO has been used to assess the development impact in future years, factored up to 2033. Thus, the assessment considers the modelling scenarios of 2018 baseline, 2033 baseline and 2033 baseline with Development.

6.22 The effect of significance is to be derived from measures of the magnitude (or scale) of the change and the sensitivity (or importance) of the receptors affected. Categories of sensitivity and magnitude will be defined and assessed to determine the significance of the effect following the principles set out by the IEMA Guidelines.

6.23 The IEMA Guidelines list the following environmental impacts relative to transport:

- Severance,
- Driver Delay,
- Pedestrian Delay,
- Pedestrian Amenity,
- Fear and Intimidation,
- Accidents and Safety,
- Hazardous Loads.

LANDSCAPE AND VISUAL

Baseline Conditions

6.24 There are no statutory landscape designations within the 2km study area. The site is not within an Area of Outstanding Natural Beauty (AONB), or National Park. It is not green belt.

6.25 The Site comprises predominantly agricultural land with many of the fields bordered with linear tree belts comprising mainly native species, and hedgerows. Some 199 individual trees, 24 groups of trees, 20 areas of trees, 32 hedgerows and 11 woodlands have been identified and surveyed.

6.26 Initial analysis of the site and surrounding local landscape through desk study and site visit indicate that the Proposed Development is likely to have effects on local landscape character and visual amenity.

Receptors

6.27 The sensitivity of the landscape and visual receptors will be assessed in accordance with GLVIA3. Relative sensitivity will reflect the degree to which the resource affected can accommodate change without detrimental effect. With regard to landscape receptors, the GLVIA3 states:

> *"Landscape receptors need to be assessed firstly in terms of their sensitivity, combining judgements of their susceptibility to the type or change of development proposed and the value attached to the landscape."*

6.28 Potential landscape receptors are likely to be:

- Site Landscape Character - key characteristics, and
- Site Landscape Character - key features and elements such as bridleways/footpaths, tree and hedgerow network.

6.29 In the context of visual receptors, the GLVIA3 states that sensitivity will be dependent on:

- *"*the value attached to views; and
- Susceptibility of visual receptors to change".

6.30 Visual receptors are likely to include:

- People/residents within the wider countryside and Alderholt,
- People/residents using the local PROW network, particularly the PROW and bridleway to the immediate north of the Site leading into Alderholt itself, and
- People/residents using the local road network, especially Ringwood Road, Hillbury Road.

Potential Environmental Effects

6.31 Potential environmental effects on the landscape resource and visual amenity are considered likely to include:

- The introduction of built form, roads and infrastructure into a primarily undeveloped landscape and its resulting impact,
- A change from essentially rural character to more urban character,
- The potential for the loss of trees and hedgerows, and
- The potential to impact on a range of visual receptors and views.

Potential Mitigation

6.32 In terms of retaining the local character and protecting the visual amenity, the key elements of the proposed development design and embedded mitigation process are:

- The design of the proposed structure(s),
- The siting and massing of the proposed structure(s),
- The design and use of materials,
- Colour scheme considerations, and
- Landscape scheme design.

6.33 Further mitigation measures considered as part of the detailed LVIA (i.e., embedded mitigation) would include landscape planting that would help to integrate the development into the local landscape. The landscape structure planting would strengthen the local landscape characteristic of rectilinear field patterns and a network of tree belts, whilst providing some screening and softening of the development's hard edges when experienced in local views. A landscape structure plan with proposals for potential advance planting prior to construction will be explored to aid the development of screening and integration of the landscape with the scheme.

6.34 A Landscape and Ecological Management Plan (LEMP) will also be produced to ensure an appropriate management and maintenance strategy is in place to maintain the quality and function of the landscaping.

Assessment Methodology

6.35 A combination of desk-based and field assessment will be/has been undertaken to establish the baseline conditions, identify and evaluate the sensitivity and value of key receptors, and to establish the level of predicted impacts upon them as a consequence of the Development proposals (construction and operational effects would be assessed). Where impacts are identified and considered to be significant specific mitigation would be proposed to avoid or reduce the level of impact to an acceptable level.

6.36 The landscape and visual assessment will include:

- Landscape character appraisal - addressing the Site, its context and character, with reference to land use, topography, susceptibility to change and landscape value, and
- Visual amenity assessment – detailing the visual receptors and respective visual effects of the proposed development, representative photo viewpoints, including assessments of the potential construction effects.

6.37 A detailed Visual Effects Schedule would be produced, setting out the potential effects on all receptors with views to the scheme. This would consider the visual effects during construction, at completion of the development and after 10-15 years.

6.38 A full LVIA in accordance with GLVIA3 and Visual Representation of Development Proposal Technical Guidance Note (TGN) 06/19 (Landscape Institute, September 2019) will be undertaken.

6.39 A Zone of Theoretical Visibility will be established. Representative views from public vantage points will be agreed with the Local Planning Authority, together with the most appropriate method of visualisation, whether that be photomontages, wirelines, etc.

ECOLOGY AND CONSERVATION

6.40 The evaluation of ecological resources will be made with reference to the guidance on ecological impact assessments published by the Chartered Institute on Ecology and Environmental Management (CIEEM 2018 v1.2). This process includes:

- Identifying those ecological features likely to be affected, and
- Evaluating the features to identify those of importance i.e. those which if their integrity or conservation status were affected, national or local policies (or in some cases legislation) would be triggered.

6.41 The level of value of specific ecological receptors will be assigned using a geographic frame of reference using the following terms: International; National; Regional; County; District; Local; and/or within the Site boundary only.

Baseline Conditions

6.42 The three different farmsteads that make up the Site comprise arable and improved grassland, semi-improved grassland, with areas of tall ruderal, broadleaved woodland, hedgerows, scrub, ephemeral vegetation, ponds and a large number of individual trees.

6.43 Statutory designations are not present on the Site, but there are a number in very close proximity – Cranborne Common SSSI (part of the Dorset Heathlands SPA and RAMSAR and the Dorset Heaths SAC are some 200m to the west of the Site. Ringwood Forest, a SINC borders the Site to the south. The Site is also within the Zone of Influence of the River Avon SSSI/SPA, the Avon Valley SSSI/SPA/Ramsar and New Forest SPA, RAMSAR and SAC.

6.44 Ecological surveys were carried out in 2019 by Lindsay Carrington Ecological Services for bats (buildings/trees/habitat/activity transects and statics); badgers; hazel dormouse; breeding birds; Nightjar; reptiles; amphibians and phase 1 habitat. ABR Ecology undertook updated surveys and barn owl survey during 2021/22 and in 2022 EPR undertook an invertebrates survey.

6.45 In summary, the following key findings arise from the phase 2 surveys already carried out –

6.46 Nineteen species-rich hedgerows are present across the Site and may qualify under the Hedgerow Regulations 1997.

6.47 The 2021 survey identified evidence of Badger on the Site – two active main setts, a subsidiary, two annexes and four outlier setts, clustered in the north-west and north-east. Evidence of commuting and foraging was also identified.

6.48 Bat surveys have identified roosts in various buildings for Brow Long-eared bats, Greater Horseshoe bats Common and Soprano Pipistrelle. Other bat species recorded using the Site include Barbastelle, Myotis sp., Serotine, Noctule and Leisler's bats. A number of on-site trees possess potential roosting features and the Site holds 'high potential for foraging and commuting bats, although this is confined to marginal areas , such as woodland fringe, particularly in the west. Key habitats are the hedgerows, the existing woodland and treelines.

6.49 Greater Horseshoe and Barbastrelle bats are rarer species, recorded in the boundary habitats, but noticeably the overall level of activity of these two species was very low and no site features/habitats are considered to be particularly important as foraging or commuting resources for these two species.

6.50 The diversity of bat species is more attributable to the high quality off-site foraging resource rather than the Site itself – Cranborne Common, Ringwood Forest and the Avon Valley. The diversity is of County importance.

6.51 Invasive plants, Montbretia and three cornered-leek were found on the Site.

6.52 Nightjars were not recorded breeding on the Site but were heard in the heathland to the west of the Site and observed foraging along hedgerows within the Site. Overall, the surveys recorded some 58 species of birds, with 37 breeding species. Of the breeding species, cuckoo, Greenfinch, Sparrow, Linnet, Skylark and Yellowhammer are Red list species. The key areas for the breeding birds are the network of dense hedgerows and heathlands west of the Site. Barn Owls, listed as Schedule 1, were recorded roosting at Foxhill Farm in 2021.Overall, the assemblage of breeding birds is considered to be of local importance.

6.53 Although there have been previous records of dormouse in the vicinity, none were found during surveys on the Site. The network of hedgerows has potential to provide suitable habitat, although given management regimes annually, their quality and therefore value to Dormice, is reduced.

6.54 Some 11 ponds are within the Site and a further 20 off-site within 500m.Low populations of great crested newts (GCN) were identified through eDNA sampling in a pond in the south-east. GCN are therefore present but in low numbers and therefore of local importance.

6.55 Reptile surveys recorded low populations of slow worm, grass snake and common lizard in the eastern side of the Site, with the remainder of the Site supporting 'good' populations of common lizard and slow-worm, and low of grass snake.

6.56 Adjacent to the Site in the west, an exceptional population of common lizard, good population of slow-worm and low population of grass snake were identified. Suitable reptile habitat is limited and localised and therefore, overall, the populations of reptiles are of local importance.

6.57 Some 180 species of Invertebrates were recorded in the 2022 survey. Parcels 4 and 5 in the west are considered to be the most likely importance for invertebrates consisting of woodland, damp ground, mixed grass and scrub. With much of the Site being arable land or modified grassland, the assemblage is considered to be of local importance.

Receptors

6.58 The key ecological receptors and features within the Site are:

- Hedgerows,
- Trees/broadleaved woodland,
- Scrub and ephemeral vegetation,
- Ponds,
- Arable, Improved and semi-improved grassland,
- Fauna found in the surveys.

6.59 In addition, as noted in paragraph 6.43 above, the SSSI/SPAs/Ramsars/SACs/SINCS referenced are ecological receptors.

Potential Environmental Effects

6.60 The main potential effects that will be considered are:

Construction phase

- Land-take, ie, habitat destruction and loss – temporary and permanent,
- Disturbance (visual, noise),
- Hydrology and pollution (dust generation, pollution of aquatic habitats), including changes to the hydrological regime of and dust deposition in the SSSI/SAC/SPAs,
- Lighting (construction),
- Spread of invasive species, and
- Construction site hazards.

Operation phase

- Permanent land-take,
- Degradation of habitats,
- Disturbance,
- Increased recreational pressure particularly on the Dorset Heathlands SSSI/SPA/SAC,
- Air quality, pollution and hydrology, and
- Permanent lighting.

Potential Mitigation

6.61 Mitigation measures will be employed to reduce any impacts that could occur as a consequence of the Proposed Development and a range of compensation and enhancement measures will be implemented in order to increase biodiversity and to create an overall ecological enhancement post-development, including -

- Construction Environmental Management Plan,

- Replacement planting,
- Creation of buffer zones,
- Protection of root zones,
- Removal and management of invasive species,
- Inclusion of bird and bat boxes, creation of new habitat,
- Sensitive lighting strategies,
- Creation of SANG, drainage and phosphate mitigation strategies.

Assessment Methodology

6.62 The Site was subject to an initial Preliminary Ecological Appraisal based on a walk-over survey in April 2019. Phase 2 surveys have also been undertaken (during 2021/22) for vegetation, badgers, bats, breeding birds, nightjar, dormouse, great crested newt, invertebrates and reptiles due to the presence of suitable habitat on the Site. The most up-to-date survey data will be submitted as part of the ES.

6.63 A background data search was completed, whereby the Dorset Environmental Records Centre and Hampshire Biological Information Centre were contacted for any records of protected, rare or notable species within 2km of the Site. The MAGIC website was also interrogated.

6.64 An impact assessment will be carried out in accordance with best practice.

ECONOMY, POPULATION AND SOCIETY

6.65 The economy, population and society chapter of the ES will address the potential socio-economic impacts likely to be generated as the result of the development.

6.66 A preliminary desk-based study has been carried out to examine the existing socio-economic situation both within the ward in which the Site is located, and the ward adjoining. Baseline information on the current situation in these wards and the existing economic situation has been obtained from the Office for National Statistics, in the form of the 2011 Census (Office of National Statistics [ONS], 2011), being the most up to date information.

Baseline Conditions

6.67 Existing facilities in Alderholt include a convenience store, a vets, garden centre, part time GP surgery, school, recreation ground with sports pitches/tennis courts/sports court and children's play, a pub, a social club, village hall and a church.

6.68 The Site lies in the Alderholt Ward, but borders on its east side the Fordingbridge Ward in Hampshire. Consideration will be given to the baseline conditions of both Wards. The baseline conditions are summarised below, taken from the 2011 Census and Vinsights Reports.

6.69 Alderholt Ward had a total population of 2,848 in 2011, (49% male and 51% female). Latest population estimates are 3,262. The Parish of Fordingbridge was 5,598 in 2011 and estimated to be 6,029 in 2020 (48% male, 52% female). Both reflect the England and Wales average split.

6.70 In general, the baseline data shows that the percentages of those of working age (16-74 years) that are economically active in Alderholt is 1,619 (67%) , whilst in Fordingbridge it is 66.4% .

6.71 The baseline data confirms that, in Alderholt, 44%% of the working population work in a managerial/professional role, with 14.4% in skilled trades, 11.68% administrative/secretarial and 10% in caring, leisure or similar service. Only 4.13% work in process plant and machinery compared to 7.19% as the UK average. For Fordingbridge, the figures are 42%, 14.5%, 11.77% and 5.52% respectively.

6.72 The 2011 Census provides data on the tenure split of households. The number of Alderholt households in public rented housing is 5.5%, 7.7% private rented, 85.2% owner occupier and 1.7% other. In Fordingbridge the split is 72% owner occupied, 6.4% social rented, 13.6% private rented and 1.6% other. Some 61.7% of properties are detached, 22.7% semi-detached, 8% terraced, 2.7% flats and 4.8% in mobile homes/caravans. For Fordingbridge the figures are 44.7%, 26.2%, 12.2%, 5.6%, with 0.3% in mobile homes/caravans.

6.73 There are some 1,263 households in Alderholt of which 25% have someone over the age of 65, with only 7.3% of households of lone parents. For Fordingbridge the figures are 15% of households have someone over age of 65 and 9.5% are households of other age single or single parent households. England/Wales average for single person households is 30%.

6.74 Some 25% of people in Alderholt are over 65, greater than the England/Wales average at 18.6%. For Fordinbridge in 2011, the figure was only 6.2%. The Alderholt and Fordingbridge populations overwhelmingly report being in good health. Only 5.7% of households have no car and 63% have two or more cars in Alderholt. In Fordingbridge the figures are 14.1% no car and 15% have two or more cars.

6.75 Some 96.8% of the population is white British in Alderholt and 98.7% in Fordingbridge.

Receptors

6.76 The potential receptors likely to be directly affected by the Proposed Development comprise the local and wider economies and populations, both in financial and social terms, defined by way of ward boundaries.

Potential Environmental Effects

6.77 Potential environmental effects are considered likely to include:

- Impact on social community services and facilities arising from demand arising from additional population, including education and healthcare,
- Impact on human health,
- Changes to the mix and balance of housing in the area, and impact on the local economy including the likely effect on local businesses and local economy from the creation of new commercial floor space and effects on employment/unemployment during construction and operation.

Potential Mitigation

6.78 Potential mitigation is likely to consist of

- that embedded into the design of the Proposed Development, including local employment, retail and community facilities, and
- S106/CIL contributions.

Assessment Methodology

6.79 A desk-based assessment will be undertaken to analyse the potential socioeconomic effects. The key socioeconomic topics to be reviewed and potential impacts assessed will include:

- Population and demographics,
- Economy and employment,
- Wealth and deprivation,
- Housing,
- Education,
- Community facilities including open space, recreation, and
- Health services.

6.80 The assessment will adopt a series of standard and recognised qualitative techniques as appropriate.

WATER RESOURCES/FLOODING

6.81 The water resources chapter of the ES will assess the potential impacts of the development upon the hydrogeology and hydrology within the Site and surrounding area and also consider the effects of liquid waste generation and its subsequent management.

6.82 In terms of flooding, the ES will assess the impacts the development will have on surface and foul water within the Site and surrounding area, including existing watercourses. Consideration of techniques to mitigate these influences will also be included.

Baseline Conditions

6.83 A number of watercourses run through the Site draining to the south into several ponds before discharging into the Hamer Brook and then into the River Avon which lies circa 2km to the east. The Site falls into four distinct catchments which form the basis of the drainage strategy for the Proposed Development.

6.84 Ground levels range from 60m AOD in the north and east of the Site to circa 50m AOD on the southern boundary.

6.85 Underlying geology is of the Parkstone Sand Formation and Broadstone Clay Member – see paragraphs 6.135-136 for further detail.

6.86 The EA web based flood mapping shows that majority of the Site is in Flood Zone 1, however some localised flooding (fluvial) does occur along the Sleep Brook in the west of the Site. The masterplan for the Proposed Development does not envisage built development anywhere near this watercourse.

6.87 The Site is not affected by tidal, estuarial or ground water flooding, nor it is likely to be affected by flooding from artificial drainage systems (blocked pipes, sewers, canals) or infrastructure failure.

Receptors

6.88 The following receptors will be considered in the assessment:

- Ground water,
- The on-site watercourses,
- Future occupiers of the development and adjacent landowners,
- The nearby SSSI/SPA/SAC hydrological regime.

Potential Environmental Effects

6.89 The following potential environmental effects will be considered:

- Risk of pollution of surface and/or ground waters on and off-site during construction,
- Risk of pollution of ground and surface waters on and off-site from the operational phase,
- Changes in run-off characteristics due to changes in impervious areas on the Site, both on and off-site, and
- Flood risks to, and generated by, the Proposed Development.

Potential Mitigation

6.90 Mitigation measures would be proposed to either avoid or reduce the impact of the Proposed Development, including the use of standard practices including CEMP.

6.91 The Drainage Strategy will be designed to deal with the 1:30 year and 1:100 year event, plus 40% climate change. It will be considered in the context of the hierarchy set out in H3 of the Building Regulations, 2010.

6.92 Ground conditions on the Site indicate infiltration is unlikely as an option. Attenuation basins and Suds are likely to be used, including other measures to reduce attenuation requirements such as porous paving, green roof, rain harvesting, etc.

Assessment Methodology

6.93 The Flood Risk Assessment (FRA) for the development of the Site will be prepared in accordance with National Planning Policy Framework and its Technical Guidance. The FRA will be proportional to the scale and nature of the Proposed Development and will aim to demonstrate that it does not increase the risk of flooding elsewhere, particularly with regards to surface water runoff. The intention is to initially examine the flooding potential, outline storage requirements and locations, review existing drainage connections, and identify any offsite improvements that are required in relation to foul discharge.

6.94 The preparation of the FRA and an outline Drainage Strategy Report will be undertaken in line with the requirements for an outline planning application. The following will be undertaken:

- Liaison with the EA and Dorset Council to agree scope of the FRA and obtain all relevant information,
- Review the baseline information and the survey data of the final Site masterplan,
- Review EA flood maps, historical flooding records and Site levels in order to confirm the extent of flooding,
- A site visit to assess drainage constraints and flood risk,
- Review existing drainage and make comments or recommendations including the purchase of sewer record plans,
- Review geological desk study/site investigation and consider groundwater risk assessment in relation to groundwater flooding based upon discharge,

- Prepare a preliminary drainage strategy including calculations of greenfield discharge and development surface water attenuation requirement, and
- Make allowance for the effects of climate change.

6.95 The output from the above will be used to produce the FRA & Outline Drainage Strategy Report for inclusion within the ES. Calculations, drawings and illustrations will be included, as required.

ARCHAEOLOGY AND CULTURAL HERITAGE

6.96 The archaeology and cultural heritage chapter of the ES will consider the impact of the development on any archaeological and cultural heritage resources. The production of an Archaeology and Cultural Heritage Desk Based Assessment has been undertaken for the Site and in accordance with the National Planning Policy Framework and follows the guidelines for desk based assessment as set out by the Institute for Archaeologists (2014) and the CIfA's Standard (2020).

Baseline Conditions

6.97 There are no designated heritage assets within the boundary of the Site. There are no World Heritage Sites, Conservations Areas, Registered Parks and Gardens or Battlefields within the 1km study area.

6.98 There are, however, four Scheduled Monuments, and four Grade II Listed Buildings within the study area, all of which are on the northern or southern extents of it.

6.99 The Scheduled Monuments include a deer park, bank and ditch north of Alderholt, and barrows within Plumley Wood to the south of the Site. The listed buildings –

- Church of St James – Grade II - on the Cranborne/Daggons Road
- Alderholt Memorial Cross – Grade II - on the Cranborne/Daggons Road just to the west of the Church of St James
- A cottage at Harbridge Drove, and
- A cottage at Bleak Hill.

6.100 The closest conservation area is at Edmondsham over 1km to the west and separated from the Site by heathland and lots of tree planting.

6.101 Historic plans indicate a linear form of settlement along the Cranborne to Fordingbridge Road. In 1876 the Daggons Road railway station opened, but in 1964 it was one of the many Beecham casualties and has remained closed ever since.

6.102 A Desk-based Assessment has been undertaken based on :

- an historic overview of the Site through research,
- Examination of the National Heritage List for England (NHLE),
- Examination of the Dorset Historic Environment Record (DHER) and the Hampshire Historic Environment Record (HHER) to establish the presence of designated and non-designated heritage assets within the Site and within its vicinity,
- Verification of the presence of any known heritage assets and assess the potential for unknown heritage assets within the Site through a site walkover survey.

6.103 Non-designated assets within the Site, according to the DHER, include the presence of a prehistoric stone axe findspot, a group of medieval/post-medieval pillow mounds, historic trackways and some potential medieval ridge and furrow west of Ringwood Road, and three areas of post-medieval extraction pits.

6.104 In broad terms, whilst prehistoric activity has been recorded to the south and south-west of the Site within the study area, there is little record of either Iron Age of Romano-British activity.

Potential Receptors

6.105 The following are identified as potential receptors –

- Undiscovered buried heritage assets,
- Known heritage assets within the Site – ridge and furrow, etc,
- Setting of Scheduled Monuments and listed buildings within the study area.

Potential Environmental Effects

6.106 Given the possibility of buried heritage assets within the Site, there is the potential for these to be truncated or wholly removed/destroyed during the construction works for the Proposed Development.

6.107 A setting assessment scoping exercise was also carried out as part of the DBA in respect of the Scheduled Monuments and listed buildings within the study area. This has concluded the following –

- That the significance of the Scheduled barrows derives from their archaeological and historical interest, and the intervisibility between barrow groups forms part of the wider setting of them. However, the Site does not lie within the views/intervisibility of the barrows and does not therefore meaningfully contribute to their significance,
- That the significance of the deer park Schedule Monument is in it archaeological and historic interest in terms of how Alderholt Park was managed. The Site, however, does not contribute to either the significance of the Monument or its wider setting, and
- That there is little intervisibility between the Site and the listed buildings to the north due to intervening woodland and built development and further that they have no association with the Site.

6.108 Consequently, the setting of both the Scheduled Monuments and listed buildings are scoped out of further assessment through the ES.

Potential Mitigation

6.109 Potential mitigation is likely to consist of -

- Further evaluation to either remove/record potential buried assets,
- Preservation in situ where necessary and appropriate,
- Considerate scheme design such as use of green infrastructure/open space to avoid destruction of buried assets.

Assessment Methodology

6.110 Subsequent to the DBA which has already been undertaken, the need for further assessment has been discussed with the County Archaeologist. A programme of geophysical survey work was agreed and has also been undertaken.

6.111 Further discussions will be held with the County Archaeologist to determine the extent of and/or need for any further physical archaeological evaluation such as trial trenching.

AIR QUALITY

Baseline Conditions

6.112 There are no Air Quality Management Areas (AQMAs) within the East Dorset Area as there have been no exceedance of the air quality objectives.

6.113 The East Dorset Council Air Quality Annual Status Report (2021) in accordance with the Local Air Quality Management (LAQM) requirements set out in Part IV of the Environment Act 1995, states that the main source of air pollution in the area is road traffic and that monitoring over recent years suggests long term improvements at locations monitoring NO2 concentrations. Other pollutants, such as particulates, have been assessed historically and are not considered to be at risk of exceeding the associated AQS objectives. Defra background map pollutant concentrations, predicted for 1km by 1km grid squares for the entire UK, are below the relevant AQS objectives at the Site. Baseline data suggests that there are unlikely to be any existing air quality concerns across the Site.

6.114 No baseline study work has been undertaken to date.

Potential Environmental Effects

6.115 The following potential environmental effects are identified as:

- The effects of construction phase dust and particulate matter (PM10) emissions on public amenity, human health, and nearby ecologically sensitive sites, as well as emissions from construction equipment and construction traffic. The main air pollutants of concern related to construction equipment and traffic are nitrogen dioxide (NO2) and fine particulate matter (PM10 and PM2.5),
- Post-construction phase effects associated with emissions from road traffic. The main air pollutants of concern related to traffic are nitrogen dioxide (NO2) and fine particulate matter (PM10 and PM2.5), including their deposition within the ecologically sensitive locations – Dorset Heathlands,

- Post-construction phase effects associated with emissions from any energy centres associated with the development. The main air pollutants of concern related to combustion are nitrogen dioxide (NO2) and fine particulate matter (PM10).

Receptors

6.116 The following potential receptors are:

- Existing sensitive receptors which have the potential to experience adverse impacts such as any nearby schools or existing residents,
- Ecologically sensitive areas such as the SPA, SSSI, SAC, SINC's.

Potential Mitigation

6.117 Potential mitigation measures are identified as:

- Best practice methods,
- Use of planning conditions to require restricted hours of operation, submission of a CEMP,
- Damping down and covering of lorries prior to leaving the Site,
- Use of wheel washing facilities on site to prevent dust migration,
- Careful stockpiling of soils.

Assessment Methodology

6.118 Information on existing air quality in the area proposed for development will be obtained from the UK Air Quality Archive, Defra website, East Dorset and Hampshire's Review and Assessment documents.

6.119 A desktop study would be undertaken to identify the location of any receptors that could be affected by the Proposed Development and an initial review of the existing or baseline air quality in the area.

6.120 Consultation will be undertaken with the Air Quality Officer at the Council to determine the detailed scope of the assessment and assist with the identification of sensitive receptors to be considered in the assessment. The need and extent of additional baseline monitoring to verify road traffic modelling will be agreed with the Air Quality Officer.

6.121 The assessment will provide an evaluation of the potential changes in air quality arising from the construction of the proposed development. It would identify the potential sources of emissions and consider (through a qualitative assessment following IAQM guidance on the assessment of dust from demolition and construction) their potential effect regarding local air quality. Following assessment of construction impacts, appropriate dust mitigation measures would be proposed to minimise any adverse air quality impacts and reduce potential impacts to an acceptable level. Any potential effects during construction, however, are likely to be temporary and short-term and insignificant in air quality terms.

6.122 During the operational phase, potential air quality effects will be assessed using the ADMS Urban Dispersion Model, based on traffic data provided by the project transport consultant and the client/applicant. The assessment will establish the impact of the proposals on local air quality by modelling concentrations of NO2, PM10 and PM2.5 both with and without the development at identified receptor locations. Calculations will be undertaken for an agreed baseline year and the proposed year of opening with and without development in place.

6.123 Fundamental to determining the significance of air quality effects is the consideration of the magnitude of any changes in concentrations of the critical pollutants, NO2 and PM10. Changes in pollutant concentrations will be evaluated in terms of their relative effect on prescribed levels of air quality (as detailed within the IAQM and Environmental Protection UK Significance Criteria) to determine the priority consideration for the Proposed Development.

NOISE

6.124 A baseline noise survey has been undertaken by Waterman (Appendix 2). Based on the findings as summarised below, it is considered the proposed development in itself will not give rise to significant effects, nor will the prevailing surrounding noise environment create significant effects for new residents and users of the proposed development. Consequently, the topic is scoped out of the EIA/ES.

Baseline Conditions

6.125 A broad Site description is given in paragraphs 2.2-2.6 of this Scoping Report. The following additional observations pertain to the topic of noise.

6.126 Given the Site location and the proposed uses of the Development, road traffic noise associated with the Hillbury and Ringwood Roads is the key 'on-site' consideration. Localised noise from Warren Park Farm to the south and the CEMEX Hamer landfill and quarry circa 410m south are potential off-site noise sources. Vibration is not considered to be an issue, given there is no nearby railway line.

6.127 The ProPG (Professional Practice Guidance on Planning and Noise – New Residential Development, by ANC, IoA, CiEH 2017) provides the methodology for a preliminary noise assessment which will give an indication of the likely risk of adverse noise effects.

6.128 A baseline noise survey was carried out in mid-July 2022 at four locations – along Hillbury Road, along Ringwood Road, north of Warren House Farm some 245m from Ringwood Road and along the south easter boundary of the Site, some 190m from Ringwood Road. Short term measurements were taken at Hillbury Park (210m from Hillbury Road) and Blackwater Grove (310m from Ringwood Road).

Risk Assessment/Survey Results

6.129 As expected, the highest noise levels were along the two roads during the day – medium reducing to low-medium on Hillbury Road, and low-medium along Ringwood Road. Consequently, for the majority of the Site, there is a negligible noise risk.

6.130 Standard thermal double gazing and frame trickle vent mitigation, combined with a distance of 20-25m from Hillbury Road and 10m from Ringwood Road (daytime 55dB LAeq 16hr) is considered sufficient to create a suitable residential amenity environment.

6.131 The noise from CEMEX does not appear to be material to the noise environment of the Site.

GROUND CONDITIONS

6.132 A Preliminary Risk Assessment (PRA) has been undertaken by Waterman, which is based on an examination of historical, geological, hydrogeological sources, consultation with regulatory bodies and a Site walkover in May 2022. The PRA will produce a preliminary conceptual model for the Site, identifying potential contamination linkages. The PRA has been undertaken in accordance with the 2021 Land Contamination Risk Management Guidance.

6.133 With reference to the below summary of the findings of the PRA, (Appendix 3) it is considered that the Proposed Development will not give rise to significant effects. Consequently, the topic of Ground Conditions is scoped out of the EIA.

Baseline Conditions

6.134 A broad Site description is provided in paragraphs 2.2-2.6 of this Scoping Report. The following additional observations pertain particularly to those related to the topic of ground conditions/contamination.

6.135 The buildings of Sleep Brook Farm include the farmhouse, concrete structures (barns) for feed and machinery storage, silos, an IBC container, a redundant above ground storage tank on a concrete plinth and a pile of tyres.

6.136 Potential asbestos cement roofing was identified on several of the buildings.

6.137 There was no evidence of fly tipping.

6.138 There are no Environmental Permits on the Site or within 500m of the Site boundaries. The Site is not registered as contaminated land and the Council Environmental Health Department holds no records for contamination, infilled ground or landfills within the Site.

6.139 Off-site, there are historical records of quarrying (Alderholt Gravel Pit) adjacent to the eastern boundary, brickworks and sand and clay pits circa 50m north-east. Some 660m north-east there is an existing road haulage yard, Alderholt Motors petrol station (350m north) and a motor vehicles repair garage. All are considered low risk.

6.140 The Site geology comprises at the superficial strata level - friable dark grey sandy humic soil – a silty lam with flints; river terrace deposits of clayey fine to course gravel in outcrops across the Site; peat along the western edge (associated with the adjacent Heathlands and Sleep Brook); and at the bedrock level – Parkstone Sand Member underlying the entire Site, a fine to medium grained sand; Broadstone Clay Member in outcrops to the east and west, grey/brown/grey-green and black silty clay.

6.141 The River Terrace Deposits and the Broadstone Sand Member are classed as a secondary A Aquifer. Ground water across the Site is generally found at 2.8-2.8 m below ground level within the River Terrace Deposits. The Site lies within a Mineral Safeguarding Area important for its sand and gravel potential.

6.142 The Site is not within a Ground Water Protection Zone and potable ground water abstractions are absent. The nearest abstraction is some 1km from the Site registered to CEMEX UK Material Ltd.

6.143 The Site is not in an area of high radon levels and it is not considered, given the available historical data, to be a risk for ground gas issues.

Risk Assessment

6.144 The Waterman outline conceptual Site Model is set out in Table 9 of Appendix 3. No source is considered to represent more than a medium risk, which reduces to low with mitigation . Potential contaminant linkages are identified as -

- Future site users in areas of soft landscaping may come into contact with contaminants,
- Construction workers may also come into contact with contaminants in soil and ground water,
- Contaminants originating on-site impacting secondary A aquifer and surface waters,
- Chemical attack by residual Site soils to future buried structures and services.

6.145 Mitigation would involve the use of Construction Environmental Management Plans with appropriate measures for handling and storage of potentially hazardous substances, use of Personal Protection Equipment and basic hygiene measures, for example.

MAJOR ACCIDENTS AND NATURAL DISASTERS

6.146 The EIA Regulations refer to the consideration of major accident and natural disasters. The definition of a 'major accident' for this Scoping Report draws on the Control of Major Accident Hazards Regulations 2015 (COMAH2015). These are applicable in this context as their purpose is to prevent major accidents and limit the consequences to people and the environment. A major accident is one such as fire, emission, or explosion resulting from uncontrolled developments in the course of the operation of any establishment and leading to serious danger to human health or the environment inside or outside the establishment.

6.147 A naturally occurring event such as extreme weather or ground-related hazard event (landslip) can also meet the definition of major accident.

6.148 Assessment of major accidents and hazards has been scoped out of the EIA on the basis that the likely significant effects to human health and the environment from major accidents or disasters given mitigation measures being put in place are not significant. Various risk management legislation will apply to the Proposed Development including the Health and Safety at Work Act, etc and various design and technical specifications which require consideration of potential hazards. As part of the detailed design risk assessments will be undertaken and will consider maintenance and operational activities.

HUMAN HEALTH

6.149 A separate chapter on Human Health is not considered necessary as the individual topic chapters presented within this EIA Scoping Report propose to assess potential impacts on human receptors where relevant. Consequently, this is scoped out of the ES.

CLIMATE

Baseline Conditions

6.150 Climate change is anticipated to have a significant impact on the UK climate, leading to more frequent periods of weather extremes including higher peak and average temperatures, increased winter rainfall and decreased summer rainfall. As per the Guide to Climate Change Resilience and Adaption (IEMA, November 2015) and best practice examples, climate change comprises two distinct areas.

- Climate Change Mitigation - an assessment of likely significant effects upon climate change resulting from the Proposed Development and their mitigation, including an estimate of greenhouse gas emissions,
- Climate Change Adaptation - an assessment of likely significant effects of climate change upon the project, including its vulnerability and the need for any adaptation measures to build project resilience to projected climate change scenarios.

6.151 The EIA Regulations 2022 require an outline of the likely evolution of baseline conditions without implementation of the development (i.e. the 'do nothing' scenario) as far as changes from the baseline scenario can be assessed with reasonable effort on the basis of available information and scientific knowledge.

6.152 Projected climate (UKCP18) data for Fontmell Magma meteorological station shall be utilised to establish how the current baseline position may alter as a result of climate change that has already been set in motion.

6.153 Given it is not possible to precisely predict future global GHG emissions, the UKCP18 climate projections make assumptions about the economic, social and physical changes to our environment that will influence climate change. Representative Concentration Pathways (RCPs) are a method for capturing those assumptions with a set of scenarios to establish the future baseline.

6.154 RCPs specify concentrations of greenhouse gases that will result in total radiative forcing increasing by a specific amount by the year 2100 relative to pre-industrial levels which then have a resultant change in temperature as outlined in Table 6.1 below.

Table 6.1: Representation Concentration Pathways

RCP	Change in Temperature (ºC) by 2081-2100
RCP 2.6	1.6 (0.9-2.3)
RCP 4.5	2.4 (1.7-3.2)
RCP 6.9	2.8 (2.0-3.7)
RCP 8.5	4.3 (3.2-5.4)

6.155 Whilst RCP 4.5 would broadly align with the aims of the Paris Agreement to keep global temperature increases within 2°C of pre-Industrial levels, current best practice guidance from IEMA22 recommends the use of the high emissions scenario (RCP 8.5) to identify the ‘worst case’ range of potential future climate conditions at the site.

6.156 As such, the RCP 8.5 (high) emissions scenario has been selected for use within these assessments through this may over estimate climate risks should global efforts to reduce GHG emissions begin to take effect and result in a 'medium' or even 'low' emissions scenario in the years ahead.

6.157 The table below indicates the quantitative future baseline for key climatic variables (mean temperature and precipitation) using probabilistic data under RCP 8.5 (50th percentile). This information should be used to inform the design process and help to determine the significance of effects on sensitive receptors and need for mitigation in the absence of any topic specific guidance.

Table 6.2 Future Baseline for Key Climatic Variables

Season	Variable	Time Period	Projected Change (50th Percentile)
Winter	Mean Temperature (ºC)	2030s	0.9
		2050s	1.7
		2070s	2.5
		2090s	3.5
	Mean Precipitation (%)	2030s	7
		2050s	12

Season	Variable	Time Period	Projected Change (50th Percentile)
		2070s	19
		2090s	24
Summer	Mean Temperature (ºC)	2030s	0.4
		2050s	1.1
		2070s	1.8
		2090s	2.9
	Mean Precipitation (%)	2030s	-9
		2050s	-20
		2070s	-29
		2090s	-40

Potential Environmental Effects

6.158 The following matters are **scoped out** of this assessment as it is considered that they do not give rise to significant effects –

Non-significant - Increased carbon emissions from traffic during construction

6.159 There will be a temporary increase in traffic (including HGVs) during the construction phase of the Proposed Development. A strategy for traffic management will also be prepared to define local routes to be used by lorries generated by construction activities. Construction traffic levels and likely emissions arising will be considered within the Transport and Air Quality chapters of the ES.

Non-significant - Increase in summer temperatures during construction

6.160 Increasing summer temperatures (mean and daily) may lead to health and safety risks for construction workers. However, appropriate measures to reduce the risks, such as the provision of additional shaded refuges and drinking water supplies will reduce any risk to a low level will be implemented, managed and recorded via the CEMP. Therefore, an increase in summer temperatures is unlikely to be considered significant.

Non-significant - Decrease in summer rainfall and reduced water supplies during construction

6.161 Decreasing summer rainfall may reduce water supplies during construction, disrupting construction activities. However, measures to reduce these risks, such as monitoring of water supplies and setting and implementation of water reduction targets will reduce the risk to a low level. Therefore, an increase in summer rainfall is unlikely to be significant.

Non-significant - Changing temperatures and rainfall levels and impact to existing ground conditions

6.162 Changing temperatures and rainfall may change the ground conditions at the Site, which in turn may impact proposed building foundations and structures, causing future risks to building users. However, Building Regulations require new development to consider the impact of ground conditions on foundation design and therefore there is a high level of certainty through the compliance with current Building Regulations that such risks will be designed out. Therefore, an increase in changing temperatures and rainfall is unlikely to be considered significant.

Non-significant - Changing temperatures and rainfall levels and impact to existing biodiversity

6.163 Changing temperatures and rainfall may change the habitats within the Site. As part of the Proposed Development, any compensatory habitat, delivered through public realm and areas of green infrastructure will enhance the biodiversity of the Site, mitigating the anticipated impacts of climate

change in accordance within the England Biodiversity Strategy. This can include the selection of climate change tolerant species as part of the projects biodiversity strategy. Therefore, an increase in changing temperatures to existing biodiversity is unlikely to be considered significant.

Non-significant - Changing summer temperatures and reduction in demand for heating/increased demand for cooling

6.164 Increased summer temperatures could reduce the need for heating (and associated energy use), whilst the need for cooling requirements (and associated energy and GHG emissions) may increase. Any reduction in heating is likely to be beneficial, although not to a degree where a likely significant effect is anticipated. Buildings will be designed in accordance with Building Regulations which include an assessment of overheating based on climatic conditions. Where required, cooling will be designed in accordance with the cooling hierarchy to minimise potential energy use and GHG emissions. Therefore, an increase in summer temperatures is unlikely to be considered significant.

Non-significant - Increased risk of overheating in the summer

6.165 Anticipated rising temperatures and more frequent heatwaves increase the risk of overheating experiences in enclosed spaces. Hotter weather and stronger sunlight intensity could affect the quality of the indoor living environment affecting occupants. To effectively manage the risk of overheating, suitable glazing ratios, shading and solar control glazing will be specified for the Proposed Development alongside appropriate ventilation levels and minimisation of internal heat gains. Detailed overheating assessments will be carried out for residential uses to support that key habitable spaces pass the CIBSE Technical Memorandum TM59 Design methodology for assessment of overheating risk in homes. Therefore, the increased risk of overheating in the summer is unlikely to be considered significant.

Non-significant - Disruption of transportation patterns and infrastructure due to severe weather conditions

6.166 Pedestrians and cyclists will be sensitive to extreme weather conditions which could affect transportation patterns. The increased likelihood of overheating could have a detrimental effect on the comfort of public transport users. The Transport Assessment chapter of the ES will consider the transport related impacts of the Proposed Development. In addition, a Travel Plan will be prepared setting out a range of measures to encourage sustainable modes of travel and will include an implementation and monitoring strategy.

6.167 The Proposed Development will seek to create as many sustainable low-carbon travel choices as possible that minimise time, distance, and effort, providing an advantage over private motor traffic. Therefore, the potential disruption of transportation patterns and infrastructure caused by severe weather conditions is unlikely to be considered significant.

Non-significant - Increased winter rainfall and risk to essential infrastructure and human health

6.168 The risk of all types of flooding and consideration of increased rainfall due to climate change will be considered within the Flooding and Drainage chapter of the ES. As a result, primary mitigation resulting from the design will reduce any risk to essential infrastructure and human health to a level that is not considered significant.

Non-significant - Enjoyment of social infrastructure in a changing climate

6.169 From a socio-economic point of view, the use and enjoyment of social infrastructure and amenity space is sensitive to the potential effects of climate change such as extreme hot or cold weather and increased risk of flooding. To support the Proposed Development being resilient to climate change and being capable of meeting relevant socio-economic needs, the buildings and infrastructure around them will be designed to meet the relevant design standards and industry best practice which in many instances include an allowance for climate change. The effects of climate change on social infrastructure are unlikely to be significant.

Potential Significant Effects

6.170 The following are scoped in the assessment as they are considered to have potential significant effects –

- Increased carbon emissions from traffic during operation,
- Increased regulated/unregulated emissions from operational new development.

6.171 The latest IPCC (Intergovernmental Panel on Climate Change) and CCC C(Committee on Climate Change) reports conclude that the UK and the world as a whole is not currently on track to meet

necessary future carbon budgets to avoid potentially dangerous temperature increases above 2 degrees centigrade.

6.172 There are currently no published or recommended significance criteria for GHG emissions in the UK EIA Regulations. Therefore, the assessment will follow the recommendations and best practice contained within the IEMA guidance to Assessing Greenhouse Gas Emissions and Evaluating their Significance (2022) when determining the magnitude and significance of effect for GHG emissions as well as the professional judgement of the Smart Energy and Sustainability consultants.

6.173 A GHG assessment will be carried out to estimate the baseline and future GHG emissions at the Site and as a result of the Proposed Development. Calculated emissions will be appraised within the context of current and future GHG emissions at the local authority, regional and national levels to establish magnitude and significance.

6.174 In order to avoid under-estimating future climatic impacts on the Project from climate change, the RCP 8.5 scenario is proposed for use within the assessment.

6.175 The climate change mitigation assessment will take into account the following types of emissions the Proposed Development will produce over its lifetime:

- Direct emissions - typically produced by vehicles during operation stages,
- Indirect emissions - arising from the energy produced using fossil fuels during the operational phase (i.e. energy for heating, cooling, lighting for other demands),
- Embodied carbon - as far as possible given the outline nature of the application, encompassing the total impact of GHG emissions by the construction and materials of the built environment, including impacts of sourcing raw materials, manufacturing, transport and wastage in the process.

6.176 The Air Quality and Transport ES Chapters will be cross-referenced to understand direct emissions from vehicle traffic, and the associated Energy Strategy with the project will provide detail on the indirect and embodied carbon emissions.

6.177 Embodied carbon is an area which has undergone significant development in recent years. With the ongoing decarbonisation of the UK electricity grid, embodied carbon is expected to assume an ever-increasing significance in the overall carbon footprint of developments. The Royal Institution of Chartered Surveyors (RICS)'s Building Carbon Database captures the following life cycle stages:

- A1-A3 Product stage
- A4-A5 Construction processes stage
- B1-B5 Use stage (material impacts)
- B6 Operational water use
- C1-C4 End of life stage
- D Benefits and loads beyond system boundary

6.178 There are several embodied carbon databases available on the market which provide industry benchmarks. For example, the OneClick LCA is a life cycle metrics software tailored to the construction industry which is likely to be utilised for this project.

Assessment Methodology

6.179 This method of assessment adopted to assess Climate Change Mitigation will comprise the following components in accordance with IEME GHG guidance:

- Review of legislation, planning policy and guidance relating to climate change,
- Establish GHG assessment scope and boundaries,
- Establish current GHG emissions baseline for the Site,
- Estimate GHG emissions from the construction and operational phases of the Proposed Development,
- Consider opportunities for GHG emissions reductions from the development through appropriate mitigation measures in accordance with IEMA's GHG mitigation hierarchy, and
- Evaluate residual GHG emissions following mitigation within the context of baseline conditions, local and regional GHG emissions and also future UK Carbon Budgets to establish their context, magnitude and significance.

CUMULATIVE EFFECTS

6.180 The Proposed Development itself will not lead to a further consequential development or other infrastructure and is unlikely to result in any cumulative impacts when considered within its immediate surroundings.

6.181 Consideration will be given to potential cumulative effects of the project both during the construction and operational phases, including effects of the development in combination with those from other developments – such as those in the vicinity with where there is a planning permission that has yet to be implemented. The assessment will detail which those are considered to be and identify those that are rejected from the analysis and the reasons why.

6.182 Cumulative impacts in this instance are principally considered to arise in relation to potential traffic increases filtering through into air quality and potential ecological effects arising from recreational demand on adjacent habitats and designations. Potential sites identified include: -

- Whitsbury Road, Station Road and Burgate, Fordingbridge,
- Edmundsham Road, Verwood,
- North of Ringwood Road, Alderholt, and
- Daggons Road, Alderholt.

6.183 The above sites and others not listed may subsequently be screened out through the assessment process.

6.184 Cumulative effects are the result of multiple actions on receptors or resources. There are principally two types of cumulative effect:

- Type 1 – Where different environmental topic impacts are acting on one receptor, as a result of the scheme, and
- Type 2 – Where environmental impacts are acting on one receptor but are the result of multiple projects in combination (including the scheme being assessed).

6.185 The methodologies for determining the potential effects of the proposed scheme will be detailed in the specialist chapters of the ES. The cumulative impacts assessment will focus on effects that are significant, therefore only receptors experiencing moderate or major effects will be included in the assessment.

6.186 When considering type 2 cumulative effects, the receptors experiencing effects of moderate or major significance will be assessed to understand how they would be affected by other proposed development projects. A two-stage approach will initially consider whether the receptors affected by the proposed scheme would be affected by other development projects. Following this, the second stage will identify the significance of the cumulative impacts.

6.187 The significance of cumulative effects will be determined using the criteria shown in Table 6.4 below, which is taken from DMRB Volume 11, Section 2, Part 5.

Table 6.4 Determining Significance of Cumulative Effect

Significance	Effect
Severe	Effects that the decision-maker must consider as the receptor/resource is irretrievably compromised.
Major	Effects that may become key decision-making issues.
Moderate	Effects that are unlikely to become issues on whether the project design should be selected, but where future work may be needed to improve on current performance.
Minor	Effects that are locally significant.
Not Significant	Effects that are beyond the current forecasting ability or are within the ability of the resource to absorb such change.

7 STRUCTURE OF THE ES

7.1 The structure for the ES will adhere to the requirements of the relevant regulations and other good practice guidance. Essentially, as outlined above, the ES will comprise three parts, the main text, the supporting appendices and the non-technical summary. The proposed structure of the ES is provided below.

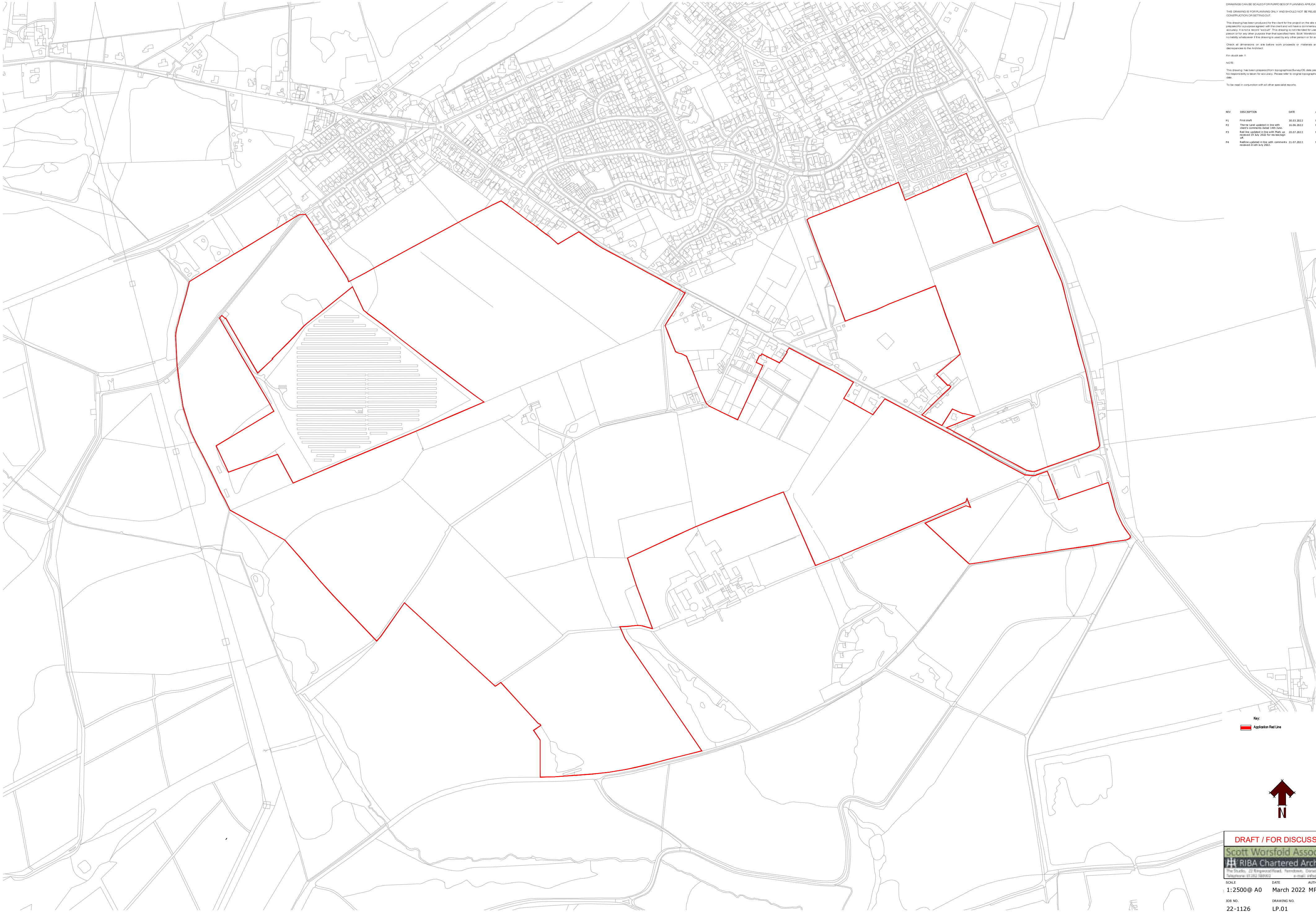
CHAPTER	TITLE	GENERAL SCOPE
VOLUME 1: PART A - THE SCOPING REPORT PART B –THE ENVIRONMENTAL IMPACT ASSESSMENT		
1	Introduction	Outline the proposed development, legislative framework, structure of ES and details of the design team.
2	Methodology	Confirming the scope of the ES and methodology adopted, confirming the terminology for assessment of effects, committed development and assumption and limitations
3	Background to Development	Description of site and surrounding area and evolution of the proposals.
4	Development Description	Summary of proposed land use and form of development, including phasing where appropriate.
5	Alternatives	Summary of the alternatives considered.
6	Planning Policy	Identification of appropriate Planning Policy affecting the site.
7	Transport	Assessment in line with relevant guidance and Regulations.
8	Landscape Visual	Assessment in line with relevant guidance and Regulations.
9	Ecology/Conservation	Assessment in line with relevant guidance and Regulations.
10	Socio Economics	Qualitative assessment in line with relevant guidelines.
11	Flooding/Drainage/Water Resources	Assessment in line with relevant guidelines and Regulations.
12	Archaeology and Heritage	Assessment in line with relevant guidelines and Regulations.
13	Air Quality	Assessment in line with relevant guidelines and Regulations.
14	Climate Change	Assessment in line with relevant guidelines and Regulations focussing GHG only.

CHAPTER	TITLE	GENERAL SCOPE
15	Cumulative Effects	Assessment and summary of likely cumulative effects of the development.
16	Overview of Residual Effects and Conclusions	Summary of the residual and effects of the development.
17/18/19	References, Glossary, Abbreviations	
Volume 2 – TECHNICAL APPENDICES as Necessary		
Volume 3 – NON-TECHNICAL SUMMARY		

Appendix 1

Site Location Plan/Scoping Area

A0



NOTES

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This drawing has been produced for the client for the project on the site shown. It was prepared for a purpose agreed with the client and will have a commensurate degree of accuracy. It is not a record "as built". This drawing is not intended for use by any other person or for any other purpose than that specified here. Scott Worsfold Associates accept no liability whatsoever if this drawing is used by any other person or for any other purpose.

Check all dimensions on site before work proceeds or materials are ordered, report discrepancies to the Architect.

If in doubt ask !!

NOTE:

This drawing has been prepared from topographical/Survey/OS data prepared by others. No responsibility is taken for accuracy. Please refer to original topographical/survey/OS data.

To be read in conjunction with all other specialist reports.

REV	DESCRIPTION	DATE	AUTHOR	CHK'D
P1	First draft	30.03.2022	MP	-
P2	Thorne Land updated in line with client's comments dated 14th June.	16.06.2022	MP	-
P3	Red line updated in line with Mark up received 19 July 2022 for review/sign off.	20.07.2022	MP	-
P4	Redline updated in line with comments received 21sth July 2022.	21.07.2022	MP	-

DRAFT / FOR DISCUSSION

Scott Worsfold Associates
RIBA Chartered Architects

SCALE	DATE	AUTHOR	CHK'D
1:2500@ A0	March 2022	MP	GW

JOB NO.	DRAWING NO.	REV
22-1126	LP.01	P4

0 10 20 30 40 50 60 70 80 90 100
scale of meters @ 1/2500.

File Location
W:\GW ARCH\01 PROJECTS\22-1126 - Alderholt, IL\Drawings\GW Arch\02 Stage D Design Development\01 DWG\22-1126 LP01 Rev P4 - Location Plan.dwg

Location Plan
Alderholt Meadows, Dorset

Appendix 2

Briefing Note Baseline Noise Survey

Waterman Infrastructure & Environment Limited
Pickfords Wharf, Clink Street, London, SE1 9DG
www.watermangroup.com

Land at Alderholt, Fordingbridge, Dorset

Briefing Note – Baseline Noise Survey

Date: 25 July 2022

Client Name: Dudsbury Homes (Southern) Ltd

Document Reference: WIE19098-108-BN-1.1.3_Noise

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Prepared by	Checked & Approved by
001	Innes Urbanski Associate Director	Mark Maclagan Technical Director

1. Introduction

1.1. This Briefing Note presents the results of the baseline survey and potential constraints to the proposed residential and school development in terms of glazing and ventilation and has regard to the current Masterplan.

1.2. The change in road traffic noise as a result of the proposed development and therefore future baseline noise levels is not addressed, neither is the rerouting of Ringwood Road. The potential conflict with use of opening windows to combat overheating is also not addressed.

Noise & Vibration Considerations

1.3. The main consideration to residential and school development is road traffic noise from Hillbury Road to the east of the Site and Hillbury Road, which disects the Site roughly north-west to south-east.

1.4. Localised noise from Warren Park Farm immediately south of the Site and Cemex Hamer Warren Quarry and Landfill located approximately 410 metres south from the south-eastern boundary are also considerations to development..

1.5. There are no vibration sources, such as a railway line adjacent or near (within 25 metres) to the Site which can give rise to tactile vibration or structure borne noise. On this basis vibration is not considered a material consideration to the development and has been scoped out.

2. Planning Policy & Guidance

2.1. The principle guidance documents within England regarding planning noise and vibration are the National Planning Policy Framework (NPPF)[1], the Noise Policy Statement for England (NPSE)[2] and Noise Planning Practice Guidance (NPPG)[3]. None of these planning documents provide specific noise criteria with regard to planning, noise and vibration.

[1] Department for Communities and Local Government (DCLG) (2021); '*The National Planning Policy Framework*', TSO.
[2] Department for Environment, Food and Rural Affairs (DEFRA) (2010); '*Noise Policy Statement for England*', DEFRA.
[3] DCLG (2014); '*Planning Practice Guidance website*', DCLG. (http://planningguidance.planningportal.gov.uk/)

Residential Amenity – Noise Criteria

2.2. Table 1 presents a summary of guideline values currently used in the assessment of residential amenity in England, drawn from BS8233:2014[4] and ProPG[5].

Table 1: Summary of Noise Criteria For Residential Amenity

Activity	Location	Noise Level	
		Day time	Night-time
Resting	Living room	35 dB $L_{Aeq,16h}$ reasonable 40dB $L_{Aeq,16h}$	-
Dining	Dining room/area	40 dB $L_{Aeq,16h}$	-
Sleeping (daytime resting)	Bedrooms	35 dB $L_{Aeq,16h}$	30 dB $L_{Aeq,8h}$ 45 dB $L_{Amax,F}$ (note 1)
Relaxing, Enjoyment	Private gardens	50-55dB $L_{Aeq,16h}$	-

Note: [1]Not to be exceeded for more than 10 times within the night-time period.

2.3. When considering external amenity spaces such as gardens, balconies and terraces, the guidance provided in BS 8233 and reproduced in ProPG is:

2.4. *"the acoustic environment of external amenity areas that are an intrinsic part of the overall design should always be assessed and noise levels should ideally not be above the range 50-55 dB $L_{Aeq,16h}$. These guideline values may not be achievable in all circumstances where development might be desirable. In such a situation, development should be designed to achieve the lowest practicable noise levels in these external amenity spaces but should not be prohibited."*

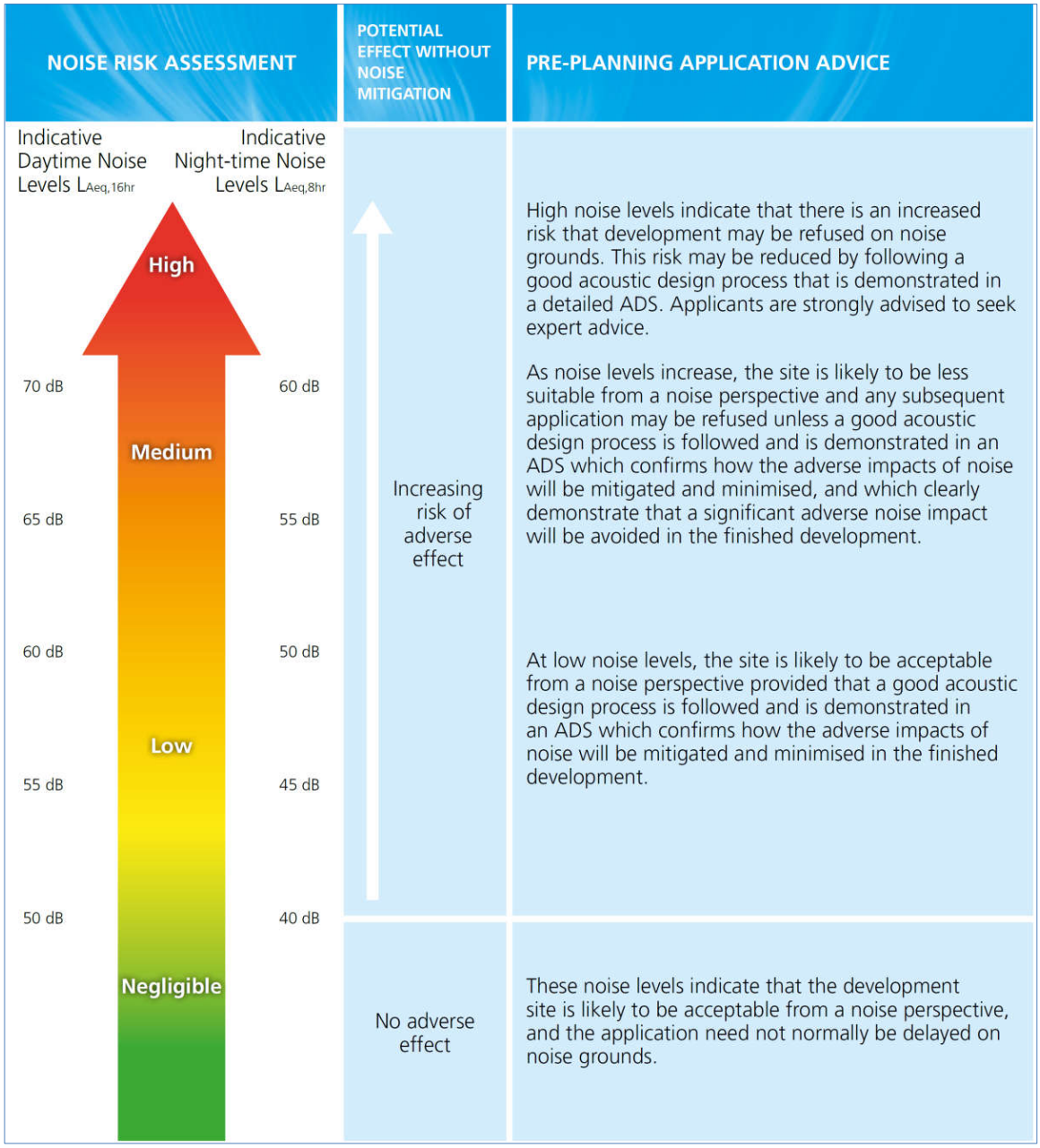
ProPG Residential Amenity

2.5. ProPG provides a methodology for undertaking a preliminary noise assessment of a proposed development site. The Stage 1 ProPG Initial Noise Risk Assessment is based on the prevailing day (07:00-23:00) and night-time (23:00-07:00) noise levels at the site, established through either measurement or prediction, without any new or additional mitigation. This provides an indication of the likely risk of adverse effects from noise were no subsequent mitigation be included as part of the development proposals. It should indicate whether the site is considered to pose a negligible, low, medium or high risk from a noise perspective. It is on this basis that the preliminary noise assessment of the Site will be undertaken.

2.6. Figure 1 has been reproduced from ProPG illustrating the associated noise risks based on the prevailing noise levels. It is important to note that the assessment of noise risk serves to provide an indication as to the initial suitability of the site for residential development and as to what the acoustic issues are likely to be.

[4] BSI. (2014). BS8233:2014 'Guidance on sound insulation and noise reduction for buildings.' BSI.
[5] ANC, IoA, CiEH. (2017). Professional Practice Guidance on Planning & Noise. ProPG: Planning & Noise – New Residential Development. Ingenious Design.

Figure 1: ProPG Stage 1 Initial Site Noise Risk Assessment



Note:

a). Indicative noise levels should be assessed without inclusion of the acoustic effect of any scheme specific noise mitigation measures.

b). Indicative noise levels are the combined free-field noise level from all sources of transport noise and may also include industrial/commercial noise where this is present but is “not dominant”.

c) $L_{Aeq,16h}$ is for daytime 0700-2300, $L_{Aeq,8hr}$ is for night-time 2300-0700.

d) An indication that there may be more than 10 noise events at night (2300-0700) with $L_{Amax,F}$>60dB means the site should not be regarded as negligible

School Amenity – Noise Criteria

2.7. Guidance on the suitability of a site for school use is drawn from Acoustic design of schools: performance standards: Building Bulletin 93[6] and Acoustics of Schools a design guide[7]. These documents issued in 2015 which are collectively referred to as BB93 replace BB93:2003.

2.8. When considering a new site for school use it states, "*For new schools, 60dB $L_{Aeq,30min}$ should be regarded as an upper limit for external noise at the boundary of external areas used for formal and informal outdoor teaching and recreation.*" It goes on to state that "*It may be possible to meet the specified indoor ambient noise levels on sites where external noise levels are as high as 70dB $L_{Aeq,30min}$ but this will require considerable building envelope and sound insulation or screening*."

2.9. The recommended noise level within unoccupied playgrounds, playing fields and other outdoor areas is ≤55dB $L_{Aeq,30min}$ with at least one area suitable for outdoor teaching activities where noise levels are below 50dB $L_{Aeq,30min}$. Acoustic screening can be used to achieve these recommended outdoor noise levels.

2.10. The upper limit for the indoor ambient noise level within teaching classrooms is 35dB $L_{Aeq,30min}$ for new build, allowable up to 40dB where a natural ventilation (or hybrid) ventilation strategy is adopted. Regular discrete noise events from aircrafts or trains should not exceed 60dB $L_{A01,30\ mins}$.

Fixed External Plant & Building Services

2.11. The primary source of guidance in relation to noise which is industrial in nature, such as fixed building services plant, industrial and commercial operations, is provided in BS 4142:2014+A1:2019[8]. BS 4142 states that the potential impact from industrial / commercial sound is based on the level difference between the source, known as the 'specific sound level' ($L_{Aeq,Tr}$), compared with the 'background sound level' ($L_{A90,T}$) that exists in the absence of the source in question. Where the sound contains any acoustic characteristics such as tonality, impulsiveness and intermittency then the specific noise level is adjusted in-line with BS 4142 to determine the 'rating level' ($L_{Ar,Tr}$).

2.12. Typically, the greater the difference between the rating level and the background sound level the greater the potential of an adverse impact. BS 4142 states:

- A difference of +10dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- A difference of +5dB or more is likely to be an indication of an adverse impact, depending on the context; and
- Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

2.13. BS4142 further states; "Adverse impacts include, but are not limited to, annoyance and sleep disturbance. Not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact."

2.14. Context is an important consideration of a BS4142 assessment, and the impact may require modification due to context, which may include:

- The absolute level of sound;

[6] Department of Education. Education Funding Agency. (Feb 2015) Acoustic *design of schools: performance standards: Building Bulletin 93*. DoEd.
[7] IoA, ANC. (Nov 2015). *Acoustics of schools a design guide*. IoA / ANC
[8] British Standard Institute (BSI) (2019) BS4142:2014+A1:2019Methods for rating and assessing industrial and commercial sound. BSI.

- The character and level of the residual sound compared to the character and level of the specific sound; and
- Design measures that secure good internal and / or outdoor acoustic conditions, such as: façade insulation treatment; ventilation and / or cooling techniques which reduce the need to have open windows and acoustic screening.

2.15. With regard to bullet one, BS4142 states that "Where background sound levels and rating levels are low, absolute levels might be as, or more relevant than the margin by which the rating level exceeds the background. This is especially true at night."

2.16. The latest BS4142 does not define 'low' in the context of background sound levels nor rating levels. The 1997 version of BS4142 defined very low background sound levels of being less than about 30dB L_{A90} and low rating levels as being less than about 35dB $L_{Ar,Tr}$. The Technical Note[9] on the standard by Acoustics and Noise Consultants (ANC) suggest that "*similar values would not be unreasonable in the context of BS4142, but that the assessor should make a judgement and justify it where appropriate*."

2.17. BS 4142 standard is not intended to be applied to the assessment of indoor sound levels.

3. Environmental Noise Baseline Conditions

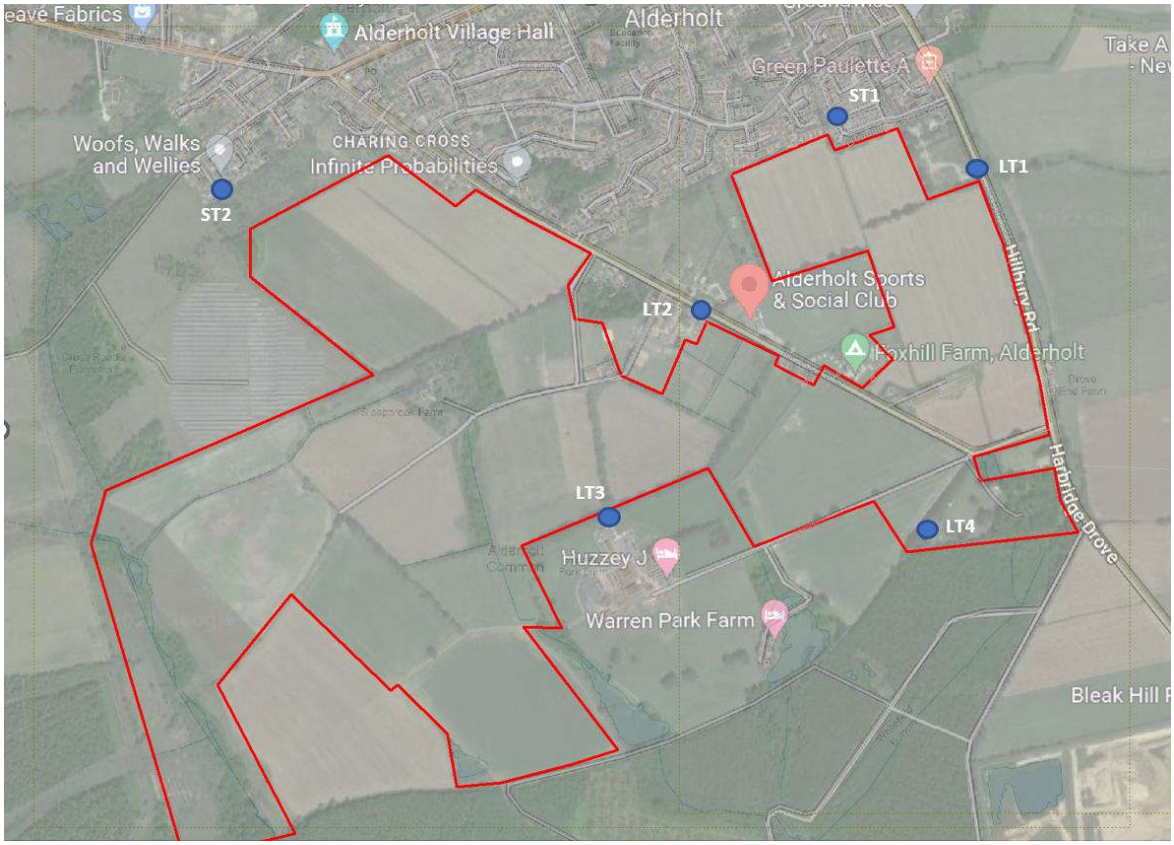
3.1. A baseline noise survey was undertaken from Thursday 7th July to Tuesday 12th July 2022 at four key locations and supplemented by two short-term noise measurements. Environmental Health of Dorset Council was informed in advance of the survey, but they do not provide comment at pre-application stage. Monitoring locations are illustrated in Figure 2 together with the indicative redline application boundary. A description of the noise monitoring locations is presented in Table 2 with a summary of measured noise levels in Table 3.

Table 2: Description of Noise Monitoring Locations

ID	Location	Description
LT1	Hillbury Road (approx. 5m from road edge)	Dominant noise road traffic noise Hillbury Road.
LT2	Ringwood Road (approx. 4m from road edge)	Dominant noise occasional vehicle on Ringwood Road.
LT3	North of Warren House Farm (approx. 245m from Ringwood Road)	No dominant source, general ambient noise sources (distant road traffic noise, occasional birdsong, occasional cows mooing, some occasional farm noise – tractors).
LT4	South eastern boundary (approx. 190m from Ringwood Road)	No dominant source, general ambient noise sources (distant road traffic noise, occasional birdsong, occasional cows mooing, some occasional farm noise – tractors). Noise from Cemex Hamer Warren Quarry Landfill was not noted as discernible during set up and take down of equipment.
ST1	Hillbury Park (approx. 210m from Hillbury Road)	No dominant source, general ambient noise sources (distant road traffic noise, occasional birdsong, occasional dogs barking and general neighbourhood noise).
ST2	Blackwater Grove (approx. 310m from Ringwood Road)	Quiet - no dominant source, general ambient noise (distant road traffic noise, occasional birdsong and general neighbourhood noise).

[9] ANC. (2020). Technical Note BS4142:2014+2019 Version 1.0. Acoustics and Noise Consultants (ANC).

Figure 2: Noise Monitoring Locations (indicative redline)



3.2. Each location exhibited a regular diurnal variation in noise levels with higher levels during the daytime period and lower noise levels during the night-time period when road traffic and human activity subsided. Time history plots of the measured noise levels are presented in Appendix A to this Briefing Note.

3.3. Noise levels at the weekend period were generally comparable to weekday levels. The noise levels measured adjacent to Hillbury Road were the highest followed by those measured adjacent to Ringwood Road. The measured noise levels adjacent to Hillbury Road indicate regular traffic, evidenced by a higher L_{A10} value compared to the L_{Aeq} value. Where traffic is intermittent, such as adjacent to Ringwood Road, the L_{Aeq} is higher than the measured L_{A10} value. This also occurs during the night-time period at both LT1 and LT2.

3.4. At all other locations the measured noise levels were 'quiet' with no dominant source and were noted to comprise of general ambient noise of distant road traffic noise, farm noise (tractors) and birdsong. This is expected given the 'rural' setting. This is also evidence by the low measured background noise levels (L_{A90}) during both the day and night-time periods.

Table 3: Summary of Measured Noise Levels

Location	Period#	$L_{Aeq,T}$ dB[1]	L_{AFmax} dB[2]	$L_{A10,T}$ dB[3]	L_{A90} dB[3] (Mode)	L_{A01} dB[3]
LT1 Hillbuy Road	Day	62	83	60	34 (35)	74
	Night	53	81	37	24 (20)	53
LT2 Ringwood Road	Day	58	83	53	33 (34)	70
	Night	48	79	34	24 (21)	47
LT3 Warren Park Farm	Day	45	68	43	34 (37)	49
	Night	42	66	35	28 (22)	43
LT4 South Eastern Boundary	Day	39	59	40	32 (31)	46
	Night	34	57	33	26 (24)	40
ST1 Hillbury Park	Day	47	78	47	35 (-)	55
ST2 Blackwater Grove	Day	40	60	42	33 (31)	48

Note: [1] Logarithmic average; [2] 90th Percentile; [3] Arithmetic average. # Day period 0700-2300, Night-time period 2300-0700. All values rounded to nearest whole dB

4. Potential Constraints to Development

Residential

4.1. A 3-dimentional CadnaA noise model of the existing Site and surrounds was developed using OS free data[10], LiDAR Defra data[11] and drawings provided by Scott Worsfold Associates LTD Architects. The noise model was calibrated using the measured noise levels and is based on the day and night where the highest overall level was recorded. For example, at LT1, Hillbury Road the overall average daytime noise level was (61.8dB) 62dB $L_{Aeq,16h}$, whereas on Friday and Tuesday the overall measured daytime noise level was 62.6dB $L_{Aeq,16h}$, although marginal it was the latter that was used for calibration of the noise model. During the night-time period the overall average night-time noise level was (53.3dB) 53dB $L_{Aeq,8h}$, whereas on Friday night the measured overall night-time noise level was 54.4dB $L_{Aeq,8h}$. Again, although marginal, it was the latter that was used for the calibration of the noise model.

4.2. Figures 3 and 4 present the day and night-time predicted noise levels and ProPG Level 1 Noise Risk across the site. During the daytime period the noise contour plot is predicted at 1.5 metres above ground level and at night-time at 4 metres above ground level, being generally representative of the location of residents during this these time periods. With regard to residential development, for the majority of the site there is predicted to be negligible noise risk and therefore noise is not indicated to be a material planning consideration, with the exception of areas adjacent to Hillbury Road and Ringwood Road. This is expected given the rural setting.

[10] OS OpenMap - Local | OS Data downloads | OS Data Hub
[11] Defra Survey Data Download

Figure 3: Daytime Noise Levels & ProPG Level 1 Noise Risk Assessment

Figure 4: Night-Time Noise Levels & ProPG Level 1 Noise Risk Assessment

4.3. Adjacent to Hillbury the noise risk is identified as medium reducing to low-medium and adjacent to Ringwood Road the noise risk is identified as low-medium. This indicates that in areas proximate to the roads, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed demonstrating how the potential adverse impacts of noise will be mitigated and minimised in the finished development.

4.4. Based on the measured noise levels and noise modelling, standard thermal double glazing (closed) with through frame trickle vents (open) should allow BS8233 guideline internal ambient noise levels (IANLs) to be satisfied, although depending on set-backs, this may need upgrading for bedrooms, due to the measured L_{Amax} during the night-time period.

4.5. Based on the measured noise levels and noise modelling, the set back to the daytime 55dB $L_{Aeq,16h}$ contour line is around 20-25m from Hillbury Road and approximately 10m from Ringwood Road. External daytime noise levels which don't exceed this level are normally considered suitable for residential amenity.

4.6. In light of the above the acoustic recommendations are as follows:

- Maximise set-back to the build-line adjacent to Hillbury Road and Ringwood Road.
- Locate gardens at the rear of properties adjacent to Hillbury Road and Ringwood Road to maximise screening to external amenity areas.
- Where possible locate bedrooms on rear facing facades away from Hillbury Road and Ringwood Road.

Acoustic Spectrum LT3 Warren Park Farm & LT4 South Eastern Boundary

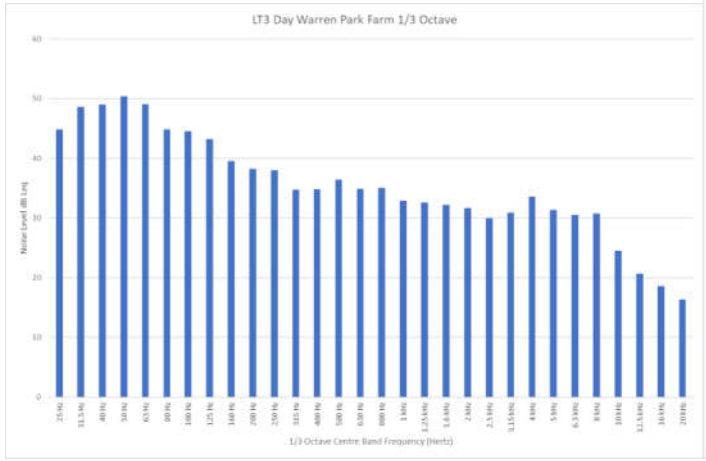
4.7. Bar charts 1 to 4 present the measured day and night-time 1/3 octave measured noise levels at LT3 Warren Park Farm and LT4 South Eastern Boundary nearest to Cemex Hamer Warren Quarry and Landfill. LT4 day bar chart only included data during the operational hours of the quarry and landfill.

4.8. During the daytime period at LT3 Warren Park Farm the noise spectrum does not indicate any tonal elements. During the night-time period a significant tone is indicated at 8kHz but the absolute noise level is low.

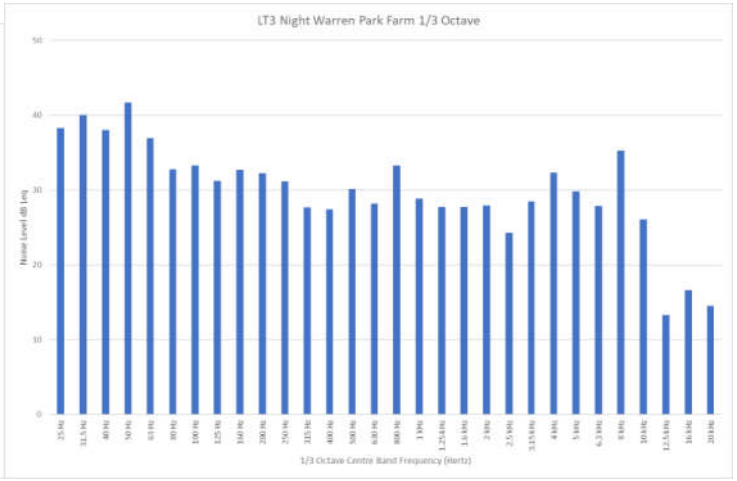
4.9. During the daytime period within the operational hours of Cemex Hamer Warren Quarry and Landfill, the measured noise spectrum at LT4 does not indicate any tonal elements. During the night-time period the noise spectrum illustrates a higher low frequency content between 25Hz-100Hz with another increase at the high frequency between 4kHz-8kHz, but there are no significant tones evident and the absolute noise levels are low.

4.10. Overall the measured noise spectrums together with the absolute noise levels do not indicate any potential constraint to development based on the acoustic spectrums.

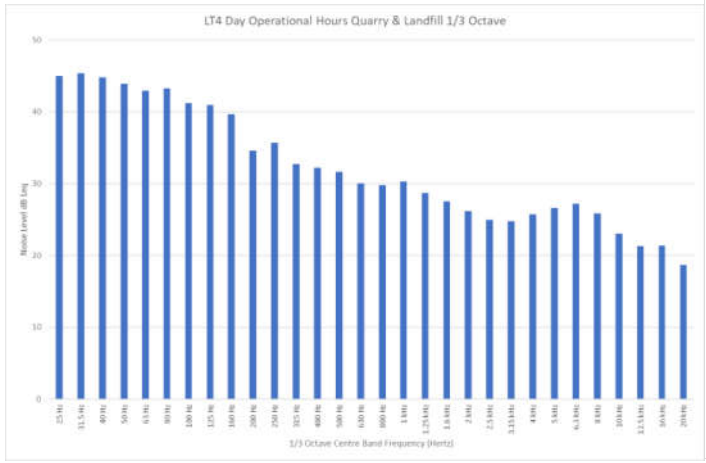
Bar Chart 1: LT3 Day Warren Park Farm



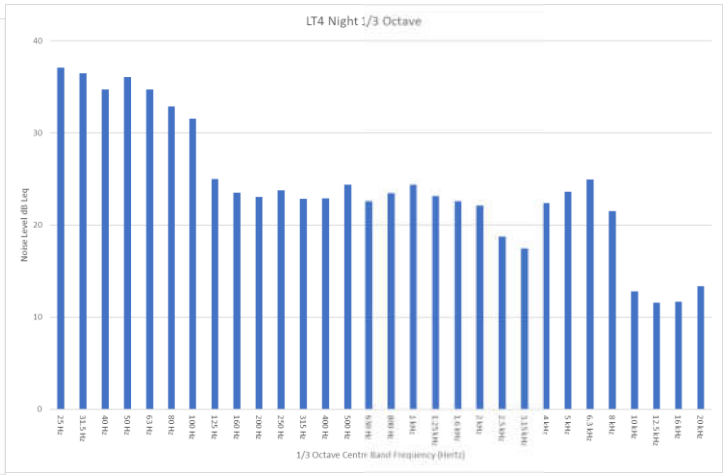
Bar Chart 2: LT3 Night Warren Park Farm



Bar Chart 3: LT4 Day Operation Hours Quarry/Landfill



Bar Chart 4: LT4 Night South Eastern Boundary



School

4.11. Figure 3 illustrates that, with the exception of areas directly adjacent to Hillbury Road and Ringwood Road, the site is suitable for school use without any noise constraints. Prevailing noise levels would allow BB93 internal noise levels to be achieved with open windows together with suitable external noise levels for formal outdoor teaching and playing fields.

Fixed External & Building Services Plant

4.12. Should there be any fixed external and building services plant associated with the development, the plant noise limits would be stringent due to the low prevailing background sound levels, especially during the night-time period where the average and modal values ranged from 20 to 28dB L_{A90}.

4.13. This will be subject to agreement with Dorset Council, but the preliminary recommendation is that noise from fixed external and building services plant should not exceed 35dB $L_{Ar,Tr}$ during the daytime period and 30dB $L_{Ar,Tr}$ during the night-time period at the nearest receptor location. This would safeguard existing and future residential amenity.

5. Masterplan

5.1. Figure 3 presents the draft Masterplan.

Figure 5: Draft Masterplan

5.2. The draft Masterplan illustrates the build line is set-back from Hillbury road together with garden areas predominantly at the rear of buildings thereby screened from road traffic noise. Adjacent to

the rerouted Ringwood Road the set-back to build line is not as pronounced but predominantly garden areas are at the rear of buildings screened from the road.

5.3. The draft Masterplan illustrates a set-back to the build line from Warren Park Farm with gardens at the rear of buildings and therefore screened from any potential noise from the Farm. Although the measured overall noise levels at this location (LT3) indicate a negligible noise risk, the time history plot indicates there are periods where a significant increase in noise occurs which may be discernible against the general low ambient noise levels. On this basis the proposed set-back and strategic location of gardens would provide mitigation against the potential conflict of land-uses thereby ensuring suitable residential amenity without constraints to operations at Warren Park Farm. This statement is based on the measured noise levels from the baseline survey.

6. Summary, Conclusions & Recommendation

6.1. Baseline environmental noise levels at the site and surrounds were established through survey conducted from Thursday 7th July to Tuesday 12th July 2022. For the majority of the site the conditions are 'quiet' and reflective of its rural setting. Within these areas noise is not regarded as a material consideration to development.

6.2. The results of the baseline noise survey were used to develop and calibrate a 3D noise model which was used to generate noise contours across the site and to inform the potential constraints to development.

6.3. The highest noise levels were measured adjacent to Hillbury Road and Ringwood Road. Development within these areas will need to consider noise in their acoustic design. Depending on set-back to the build line, standard thermal double glazing (closed) with through frame trickle vents (open) should allow BS8233 guideline internal ambient noise levels to be satisfied, although bedroom specification may require enhancement due to the measured L_{Amax} noise levels during the night-time period adjacent to the roads.

6.4. The recommendations for residential development are:

- Maximise set-back to the build-line adjacent to Hillbury Road and Ringwood Road.
- Locate gardens at the rear of properties adjacent to Hillbury Road and Ringwood Road to maximise screening to external amenity areas.
- Where possible locate bedrooms on rear facing facades away from Hillbury Road and Ringwood Road.

6.5. With the exception of areas directly adjacent to Hillbury Road and Ringwood Road, the site is suitable for school use without any noise constraints. Prevailing noise levels would allow BB93 internal noise levels to be achieved with open windows together with suitable external noise levels for formal outdoor teaching and playing fields.

6.6. Noise from Cemex Hamer Warren Quarry and Landfill does not appear to be a material consideration to development at the site, based on measured noise levels at LT4. This closest area to the quarry and landfill is currently indicated as SANG and therefore less sensitive than residential housing which is illustrated at greater distance.

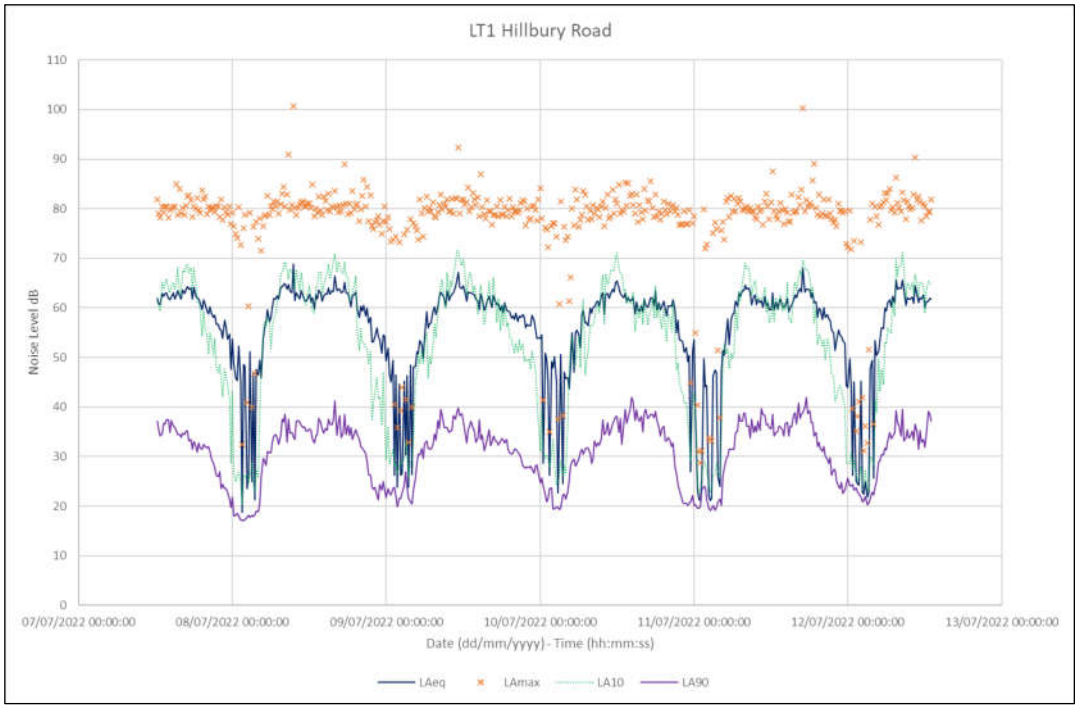
6.7. This will be subject to agreement with Dorset Council, but the preliminary recommendation is that noise from fixed external and building services plant should not exceed 35dB $L_{Ar,Tr}$ during the daytime period and 30dB $L_{Ar,Tr}$ during the night-time period at the nearest receptor location. This would safeguard existing and future residential amenity.

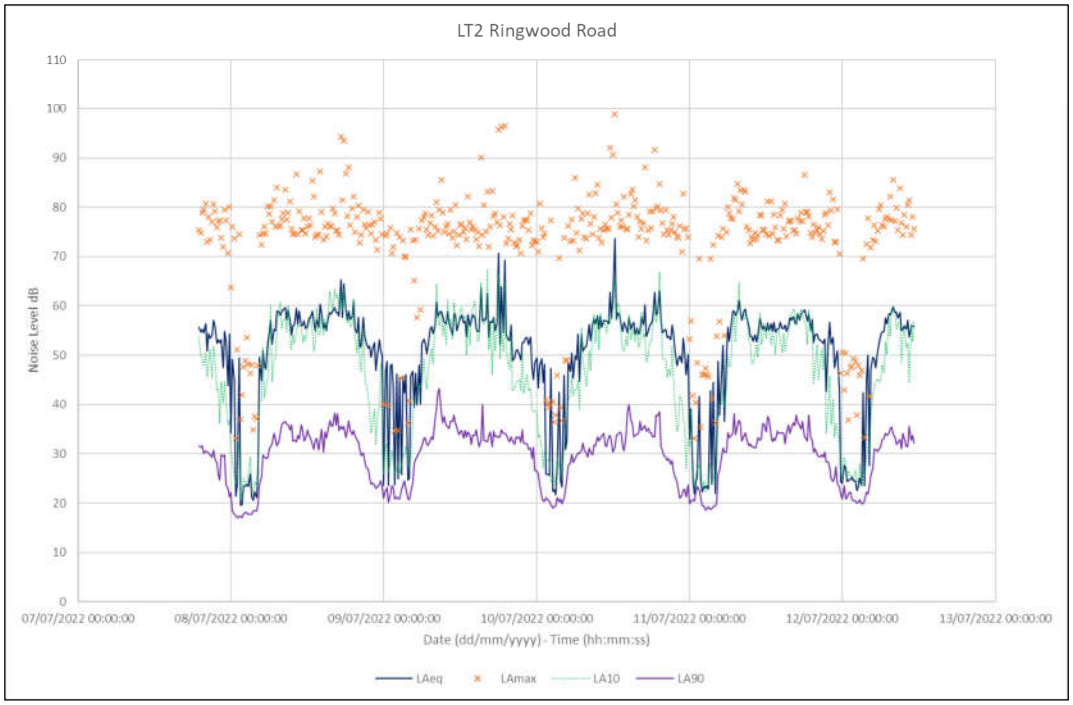
6.8. The prevailing background sound levels (dB LA90) are 'low' which will result in stringent plant noise limits, especially during the night-time period where the average and modal values ranged from 20 to 28dB L_{A90}.

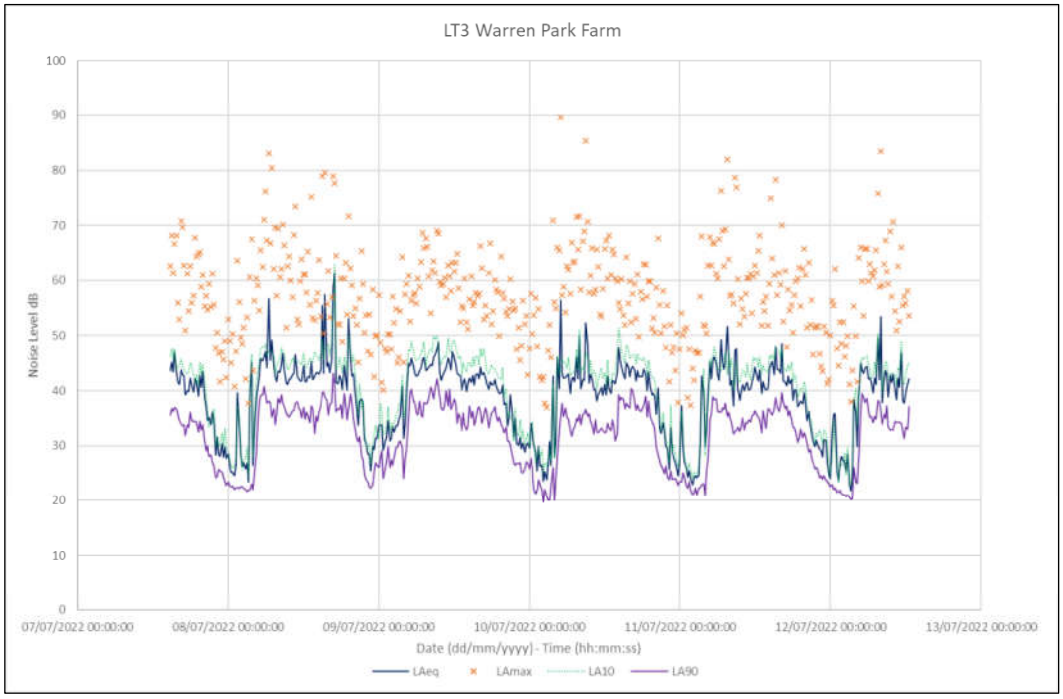
6.9. Preliminary recommendation is that noise from fixed external and building services plant should not exceed 35dB $L_{Ar,Tr}$ during the daytime period and 30dB $L_{Ar,Tr}$ during the night-time period at the nearest receptor location. This would safeguard existing and future residential amenity. This is subject to agreement with Dorset Council.

6.10. The draft Masterplan illustrates mitigation measures such as build line set-back from roads and garden areas at the rear of buildings thereby screened to road traffic noise. This is also illustrated within the area proximate to Warren Park Farm

Appendix A: Time History Plots of Measured Noise Levels






LT3 Warren Park Farm
Noise Level dB
100
90
80
70
60
50
40
30
20
10
0
07/07/2022 00:00:00
08/07/2022 00:00:00
09/07/2022 00:00:00
10/07/2022 00:00:00
11/07/2022 00:00:00
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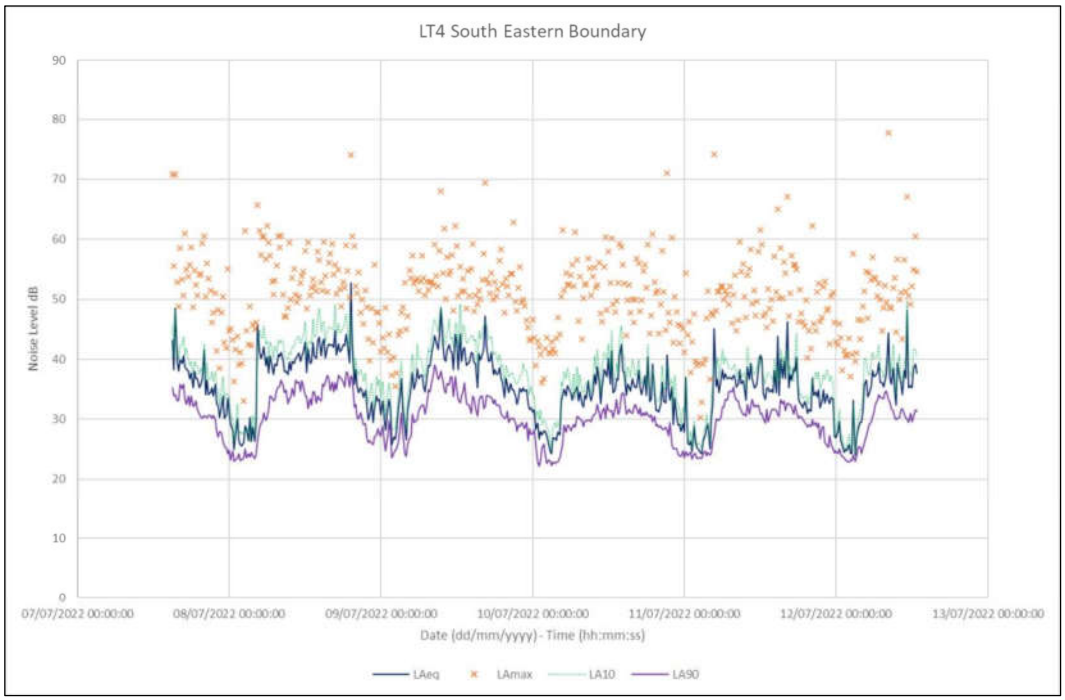
LAeq
LAmax
LA10
LA90


LT4 South Eastern Boundary
Noise Level dB
90
80
70
60
50
40
30
20
10
0
07/07/2022 00:00:00
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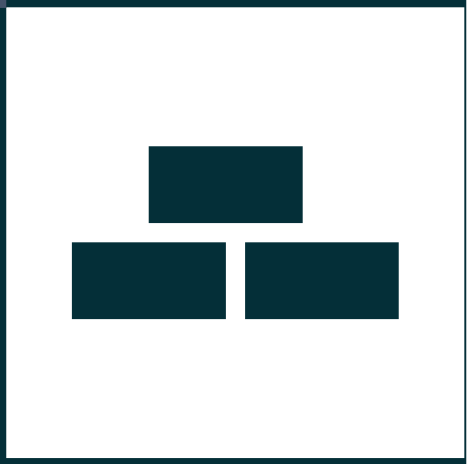
09/07/2022 00:00:00
10/07/2022 00:00:00
11/07/2022 00:00:00
12/07/2022 00:00:00
13/07/2022 00:00:00
Date (dd/mm/yyyy) - Time (hh:mm:ss)
LAeq
LAmax
LA10
LA90

Appendix 3

Draft Preliminary Risk Assessment Report – (on separate link due to size)



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Environmental Impact Assessment Scoping Report - Alderholt Meadows, Fordingbridge

Final Audit Report 2022-11-17

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