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**RICHBOROUGH ESTATES & LONE STAR LAND LTD**

**LAND TO THE NORTH OF CAMP ROAD, HEYFORD PARK**

**ENVIRONMENTAL STATEMENT**

**MARCH 2022**

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## 1 INTRODUCTION

- 1.1.1 This Environmental Statement (ES) has been prepared on behalf of Richborough Estates & Lone Star Land Ltd (the Applicant) and is intended to support an outline planning application, with all matters reserved except for the principal points of access, for the development of 230 dwellings and associated infrastructure, landscape and biodiversity enhancements (hereafter referred to as the 'Proposed Development') on land north of Camp Road, Heyford Park (hereafter referred to as the 'Site'). The Site is located within the administrative area of Cherwell District Council (CDC).
- 1.1.2 The Site is centred at approximately National Grid Reference (NGR) SP 52121 25927 and is located in Heyford Park, to the east of Upper Heyford, as illustrated on the Location Plan included at Appendix 1.1.
- 1.1.3 The Site covers an irregular area of land measuring 11.68ha and is a greenfield site located on the southern and eastern edge of the former RAF Upper Heyford base.
- 1.1.4 The Proposed Development is illustrated on the Parameter Plans and Illustrative Masterplan provided as Appendices 1.2 and 1.3 respectively.
- 1.1.5 This ES reports the findings of an Environmental Impact Assessment (EIA) that has been undertaken in accordance with the criteria set out in the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') in respect of the Proposed Development.
- 1.1.6 A Non-Technical Summary (NTS) has been prepared as a separate, stand-alone document that provides a summary of this ES in non-technical language.



## **2 APPROACH AND SCOPE**

### **2.1 Introduction**

2.1.1 Wardell Armstrong LLP is committed to delivery of effective practice in EIA. As a registrant of the Institute of Environmental Management and Assessment's (IEMA) EIA Quality Mark, Wardell Armstrong's EIA practice is independently reviewed in accordance with best practice.

2.1.2 This ES has been prepared with regards to the requirements of the EIA Regulations, which apply to the Proposed Development, as set out below.

### **2.2 Planning Policy**

2.2.1 The main policy documents of relevance to this ES include the National Planning Policy Framework (NPPF) (2021) together with CDC's current development plan.

2.2.2 Policies relevant to the issues contained in this ES are summarised below, with further details set out within each of the discrete technical chapters. Further details of the relevant planning policies (to this application) are provided within the accompanying Planning Statement.

#### ***National Planning Policy Framework***

2.2.3 The NPPF was originally published in March 2012 and replaced all Planning Policy Statements and Planning Policy Guidance Notes. The current version comprises the July 2021 NPPF. The National Planning Practice Guidance (NPPG) website was first published in March 2014 and update regularly thereafter in order to assist local authorities with interpreting and applying the NPPF, locally. The NPPG should be read in conjunction with the 2021 NPPF.

2.2.4 Each technical chapter within the ES details the relevant aspects of the NPPF and NPPG in relation to the Proposed Development and topic area under consideration.

#### ***Local Planning Policy***

2.2.5 The Cherwell Local Plan 2011-2031 was adopted in July 2015 and comprises the overarching local policy document for the district and will guide the area's development until 2031.

2.2.6 As well as the CLP, CDC's wider Development Plan also consists of a suite of supporting Supplementary Planning Documents.



- 2.2.7 CDC's Local Plan looks to address the need for housing whilst safeguarding and improving the environment. Under Policy Villages 5, the site of the former RAF Upper Heyford is allocated for the provision of approximately 1,600 (with 761 dwellings being permitted at the time of writing of the CLP). The Site is located adjacent to the east of the allocation boundary identified in Policy Villages 5.
- 2.2.8 The Mid-Cherwell Neighbourhood Plan (MCNP) recognises the importance of key strategic Local Plan policies such as Policy Villages 5 which has a direct impact on the MCNP area. The MCNP allows the local community to define both general and specific planning policies for the development and use of land in the Mid-Cherwell neighbourhood area.
- 2.2.9 Each technical chapter within this ES details the relevant local planning policies in relation to the Proposed Development and topic area under consideration.

## **2.3 Requirement for an EIA**

### ***Statutory Requirement for an EIA***

- 2.3.1 A Request for a Screening Opinion (Appendix 2.1) was submitted to CDC in December 2021.
- 2.3.2 The Proposed Development falls under Schedule 2, Section 10(b) Urban development projects (infrastructure projects). Under this category, the threshold criteria for which an EIA may be required is a project for which:
- The development includes more than 1 hectare of urban development which is not dwelling house development; or
  - The development includes more than 150 dwellings; or
  - The overall area of the development exceeds 5 hectares.
- 2.3.3 With regard to the selection criteria in Schedule 3 in the Regulations and the associated guidance including screening indicative criteria and thresholds; the development was judged to be EIA development by CDC due to the potential cumulative effect of the Proposed Development with the development proposed within Policy Villages 5. CDC adopted their Screening Opinion on 7<sup>th</sup> January 2022 (Appendix 2.2) confirming that they consider that the Proposed Development comprises EIA Development and would need to be supported by an ES. The Screening Opinion acknowledges that the Proposed Development would be unlikely to result in significant environmental effects in isolation.



2.3.4 It is not considered likely that the Proposed Development will result in significant effects, either in isolation or in cumulation with other development in the area. As such, a Screening Direction was requested on 8<sup>th</sup> February 2022 from the Secretary of State under Regulation 5(6) of the EIA Regulations.

2.3.5 At the time of writing a Screening Direction has not yet been received. However, in the interests of expediency an EIA has been undertaken for the Proposed Development, considering the potential cumulative effects in combination with the development planned through Policy Villages 5 within the Cherwell Local Plan 2011 – 2031 Part 1, and reported within this ES.

### ***Specific Requirements of the EIA***

2.3.6 Schedule 4 of the EIA Regulations sets out specific requirements for the content of an ES. Whilst every ES should provide a full and factual description of the effect(s) of a given development, Schedule 4 places an emphasis upon identifying ‘likely significant effects’. Other effects that are not significant need only a brief reference within the ES to indicate that their potential significance has been considered.

2.3.7 Schedule 4 states that an ES should provide a detailed description of the development, and an outline of the reasonable alternatives considered by the Applicant. The outline of alternatives should include an indication of the main reasons for the choices made, taking into account the environmental effects.

2.3.8 Schedule 4 states that a non-technical summary (NTS) of the ES should be provided. To this end, this ES is accompanied by a separate stand-alone NTS produced using non-technical language.

2.3.9 In accordance with Schedule 4, likely significant effects of the development on the environment should be considered, in particular effects on: population, human health, biodiversity (e.g. fauna and flora), land, soil, water, air, climate, material assets, cultural heritage, landscape, and the interrelationship between the above factors.

## **2.4 Scope of the ES**

2.4.1 CDC’s Screening Opinion states that *“based on the scale of the development and the fact that the Site is not within an overly sensitive area, the Local Planning Authority would agree that the proposal, if viewed independently, would be unlikely to have significant impacts”*. As such, the requirement for EIA relies solely on potential cumulative effects.





- 2.4.2 CDC’s Screening Opinion requested the EIA consider potentially significant cumulative environmental effects in combination with developments which form part of the Cherwell Local Plan 2011-2031, namely Policy Villages 5 for the development of a settlement of approximately 1,600 dwellings and supporting infrastructure at Former RAF Upper Heyford.
- 2.4.3 Due to time constraints, a formal Scoping Opinion Request has not been submitted to CDC. However, the Screening Opinion provided detailed information on the likely significant effects of the Proposed Development and as such the scope of the EIA has been based upon this, considered potential cumulative effects only, as set out above. CDC were informed of this proposed approach and the proposed scope of the ES in February 2022 (Appendix 2.3).
- 2.4.4 In accordance with the Screening Opinion, Table 2.1 below sets out the topics considered within this ES, and the authors of each technical chapter of this ES.

| Table 2.1: Scope of the EIA |                                 |                |
|-----------------------------|---------------------------------|----------------|
| ES Chapter No.              | Topic                           | Author         |
| 6                           | Traffic                         | Hub Transport  |
| 7                           | Ecology                         | RammSanderson  |
| 8                           | Landscape & Visual              | Tyler Grange   |
| 9                           | Cultural Heritage & Archaeology | RPS Group      |
| 10                          | Water Resources                 | BWB Consulting |

- 2.4.5 In accordance with the EIA Regulations the EIA has been undertaken, and the ES prepared, by ‘competent experts’. The qualifications and experience of the team involved in the preparation of this ES is set out within the Statement of Expertise, included at the end of this ES.

**Topics Outside the Scope of the EIA**

- 2.4.6 As stated above, the EIA has been prepared in relation to potentially significant cumulative effects only. It is not considered likely that the Proposed Development in isolation will result in significant effects on the environment and as such, in-isolation environmental effects have been scoped out of further consideration within this ES.
- 2.4.7 Further to the above, specific chapters have not been included for the following topics, as it is considered that these will be addressed sufficiently elsewhere within the ES or planning application, and it has been determined that the Proposed Development is unlikely to result in significant environmental effects relevant to these topics.



### ***Air Quality***

2.4.8 An Air Quality Assessment (AQA) has been undertaken and it was determined that the development is not predicted to have any significant effect upon air quality. The AQA has been included as a standalone document within the planning application.

### ***Flood Risk and Drainage***

2.4.9 A Flood Risk Assessment (FRA) has been undertaken by BWB Consulting.

2.4.10 It was found that the watercourse located to the west of the Site is not included in the Environment Agency's Flood Map for Planning. In the absence of this EA surface water flood risk mapping was used to form the flood extent of this watercourse, and the mapping demonstrated that surface water flooding associated with this watercourse does not encroach upon the areas proposed for development.

2.4.11 Furthermore, the mapping demonstrates that the majority of the of the land proposed for development is at a very low risk of surface water flooding.

2.4.12 The FRA has been included as a standalone document within the planning application.

### ***Noise***

2.4.13 Standard measures in the form of a Construction Management Plan and Construction Travel Plan will be utilised during construction to ensure that noise and vibration are mitigated to ensure minimal disturbance is caused. It is not considered that the traffic movements associated with the Proposed Development during operation are sufficient to result in significant environmental effects.

2.4.14 In relation to operational noise, a Noise Impact Assessment has been undertaken by BWB Consulting.

2.4.15 The assessment draws on the results of a baseline noise survey undertaken at the Site and has been undertaken based on relevant standards and guidance documents, following consultation with CDC.

2.4.16 The assessment indicates that the upper limit guideline value from BS 8233 is predicted to be achieved in all rear gardens, without mitigation. Internal noise levels have been predicted in accordance with the calculation methodologies from BS 8233 and it has been demonstrated that with the incorporation of standard double glazing and trickle ventilators, the desirable internal guideline values from BS 8233 can be achieved.



2.4.17 The Noise Impact Assessment has been included as a standalone document within the planning application.

2.4.18 Based on the above, the proposals are not likely to result in significant adverse effects in relation to noise.

#### ***Ground Conditions and Contamination***

2.4.19 The planning application will be accompanied by a Phase I Site Investigation Report, however there are no known contamination risks at the Site. Therefore, Ground Conditions and Contamination has been scoped out of the ES.

#### ***Human Health***

2.4.20 The 2021 Health Profile for Cherwell outlines the health of people in the borough is better than the England average. The majority of health indicators for Cherwell are above or close to the England average, although there are several indicators which fall below the England national average. The categories in which significantly worse indicators are seen are Admissions for injuries under 5 years old, under 15 years old, and 15-24 years old, the incidence of breast cancer, and the incidence of prostate cancer. However, given the nature of the Proposed Development it is not considered likely to exacerbate these indicators.

2.4.21 The Proposed Development will include a proportion of affordable housing which will be of benefit to the local population by increasing the availability of affordable housing in the area.

2.4.22 The construction of the Proposed Development will create employment opportunities in the short to medium term. It is considered that the increased employment opportunities will have a beneficial effect on the local population.

2.4.23 The Proposed Development will also increase the provision of open space in the area, allowing local residents to live a healthy and active lifestyle.

2.4.24 In conclusion, it is considered that the proposals will help people to live healthy lives in a healthy place. Therefore, the proposals are not likely to result in significant adverse effects on population and human health.

#### ***Climate Change***

2.4.25 The EIA Regulations state that an ES should consider potential climate related effects. It is considered that these comprise the impact of the Proposed Development on the



climate (i.e. greenhouse gas (GHG) emissions) and the impact of climate change on the Proposed Development.

2.4.26 As for any development, the Proposed Development will result in GHG emissions and these are unavoidable. It is not considered that the GHG emissions of the Proposed Development will be significantly different from other proposals of a similar nature and scale as the Proposed Development will be constructed, at a minimum, in accordance with relevant regulations, with betterment of Building Regulations being achieved where possible. In addition, the proposals will meet the requirements of policies that aim to reduce GHG emissions, through the use of sustainable design and other relevant measures.

2.4.27 The Proposed Development could potentially be affected by the impact of climate change, including increased risk of extreme weather events and flooding. However, resilience to extreme weather events will be incorporated within the design process, and the Proposed Development will be constructed in accordance with relevant regulations and guidance. In addition, a Flood Risk Assessment has been undertaken which considered the risk of potential extreme flood events as a result of climate change.

2.4.28 In conclusion, it is not considered that the Proposed Development is likely to result in significant adverse effects on climate and it is considered that the risk of the Proposed Development being affected by climate change is being addressed sufficiently elsewhere within the ES and planning application.

#### ***Risk of Major Accidents and Disasters***

2.4.29 The 2017 Regulations state that an EIA should consider the vulnerability of the development to risks of major accidents and/or disasters, relevant to the project concerned.

2.4.30 'Risk' can be defined as the 'likelihood of an impact occurring, combined with effect or consequence(s) of the impact on a receptor, if it does occur'; a 'Major Accident' can be defined as 'events that threaten immediate or delayed serious damage to human health, welfare and/or the environment'; and a 'Disaster' can be defined as 'naturally occurring extreme weather events (e.g. storm, flood, temperature) or ground-related hazard events (e.g. subsidence, landslide, earthquake) with the potential to cause an event or situation. Disaster and natural disaster are often used interchangeably.



2.4.31 Owing to the nature of the Proposed Development, it is considered that the likelihood of it resulting in/causing an event to occur that threatens (either immediate or delayed) serious damage to human health, welfare and/or the environment is low. The vulnerability of the Proposed Development to naturally occurring extreme weather events (i.e. flooding, storms and extreme temperatures beyond that of weather events experienced in the UK) and/or ground related hazard events (e.g. subsidence, earthquakes and ground contamination) that could both lead to an event or situation is very low. Table 2.2 below sets out the accidents and disasters of relevance to the Proposed Development (based on the location of the Site and proposed land uses), and how these will be mitigated.

| <b>Table 2.2: Consideration of major accidents and/or disasters to the Proposed Development</b> |   |
|---|---|
| <b>Major accident/disaster type</b>   | <b>Description</b>  |
| Extreme weather events  | It is considered unlikely that the Proposed Development location is susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems. There is the possibility that the buildings within the Proposed Development could be damaged by extreme weather events (exacerbated by climate change), including storms, snow, ice and heatwaves. However, resilience to extreme weather events will be incorporated within the individual building design process, and all buildings will be constructed in accordance with relevant building and fire regulations. |
| Flooding  | The Site is located within Flood Zone 1, however the reduction in permeable area as a result of the Proposed Development could lead to an increased risk of flooding. However, a Flood Risk Assessment has been undertaken and measures have been identified which will be incorporated within the Proposed Development to ensure flood risk within the Site or surrounding area is not increased. The mitigation will be designed to accommodate potential extreme flood events as a result of climate change.   |
| Electricity, gas, water supply or sewerage system failures                                      | Future residents and users of the Proposed Development could be at risk of utilities system failures. However, it is assumed that this risk will be mitigated through standard protocols implemented by the utilities providers, including emergency call and response procedures.  |
| Ground contamination / Pollution incidents  | The planning application will be accompanied by a Phase I Site Investigation Report, however there are no known contamination risks at the Site.  |
| Transport accidents   | The Proposed Development will affect traffic flows on the local highway network, which could increase the risk of transport accidents. However, a Transport Assessment and Transport ES Chapter have been prepared (see   |



| Table 2.2: Consideration of major accidents and/or disasters to the Proposed Development |   |
|--|---|
| Major accident/disaster type   | Description   |
|  | Chapter 6), assessing the potential risk and identifying measures to increase safety where necessary. |

## 2.5 Assessment Methodology

- 2.5.1 The technical assessments provide a detailed examination of the key cumulative environmental impacts associated with the Proposed Development for each topic area included within the ES, as set out above.
- 2.5.2 Baseline data was obtained from published information sources, non-confidential data supplied by the various organisations consulted, previous site work undertaken by others and additional fieldwork. The methodologies for predicting the nature, extent, magnitude and significance of environmental effects vary according the topic area being considered. As such, the methodology for predicting impacts is included within each assessment chapter.
- 2.5.3 Quantitative methods make reference to thresholds and indicative criteria set out within industry regulations and guidelines (where available). Where quantitative criteria are not available or not appropriate, qualitative methods have been adopted, relying on previous experience and professional judgement.
- 2.5.4 The objective of each assessment is to identify the ‘magnitude of change’ to the existing baseline environment arising as a result of the Proposed Development in combination with the development of Policy Villages 5. The level of effect is a function of impact magnitude and the importance/sensitivity of the resources or receptors. Whilst the methods for determining the level of an effect can vary according to the environmental discipline, this underlying principle remains the same.
- 2.5.5 The assessment of the level of effect makes a judgement of the severity of the effect on a particular environmental receptor, taking into consideration all or a combination of the following factors:
- Geographical extent;
  - Rate of change;
  - Reversibility of the effect;
  - Probability of the effect;
  - Duration of the effect;



- Size and magnitude of the effect; and
- Sensitivity/importance/substitutability of the receptor.

2.5.6 Criteria is then used to determine whether an effect is ‘significant’ or ‘not significant’. This criteria is set out within each chapter.

2.5.7 The criteria for the assessment of effects that has been adopted within each assessment chapter is in accordance with current published guidance specific to the discipline to which it relates. The published guidance documentation used is referenced within each chapter. Where published guidance or criteria is unavailable, the chosen method for assessing impacts and effect significance is explained in detail to ensure transparency.

2.5.8 Where likely significant adverse effects have been identified, mitigation measures have been proposed in order to avoid, reduce or remove such effects. The mitigation measures include refinements to the scheme design and/or the introduction of best practice methodology and specific safeguards. As an EIA is an iterative process, the assessment methodology was used to refine the mitigation measures and then adjusted to take them in to account during the assessment.

2.5.9 Via the incorporation of appropriate mitigation measures, identified adverse effects have been reduced to the lowest practicable level, consistent with the overall objectives of the Proposed Development. Any residual effects, during either construction and/or operation are identified and the significance of these residual effects assessed.

## **2.6 Cumulative Schemes**

2.6.1 Schedule 4 of the EIA Regulations states that an ES must include a description of the likely significant effects of the Proposed Development, which for the Proposed Development (as set out above) comprise cumulative effect only.

2.6.2 Within the assessment of cumulative impacts, there are two aspects to consider:

- Intra-cumulative effects (i.e. those occurring as a result of the Proposed Development in isolation); and
- Inter-cumulative effects (i.e. those occurring as a result of the Proposed Development in combination with other development).

2.6.3 However, as it is not likely that the Proposed Development would result in significant effects in isolation, it is not considered likely that significant intra-cumulative effects



would occur. As such these are scoped out of further consideration within this ES and inter-cumulative effects only are considered.

**Inter-cumulative Effects**

2.6.4 The schemes to be considered comprise Policy Villages 5, as referenced within the Screening Opinion, with reference to the existing pending developments within or adjacent to it as set out below within Table 2.3. CDC were informed of schemes to be considered in the Screening Opinion Response provided in February 2022 (Appendix 2.3).

| Table 2.3 Existing Pending Developments            |   |  |
|--|---|--|
| Scheme   | Description   | Status                                   |
| Policy Villages 5- Former RAF Upper Heyford        | The site will provide a settlement of approximately 1,600 dwellings (in addition to the 761 dwellings (net) already permitted) and necessary supporting infrastructure, including primary and secondary education provision and appropriate community, recreational and employment opportunities, enabling environmental improvements and the heritage interest of the site as a military base with Cold War associations to be conserved, compatible with achieving a satisfactory living environment. A comprehensive integrated approach will be expected. | Allocation                               |
| Heyford Park (Ref: 18/00825/HYBRID)                | A hybrid application consisting of the demolition of buildings and structures as listed in Schedule 1, outline planning permission for the erection of up; 1,175 dwellings, 60 close care dwellings, retail space, a new medical centre, employment buildings, a new school building, community use buildings and indoor sports space.  | Validated: 11 <sup>th</sup> May 2018     |
| Heyford Park, South of Camp Road (Ref: 16/02446/F) | Erection of 296 residential dwellings (C3) comprising a mix of open market and affordable housing, together with associated works including provision of new and amended vehicular and pedestrian accesses, public open space,  | Validated: 7 <sup>th</sup> December 2016 |





| <b>Table 2.3 Existing Pending Developments</b>                |  |  |
|---|--|--|
| <b>Scheme</b>   | <b>Description</b>   | <b>Status</b>                              |
|   | landscaping, utilities and infrastructure, and demolition of existing built structures and site clearance works.   |  |
| Land East of Larsen Road<br>Heyford Park (Ref:<br>15/01357/F) | Erection of 89 dwellings, creation of new access arrangement from Camp Road, creation of open space, hard and soft landscaping and associated ancillary works and infrastructure | Validated: 19 <sup>th</sup><br>August 2015 |



### **3 SITE DESCRIPTION**

#### **3.1 Introduction**

3.1.1 This Chapter of the ES provides an overview of the Site location and a description of the Site and the surrounding area. The technical assessments set out in Chapter 6 to 10 each contain a detailed description of the baseline environmental conditions of the Site and its surroundings, relevant to the scope and nature of the topic area under consideration.

#### **3.2 Site Location**

3.2.1 The Site is centred at approximately National Grid Reference SP 52121 25927 and comprises land located in Heyford Park, to the east of Upper Heyford. More specifically the Site lies to north of Camp Road, at the Junction of Camp Road and Chilgrove Drive, to the southeast of the former RAF airfield at Upper Heyford. It falls within the administrative authority of Cherwell District Council (CDC). The location of the Site and the application boundary is located in Appendix 1.1.

#### **3.3 Site Description**

3.3.1 The Site covers an irregular area of land measuring 11.68ha and comprises two agricultural fields and a linear strip of land which follows a water course. The linear strip of land is located at the western extent of the Site and follows a north south orientation. It contains ponds and is surrounded by small areas of woodland, scattered trees, and managed grassland. The Site is bound by:

- An agricultural field and horse paddocks to the west;
- Letchmere Farm and its associated landscaped gardens to the northwest;
- RAF airfield with Nose Hangars to the northeast;
- Chilgrove Drive to the east; and
- Camp Road to the South.

3.3.2 Four ponds are located within the western extent of the Site, within the area of the watercourse.

3.3.3 There is no public access to the Site via public rights of way. Current vehicular access to the Site is at the northwest of the Site via an access track from Letchmere Farm, located on Trenchard Circle.



3.3.4 The Site itself is relatively flat, with a gentle slope down to the west of the Site (towards the land where the watercourse lies) from the centre. Elevation across the Site is within the range of c.116m and c.121m Above Ordnance Datum (AOD).

### 3.4 Wider Site Context

3.4.1 The Site is located on the settlement edge of Heyford Park, to the east of Upper Heyford. As such, land to the west of the Site predominantly comprises the residential areas and commercial uses within the settlement.

3.4.2 The remaining land surrounding the Site and the RAF base is comprised of open countryside with scattered settlements and farmsteads.

3.4.3 The Site is located 10km northwest of Bicester and 27km north of Oxford, whilst Junction 10 of the M40 is located approximately 4 miles away.

3.4.4 The immediate area surrounding the site contains several planning applications, with these being as follows:

- Heyford Park (Reference: 18/00825/HYBRID) to the north and west of the Site;
- Heyford Park, South of Camp Road (Reference: 16/02446/F) to the south of the Site; and
- Land East of Larsen Road, Heyford Park (Reference: 15/01357/F) to the east of the Site.

### 3.5 Environmental Designations

3.5.1 There is currently no public access to the Site, with the closest Public Rights of Way being a pedestrian footway to the southeast of the Site beyond Camp Road and a bridleway along Chilgrove Drive to the east of the Proposed Development Site.

3.5.2 There are no designated heritage assets within the Site, however, a number of listed buildings (Grade II) and scheduled monuments are located in the RAF Heyford site. RAF Heyford itself was designated a Conversation Area following the production of a Conservation Plan in 2005 which acknowledged the site as an important Cold War landscape type.

3.5.3 Whilst there are no statutory designated sites of nature conservation interest located within or immediately adjacent to the Site, there are a number located within the wider area such as the Ardley Trackways Site of Special Scientific Interest (SSSI). The Site also lies within Impact Risk Zones (IRZ) for Bestmoor SSSI and Ardley Cutting and Quarry SSSI.



## 4 THE PROPOSED DEVELOPMENT

### 4.1 Introduction

4.1.1 This Chapter sets out a description of the Proposed Development, a summary of the design process and indicative details of the development timescales.

4.1.2 The description of development for planning purposes is as follows:

**Outline planning application for the erection of up to 230 dwellings, creation of new vehicular access from Camp Road and all associated works.**

### 4.2 Development Description

4.2.1 The Proposed Development is a landscape-led wholly residential development providing up to 230 new homes across a mix of dwellings and apartments in both market and affordable tenures. The layout has been designed around landscaping, green spaces, linkages and the wet corridor running north-south along the entire western edge of the Site. Residential development is focused in central and eastern parts of the Site, with access roads running north from Camp Road.

4.2.2 35% of the Proposed Development will comprise affordable housing.

4.2.3 As the application is being submitted in outline, at this stage the exact height of the dwellings is unknown, however it is expected that the dwellings will be either 2, 2.5, or 3 storeys. It is proposed that the Site will contain a mixture of densities of 40dph and 45dph.

4.2.4 Primary vehicular and pedestrian access to the Site will be located off Camp Road. Further pedestrian access will be located off Chilgrove Drive at the east of the Site. Access to the proposed dwellings will be via several primary and secondary roads, whilst shared surfaces, linked private drives and private lanes will be put in place towards the edges of the development. The proposals also include the provision of street tree planting across the Site.

4.2.5 It is proposed that the ponds and watercourses within the northwest extent of the Site will be retained as part of the Proposed Development, being enhanced by the provision of a wet corridor open space.

4.2.6 The Proposed Development will include Green Infrastructure, as set out on the Parameters Plans at Appendix 1.2. The main area of open space is proposed to be in the west of the Site where the retention of existing ponds will create a 'wet corridor', providing significant recreational benefits to the wider community. Further public



open space will be provided in the form of two proposed play spaces (LEAP and LAP) within the Site.

4.2.7 Sustainable drainage systems (SuDS) will also be incorporated within the Site.

4.2.8 The Site's Green Infrastructure will be further supplemented through the planting of new trees and hedgerows.

### **4.3 Development Parameters**

4.3.1 As an outline application, full details are not submitted at this stage of planning and design. Rather, approval is sought for the principle of development and the primary means of access within a set of parameters. As such, the EIA has been based on the Parameters Plans included at Appendix 1.2, which include the following:

- An application area of 11.68ha;
- Up to 230 dwellings;
- Public open space;
- Landscaping and Sustainable Drainage Systems (SuDS);
- Vehicular access from Camp Road;
- Residential Development; and
- Green Infrastructure (including open space).

### **4.4 Mitigation and Design**

4.4.1 The EIA process has served to shape and refine the design proposals by identifying any potential adverse effects, issues or constraints that could be effectively 'designed out' of the proposals at an early stage. The design parameters have evolved in response to external engagement and public consultation feedback and the results of technical assessments. The design proposals have undergone various iterations to either avoid or incorporate measures to mitigate for adverse environmental impacts, or (where possible) to enhance the environmental benefits of the Proposed Development.

### **4.5 Indicative Development Timescales**

4.5.1 Subject to outline planning permission being granted in mid-late 2022 it is anticipated that construction of the Proposed Development could commence in early-mid 2023. It is predicted that the Proposed Development will be constructed at a rate of 40 dwellings per annum ensuring the vast majority of proposed housing will be delivered within the five year period from 2022 – 2027.



## 5 CONSIDERATION OF ALTERNATIVES

### 5.1 Introduction

5.1.1 Schedule 4 of the EIA Regulations state that an ES should include:

*“A description of the reasonable alternatives (for example in terms of development design, technology, location, size, and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects”.*

### 5.2 ‘Do Nothing’ Alternative

5.2.1 The first alternative considered is the ‘do nothing’ scenario. This scenario is to assume that the Proposed Development would not be built and considers how the Site would evolve without the Proposed Development in place.

5.2.2 The Site covers an irregular area of land measuring 11.68ha and is comprised of two agricultural fields and a linear strip of land which follows a water course. Without the Proposed Development, it is considered likely that the Site would remain in its current state. Whilst this option would eliminate potential adverse environmental impacts as a result of the Proposed Development, it would not contribute to the housing and affordable housing targets that have been identified within Cherwell District.

5.2.3 The need for new residential housing in Cherwell is set out in detail in the adopted Cherwell Local Plan 2011-2031. This report states that in Cherwell there is a need for affordable housing of around 300 homes per year. The Cherwell Local Plan 2011-2031 also refers to the Oxfordshire Strategic Housing Market Assessment (SHMA) 2014 which identifies that 22,840 homes are required to be built from 2011 to 2031 in the Cherwell District to meet housing needs, which the Proposed Development will assist in satisfying. The Council also acknowledges that, at present, its five-year housing land supply stands at 3.8 years. By the Council’s own forecast, this is due to drop further to 3.5 years for the five-year period from April 2022.

5.2.4 The Proposed Development includes up to 230 residential units and, by not developing the Site, this valuable contribution to the sustainable creation of housing and provision of affordable housing within the area would be lost. On the basis of the above, the ‘Do Nothing’ alternative has been discounted.

5.2.5 The Proposed Development will also incorporate a mix of house types and sizes, with 35% of dwellings being allocated to affordable housing. The provision of a ‘landscape-



led' residential development, incorporating new publicly accessible green spaces and circular walks linking to the wider Public Right of Way network also creates recreational benefits for both new and existing residents.

### **5.3 Alternative Site Design**

5.3.1 It was intended from the outset that the Proposed Development would be designed to avoid as many likely significant effects as possible, whilst providing as many potential beneficial enhancements as possible. To this end, the design proposals have evolved over the course of the design process.

5.3.2 The early masterplan proposals have evolved through consultation and the receipt of technical assessments to produce the final masterplan of the Proposed Development. Changes included increased buffer areas to protect the setting of heritage asset, changes to development densities and an increased focus on the wetland area and accessibility of Green Infrastructure within the Site.

5.3.3 In conclusion the proposals have been amended and improved through various iterations to reflect feedback from consultees and Site opportunities and constraints identified during the EIA process. As far as possible, potential significant adverse environmental impacts have been 'designed out' of the Proposed Development.

### **5.4 Alternative Site Location**

5.4.1 The suitability of the Site's location has been considered at a strategic level through the Cherwell 2017 Housing and Economic Land Availability Assessment (HELAA).

5.4.2 The Site was assessed with recommendations within the HELAA as being entirely 'Suitable', 'Available' and 'Achievable' for residential development.

5.4.3 The environmental constraints within the proposed Site are limited and the potential environmental impacts that could occur have been mitigated as far as possible as part of this EIA (see individual technical chapters for further details).

5.4.4 On the basis of the above, it is considered that the Site is located in a sustainable and environmentally suitable location.

### **5.5 Conclusion**

5.5.1 In summary, the Proposed Development has been through an iterative design process to reduce the potential environmental effects to the lowest practical level and enhance the potential benefits of the scheme.

5.5.2 The current proposals are therefore considered to represent the most suitable option for development of the Site, taking into consideration environmental effects.



## 6 TRAFFIC

### 6.1 Introduction

6.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of traffic in the context of the Site and surrounding area. In particular it considers the likely significant cumulative effects in combination with the development planned through Policy Villages 5 within the Cherwell Local Plan 2011 – 2031 Part 1.

6.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, ‘Summary of Residual & Cumulative Effects’ (Chapter 11).

### 6.2 Legislation, Policy and Guidance

6.2.1 The relevant policy and guidance are listed below.

#### ***Legislative Framework***

6.2.2 There is no highway legislation relevant to this chapter.

#### ***Planning Policy***

6.2.3 The applicable planning policy is summarised as follows.

#### ***National Planning Policy Framework (NPPF, July 2021)***

6.2.4 In relation to transport, the NPPF states at paragraph 105 that:

*‘The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.’*

6.2.5 When considering the effects the development may have on the local transport network, the NPPF states that:

*‘In assessing sites that may be allocated for development plans, or specific applications for development, it should be ensured that:*





*a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*

*b) safe and suitable access to the site can be achieved for all users;*

*c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and*

*d) any significant impacts from the development on the transport network (in terms of capacity and congestion) or on highway safety, can be cost effectively mitigated to an acceptable degree.*

*Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.'*

*Connecting Oxfordshire: Local Transport Plan 2015 to 2031*

6.2.6 The Oxfordshire Local Transport Plan (LTP) sets out the County Council's proposals for transport provision across the county.

6.2.7 The LTP contains several overarching policies that transport provision has a role in helping to achieve:

*'Create a world class economy for Oxfordshire;*

*Have healthy and thriving communities;*

*Look after our environment and respond to the threat of climate change; and,*

*Reduce inequalities and break the cycle of deprivation.'*

6.2.8 The following more specific goals are identified:

*'Goal 1 - Supporting growth and economic vitality*

*Maintain and improve transport connections to support economic growth and vitality across the county;*

*Make most effective use of all available transport capacity through innovative management of the network;*

*Increase journey time reliability and minimise end-to-end public transport journey times on main routes; and*



*Develop a high quality, innovative and resilient integrated transport system that is attractive to customers and generates inward investment.'*

*'Goal 2 - Reducing Emissions*

*Minimise the need to travel;*

*Reduce the proportion of journeys made by private car by making the use of public transport, walking and cycling more attractive;*

*Influence the location and layout of development to maximise the use and value of existing and planned sustainable transport investment; and*

*Reduce per capita carbon emissions from transport in Oxfordshire in line with UK Government targets.'*

*'Goals 3, 4, 5 - Improving quality of life*

*Mitigate and wherever possible enhance the impacts of transport on the local built, historic and natural environment; and*

*Improve public health and wellbeing by increasing levels of walking and cycling, reducing transport emissions, reducing casualties, and enabling inclusive access to jobs, education, training and services.'*

6.2.9 Various relevant policies are indicated throughout the document and certain relevant policies are included below:

*'Policy 01: Oxfordshire County Council will work to ensure that the transport network supports sustainable economic and housing growth in the county, whilst protecting and where possible enhancing its environmental and heritage assets, and supporting the health and wellbeing of its residents.*

*Policy 02: Oxfordshire County Council will manage and, where appropriate, develop the county's road network to reduce congestion and minimise disruption and delays, prioritising strategic routes.*

*Policy 03 Oxfordshire County Council will support measures and innovation that make more efficient use of transport network capacity by reducing the proportion of single occupancy car journeys and encouraging a greater proportion of journeys to be made on foot, by bicycle, and/or by public transport.*

*Policy 07 Oxfordshire County Council will work with operators and other partners to enhance the network of high quality, integrated public transport services,*



*interchanges, and supporting infrastructure, and will support the development of quality Bus Partnerships and Rail Partnerships, where appropriate.*

*Policy 08 Oxfordshire County Council will work with partners towards the introduction and use of smart, integrated payment solutions for a range of transport modes.*

*Policy 9 Oxfordshire County Council will work with the rail industry to enhance the rail network in Oxfordshire and connections to it, where this supports the county's objectives for economic growth.*

*Policy 18 Oxfordshire County Council will help reduce the need to travel by improving internet and mobile connectivity and other initiatives that enable people to work at or close to home.*

*Policy 19 Oxfordshire County Council will encourage the use of modes of travel associated with healthy and active lifestyles.*

*Policy 20 Oxfordshire County Council will carry out targeted safety improvements on walking and cycling routes to school, to encourage active travel and reduce pressure on school bus transport.*

*Policy 22 Oxfordshire County Council will promote the use of low or zero emission transport, including electric vehicles and associated infrastructure where appropriate.*

*Policy 26 Oxfordshire County Council will aim to record, protect, maintain and improve the public rights of way network so that users are able to understand and enjoy their rights in a safe and responsible way.*

*Policy 30 Oxfordshire County Council will identify those parts of the highway network where significant numbers of accidents occur, and propose solutions to prevent accidents.*

*Policy 34 Oxfordshire County Council will require the layout and design of new developments to proactively encourage walking and cycling, especially for local trips, and allow developments to be served by frequent, reliable and efficient public transport.'*

#### *The Cherwell Local Plan 2011-2031*

6.2.10 The Cherwell Local Plan sets out the proposals to promote the District by supporting the local economy and communities to the year 2031.



6.2.11 The Local Plan addresses transport and builds on the themes addressed in Connecting Oxfordshire. Policy SLE 4 highlights this:

*‘The Council will support the implementation of the proposals in the Movement Strategies and the Local Transport Plan to deliver key connections, to support modal shift and to support more sustainable locations for employment and housing growth.*

*We will support key transport proposals including:*

- *Transport Improvements at Banbury, Bicester and the Former RAF Upper Heyford in accordance with the County Council’s Local Transport Plan and Movements Strategies*
- *Projects associated with East-West rail including new stations at Bicester Town and Water Eaton*
- *Rail freight associated development at Graven Hill, Bicester*
- *Improvements to M40 junctions.*

*Consultations on options for new link and relief roads at Bicester and Banbury will be undertaken through the Local Transport Plan (LTP) review process. Routes identified following strategic options appraisal work for LTP4 will be confirmed by the County Council and will be incorporated into Local Plan Part 2.*

*New development in the District will be required to provide financial and/or in-kind contributions to mitigate the transport impact of development.*

*All development where reasonable to do so, should facilitate the use of sustainable modes of transport to make the fullest possible use of public transport, walking and cycling. Encouragement will be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. Development which is not suitable for the roads that serve the development and which have a severe traffic impact will not be supported.’*

*Mid-Cherwell Neighbourhood Plan 2018-2031 (March 2019)*

6.2.12 The following objectives within the Mid-Cherwell Neighbourhood Plan are of relevance:

**T1:** *To work with Oxfordshire County Council, Thames Valley Police and other bodies to develop strategies to protect against rising traffic volumes and the*



*impact of increased development on the capacity of the rural road network serving the neighbourhood. This includes concerns about speeding, safety, and the impact of heavy goods vehicles.*

*T2: To secure the future of bus services linking the neighbourhood's villages with each other and with Bicester; to influence train operators to improve currently inadequate services, especially as the local population rises and the need for travel to Oxford and elsewhere increases.*

### **Guidance**

- 6.2.13 The appropriate guidance for this assessment is embodied in the Department for Transport (DfT), Design Manual for Roads and Bridges Document (DMRB), 2019, 'LA 104 Environmental assessment and monitoring', (formerly HA 205/08, HD 48/08, IAN 125/15, and IAN 133/10).
- 6.2.14 The Institute for Environmental Management and Assessment (IEMA), 1993, document 'Guidelines for the Environmental Assessment of Road Traffic', has also been considered.
- 6.2.15 The assessment also takes into consideration DMRB 'LA 112 Population and human health', Jan 2020 (formerly DMRB Volume 11, Section 3, Part 6 (Land), Volume 11, Section 3, Part 8 (Pedestrians, Cyclists, Equestrians and Community Effects) and Volume 11, Section 3, Part 9 (Vehicle Travellers)).

## **6.3 Methodology**

### ***Scope of the Assessment***

- 6.3.1 In respect of the scope of assessment, consultation has been undertaken with officers from Oxfordshire County Council (OCC) as Local Highway Authority, and a scoping report for the transport work was submitted in early March 2021 (provided within Appendix 6.1).
- 6.3.2 We have subsequently discussed the development parameters and modelling methodology with OCC.
- 6.3.3 OCC provided a formal pre-application response on 31<sup>st</sup> March 2021.
- 6.3.4 In relation to the weekday peak period assessments, the methodology for the transport work has been applied to the scope of the traffic assessment for the ES, in that the Bicester Traffic Model has been used (the 2031 Kingsmere Update with Heyford Park scenario, created in September 2021 – this includes the Heyford Park



development (Policy Villages 5 in Cherwell Local Plan) and its associated highway mitigation works).

6.3.5 However, in relation to daily traffic impacts, we have utilised 2018 ATC data from the wider Heyford Park ES report (app ref. 18/00825/Hybrid) which has been factored accordingly, in order to provide 2019, 2021 and 2023 Opening Year AADT flows. It should be noted that the daily impacts provide a full cumulative assessment of all the Policy Villages 5 development.

*Effects Not Considered within the Scope*

6.3.6 As the application is in for outline planning permission at present, there is no detailed information available regarding the construction methodology for the Proposed Development.

6.3.7 As such, abnormal/hazardous loads have been scoped out of the assessment; however, it should be noted that these would be controlled by a Construction Management Plan, which would reduce the likelihood of any significant effects.

***Extent of the Study Area***

6.3.8 In relation to the weekday peak period junction impacts, the extent of the study area is the same as that considered for the wider Heyford Park development and covers the following junctions:

- M40 Junction 10 (Padbury junction)
- M40 Junction 10 (Cherwell junction)
- M40 Junction 10 (Ardley junction)
- A43 / B4100 (Baynards Green) roundabout
- A34 Northbound Slip Roads / B430 junction
- A34 Southbound Slip Roads / B430 junction
- B430 / Unnamed Road junction
- B430 / B4030 (Middleton Stoney) junction
- A4095 / B430 junction
- A4095 / B4030 junction
- B4030 / Unnamed Road junction



- Camp Road / Kirklington Road junction
- Camp Road Somerton Road junction
- B4030 / Port Way junction
- B4030 / Station Road junction
- A4260 / Somerton Road junction
- A4260 / B4030 (Hopcrofts Holt) junction
- A4260 / Unnamed Road junction
- A4260 / Banbury Road / Unnamed Road junction
- A4260 / B4027 junction
- A4095 / Portway junction
- A4095 / Bletchington Road junction
- A4095 / B4027 junction

6.3.9 In respect of the daily traffic impacts, the extent of the study area is narrower, and covers the local highway network across 11 links (as shown in Appendix 6.2), namely:

- Camp Road (West)
- Camp Road (East)
- Unnamed Road (beyond Chilgrove Drive)
- B430 Ardley Road
- B430 Station Road
- B4030 Heyford Road
- B430 Oxford Road
- B4030 Bicester Road
- Somerton Road
- Unnamed Road (south of Camp Road)
- Chilgrove Drive



**Consultation Undertaken to Date**

6.3.10 Table 6.1 provides a summary of the consultation activities undertaken in support of the preparation of this Chapter. Copies of relevant correspondence are provided in Appendix 6.3.

| <b>Table 6.1: Summary of Consultation Undertaken to Date</b> |                      |   |   |
|--|----------------------|---|---|
| <b>Organisation</b>  | <b>Individual(s)</b> | <b>Meeting Date and other forms of Consultation</b> | <b>Summary of Outcome of Discussion</b> |
| Oxfordshire County Council                                   | Chris Nichols        | 31 <sup>st</sup> March 2021<br>Pre-app response     | Scope of transport work agreed          |

**Assessment Methodology**

6.3.11 The method of baseline data collection and assessment has been agreed with OCC and is in accordance with current guidance and industry best practice.

6.3.12 As indicated above, the baseline data is the Bicester Traffic Model 2031 reference case, which is the 2031 Kingsmere Update with Heyford Park scenario (created in September 2021) and includes the Heyford Park development (Policy Villages 5 in Cherwell Local Plan) and its associated highway mitigation works.

6.3.13 Essentially, all committed development across the area is included within the 2031 reference case, with the Proposed Development added to provide the ‘with development’ scenario.

6.3.14 The traffic model and data covers the morning and evening peak hours, as these periods are when the Proposed Development will have the greatest impacts.

*Significance Criteria*

6.3.15 This chapter considers the potential cumulative effects on receptors from both the Proposed Development and the committed developments, along local roads and road users, as well as land uses fronting these local roads.

6.3.16 Table 6.2 below sets out a summary of the criteria for the assessment of the sensitivity of receptors based on the IEMA Guidance:

| <b>Table 6.2: Receptor Sensitivity</b> |  |
|--|--|
| <b>Receptor Sensitivity</b>            | <b>Description</b>   |
| High                                   | Receptors of greatest sensitivity to traffic flows, including: schools, colleges, playgrounds, accident cluster sites, retirement homes/villages, roads without footways in use by pedestrians |





| Table 6.2: Receptor Sensitivity |  |
|---------------------------------|--|
| Receptor Sensitivity            | Description  |
| Medium                          | Traffic flow sensitive receptors, including: congested junctions, doctor's surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footway provision, on-road cycleways, community centres, parks and recreation facilities |
| Low                             | Receptors with some sensitivity to traffic flow, including: places of worship, public open space, nature conservation sites, listed buildings, tourist attractions and residential areas with footway provision                                    |
| Negligible                      | Receptors with low sensitivity to traffic flows and those at a sufficient distance from affected roads and junctions   |

6.3.17 In order to assess the impact of potential increases in road traffic in environmental terms, the criteria summarised in Table 6.3 below has been used (as per Rule 1 of the IEMA Guidance).

| Table 6.3: Magnitude of Impact                 |                     |
|--|---------------------|
| Change in Traffic Flow                         | Magnitude of Impact |
| Change in total traffic flows over 90%         | Major               |
| Change in total traffic flows of 60-90%        | Moderate            |
| Change in total traffic flows of 30-60%        | Minor               |
| Change in total traffic flows of less than 30% | Negligible          |

6.3.18 In accordance with the IEMA guidance, the thresholds observed for development impact are the following:

- IEMA Rule 1 – include roads where traffic flows are forecast to increase by more than 30% (or where the number of HGV's is forecast to increase by more than 30%); and
- IEMA Rule 2 – include any specifically sensitive areas where traffic flows are forecast to increase by 10% or more.

6.3.19 Taking into account the above, the magnitude of change and significance criteria can be summarised within a significance matrix, which will also take into account the following:

- The sensitivity of the receptors, i.e. their value and susceptibility to change;
- The magnitude of the impact experienced by the receptor, i.e. the degree of alteration from the baseline;
- The scale at which any effect will be felt, i.e. site level, at the immediate setting of the site, at the scale of the study area;



- The duration of any effect (short-term, long-term, permanent, etc.); and
- The changes that will occur over time with the Proposed Development in place.

6.3.20 The resulting matrix is as follows:

| Nature of Impact (Magnitude/<br>Probability/Reversibility) | Nature of Receptor (Sensitivity/Value/Importance) |             |               |            |                   |
|--|---|-------------|---------------|------------|-------------------|
|  |   | <i>High</i> | <i>Medium</i> | <i>Low</i> | <i>Negligible</i> |
|  | <i>Major</i>                                      | Substantial | Substantial   | Moderate   | Negligible        |
|  | <i>Moderate</i>                                   | Substantial | Moderate      | Minor      | Negligible        |
|  | <i>Minor</i>                                      | Moderate    | Minor         | Minor      | Negligible        |
| <i>Negligible</i>  | Negligible  | Negligible  | Negligible    | Negligible |                   |

6.3.21 For the purpose of this assessment, a Moderate or Major level of effect is required in order for it to be considered significant.

*Assessment of Environmental Effects*

6.3.22 The methodology used to assess the individual environmental effects is set out below.

Severance

6.3.23 In terms of guidance (for new road schemes) regarding severance, this is provided in DMRB LA 112 entitled ‘Population and Human Health’.

6.3.24 The severance assessment is carried out in relation to 24-hour AADT flows.

6.3.25 The extent to which additional traffic from the development may exacerbate current severance caused by traffic and related elements across the highway network in the vicinity of the development site, has been assessed in accordance with the IEMA guidance.

Driver Delay

6.3.26 The TA report incorporates driver delay within the capacity analysis of junctions across the local highway network.

6.3.27 IEMA guidance indicates that delays are only expected to be significant where the surrounding highway network is at, or close to, capacity.



### Pedestrian/Cyclist/Public Transport User Delay

- 6.3.28 The ability of people and cyclists to cross and use roads is primarily affected by changes in the composition, volume and/or speed of traffic; as such, increases in traffic levels are likely to cause increases in delay. However, pedestrian and cyclist delays will also be affected by the overall number of people walking and cycling, as well as by visibility at junctions/crossing points and the general condition of the highway infrastructure across an area (such as footways, crossing locations, etc.).
- 6.3.29 The IEMA guidance indicates that pedestrian crossing times of between 10 and 40 seconds (lower and upper thresholds) can equate to a link with no formal crossing provision and a two-way peak period traffic flow of c.1,400 vehicles.
- 6.3.30 However, as there are a number of local factors that can determine the delays experienced by pedestrians and cyclists, the IEMA guidance does not recommend that thresholds are used to determine the significance of these delays, but rather that reasoned judgements are used instead.
- 6.3.31 That said, the IEMA guidance points towards increases of c.30% in traffic flow as having the potential to significantly increase pedestrian and cyclist delay, where existing traffic flows are low.
- 6.3.32 The assessment of the public transport user delay is commensurate with the assessment of driver delay.

### Pedestrian/Cycle Amenity including Fear and Intimidation

- 6.3.33 Pedestrian and cycle amenity is generally defined as how pleasant a journey is along one particular route, relative to another; it is affected by traffic flow, traffic composition and the pedestrian/cycle provision (width, segregation, etc.).
- 6.3.34 IEMA guidance indicates that a significant change in amenity would be likely to occur where the traffic flow (either total or HGVs) is either halved or doubled.
- 6.3.35 In respect of fear and intimidation, this is similar to amenity in relation to the level of the issue being related primarily to traffic flow, traffic composition and the presence of what would be deemed to be 'protection', such as wider routes, segregated routes, or guard railing.
- 6.3.36 IEMA guidance suggests the use of 'Degree of Hazard' thresholds set out below, in order to assess fear and intimidation initially.



| Degree of Hazard | Average hourly traffic flow across 18-hour day | Total HGV flow across 18-hours | Average speed across 18-hour day (mph) |
|------------------|--|--------------------------------|--|
| Extreme          | 1,800 +  | 3,000 +                        | 20 +                                   |
| Great            | 1,200 – 1,800                                  | 2,000 – 3,000                  | 15 – 20                                |
| Moderate         | 600 – 1,200                                    | 1,000 – 2,000                  | 10 – 15                                |

6.3.37 IEMA guidance also notes that in considering fear and intimidation, emphasis should be placed on high-speed sections of road, locations of turning movements and access junctions; alongside areas where school children, the elderly and/or other vulnerable groups are likely to be seen frequently.

Accidents and Safety

6.3.38 In respect of accidents and safety, the IEMA guidance refers only to situations where a proposed development is expected to change the character of traffic on the adjacent highway network, e.g. due to an increase in HGV movements.

6.3.39 Under such circumstances, the implications of this on the risk of accidents would require professional judgement to be applied to assess the potential significance.

**6.4 Baseline Conditions**

*Site Audit – Highway Network*

6.4.1 The Site is located on the eastern edge of Upper Heyford and borders the approved Heyford Park sustainable urban extension (SUE) on the former RAF airfield site.

6.4.2 The Site is bounded by Camp Road to the south, Chilgrove Drive to the east, proposed commercial development area and bridleway of the Heyford Park development to the north, and a rural track to the west with the proposed Pye Homes development beyond.

6.4.3 Camp Road runs along the southern site frontage, from which the Site will take access; Camp Road is the main through road for Upper Heyford, connecting the settlement with the wider highway network. It is subject to a 30mph speed limit and currently c.6.0m in width.

6.4.4 At present, footways are provided on both sides of the Camp Road carriageway west from Larsen Road; these continue into the settlement with dropped kerb and tactile paving crossing points across junctions. There are no footways along the site frontage at present.



- 6.4.5 The Camp Road/Chilgrove Drive junction to the east of the Site is to be upgraded and changed into a signalised staggered junction as part of the Heyford Park SUE development. This involves the realignment of Chilgrove Drive to the east and realignment of the bridleway across Camp Road, as well as the incorporation of pedestrian, cyclist, and equestrian facilities at the junction crossings.
- 6.4.6 A new 1.5m footway is also proposed along the southern side of Camp Road up to a new zebra crossing facility adjacent to the southwest corner of the development site.
- 6.4.7 Camp Road connects westwards to the B4030 (via Station Road) beyond the settlement limits at Lower Heyford, then to the A4260 at Hopcrofts Holt c.6.4km from the Site. Camp Road connects to the B430 to the east and southeast of the site.
- 6.4.8 The B430 connects onto the M40 at junction 10 located to northeast of the Site, whilst the B430/B4030 junction at Middleton Stoney provides further connection to the local urban areas of Bicester and Oxford.

*Site Audit – Pedestrian/Cycle Facilities*

- 6.4.9 There are existing PROWs around the Site at present. There is currently a bridleway along Chilgrove Drive to the east of the proposed Site, passing over the existing junction to the south. The closest pedestrian footway to the Site starts adjacent to Camp Road on the south side, from Larsen Road, running all the way through the Heyford Park development site and into Upper Heyford village.
- 6.4.10 There are currently no dedicated cycle routes in the local area, the closest National Cycle Network (NCN) route is NCN 5 which connects Reading to Bangor through Oxford, approximately 8km west of the proposed site.
- 6.4.11 However, the neighbouring Heyford Park development will deliver both off and on-road cycle routes running along Camp Road. These will afford greater accessibility for people to use cycling as a form of transportation in the local area. The proposed downgrade of Chilgrove Drive to form a bridleway (with motor traffic being redirected to the east along a new road) and the crossing provision at the new signalised junction will further enhance the local connectivity.

*Site Audit – Bus and Rail Services*

- 6.4.12 The nearest bus stops to the Site are located on Camp Road, c.500m from the centre of the Site; both are currently flagpole stops.



- 6.4.13 The neighbouring Pye Homes site directly to the west of the Proposed Development Site will deliver a new bus stop on Camp Road within their S106 agreement; however, it is also worth noting that bus services will eventually use the realigned Chilgrove Drive access road into the wider Heyford Park site, rather than Camp Road.
- 6.4.14 The current bus service, the 250, provides an hourly bus between Upper Heyford and Bicester; it takes between 15 and 20 minutes and operates from just after 6am until just before 8pm, Monday to Saturday.
- 6.4.15 The nearest rail station is Heyford Station which is located approximately 4.5km southwest of the Site; the station provides sheltered and secure (CCTV) storage for ten bicycles, as well as 28 car parking spaces which are free for valid blue badge holders, or payment can be made daily (£2), weekly (£10), monthly (£44), quarterly (£128) or annually (£435) for parking.
- 6.4.16 Great Western Railways operate the line from Heyford Station, which runs from Banbury to Didcot Parkway via Oxford. Services are provided approximately every 90 to 120 minutes, with reduced service provision on Sundays. Further afield, Bicester North and Bicester Village rail stations are both approximately 9km to the southeast of the Site.
- 6.4.17 Bicester North station has sheltered and secure (CCTV) storage for 65 bicycles, as well as 530 car parking spaces (6 of which are accessible spaces); Bicester Village station provides 223 car parking spaces (17 of which are accessible spaces).
- 6.4.18 Both stations charge for parking with daily rates of £8.50 to £9, monthly rates of £133 and annual rates of £1,390.

*Baseline Traffic Data*

- 6.4.19 As set out above, the baseline weekday peak period traffic data is taken from the Bicester Traffic Model for the 2031 assessment year.
- 6.4.20 For the baseline annual average daily traffic (AADT) traffic data, the 2018 automatic traffic count (ATC) data has been used and factored to the relevant years as required; these are a 2019 verification year and 2021 base year.
- 6.4.21 The agreed modelled junctions and baseline weekday peak period traffic data is summarised in Table 6.5 below:



| ID | Junction                        | AM Peak (8am to 9am) | PM Peak (5pm to 6pm) |
|----|---------------------------------|----------------------|----------------------|
| 1  | A43/M40 J10 Southbound offslip  | 4553                 | 4867                 |
| 2  | A43/M40 J10 Services and onslip | 5092                 | 5200                 |
| 3  | A43/M40 J10 slips/B430          | 2534                 | 4078                 |
| 4  | A43/B4100                       | 5464                 | 5738                 |
| 5  | A34/B430 Northbound slips       | 4140                 | 4393                 |
| 6  | A34/B430 Southbound slips       | 4255                 | 4764                 |
| 7  | B430/Unnamed Rd                 | 2167                 | 1857                 |
| 8  | B430/B4030                      | 2260                 | 2292                 |
| 9  | A4095/B430                      | 1630                 | 1883                 |
| 10 | A4095/B430                      | 2019                 | 2107                 |
| 11 | B4030/Unnamed Rd                | 709                  | 741                  |
| 12 | Camp Rd/Kirklington Rd          | 656                  | 556                  |
| 13 | Camp Rd/Somerton Rd             | 585                  | 565                  |
| 14 | B4030/Port Way                  | 693                  | 639                  |
| 15 | B4030/Station Rd/Freehold St    | 644                  | 685                  |
| 16 | A4260/Somerton Rd/N Aston Rd    | 2148                 | 1961                 |
| 17 | A4260/B4030                     | 2216                 | 1996                 |
| 18 | A4260/Unnamed Rd                | 1902                 | 1681                 |
| 19 | A4260/Banbury Rd                | 2013                 | 1680                 |
| 20 | A4260/B4027                     | 2230                 | 2039                 |
| 21 | A4095/Port Way                  | 1014                 | 1083                 |
| 22 | A4095/Bletchingdon Rd           | 1146                 | 1320                 |
| 23 | A4095/B4027                     | 1570                 | 1807                 |
| 24 | A4095/B4027/Unnamed Rd          | 1861                 | 1860                 |
| 25 | Camp Rd/Chilgrove Dr/Unnamed Rd | 1865                 | 1401                 |

6.4.22 The baseline daily traffic data is provided in Table 6.6 below:

| ID | Link                             | 2018  |     | 2019  |     | 2021  |     |
|----|----------------------------------|-------|-----|-------|-----|-------|-----|
|    |                                  | Veh   | HDV | Veh   | HDV | Veh   | HDV |
| 1  | Camp Rd (W)                      | 6024  | 380 | 6156  | 388 | 6404  | 404 |
| 2  | Camp Rd (E)                      | 4889  | 275 | 4996  | 281 | 5197  | 292 |
| 3  | Unnamed Rd (beyond Chilgrove Dr) | 2153  | 185 | 2202  | 189 | 2289  | 196 |
| 4  | B430 Ardley Rd                   | 8760  | 486 | 8961  | 497 | 9312  | 517 |
| 5  | B430 Station Rd                  | 13302 | 668 | 13607 | 683 | 14140 | 710 |
| 6  | B4030 Heyford Rd                 | 8239  | 288 | 8428  | 295 | 8758  | 307 |
| 7  | B430 Oxford Rd                   | 9848  | 391 | 10074 | 400 | 10468 | 416 |
| 8  | B4030 Bicester Rd                | 8281  | 410 | 8471  | 419 | 8803  | 436 |
| 9  | Somerton Rd                      | 1429  | 43  | 1462  | 44  | 1519  | 46  |



| <b>Table 6.6: Baseline AADT Traffic Flows</b> |                               |      |     |      |     |      |     |
|---|-------------------------------|------|-----|------|-----|------|-----|
| ID  | Link                          | 2018 |     | 2019 |     | 2021 |     |
|   |                               | Veh  | HDV | Veh  | HDV | Veh  | HDV |
| 10  | Unnamed Rd (South of Camp Rd) | 3791 | 140 | 3878 | 143 | 4030 | 149 |
| 11  | Chilgrove Dr                  | 0    | 0   | 0    | 0   | 0    | 0   |

***Sensitive Receptors***

6.4.23 The receptors considered within this chapter are as follows:

- Existing residents;
- Existing road users;
- Existing public transport users.

6.4.24 The sensitive groups are considered to be:

- Schoolchildren;
- Elderly;
- Pedestrians walking in the road (along Chilgrove Drive).

***Limitations***

6.4.25 The baseline data used for the daily traffic flow calculations has been taken from the ES associated with the wider Heyford Park development site; this was taken prior to the Covid-19 pandemic (in 2018) so is considered robust.

6.4.26 The hourly traffic flow calculations uses the Bicester Traffic Model and is therefore subject to normal strategic modelling limitations.

**6.5 Assessment of Cumulative Effects**

***Design Solutions and Assumptions***

6.5.1 At this stage, it is considered likely that the build-out rate will be c.40 dwellings per annum at the Site.

6.5.2 The following inherent mitigation measures have been designed as part of the Proposed Development and included within the parameters on which this ES is based:

- Pedestrian and cycle permeability throughout the site, with access points south onto Camp Road, east onto the downgraded Chilgrove Drive (bridleway) and west into the proposed Public Open Space (POS);
- Cycle parking to be provided in accordance with OCC standards; and





- Provision of electric vehicle charging points for each residential dwelling.

6.5.3 The following standard mitigation measures have a high degree of certainty over delivery, and are expected to be delivered through planning conditions:

- A Construction Management Plan (CMP) will be prepared and agreed with the Local Highway Authority (LHA) and Local Planning Authority (LPA) prior to the commencement of any construction activities on site – this will detail the construction methodology and the hours of operation. In addition, there will be an agreed vehicle routing plan, details regarding vehicle wheel washing and also regarding road cleaning (to ensure there are no adverse impacts on the existing highway network);
- A Construction Travel Plan (CTP) will also be prepared and agreed with the LHA and LPA, covering proposals that seek to minimise the impact of construction staff travel to/from the site during the construction period, such as car-sharing, whilst also ensuring that there is sufficient off-street parking contained within the construction compound to minimise any impacts across the local highway network; and
- Any potential off-site junction improvements identified as part of the analysis within the Transport Assessment (TA) reports.

6.5.4 The following actionable mitigation measures require a controlling mechanism or legal undertaking to be implemented, but are under the control of the applicant, LHA, LPA, or Education Authority. These measures will be delivered through a S106 agreement:

- Contribution to deliver two new bus stops with shelter provision on Chilgrove Drive; and
- Contribution towards bus service improvements – this will improve the frequency and hours of operation of the 250 bus service, such that it can deliver up to a 15-minute frequency in the future; the financial contribution to be secured is £1,051 per dwelling.

### ***Assessment of Cumulative Effects***

#### *Construction*

6.5.5 The development proposal has been assessed as delivering up to 250 residential dwellings within the transport work (in order to provide a robust assessment).



- 6.5.6 Therefore, it is likely that the Proposed Development construction period will be between 6 and 7 years overall.
- 6.5.7 At this stage, it isn't possible to accurately determine the level of traffic that would be associated with the construction across a normal working day; however, it is generally accepted that it is spread across a longer working day and, as such, the impact has been assessed against the 2021 18hr Annual Average Weekday Traffic (AAWT) from the factored ATC data.
- 6.5.8 The assessment has essentially been undertaken in reverse, to determine the level of additional construction traffic that would be required in order to trigger an assessment based on the IEMA guidance; this is set at a 30% increase for normal links and a 10% increase for 'sensitive' links.
- 6.5.9 We consider the only 'sensitive' link in the vicinity of the site to be Chilgrove Drive, on the basis that it is essentially utilised as a bridleway and not an access road for vehicular traffic. That said, it is therefore clear that it would not be utilised for construction traffic either.
- 6.5.10 The traffic flow increases that would be required to trigger the assessment in respect of construction traffic are detailed in Table 6.7 below:

| ID | Link                             | 2021 Base Flows |     | 30% increase |     |
|----|----------------------------------|-----------------|-----|--------------|-----|
|    |                                  | Veh             | HDV | Veh          | HDV |
| 1  | Camp Rd (W)                      | 6724            | 424 | 2017         | 127 |
| 2  | Camp Rd (E)                      | 5457            | 307 | 1637         | 92  |
| 3  | Unnamed Rd (beyond Chilgrove Dr) | 2403            | 206 | 721          | 62  |
| 4  | B430 Ardley Rd                   | 9777            | 543 | 2933         | 163 |
| 5  | B430 Station Rd                  | 14847           | 745 | 4454         | 224 |
| 6  | B4030 Heyford Rd                 | 9196            | 322 | 2759         | 97  |
| 7  | B430 Oxford Rd                   | 10992           | 436 | 3298         | 131 |
| 8  | B4030 Bicester Rd                | 9243            | 458 | 2773         | 137 |
| 9  | Somerton Rd                      | 1595            | 48  | 479          | 14  |
| 10 | Unnamed Rd (South of Camp Rd)    | 4231            | 157 | 1269         | 47  |
| 11 | Chilgrove Dr                     | 0               | 0   | 0            | 0   |

- 6.5.11 The traffic data above demonstrates that the construction traffic volumes would need to be significant across the local highway network in order to reach (or exceed) the IEMA thresholds for a detailed assessment of the impacts.



- 6.5.12 In the immediate vicinity of the site, the minimum required increase in two-way traffic flow per day is 2,017 vehicles along Camp Road to the west and 1,637 vehicles to the east; beyond Chilgrove Drive, the increase required is still 721 vehicles, with only Somerton Road to the north of the site falling below 500 vehicles.
- 6.5.13 Given the expected construction of c.40 dwellings per annum at the Site, along with the construction traffic associated with committed developments across the wider Heyford Park area, it is considered exceptionally unlikely that construction traffic will get anywhere close to the thresholds set out in Table 6.7 above.
- 6.5.14 In respect of HGV movements, other than Somerton Road which for the reasons set out above would not form part of the construction routing plan, the increase in HDV movements required to reach the 30% threshold is c.50 per day and c.60 per day to the south and east of Camp Road, i.e. routes to/from the site that are likely to form part of a construction routing plan. Further afield, the number is c.100 and higher.
- 6.5.15 The ES report for the wider Heyford Park site sets out a construction forecast for HGVs of 22 two-way movements per day.
- 6.5.16 The construction of c.40 dwellings per annum would generate only a handful of HDVs per day; taking into account a cumulative assessment with the wider Heyford Park construction activities, this would still fall well below the threshold in Table 6.7.
- 6.5.17 Therefore, based on the assessment work undertaken and the embedded mitigation and assumptions, it is considered highly unlikely that the traffic generated by the site during the construction period would result in a significant traffic increase on any of the links in the vicinity of the Proposed Development Site.
- 6.5.18 On the basis of the above, the construction traffic effects are forecast to be **(Temporary) Negligible Adverse (Not Significant)**.
- 6.5.19 Given that the IEMA thresholds will not be exceeded, no further assessment regarding construction traffic impacts is necessary.

*Operational*

- 6.5.20 This section sets out the assessment of the likely environmental effects related to the operational phase of the Proposed Development.
- 6.5.21 We have undertaken a screening assessment which compares the 2031 With Development flows against the 2031 Reference Case traffic flows from the Bicester Traffic Model.



6.5.22 Any links with a change in traffic flow of less than 30% (or 10% for ‘sensitive’ links) are not considered further within this assessment, in accordance with the IEMA guidance.

6.5.23 Table 6.8 below sets out the results of the screening assessment:

| Table 6.8: Screening Assessment Flows |                                  |               |      |                                     |     |          |       |
|---------------------------------------|----------------------------------|---------------|------|-------------------------------------|-----|----------|-------|
| ID                                    | Link                             | 2031 Ref Case |      | Development Traffic Flow Difference |     | % Impact |       |
|                                       |                                  | AM            | PM   | AM                                  | PM  | AM       | PM    |
| 1                                     | Camp Rd (W)                      | 387           | 241  | 17                                  | 7   | 4.21     | 1.78  |
| 2                                     | Camp Rd (E)                      | 619           | 223  | 83                                  | 26  | 11.82    | 10.44 |
| 3                                     | Unnamed Rd (beyond Chilgrove Dr) | 418           | 177  | 9                                   | 20  | 2.11     | 10.15 |
| 4                                     | B430 Ardley Rd                   | 1149          | 798  | 0                                   | 11  | 0.00     | 1.36  |
| 5                                     | B430 Station Rd                  | 1278          | 1005 | 18                                  | 3   | 1.39     | 0.30  |
| 6                                     | B4030 Heyford Rd                 | 37            | 38   | 0                                   | 0   | 0.00     | 0.00  |
| 7                                     | B430 Oxford Rd                   | 339           | 647  | 7                                   | 17  | 2.02     | 2.56  |
| 8                                     | B4030 Bicester Rd                | 606           | 602  | -8                                  | -15 | -1.34    | -2.56 |
| 9                                     | Somerton Rd                      | 121           | 114  | 7                                   | 3   | 5.47     | 2.56  |
| 10                                    | Unnamed Rd (South of Camp Rd)    | 473           | 377  | 19                                  | 39  | 3.86     | 9.38  |
| 11                                    | Chilgrove Dr                     | 355           | 624  | 0                                   | 5   | 0.00     | 0.79  |

6.5.24 Only the roads immediately adjacent to the Site experience an increase in traffic close to, or above 10%; however, none of these are ‘sensitive’ links and none experience an increase in traffic above 30%.

6.5.25 On the basis of the above, the traffic effects are forecast to be **Negligible Adverse (Not Significant)**.

6.5.26 As such, no further assessment regarding traffic impacts is necessary.

## 6.6 Mitigation

6.6.1 No further mitigation is required in respect of the traffic impacts, other than those set out earlier in this chapter under the Inherent, Standard and Actionable (Section 6.5) mitigation measures.

6.6.2 However, it is also worth noting that a Travel Plan will be implemented for the Proposed Development Site.

## 6.7 Residual Effects

6.7.1 Following mitigation, during the construction and occupation phases the residual cumulative effects are summarised in Tables 6.9 and 6.10, as follows:



**Table 6.9: Residual Effects – Construction Phase**

| Receptor  | Sensitivity | Description of Impact  | Inherent and Standard Mitigation Measures              | Nature of Effect | Type of Effect | Significance of Effect |
|---|-------------|--|--|------------------|----------------|------------------------|
| Sensitive Groups – Schoolchildren, Elderly, Pedestrians walking in road (Chilgrove Drive) | High        | Amenity (including Fear and Intimidation); Severance; Pedestrian & Cyclist Delay | Construction Management Plan, Construction Travel Plan | Adverse          | Temporary      | Negligible             |
| Existing Residents  | Low         | Amenity; Severance   |  |                  |                |                        |
| Existing Road Users   | Low         | Driver Delay   |  |                  |                |                        |
| Existing Public Transport Users   | Low         | Public Transport Delay   |  |                  |                |                        |

**Table 6.10: Residual Effects – Operational Phase**

| Receptor  | Sensitivity | Description of Impact  | Inherent and Standard Mitigation Measures  | Nature of Effect | Type of Effect | Significance of Effect |
|---|-------------|--|--|------------------|----------------|------------------------|
| Sensitive Groups – Schoolchildren, Elderly, Pedestrians walking in road (Chilgrove Drive) | High        | Amenity (including Fear and Intimidation); Severance; Pedestrian & Cyclist Delay | Pedestrian and cycle permeability, electric vehicle charging, upgraded bus stops, off-site junction improvements, new footway provision, S106 contributions towards bus service improvements | Adverse          | Permanent      | Negligible             |
| Existing Residents  | Low         | Amenity; Severance   |  |                  |                |                        |
| Existing Road Users   | Low         | Driver Delay   |  |                  |                |                        |
| Existing Public Transport Users   | Low         | Public Transport Delay   |  |                  |                |                        |



## 6.8 Summary

- 6.8.1 This chapter has assessed, in accordance with relevant guidance, the traffic effects of the Proposed Development in combination with committed development set out by Policy 5 Villages.
- 6.8.2 Appropriate embedded mitigation has been proposed in the form of Construction Management and Traffic Plans, walking and cycling connectivity enhancements, electric charging points for each dwelling, bus service contribution and bus stop improvements.
- 6.8.3 The cumulative environmental effects of the proposals in terms of traffic are deemed to be negligible (not significant); no long-term negative impacts have been identified.



## **7 ECOLOGY**

### **7.1 Introduction**

7.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of ecology in the context of the Site and surrounding area. In particular it considers the likely significant cumulative effects in combination with the development planned through Policy Villages 5 within the Cherwell Local Plan 2011 – 2031 Part 1.

7.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, ‘Summary of Residual & Cumulative Effects’ (Chapter 11).

### **7.2 Legislation, Policy and Guidance**

7.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Appendix 7.1: Ecological Legislation.

#### ***Legislative Framework***

7.2.2 The applicable legislative framework is summarised as follows:

- Wildlife and Countryside Act 1981 (as amended);
- EU Habitats Regulations under The Conservation of Habitats & Species (Amendment) (EU Exit) Regulations 2019 (as amended);
- Natural Environment and Rural Communities (NERC) Act, 2006;
- The Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992;
- The Countryside and Rights of Way Act 2000;
- EC Council Directive on the Conservation of Wild Birds 2009/147/EC 2009;
- Hedgerow Regulations 1997;
- The Countryside and Rights of Way Act 2000;
- National Parks and Access to the Countryside Act 1949; and
- Environment Act 2021;



### **Planning Policy**

7.2.3 The applicable planning policy is summarised as follows:

- National Planning Policy Framework 2021;
- ODPM Circular 06/2005 (retained as Technical Guidance on NPPF 2021);
- The Cherwell Local Plan 2011-2031 (ESD9, ESD10 and ESD11 (Cherwell District Council North Oxfordshire)); and
- Mid-Cherwell Neighbourhood Plan 2018-2031 (PD6).

### **Guidance**

7.2.4 The applicable guidance is summarised as follows:

- Amphibian and Reptile Groups of the United Kingdom, 2010. *ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. s.l.:s.n.*
- BS 42020:2013 Biodiversity – *Code of Practice for Planning and Development 2013: The British Standards Institution.*
- Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F 2014. *Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA. Freshwater Habitats Trust, Oxford.*
- Chartered Institute of Ecology and Environmental Management, 2018. *Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine. Winchester: CIEEM.*
- Clements, D. & Tofts, R., 1992. *Hedgerow Evaluation and Grading Systems (HEGS). s.l.:s.n.*
- Collins J eds. 2016. *Bat Surveys: Good Practice Guidelines, 3rd Edition. London: Bat Conservation Trust.*
- Dean, M. et al. (2016). *The Water Vole Mitigation Handbook. The Mammal Society, London*
- English Nature, 2001. *Great Crested Newt Mitigation Guidelines. Peterborough: English Nature.*





- Joint Nature Conservancy Council, 2016. *Handbook for Phase 1 Habitat Survey*. Peterborough: JNCC.

### 7.3 Methodology

#### *Scope of the Assessment*

7.3.1 An Ecological Impact Assessment (EclA) was completed for the Site (RammSanderson Ecology, 2021). This assessed the potential for protected species and habitats to be present on (or adjacent to) the Site and impacted by the Proposed Development in isolation/combination with adjacent developments proposed within five years. Following the Screening Opinion, the requirement for an Environmental Statement was made to adequately assess the impact from the Proposed Development in combination with the proposed allocations under Policy Villages 5 which surround the proposed development to the north, west and south-west that together with the former RAF Upper Heyford are proposed as a strategic site for new settlement in rural areas. Other pertinent developments were identified as:

- *Heyford Park (Reference: 18/00825/HYBRID)* – outline planning application for c.1,175 new residential dwellings, 60 care dwellings, 929m<sup>2</sup> retail, a medical centre, 35,175m<sup>2</sup> employment buildings, a 2.4ha site for a new school, leisure facilities, an energy facility and open green space. The proposals are also for 76.6ha to be used for filming and event parking. Plans will result in a loss of 9.5% of a Local Wildlife Site on site and significant loss of neutral and calcareous grassland on site during construction. Mitigation entails creation of calcareous grassland to replace that lost to negate a negative impact. Removal of five ponds (four supporting breeding GCN) is required and creation of eight ponds on site is proposed. Furthermore, a cat proof fence to prevent predation is recommended. Proposals will result in the loss of maternity roost for pipistrelle bats in one building. Creation of replacement roost features in new buildings is proposed to replace this. Loss of commuting habitat for low numbers of common and widespread bat species. Potential closure of a badger sett to facilitate roadways. Loss of small areas of habitat for brown hare, hedgehog and polecat. Areas to be removed are suboptimal for reptiles. Due to habitat removal it is anticipated there will be an adverse permanent effect at Site level on breeding birds such as skylark and curlew during construction. These impacts are all reduced to negligible through mitigation plans. The ecology chapter for this application concluded no in combination impacts are



anticipated with developments at Land South of Camp Road, Village Centre North Heyford, Pye Homes, Parcel 15 Heyford Park, North-west Bicester Application 1, North-west Bicester Application 2, Himley Village, Land at Whitelands Farm or Bicester Gateway following mitigation.

- *Heyford Park, South of Camp Road (Reference: 16/02446/F)* - The only habitats on site of value include (poor or neutral) semi-improved grassland, hedgerow trees and waterbodies. Protected species included three roosts (feeding perches) of species of low conservation value (brown long-eared and Natterer's bat). No residual impacts identified.
- *Land East of Larsen Road Heyford Park (Reference: 15/01357/F)* - this site supports a small area of improved grassland fields currently under management by grazing. Bat foraging by common and widespread species has been recorded, but habitats are of low value for these species. Therefore, there are no residual impacts due to the low ecological value of the site.

7.3.2 This Chapter reports the outcome of the assessment of any likely significant effects arising from the Proposed Development in combination with the developments detailed above, as well as the proposed allocation under Policy Villages 5 as a whole (as set out within Chapter 2) on ecologically sensitive features. Effects considered include both protected species and habitat scale assessments within the Site and off-site as per the agreed scope outlined in 7.3.2. It also describes the assessment methodology, baseline conditions, any primary and tertiary mitigation adopted for the purpose of assessment, a summary of likely significant effects taking into account legislation, the further mitigation measures required to prevent, reduce or offset any significant negative effects, and the likely residual effects after these measures have been employed.

7.3.3 This Chapter (and its associated figures and appendices) has been made in relation to the current baseline conditions on the Site and within the Ecological Zone of Influence (EZoI) based upon a desk-study and field-based survey.

7.3.4 Full details are provided in Appendix 7.2: Ecological Impact Assessment (RammSanderson, 2021). This includes results from:

- a desk-based study – data were obtained from Thames Valley Environment Centre,



[www.magic.gov.uk](http://www.magic.gov.uk)<sup>1</sup>, third party ecology chapter reports (18/00825/HYBRID, 16/02446/F and 15/01357/F);

- Extended Phase 1 Habitat Field Survey;
- water vole survey;
- bat building assessment;
- ground level bat tree roost assessments;
- great crested newt Habitat Suitability Assessment;
- great crested newt eDNA sampling;
- hedgerow classification surveys; and
- invertebrate surveys.

*Effects Not Considered within the Scope*

- 7.3.5 It should be noted that whilst every effort has been made to provide a comprehensive description of the Site, no investigation could ensure the complete characterisation and prediction of the natural environment. The majority of ecological data remain valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for approximately 2 years, notwithstanding any considerable changes to the Site conditions.
- 7.3.6 The stream on Site was scoped out for otter foraging due to the low water level making it suboptimal habitat for this species. The field survey also identified the stream as sub-optimal for white-clawed crayfish due to fluctuating and low water levels. However, research since this survey has identified potential suitable habitat on Site. Therefore, once the outfall location has been identified, a detailed assessment for white-clawed crayfish is recommended to assess impacts to identify the importance of any population present.
- 7.3.7 The standalone EcIA (RammSanderson, 2021) did not identify any pathways that could act in combination with other developments on birds, reptiles and badgers as a consequence of the Proposed Development due to either no impacts on suitable habitat, no suitable habitat on Site (and thus unlikely to support populations/assemblages of these species) or removal of suboptimal habitat only.

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<sup>1</sup> Accessed May 2021



Therefore, these are omitted from further consideration in cumulation as impacts were nugatory and an assessment of no effect cannot increase in magnitude.

7.3.8 MORPH biodiversity survey of the stream on Site and hydrological impacts outlined in Chapter 10 are required to assess impacts on local SSSI for the Proposed development. However, this is in isolation impacts and beyond the scope of this report.

7.3.9 Approximately 35% of the bank of pond P3 was accessible at the time of the great crested newt survey due to dense vegetation and may have resulted in a false negative result. The presence of outfalls into the stream connecting the waterbodies on Site make eDNA sampling a limited method for presence/absence at this Site. However, third party data was used to determine presence across the ponds on site. As a District Level Licence is being applied for, there is no requirement to update this survey information.

#### ***Extent of the Study Area***

7.3.10 The study area is defined as all land considered for the potential to support protected species/habitats that could be affected by the Proposed Development (herein referred to as the EZoI). The EZoI of the Proposed Development during both construction and operation has been determined at two stages of the assessment. The first stage (initial determination of the EZoI) is to determine the geographical area for obtaining ecological data through desk and field-based studies based on the potential effects of the Proposed Development on ecological features. The second stage (final EZoI) is to determine the geographical area for assessing the construction effects and subsequent operational effects (both positive and negative) of the Proposed Development on important ecological features based on all the available information. The EZoI is determined by the development proposals in relation to individual species ecological requirements indicated in best practice guidelines.

7.3.11 In relation to great crested newts (GCN), the EZoI is considered to be up to 500m from the site boundaries, as this is the distance that Natural England would require to be considered in relation to GCN licensing.

7.3.12 For designated sites, the zone can be > 10km from the site and this is termed the Impact Risk Zone (IRZ). Where sites occur within an IRZ the requirement for a Habitat's Regulations Assessment or Environmental Impact Assessment may be triggered. For the purpose of this assessment, data were obtained for 1km from the Site for protected species and non-statutory designated sites, 20km for statutory designated



sites and 1km for Habitats of Principal Importance. This area is deemed appropriate to include the area over which the Proposed Development would potentially exert biophysical changes (both direct effects, such as habitat loss, and indirect effects, such as increased recreational pressure) that might impact upon ecology features.

**Consultation Undertaken to Date**

7.3.13 Table 7.1 provides a summary of the consultation activities undertaken in support of the preparation of this Chapter. Copies of relevant correspondence are provided in Appendix 7.4.

| <b>Table 7.1: Summary of Consultation Undertaken to Date</b> |                      |   |   |
|--|----------------------|---|---|
| <b>Organisation</b>  | <b>Individual(s)</b> | <b>Meeting Date and other forms of Consultation</b> | <b>Summary of Outcome of Discussion</b>   |
| Oxfordshire County Council                                   | Nick Mottram         | 05/10/2021 – email                                  | Questions relating to GCN and net gain on site. He deferred to colleague Sarah below.   |
| Oxfordshire County Council                                   | Sarah Postlewaite    | 06/10/2021 - email                                  | Questioned as to whether eDNA was sufficient survey effort for GCN for this site as the ponds are receptors for GCN licence on adjacent land. Sarah deferred to district council (cc'ed in but no response. However, NatureSpace did respond).  |
| NatureSpace  | Scott Probert        | 13/10/2021 - email                                  | “Please note that, if any compensation ponds are to be removed within the receptor site, then a higher compensation ratio will be applied. Also, if there are licence requirements already active, the DL cannot by default supersede them; however, EPS licences have been replaced by DL licences in the past, following consent from Natural England”. As the Proposed Development does not require removal of ponds and wont impact the existing mitigation site directly we assume a standard enquiry for District Licencing will be acceptable for the development site itself. |



### ***Assessment Methodology***

7.3.14 The method of baseline data collection and assessment is in accordance with current guidance and industry best practice (CIEEM, 2018). Full details are provided in Appendix 7.2. The assessment first identifies sites, habitats, species and other ecological features that are of conservation value based on factors such as legal protection, statutory or local site designations such as Sites of Special Scientific Interest (SSSI) or Local Wildlife Sites (LWS) or inclusion on Red Data Book Lists or Local Biodiversity Action Plans.

7.3.15 The importance of each ecological feature is considered within a defined geographical context. The following frame of reference is used, or adapted to suit local circumstances:

- International and European
- National (United Kingdom)
- Regional (South-east England)
- Metropolitan, County, vice-county or other local authority-wide area (Oxfordshire)
- River Basin District
- Estuarine system/Coastal cell
- Local (Cherwell District)
- Below Local level e.g. on site only

7.3.16 These features are then subject to subject to detailed assessment to identify if they are likely to be impacted by the Proposed Development in combination with other pertinent developments detailed above. Consideration of impacts at all scales is important, and essential if objectives for no net loss of biodiversity and maintenance of healthy ecosystems are to be achieved. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts such that there is no risk to their integrity or viability.

### ***Significance Criteria***

7.3.17 In identifying impacts, the review considers the Proposed Development and any subsequent recommendations made are proportionate / appropriate to the Site. As highlighted in the Ecology Chapter for Heyford Park (Reference: 18/00825/HYBRID, 2020), the process involves (1) identifying and characterising impacts (taking account



of any designed-in mitigation); (2) incorporating additional measures to mitigate for these impacts (including avoidance and compensation); (3) assessing the significance of any residual effects after mitigation; and (4) identifying opportunities for ecological enhancement. This is in line with the Mitigation Hierarchy summarised below:

- **Avoid:** Provide advice on how the development may proceed by avoiding impacts to any species or sites by either consideration of site design or identification of an alternative option.
- **Mitigate:** Where avoidance cannot be implemented mitigation proposals are put forward to minimise impacts to species or sites as a result of the proposals. Mitigation put forward is proportionate to the site.
- **Compensate:** Where avoidance cannot be achieved any mitigation strategy will consider the requirements for site compensatory measures.
- **Enhance:** The assessment refers to planning policy guidance (e.g. NPPF) to relate the ecological value of the site and identify appropriate and proportionate ecological enhancement in line with both national and local policy.

7.3.18 For the purpose of this EclA, a ‘significant effect’ is an effect that either supports or undermines (beneficial or adverse) biodiversity conservation objectives for ‘important ecological features’ or for biodiversity in general. Therefore, any change/effect of medium to large magnitude upon ecological features of medium to high sensitivity or small changes to highly sensitive features are deemed ‘significant’ as they are above minor. The classification of effects matrix is provided in Table 7.2 (Nineteen47, 2022).

|                     |            | Sensitivity of Feature (Value/Importance) |                          |                      |            |
|---------------------|------------|---|--------------------------|----------------------|------------|
|                     |            | High (England/ UK/ International)         | Medium (County/Regional) | Low (Local/District) | Negligible |
| Magnitude of change | Large/high | Major                                     | Moderate to major        | Moderate             | Negligible |
|                     | Medium     | Moderate to major                         | Moderate                 | Moderate/Minor       | Negligible |
|                     | Small/low  | Moderate                                  | Moderate/minor           | Negligible to minor  | Negligible |
|                     | Negligible | Negligible                                | Negligible               | Negligible           | Negligible |

7.3.19 Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects are considered to either be significant or not (as in EIA



significance is binary as an either/or) with the importance of the ecological feature assessed at a range of scales from international to local. A significant effect is an effect that is sufficiently important to require assessment and reporting so that the ecological consequences of the project are understood. In broad terms, significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution).

7.3.20 The following definitions are used for the terms ‘impact’ and ‘effect’ throughout this report:

- *Impact* – Actions resulting in changes to an ecological feature. For example, the construction activities of a development removing a hedgerow.
- *Effect* – Outcome to an ecological feature from an impact. For example, the effects on a dormouse population from loss of a hedgerow. An effect can be of varying levels (e.g. minor, moderate, major).

#### ***Net Biodiversity Gain***

7.3.21 Biodiversity Impact Assessment of proposals was carried out in accordance with guidelines published by DEFRA and via the DEFRA Metric Calculation Tool 3.0. The existing value of individual habitats on site is initially calculated by accurately mapping the proposed development site from information collected during a Biodiversity Scoping Assessment/Phase 1 Habitat Survey and by dividing the land into individual habitat parcels. This part of the study is informed by JNCC Phase 1 habitat and UK habitats classification systems. The distinctiveness, condition, connectivity and strategic significance of these parcels is then assessed and together with the area of each habitat, a value is assigned. A summary of how habitat distinctiveness, condition assessment, connectivity and strategic significance is determined is detailed within DEFRA best practice literature.

7.3.22 Once the habitat types have been input into the Biodiversity Impact Assessment calculator, along with their area, distinctiveness, condition, connectivity and strategic significance an overall score in biodiversity units is calculated.

#### ***Compensation***

7.3.23 Once the biodiversity value of existing on-site habitats has been quantified, the value of indicatively proposed habitats to achieve a net gain as part of development must be calculated. This is calculated using the methodology applied above, taking into





account the area/length of indicatively proposed habitats, their distinctiveness, condition, connectivity and strategic significance once this is established. A further two parameters are also taken into consideration at this stage. These are the time it will take to reach this target condition and the difficulty of creating/restoring each habitat type proposed. By using these parameters, the calculation takes into account that the time it takes for a habitat to establish may result in a loss of biodiversity for a period of time and also the risk of failure associated with any habitat creation/restoration.

## 7.4 Baseline Conditions

### *Designated Sites*

7.4.1 The Site lies within Impact Risk Zones (IRZ) for Bestmoor SSSI and Ardley Cutting and Quarry SSSI (Figure 7.1, Appendix 7.5). The Impact Risk Zone category impact threshold for discharges states:

*“Any discharge of water or liquid waste of more than 20m<sup>3</sup>/day to ground (i.e. to seep away) or to surface water, such as a beck or stream.”*

7.4.2 An outflow into the stream in the west of the Site is proposed with a discharge of 18m<sup>3</sup> of water per day, below the above threshold. Furthermore, the stream on Site is not hydrologically linked to these SSSIs. Therefore, impacts upon these designated sites are deemed unlikely to occur. However, this is close to the threshold for discharges and should this increase further details of hydrological plans and surveys of this watercourse would be recommended to assess significant effects and impacts on this nationally important ecological feature. The stream on Site is hydrologically linked to Gallos Brook in the south, which flows into Weston Fen SSSI (<https://www.wwf.org.uk/uk-rivers-map<sup>2</sup>>) approximately 5.7km south of the Site. Weston Fen SSSI is designated for plant communities associated with wetland habitat and for invertebrate fauna. This stream is also linked to the Heyford Park site (16/02446/F).

7.4.3 The Heath District Wildlife Site Citation (DWSC) is the closest non statutory designated site to the Site and this is located 20m to the east. This is designated as for broadleaved woodland and scrub. Ardley Trackway Adjacent to Gorse DWSC is located 50m south and is designated for species rich hedgerows. Upper Heyford Airfield Local Wildlife Site (LWS) is located 430m north. This is designated for species rich calcareous

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<sup>2</sup> Accessed 23/02/2022



grassland, woodland and a large population of great crested newts. This population is functionally linked to the Proposed Development through a network of waterbodies and watercourses. Taken together with Trow Pool LWS, Ardley Cutting SSSI and Arley field pLWS, the Site is bordered to the east by Ardley and Heyford Conservation target Area (CTA). The CTA supports about 50% of the calcareous grassland in Cherwell District and shows considerable species interest, in particular great crested newts, birds and butterflies.

### ***Habitats***

7.4.4 The broadleaved plantation woodland, scattered trees, marginal, inundation vegetation, standing water, running water and hedgerows were of high botanical interest and high habitat value. The current dominant habitats on site are ephemeral short perennial (the eastern half), amenity grassland and improved grassland (Figure 7.2, Appendix 7.5). Habitats of Principal Importance (HPI) were recorded on Site (hedgerows, woodland, watercourse and waterbodies supporting great crested newts). Four HPI habitats were located within close proximity to the Site, with the closest habitat including an Open Mosaic Habitats on Previously Developed Land located adjacent to the northern boundary.

### ***Dormice***

7.4.5 The broadleaved plantation woodland, dense scrub and hedgerows on Site offer suitable foraging and commuting habitat for dormice. While there were no local records returned for this species. It is elusive and occurs at low densities, making it under recorded. Therefore, any sites within the known range should assume presence.

### ***Great Crested Newt***

7.4.6 The waterbodies on Site are known great crested newt (GCN) breeding ponds from eDNA surveys in 2021 and third-party data (Figure 7.4, Appendix 7.5; 18/00825/HYBRID). Furthermore, they are the receptor ponds from a GCN mitigation strategy of adjacent land under a previous licence. The eDNA surveys confirmed presence in P2 (Appendix 7.2). Third party reports confirmed presence in P1, P3, P4 and D3 in 2014/2016. Furthermore, these surveys confirmed presence in D4 and D5 to the north. It was summarised that these ponds support a medium metapopulation that is linked to the wider large population to the north of the Site. The population on Site and associated metapopulations connected to the north and east are likely to be of Local to County value.



### ***Riparian Mammals and Freshwater Invertebrates***

- 7.4.7 A post breeding (17<sup>th</sup> August 2021) water vole survey of the stream on Site did not detect any signs of presence. Further surveys during the breeding season are recommended once details of the location of the outfall into the stream are finalised to confirm likely absence of water vole.
- 7.4.8 Furthermore, the survey identified the stream as sub-optimal for white-clawed crayfish due to fluctuating and low water levels. However, there are some more suitable areas, and research conducted since the EclA report was issued indicates parts of the stream as being identified as a potential ARK (reintroduction) site for the species (<https://www.tverc.org/cms/content/crayfish-ark-sites-oxfordshire><sup>3</sup>). The geographical importance of these ecological features will be assessed following survey results but are likely to be local to regional in scale due to suboptimal habitats present.

### ***Bats***

- 7.4.9 The woodland, hedgerows and scattered trees on Site may offer bat roost, potential (Figure 7.3, Appendix 7.5). Buildings on Site were assessed as offering negligible potential to support roosting bats. The hedgerows, scrub, watercourses, ponds, woodland and trees present on the Site provided potential foraging and commuting habitat, as well as providing connectivity to the wider landscape. During the desk study, a brown long eared bat record was identified located 0.63km southwest of the site. No details were available to indicate whether this bat record was of a foraging, commuting or roosting bat. However, this record was an old record from 2001.

### ***Biodiversity***

- 7.4.10 The baseline biodiversity score for habitats on the Site is 4.32 and for hedgerows is 8.80 (locations shown in Figure 7.5, Appendix 7.5) and the Proposed Development has the potential to provide a significant net gain of 11.47% increase in hedgerows and 35.26% increase in habitats (enhancement and compensation locations shown in Figure 7.6 (Appendix 7.5) and calculator provided in Appendix 7.3). The stream on site had been given a condition assessment as moderate based on the simplified methodology provided in the Good Practice Guidelines (Baker *et al.* 2019).

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<sup>3</sup> Accessed 23/02/2022



### **Sensitive Receptors/Features *Designated Sites***

7.4.11 The stream on Site is hydrologically linked to a SSSI c.5.7km south (Weston Fen). This is designated for plant and invertebrate species associated with wetland habitats. Further assessment will be completed to ensure that any potential detrimental impacts to the hydrology (flow rate, water quality, water levels) of the SSSI are mitigated for as part of the Proposed Development. While this feature is sensitive to change, no other proposals are impacting upon this water course. Therefore, it is screened out of in combination effects assessments.

7.4.12 Potential impact pathways for both DWSC sites include land take/damage from accidental egress during construction, pollution incidents during construction. The calcareous grassland within LWSs and CTA are sensitive to increased air pollution from local developments. However, these are >200m from the nearest affected roadway and as such can be screened out:

*“Air pollution levels fall sharply within the first few tens of metres from a road before reducing more slowly with distance. The air quality impact of a given change in traffic on a designated site where the relevant habitat/ species is 100 m from a road will be very different to one that abuts the road” (IAQM, 2019).*

### **Habitats of Principal Importance**

7.4.13 Watercourse and waterbody Habitats of Principal Importance (due to records of GCN in connected water bodies) – the stream on Site is a HPI due to connectivity with a known GCN population. While the Proposed Development includes an outfall into the stream of 18m<sup>3</sup> per day and there is the potential for the condition of this habitat to be impacted, it is not anticipated that any other developments will impact upon it. Therefore, this feature is screened out of further in combination assessment.

### **Bats**

7.4.14 As no roosts are being removed as part of the proposals and suitable foraging/commuting habitat retained, the remaining impact pathway for bats is from increased lighting. Artificial lighting can affect the way that bats use habitats in a number of ways, depending on the species and proximity to a roost. Direct bright lighting of a roost can cause bats to delay emergence from a roost and could even cause them to desert the roost or become entombed within it (BCT and ILP, 2018). The prey items for British bats are flying insects, and many flying insects are attracted to certain types of artificial light sources, especially those that emit light with an

ultraviolet component or have a high blue spectral component (BCT and ILP, 2018). Some species of bat recorded are known to be attracted to insects gathered around light sources (such as pipistrelle, noctule, Leisler's and serotine), whereas other species actively avoid lit areas (such as long-eared bats, Myotis species, barbastelle and greater and lesser horseshoe bats).

#### ***Great Crested Newts***

7.4.15 Great crested newt population - Presence/absence surveys were conducted in 2021 of ponds on site using eDNA methodology. This detected presence in P2. However, previous surveys of these ponds using traditional methods were undertaken by a third party in support of planning application Heyford Park (Reference: 18/00825/HYBRID). These confirmed presence in P1, P3, P4 and D3 in 2014/2016. Furthermore, these surveys confirmed presence in D4 and D5 to the north. It was summarised that these ponds support a medium metapopulation that is linked to the wider large population to the north of the Site (also subject to a planning application in the airfield). Therefore, the population on Site is functionally linked to another population in the wider landscape also subject to impacts from development and in combination effects are deemed likely.

#### ***Water Vole***

7.4.16 One post breeding survey for this species has been conducted in the stream on Site. No presence was detected. Further survey in the breeding survey will be undertaken provide sufficient evidence of absence.

#### ***White-clawed Crayfish***

7.4.17 White clawed crayfish population – during the water vole survey, areas suitable for this species were identified within the stream on Site. The ecological importance of this feature is unknown until the presence/absence data is available. The stream on Site has been identified by the local biological records centre as a potential ARK site for the species.

#### ***Biodiversity***

7.4.18 A significant positive effect on biodiversity is anticipated as a consequence of the local plan during the operational phase due to the requirement in the NPPF for a net gain in biodiversity (2021). This is proposed on Site through the creation of SUDs features, wet woodland, enhancement of grassland and hedgerow enhancement and creation (Figure 7.6, Appendix 7.5).



7.4.19 A summary of ecologically sensitive features sensitive is provided in Table 7.3.

## **7.5 Assessment of Cumulative Effects**

### ***Design Solutions and Assumptions***

7.5.1 During the design iterations for the Proposed Development, the results of ecological surveys were incorporated and the mitigation hierarchy of avoid, mitigate and compensate was used to minimise impacts. In many cases, this has meant retention of the features of highest value (woodlands, hedgerows, ponds) and avoidance of areas of particular sensitivity (wetlands). The residual effects are identified separately for the construction and operational stages. Following this initial assessment, appropriate mitigation (including compensation and enhancement) is set out to address the effects identified.

7.5.2 Measures have been assumed as being put in place which will ensure that legal compliance is assured, thereby avoiding the need to assess effects to certain features which would not be allowed to occur e.g. avoidance of breeding bird nests, creation/enhancement ecologically valuable habitats (gapping up hedgerows), root protection zones, pollution prevention methods to protect neighbouring OMH and non-statutory designated sites, precautionary methods for dormice, retention of ponds on Site. These would be secured largely through the delivery of a Construction Environmental Management Plan (CEMP) and a Landscape and Ecology Management Plan (LEMP). The preparation and implementation of both of these documents would be a condition of planning consent for the Proposed Development.

### ***Bats***

#### ***Construction***

7.5.3 The embedded mitigation for this species is for no night works to occur. Therefore, no impacts are anticipated during construction in combination with other developments.

#### ***Operation***

7.5.4 Due to the development on adjacent land, the light levels on Site and to the north are likely to increase. Therefore, there is the potential to negatively impact nocturnal species, especially foraging bats. Lighting within the Site could therefore be expected to affect the ways that the bats in the area are able to use the Site. This applies to all the local developments as the ambient light levels and localised lighting could change long term from street lighting, security lighting on buildings and housing.



## **Great Crested Newts**

### ***Construction***

- 7.5.5 The proposed discharge into the connected stream on Site may impact upon these ponds. Furthermore, proposals will require the removal of suitable GCN terrestrial habitat. Therefore, there is the potential for a significant negative effect on the population in isolation and in combination with other developments locally.

### ***Operation***

- 7.5.6 The Proposed Development is likely to impact upon the same population of GCN as that of the Heyford Park site. Impacts during construction are likely to be significant and negative if there is a temporary loss of terrestrial habitat and/or aquatic habitat while mitigation and compensation measures are created. Therefore, district licensing is recommended as this will take a more joined up approach by funding the creation of ponds and terrestrial habitats in strategically valuable areas in the county, with the potential to be of significant benefit to the species at the county level. Furthermore, the breeding ponds on Site are to be retained, thus resulting in no negative long term impact upon the Site population.

## **Dormice**

### ***Construction***

- 7.5.7 The Proposed Development requires the removal of small <20m sections of hedgerow only. These gaps are small enough that dormice will cross them, preventing population isolation. Should larger sections require removal this could reduce the movement of this species across the wider landscape. Taken in combination with other developments this has the potential to cause fragmentation and isolation. Further survey and mitigation would be required in this situation (not currently planned). Noise during construction also has the potential to impact upon individuals occurring adjacent habitat to where works are occurring, causing nest abandonment and reduced fitness/breeding success. This impact has the potential to be compounded by works on other suitable habitats in the vicinity. Therefore, impacts upon dormice populations are only negligible provided that works are undertaken in a sensitive manner to avoid removal of stumps in winter (during hibernation), a 20m buffer between works and suitable habitat is maintained and that sections are checked for nests by suitably qualified ecologist prior to removal (breeding season). Details of full working methods to be provided in a CEMP to reduce impacts to not significant. If





further sections are to be removed or evidence of dormice presence is found on Site, all works should cease and the advice of an ecologist sought.

### ***Operation***

- 7.5.8 Post construction there will be an increase in the length of hedgerow on Site. Furthermore, enhancement through gapping up will increase the connectivity and quality of habitat provision for this species. Therefore, there is likely a significant positive impact during operation. Dense scrub species such as blackthorn *Prunus spinosa* and holly *Ilex aquifolium* alongside hornbeam *Carpinus betulus* and beech *Fagus sylvatica* is recommended for planting to deter predation from new residents' pets and provide a food source
- 7.5.9 No impacts upon the watercourse on Site are anticipated through other local developments. Therefore, cumulative impacts are unlikely to occur and effects are at the Site level with the potential to impact ecological features of county/national value.
- 7.5.10 A summary of the in-combination assessment is provided in Table 7.3.





| Table 7.3: Summary of Sensitive Ecological Features and Potential Effects |                                      |  |                       |   |  |  |
|---|--------------------------------------|--|-----------------------|---|--|--|
| Ecological Feature  | Importance                           | Potential Effect and Magnitude   | Potential Impact      | Mitigation Proposed and Subsequent Impact   | Proposed Mechanism to Secure   | Residual Effect in Combination   |
| Statutory Designated Sites - Weston Fen SSSI                              | County or above – <b>High/medium</b> | Discharge into connected watercourse during operation linked to SSSI - <b>Medium</b>       | <b>Major/moderate</b> | Outflow not to exceed SSSI threshold – <b>Minor adverse</b>                           | Planning Condition for mitigation within CEMP and LEMP   | Screened out of in combination effects as no other developments impacting watercourse - <b>Nugatory</b>  |
| Non Statutory Designated Sites  | Local/County - <b>Medium</b>         | Damage during construction, land take, pollution – <b>Medium/low</b>                       | <b>Moderate</b>       | CEMP and LEMP – <b>Minor adverse</b>  | Planning Condition   | Screened out of in combination effects as sites >200m from roadways and sufficient distance from other developments to prevent impacts beyond site level – <b>Nugatory</b> |
| Habitats of Principal Importance (HPI)                                    | Local – county - <b>Medium</b>       | Discharge into watercourse changing flow rate and quality during operation - <b>Medium</b> | <b>Moderate</b>       | Outflow location TBC in least sensitive area, flow rates to be modelled and pollution | Planning Condition – biodiversity conditions assessment and hydrological modelling of discharges | Screened out of in combination effects – <b>Nugatory</b>   |



| Table 7.3: Summary of Sensitive Ecological Features and Potential Effects |                      |   |                  |  |  |  |
|---|----------------------|---|------------------|--|--|--|
| Ecological Feature  | Importance           | Potential Effect and Magnitude  | Potential Impact | Mitigation Proposed and Subsequent Impact  | Proposed Mechanism to Secure                           | Residual Effect in Combination   |
|   |                      |   |                  | prevent in CEMP – <b>Minor adverse</b>   |  |  |
| Bats  | Local – <b>low</b>   | Increased light levels severing commuting links to roosts - <b>High</b>   | <b>Moderate</b>  | Avoidance of lighting the woodland and wetland areas – <b>Moderate/ Minor adverse</b>  | Planning Condition CEMP and LEMP                       | Potential for other developments to further increase ambient light levels <b>Moderate/Minor adverse and therefore significant</b> . Mitigation required – sensitive lighting scheme - <b>Minor</b> |
| Great crested newts   | County - <b>High</b> | Removal of terrestrial habitat, discharge into connected watercourse during construction and operation. Predation from pets during operation. - <b>High</b> | <b>Major</b>     | Mitigation scheme under district level licencing – funding for creation of terrestrial and aquatic habitat – <b>Moderate</b> | Planning Condition for licence through Natural England | Increased housing on Site and locally has potential to increase predation of GCN by domestic animals. This would result in <b>moderate impact and thus a significant adverse effect</b> . An area  |



| Table 7.3: Summary of Sensitive Ecological Features and Potential Effects |                                |   |   |  |  |   |
|---|--------------------------------|---|---|--|--|---|
| Ecological Feature  | Importance                     | Potential Effect and Magnitude  | Potential Impact                          | Mitigation Proposed and Subsequent Impact                        | Proposed Mechanism to Secure   | Residual Effect in Combination  |
|   |                                |   |   | beneficial impact during operation                               |  | of dense scrub to create a barrier to prevent cat access to ponds recommended – <b>Minor adverse</b>                          |
| Water vole  | Local - <b>Low</b>             | Discharge into watercourse changing water levels could flood burrows during operation - <b>High</b> | <b>Moderate</b>                           | TBC – detailed within licence if required – <b>Minor adverse</b> | Planning Condition – further water vole surveys required               | Likely not significant once mitigation scheme designed under licence (if required) across developments – <b>Minor adverse</b> |
| White clawed crayfish   | County - <b>Medium</b>         | Discharge into water course changing flow rate of stream during operation - <b>High</b>             | <b>Moderate</b>                           | TBC – detailed within licence if required – <b>Minor adverse</b> | Planning Condition- further surveys for white-clawed crayfish required | Likely not significant once mitigation scheme designed under licence (if required) across developments – <b>Minor adverse</b> |
| Biodiversity  | County – Local - <b>Medium</b> | Clearance of low value habitats on Site   | <b>Minor adverse</b> during construction. | Creation of hedgerows, wet                                       | Planning Condition - LEMP  | Likely <b>significant beneficial</b> effect in  |



| Table 7.3: Summary of Sensitive Ecological Features and Potential Effects |            |  |                  |  |                              |  |
|---|------------|--|------------------|--|------------------------------|--|
| Ecological Feature  | Importance | Potential Effect and Magnitude   | Potential Impact | Mitigation Proposed and Subsequent Impact  | Proposed Mechanism to Secure | Residual Effect in Combination                     |
|   |            | for development during construction – <b>Low</b><br>Creation of high value habitat and existing habitats enhanced during operation - <b>High</b> |                  | woodland, sustainable drainage feature and enhanced grassland.<br><b>Major beneficial</b> during operation |                              | combination due to policy requirement for net gain |



## 7.6 Mitigation

### Bats

7.6.1 Sensitive lighting on site should follow the guidance set out in Bats and Lighting in the UK (BCT and ILP, 2018). Therefore, associated site lighting proposals must consider the following:

- Avoid lighting where possible;
- Install lamps and the lowest permissible density;
- Lamps should be positioned to direct light to avoid upward spill onto any green corridors that could be used by commuting bats or features with bat roost potential;
- LED lighting – with no/low UV component is recommended;
- Lights with a warm colour temperature – 3000K or 2700K have significantly less impact on bats;
- Light sources that peak higher than 550nm also reduce impacts to bats; and
- The use of timers and dimmers to avoid lighting areas of the site all night is recommended.

### Great Crested Newts

7.6.2 Terrestrial habitats on Site should be further enhanced to the benefit of the GCN population present. It is recommended that areas of dense scrub be created to act as a buffer between development and breeding ponds, preventing increase in predation by domestic pets from this and neighbouring developments. This will serve to maintain the survivorship of the translocated newts in the receptor ponds on Site from the adjacent development under a previous licence.

## 7.7 Residual Effects

7.7.1 Provided appropriate legislation is adhered to through licencing and scheme design to incorporate suggested mitigation, there are no anticipated significant negative impacts in combination with other developments. There is anticipated to be a **significant beneficial effect** on biodiversity in combination due to the requirement for a 10% net gain in planning policy and legislation.



## 7.8 Summary

- 7.8.1 The stream on Site is a Habitat of Principal Importance as it is connected to known breeding ponds for great crested newt. The condition of this habitat should be subject to a biodiversity condition assessment in order to measure any change as a consequence of the Proposed Development. The stream also has the potential to support water vole and whit-clawed crayfish. Current water levels are low, which indicates that an increase of 18m<sup>3</sup>/day could result in a significant negative change in flow and depth of this watercourse – reducing suitability of white-clawed crayfish if present and flooding existing water vole burrows (if applicable). Therefore, further surveys for these species are recommended to assess impacts. It is not anticipated that these impacts need consideration in combination with other developments as impacts are localised.
- 7.8.2 There are known GCN breeding ponds on Site. These are to be retained and terrestrial habitat removed will be compensated for via creation and enhancement. While impacts are likely to occur in synergy with the development to the north on Heyford Park site, these can be mitigated for through district level licensing. This should result in a **positive significant effect** at the county level during operation.
- 7.8.3 The identified ecological features that could be negatively impacted significantly post development in combination with Policy Villages 5 within the Cherwell Local Plan 2011 – 2031 Part 1 are ambient light levels on bat foraging and increased predation on GCN populations. Therefore, a sensitive bat lighting strategy and habitat manipulation to form a barrier between ponds and development is of paramount importance here, and suggested mitigation prescriptions to aid design are provided to negate these impacts to **minor/negligible** levels.
- 7.8.4 The creation of additional hedgerows, enhancement of grassland, creation of sustainable urban drainage feature and planting of trees should result in a substantial net gain in biodiversity on Site. This will likely be compounded by the development to the north due to the requirement for net biodiversity gain at this site. Therefore, there is likely to be a **significant beneficial effect** to biodiversity in the long-term during operation.



## **8 LANDSCAPE AND VISUAL**

### **8.1 Introduction**

8.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of landscape character and the visual environment in the context of the Site and surrounding area. Specifically, it considers whether significant cumulative effects resulting from the Proposed Development alongside the redevelopment of Upper Heyford airfield (as allocated through Policy Villages 5 within the Cherwell Local Plan 2011 – 2031 Part 1) will occur.

8.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to Chapters 1 – 5 of this ES, in addition to Chapter 11, 'Summary of Residual & Cumulative Effects'.

8.1.3 This Chapter is to be read in conjunction with Appendix 8.1 - Landscape and Visual Impact Assessment (TG Report No. 13464/R04a).

### **8.2 Legislation, Policy and Guidance**

8.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Section 3 of Appendix 8.1.

#### ***Planning Policy***

8.2.2 The applicable planning policy is summarised as follows:

- Paragraphs 11, 8, 20, 130, 131, 174, 175, 176 and 190 (National Planning Policy Framework (NPPF), 2021);
- Policy PD3 and Policy PD5 (Mid-Cherwell Neighbourhood Plan 2018-2031);
- Policies C7, C17, C28 and C30 (Cherwell Local Plan (November 1996) Saved Policies); and
- Policies ESD10, ESD13, ESD15 and ESD17 (Cherwell Local Plan 2011-2031 – Part 1 (Adopted 20<sup>th</sup> July 2015)).

#### ***Guidance***

8.2.3 The applicable guidance is summarised as follows:

- Paragraphs 037 (Landscape), 001 (Design: process and tools) and 011 (Design: process and tools) (National Planning Practice Guidance (NPPG));
- The National Design Guide (October 2019);



- Upper Heyford Landscape Sensitivity and Capacity Assessment (2014); and
- Countryside Design Summary (June 1998).

### 8.3 Methodology

#### *Scope of the Assessment*

8.3.1 This chapter of the ES will focus on the cumulative effects in accordance with the Screening Opinion which requested that “*the cumulative impact of this development alongside the remaining development planned through the proposed allocation under Policy Villages 5*” is considered.

8.3.2 The Landscape and Visual Impact Assessment for the Proposed Development is contained within Appendix 8.1.

8.3.3 As set out within Section 1 of Appendix 8.1, the pre-application scoping with the Council’s Landscape Officer identified three developments for consideration within a cumulative assessment. These three planning applications are summarised as follows and their locations illustrated on the accompanying scoping plan contained within LVIA Appendix 2 of Appendix 8.1:

- Cumulative Site 1: Heyford Park, South of Camp Road (reference: 16/02446/F). Status: permitted (under construction).
- Cumulative Site 2: Land East of Larsen Road Heyford Park (reference: 15/01357/F). Status: under consultation (received resolution to grant permission subject to the signing of a S106).
- Cumulative Site 3: Heyford Park, Camp Road (reference: 18/00825/HYBRID). Status: under consultation (received resolution to grant permission subject to the signing of a S106).

8.3.4 These three sites lie within the wider Policy Villages 5 allocation.

#### *Effects Not Considered within the Scope*

8.3.5 The Proposed Development’s effects on the baseline landscape and visual resource is not being re-assessed in this Chapter. Landscape and visual effects in relation to the Proposed Development of the Site in isolation have been considered within Appendix 8.1.

8.3.6 In respect of Cumulative Site 1, having undertaken both desk based analysis and a field visit, it is considered that landscape and visual effects when considered cumulatively





with the Site are limited. The development proposals of Cumulative Site 1, are at an advanced stage of construction and as such are considered to form part of the baseline conditions as described in the LVIA. Furthermore, there are no viewpoint locations identified within the LVIA (Appendix 8.1) where the two sites are observed in combination, this is largely due to the presence of the intervening settlement situated to the north and south of Camp Road between Cumulative Site 1 and the Site. In sequential views, built form within both sites will read as part of the settlement, with the existing built form within the settlement separating the two. Cumulative Site reference 1 is therefore excluded from this assessment.

8.3.7 In respect of Cumulative Site 2, construction phase effects have been scoped out of this assessment due to likely construction timings. As the application for Cumulative Site 2 is due a Decision imminently, should the application be approved, it is likely that the construction works would commence ahead of the construction works for the Proposed Development. Site Reference 2 is for a full planning application and therefore it is considered that subject to discharging any pre-commencement planning conditions, construction works could commence swiftly. The construction activities associated with both sites would therefore likely be undertaken at different times. This therefore scopes out construction cumulative effects and focusses on development (operation) phase cumulative effects for Cumulative Site 2.

***Extent of the Study Area***

8.3.8 As set out within Section 1 of Appendix 8.1, the Study Area for the purposes of the LVIA, and subsequently this chapter, has first been defined by Zone of Theoretical Visibility (ZTV) mapping based upon Terrain 5 data which set a 5km radius and has since been refined following fieldwork. This study area has been scoped and agreed with the Council’s Landscape Officer.

***Consultation Undertaken to Date***

8.3.9 Table 8.1 provides a summary of the consultation activities undertaken in support of the preparation of the cumulative assessment. Copies of relevant correspondence are provided in LVIA Appendix 2 contained within Appendix 8.1 of this Chapter.

| <b>Table 8.1: Summary of Consultation Undertaken to Date</b> |                      |   |   |
|--|----------------------|---|---|
| <b>Organisation</b>  | <b>Individual(s)</b> | <b>Meeting Date and other forms of Consultation</b>                 | <b>Summary of Outcome of Discussion</b>         |
| Environmental Services,                                      | Tim Screen CMLI      | Emails 7 <sup>th</sup> October 2021 – 2 <sup>nd</sup> November 2021 | As a result of this pre-application scoping, an |



| Table 8.1: Summary of Consultation Undertaken to Date |                     |  |  |
|---|---------------------|--|--|
| Organisation  | Individual(s)       | Meeting Date and other forms of Consultation | Summary of Outcome of Discussion   |
| Environment & Place, Cherwell District Council (CDC)  | Landscape Architect |  | additional photoviewpoint location was added (viewpoint 10) and three planning applications for development within the local area were agreed to be considered within the cumulative assessment. The full extract of email correspondence is contained within LVIA Appendix 2 contained within Appendix 8.1 of this Chapter. |

**Assessment Methodology**

8.3.10 The method of baseline data collection and assessment has been agreed with the Council’s Landscape Officer and is in accordance with current guidance and industry best practice. Full details are provided in LVIA Appendix 1 within Appendix 8.1 of this Chapter.

8.3.11 The principles of the cumulative methodology are similar to those of the LVIA assessment. As set out within Section 4 of Appendix 8.1, the following terminology from the GLVIA3 has been used:

- Cumulative Effects – *“the additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together”* (GLVIA3 paragraph 7.3).
- Cumulative Landscape Effect – *“effects that can impact on either the physical fabric or character of the landscape or any special values attached to it”* (GLVIA table 7.3)

8.3.12 When considering potential Cumulative Visual Effects, there are two types of cumulative views that need to be considered; combined and sequential (GLVIA3 table 7.1);

- Combined Views – “occur where the observer is able to see two or more developments from one viewpoint” and
- Sequential Views – “occur when the observer has to move to another viewpoint to see the same or different development. Sequential effects may be assessed for travel along regularly used routes such as major roads or popular paths.”

#### *Significance Criteria*

8.3.13 As set out in Appendix 8.1, the level of effect was evaluated, both during the construction works and following completion of the development. The level of effect is a function of the sensitivity of the landscape and visual receptors against the magnitude of change that they would experience. As such, the assessment of potential effects can be described as: negligible, minor, moderate, and major. As an LVIA outside of an EIA, the effects were predicted, although not their likely significance in accordance with best practice guidelines<sup>1</sup>.

8.3.14 Effects that are deemed to be significant for the purposes of this Chapter are those that are described as being of a **major** effect (adverse, beneficial).

#### **8.4 Baseline Conditions**

8.4.1 A full description of the baseline conditions in respect to landscape character and the visual environment is set out within Section 2 (baseline appraisal) of Appendix 8.1.

8.4.2 For the purpose of this Chapter, the landscape receptors are:

- County Landscape Type: Farmland Plateau; and
- District Landscape Character Areas: Upper Heyford Plateau and Ploughley Limestone Plateau.

8.4.3 For the purposes of this Chapter, the visual receptors are:

- Users of the bridleways to the east of the Site (viewpoints 4 and 10 of Appendix 8.1);
- Users of the bridleway to the south of the Site (viewpoint 5 of Appendix 8.1);
- Residents in Wellesley Close (viewpoint 6 of Appendix 8.1);

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<sup>1</sup> ‘Guidelines for Landscape and Visual Impact Assessment’ Third Edition 2013 (GLVIA3) under the auspices of the Landscape Institute (LI) and Institute of Environmental Management and Assessment (IEMA).

- People using the roads and pavements in Wellesley Close (viewpoint 6 of Appendix 8.1);
- People using the local road network of Camp Road, Chilgrove Drive and the routes which connect to the B4030 and B430 (viewpoints 7, 8 and 9 of Appendix 8.1); and
- Residents of existing dwellings which surround the Site. Letchmere Farm buildings to the northwest, static homes to the southwest and new dwellings within the former RAF airfield.

### ***Sensitive Receptors***

8.4.4 An assessment of the sensitivity of landscape and visual receptors was undertaken in Section 4 of Appendix 8.1. The findings of this assessment are summarised in 8.4.5 below:

8.4.5 Landscape receptors:

- County Landscape Type: Farmland Plateau – medium/low sensitivity; and
- District Landscape Character Areas: Upper Heyford Plateau and Ploughley Limestone Plateau – medium/low sensitivity.

8.4.6 Visual receptors:

- Users of the bridleways to the east of the Site (viewpoints 4 and 10 of Appendix 8.1- medium/low sensitivity;
- Users of the bridleway to the south of the Site (viewpoint 5 of Appendix 8.1) - medium sensitivity;
- Residents in Wellesley Close (viewpoint 6 of Appendix 8.1) – medium sensitivity;
- People using the roads and pavements in Wellesley Close (viewpoint 6 of Appendix 8.1) - low sensitivity;
- People using the local road network of Camp Road, Chilgrove Drive and the routes which connect to the B4030 and B430 (viewpoints 7, 8 and 9 of Appendix 8.1) - low sensitivity; and
- Residents of existing dwellings which surround the Site. Letchmere Farm buildings to the northwest, static homes to the southwest and new dwellings within the former RAF airfield - medium sensitivity.

### ***Limitations***

8.4.7 Views from private dwellings were not visited in the field for the purposes of the assessment. Assumptions have therefore been made for the following visual receptors through the use of photographs taken from nearby publicly accessible locations to provide an understanding of visibility:

- Residents in Wellesley Close (viewpoint 6 of Appendix 8.1); and
- Residents of existing dwellings which surround the Site. Letchmere Farm buildings to the northwest, static homes to the southwest and new dwellings within the former RAF airfield.

## **8.5 Assessment of Cumulative Effects**

### ***Design Solutions and Assumptions***

8.5.1 Chapter 4 and Section 3 of Appendix 8.1 describe the proposals. This includes identification of the changes (impacts) that are predicted to occur as a result of the proposals which relate to the landscape and visual context (construction phase and development (operational) phase) alongside mitigation measures.

8.5.2 As set out within Section 3 of Appendix 8.1, for the purposes of the outline planning application, the following mitigation measures have been embedded into the completed development at the outline stage:

- The parameter plans limit development to a maximum of three storeys within a central strip of the eastern development parcel stepping down to a height of two and a half storeys where development is adjacent to the open space. Where the Sites topography dips development is limited to a height of two storeys adjacent to the northern and eastern Site boundaries. This seeks to respond to the natural landform across the Site and the Sites context at the edge of the settlement.
- The mature trees, existing ponds and much of the managed grassland within the western parcel of the Site are to be retained, with infiltration basins to be added forming part of the SuDS strategy for the development. Retention of existing trees and hedgerows will afford some integration with the wider landscape at completion, before the establishment of other landscape proposals. In addition, the introduction of public routes and access to a recreational open space is a benefit of the scheme, providing access to an area of the landscape which has limited public access.



- Development offsets are included within the parameter plans where Proposed Development backs onto the Site boundaries to the north, east and south. These offsets are 5-6m wide and include the retention of the existing hedgerows on the Site boundaries and allow for a minimum 1.5m wide strip for tree planting and a minimum 1m maintenance strip. These offsets feed into the landscape strategy and Landscape and Open Space Parameter Plan (Appendix 1.2), which has been designed to tie into the published landscape character guidelines. Namely this includes:
  - Containing the development within a strong landscape framework;
  - Development interspersed with public open space to integrate it into the landscape;
  - Location of new planting in the dips and folds of the landscape and establishment of tree belts around airfields to reduce their visual impact using locally characteristic native tree and shrub species; and
  - Strengthening the field pattern by planting up gappy hedges.

### ***Assessment of Cumulative Effects***

8.5.3 Section 4 of Appendix 8.1 sets out the assessment of effects in respect of landscape character and the visual environment. This includes an assessment in respect of Cumulative Effects for Site Reference 2 and Site Reference 3 alongside the Site, set within the wider Policy Villages 5 allocation. A summary of this assessment is provided below which should be read alongside Section 4 and LVIA Appendix 1 within Appendix 8.1.

### ***Cumulative Site 2***

8.5.4 The submitted Site Plan is contained in Appendix 11 of Appendix 8.1.

### ***Development (Operational) Phase***

8.5.5 Landscape Effects:

8.5.6 The Proposed Development will lead to a loss of landscape features and undeveloped land due to the introduction of new residential development within the identified landscape types and areas. It is noted however that the presence of the former airfield is a prominent feature of the landscape and distinct in character, from its more farmed

setting. Although not located within the Upper Heyford allocation, the Site is influenced by its presence especially to the north. When considered with Cumulative Site 2, the Site will extend eastwards the area of development towards the defensible boundary of Chilgrove Drive, this would represent a localised alteration to the currently experienced character areas. The proposed landscape treatments that include the scale, massing and layout of the Proposed Development, the retention and enhancement of existing boundary vegetation and a sensitive transition with features in the wider landscape will assist in integrating the scheme with its setting and adjoining development. On balance, the cumulative landscape effects during the Development (operational) Phase Year 1 are considered to be direct, long term, adverse, of a minor level of effect and not significant.

- 8.5.7 By Year 15 the proposed planting will have reached semi-maturity further enhancing the setting and integration of the Proposed Development within the landscape. Overall, the cumulative landscape effects during the Development (operational) Phase Year 15 are considered to be direct, long term, beneficial, of a minor level of effect and not significant.

#### Visual Effects

- 8.5.8 Combined Views:

- 8.5.9 Combined views of the Proposed Development and Cumulative Site 2 would be largely limited by the presence of intervening linear woodlands and built form associated with Heyford Park. However, residents fronting Wellesley Close (viewpoint 6 of Appendix 8.1) are likely to experience oblique, long distance views of the roofscapes associated with both sites. These will appear above the existing properties located on Camp Road and not alter the currently experienced views from the properties. Residents of Letchmere Farm, the static homes to the southwest and dwellings within Heyford Park will experience partially filtered views of both sites. These will incorporate the proposed recreation and ecological open spaces associated with the Site in addition to the retained vegetation with the upper storeys of building evident. On balance, for receptors of Letchmere Farm and residents fronting Camp Road the cumulative visual effects during the Development (operational) Phase Year 1 are considered to be direct, long term, adverse, of a moderate level of effect and not significant.

- 8.5.10 By Year 15 the proposed planting will have reached semi-maturity further reducing the visibility of the Proposed Development within the landscape. Overall, the cumulative visual effects of combined views during the Development (operational)

Phase Year 15 are considered to be direct, long term, adverse, of a minor level of effect and not significant.

8.5.11 During both Years 1 and 15 receptors on Wellesley Close are considered to experience direct, long term, neutral, of a negligible level of effect and non-significant cumulative visual effects.

8.5.12 Sequential views:

8.5.13 Sequential views of the Proposed Development and Cumulative Site 2 will be largely limited to users of Camp Road to the south of the sites, these will be brief in nature as road users approach and leave the settlement. Although extending slightly the quantum of built form experienced to the north of the roadway the inclusion of the Proposed Development would not be considered incongruous in views given the ongoing redevelopment of the former airfield. Elsewhere within the Study Area sequential views will be confined to PRoW to the east of the Site (viewpoints 4 and 10 of Appendix 8.1), PRoW to the south of the Site (viewpoint 5 of Appendix 8.1) and pedestrians situated on Wellesley Close to the southwest (viewpoint 6 Appendix 8.1). At these locations views that include both sites will be limited to roofscapes appearing above intervening tree cover and built form, it is considered that this will result in a barely perceptible change to the baseline views. On balance, for receptors using Camp Road the sequential cumulative visual effects during the Development (operational) Phase Year 1 are considered to be direct, long term, adverse, of a moderate level of effect and not significant.

8.5.14 By Year 15 the proposed planting will have reached semi-maturity further reducing the visibility of the Proposed Development from Camp Road. Overall, the cumulative sequential visual effects during the Development (operational) Phase Year 15 are considered to be direct, long term, adverse, of a minor level of effect and not significant.

8.5.15 During both Years 1 and 15 receptors situated on Wellesley Close and PRoW to the east are considered to experience direct, long term, neutral, of a negligible level of effect and non significant cumulative sequential visual effects.

8.5.16 To conclude, there will be no major landscape and visual effects arising as a result of the Proposed Development in combination with Cumulative Site 2 and as such no significant effects are anticipated.



### ***Site Reference 3***

8.5.17 The submitted Site Plan is contained in Appendix 11 of Appendix 8.1.

#### *Construction Phase*

##### *Landscape Effects:*

8.5.18 If the construction phases of the Proposed Development and that at Cumulative Site 3 were to occur during the same time period, there is little potential for construction activities to be perceived as having an increased prevalence within the identified character types and area. This is largely due to the greater scale of Cumulative Site 3 and location of its multiple sites to the west, north and northwest, the more diminutive Site would be understood to form part of these works. Where intervisibility is possible, views would be limited to taller elements such as cranes with the lower elevations and construction activities being screened by intervening hedgerows, tree cover and built form. Furthermore, there would be little additional loss of defining characteristics or features such as hedgerows or trees or arable land use within the character types or area.

8.5.19 Overall, the cumulative landscape effects during the Construction Phase are considered to be direct, short term, adverse, of a minor level of effect and not significant.

##### *Visual Effects:*

##### *Combined Views*

8.5.20 During construction combined views of the Site and Cumulative Site 3 would be limited to areas to the north of the Site close to Letchmere Farm, receptors being residents of the properties. Elsewhere, the frequency of hedgerows, linear tree belts and areas of development, notably within the Site, would curtail many views including those from many road corridors and PRoWs. Whilst some lower level views would be screened to receptors, taller construction elements such as cranes and other features would be evident appearing above the surrounding tree cover and extant built form. However, this would not extend the area over which construction would be viewed rather the schemes would coalesce within a vista.

8.5.21 Overall, the cumulative visual effects on combined views during the Construction Phase are considered to be direct, short term, adverse, of a moderate level of effect and not significant.

## Sequential Views

8.5.22 Sequential views of the Proposed Development and Cumulative Site 3 will be limited to users of Camp Road (viewpoints 7, 8 and 9 of Appendix 8.1) to the south of the sites and users of the PRow network to the south and east (viewpoints 4, 5 and 10 of Appendix 8.1). Whilst views from Camp Road will be brief in nature as road users approach to leave Heyford Park those from the south and east may be slightly longer in duration owing to their alignment with the Site and wider airfield complex. Whilst some lower level views would be screened to receptors, taller construction elements such as cranes and other features would be evident appearing above the surrounding tree cover and extant built form. Given the ongoing redevelopment of the airfield the presence of construction activity within views would not be perceived as an incongruent element. On balance, the sequential cumulative visual effects during the Construction Phase are considered to be direct, short term, adverse, of a moderate level of effect and not significant.

### *Development (Operational) Phase*

#### Landscape Effects:

8.5.23 The Proposed Development will lead to a loss of landscape features and undeveloped land due to the introduction of new residential development within the identified landscape types and areas. However, in contrast to the loss of fields within the Site, Cumulative Site 3 would occur within the context of a previously developed airfield. It is noted that the presence of the former airfield is a prominent feature of the landscape and distinct in character from its more farmed setting. Although not located within the Upper Heyford allocation the Site is influenced by its presence especially to the north. When considered with Cumulative Site 3, the Site will extend eastwards the area of development towards the defendable boundary of Chilgrove Drive, this would represent a localised alteration to the currently experienced character areas. The proposed landscape treatment that includes the scale, massing and layout of the Proposed Development, the retention and enhancement of existing boundary vegetation and a sensitive transition with features in the wider landscape will assist in integrating the scheme with its setting and adjoining development. On balance, the cumulative landscape effects during the Development (operational) Phase Year 1 are considered to be direct, long term, adverse, of a minor level of effect and not significant.



8.5.24 By Year 15 the proposed planting will have reached semi-maturity further enhancing the setting and integration of the Proposed Development within the landscape. Overall, the cumulative landscape effects during the Development (operational) Phase Year 15 are considered to be direct, long term, beneficial, of a minor level of effect and not significant.

Visual Effects:

Combined Views

8.5.25 During the Development (Operational) Phase combined views of the Site and Cumulative Site 3 would be limited to areas to the north of the Site close to Letchmere Farm, receptors being residents of the properties. Elsewhere, the frequency of hedgerows, linear tree belts and areas of development, notably within the setting of the Site, would curtail many views including those from road corridors and PRowS. Whilst some lower levels views would be screened to receptors by intervening vegetation both retained and proposed views of upper floors and roofs would remain evident. This would not extend the currently experienced extents of the former airfield but rather be viewed as the Proposed Development coalescing with the form of the wider airfield development.

8.5.26 On balance, for receptors of Letchmere Farm and residents fronting Camp Road the cumulative visual effects during the Development (operational) Phase Year 1 are considered to be direct, long term, adverse, of a moderate level of effect and not significant.

8.5.27 By Year 15 the proposed planting will have reached semi-maturity further reducing the visibility of the Proposed Development within the landscape. Overall, the cumulative visual effects of combined views during the Development (operational) Phase Year 15 are considered to be direct, long term, adverse, of a minor level of effect and not significant.

Sequential Views

8.5.28 Sequential views of the Proposed Development and Cumulative Site 3 will be limited to users of Camp Road (viewpoints 7, 8 and 9 of Appendix 8.1) to the south of the sites and users of the PRow network to the south and east (viewpoints 4, 5 and 10 of Appendix 8.1). Whilst views from Camp Road will be brief in nature as road users approach to leave Heyford Park those from the south and east may be slightly longer in duration owing to their alignment with the Site and wider airfield complex. Whilst



some lower level views would be screened to receptors by intervening vegetation upper floors and roofscapes will be evident to receptors to the east and south. The inclusion of the Proposed Development would not significantly alter the composition of views but may from locations to the south and east bring development closer to receptors albeit situated behind the defensible boundaries of Camp Road and Chilgrove Drive with their associated tree cover. Elsewhere views that include both sites will be limited to roofscapes appearing above intervening tree cover and built form, it is considered that this will result in a barely perceptible change to the baseline views.

- 8.5.29 On balance, for receptors using Camp Road the sequential cumulative visual effects during the Development (operational) Phase Year 1 are considered to be direct, long term, adverse, of a minor level of effect and not significant.
- 8.5.30 Receptors using the PRoW to the south and east of the Site sequential cumulative visual effects during the Development (operational) Phase Year 1 are considered to be direct, long term, adverse, of a moderate level of effect and not significant.
- 8.5.31 By Year 15 the proposed planting will have reached semi-maturity further reducing the visibility of the Proposed Development from Camp Road. Overall, the cumulative sequential visual effects during the Development (operational) Phase Year 15 are considered to be direct, long term, adverse, of a negligible level of effect and not significant.
- 8.5.32 For users of the PRoW to the south and east the cumulative sequential visual effects during the Development (operational) Phase Year 15 are considered to be direct, long term, adverse, of a minor level of effect and not significant.
- 8.5.33 To conclude, there will be no major landscape and visual effects arising as a result of the Proposed Development in combination with Cumulative Site 3 and as such no significant effects are anticipated.

### **Policy Villages 5 Allocation**

#### *Construction Phase*

- 8.5.34 Landscape Effects:
- 8.5.35 If the construction phases of the Proposed Development and that of the cumulative schemes were to align, there is a localised potential for construction activities to be perceived as having an increased prevalence within the character area and types due largely to the number of schemes present within the local area. There would be little



additional loss of defining characteristics or features however, given the brownfield nature, lack of characteristic features and existing construction works of the sites within the Policy Villages 5 allocation. As such, cumulative construction effects on landscape character will remain as being direct, short term, adverse, of a minor level of effect and not significant.

#### 8.5.36 Visual Effects:

8.5.37 There would be no cumulative visual effects on receptors situated to the north and west of the site, where built form is already present. Elsewhere within the study area, where encountered, views would be limited to the taller construction elements such as cranes and other features appearing above the intervening built form and vegetation, except from along the roads and pavements immediately adjacent to the sites (Camp Road, Chilgrove Drive) and the private dwellings to the immediate north, west and south of the Proposed Development. Given the presence of existing construction works, the assessed effects on visual receptors would not alter when considering the Proposed Development and the cumulative schemes identified. As such cumulative visual effects during construction will remain as being direct, short term, adverse, of a moderate level of effect and not significant.

#### *Development (Operational) Phase*

#### 8.5.38 Landscape Effects:

8.5.39 If all of the cumulative schemes identified were to be completed and operational there would be a localised increase in built form and open space, in the context of the recently completed development and existing development within this area. The inclusion of the Proposed Development would not extend the area where built form is perceived, given the defined edge of Chilgrove Drive, Camp Road and the presence of existing built form to the north, west and south. In addition, settlement is not uncharacteristic within this landscape and the published assessments recommend reconstruction of the landscape. Overall, the assessed effects on landscape character would not alter when considering the Proposed Development within the identified cumulative schemes. As such, cumulative operational landscape effects would remain as being direct, long term, adverse, of a minor level of effect and not significant at Year 1. By Year 15, this would reduce to direct, long term, beneficial, of a minor level of effect and not significant.

#### 8.5.40 Visual Effects:



8.5.41 There would be no cumulative visual effects on receptors situated to the north and west of the site, where built form is already present. Elsewhere, within the study area where encountered, views would be limited to either the upper elevations and rooflines in the more distant views (further along the PRoWs south and east, and existing residents further south-west) where views would appear above the existing intervening vegetation and built form. The Proposed Development in combination with the cumulative schemes would be visible to those using the immediate road network (Camp Road and Chilgrove Drive), the PRoW to the immediate south and east, close to the site, and residential properties. The inclusion of the Proposed Development in combination with the cumulative schemes would not significantly alter the composition of views but will, from the nearby locations, bring development closer to receptors. The Proposed Development would be viewed as in-keeping with the scale and massing of the built form within the wider landscape. Overall, this would not extend the area over which this type of Proposed Development would be viewed, rather a number of schemes would coalesce within a view. Overall, the assessed effects on visual receptors would not alter when considering the Proposed Development and the identified cumulative schemes. As such, cumulative visual effects during operation would remain as follows:

- For receptors of Letchmere Farm and residents fronting Camp Road the cumulative visual effects during the Development (operational) Phase Year 1 are considered to be direct, long term, adverse, of a moderate level of effect and not significant. Year 15 are considered to be direct, long term, adverse, of a minor level of effect and not significant.
- For receptors using Camp Road the cumulative visual effects during the Development (operational) Phase Year 1 are considered to be direct, long term, adverse, of a minor-moderate level of effect and not significant. Year 15 are considered to be direct, long term, adverse, of a minor level of effect and not significant.
- Receptors using the PRoW to the south and east of the Site cumulative visual effects during the Development (operational) Phase Year 1 are considered to be direct, long term, adverse, of a moderate level of effect and not significant. Year 15 are considered to be direct, long term, adverse, of a negligible level of effect and not significant.



- During both Years 1 and 15 receptors on Wellesley Close are considered to experience direct, long term, neutral, of a negligible level of effect and non-significant cumulative visual effects.

8.5.42 Considering Site Reference 1, Site Reference 2, Site Reference 3 and the Proposed Development, in combination there will be no major landscape and visual effects and therefore no significant effects anticipated.

## 8.6 Residual Effects

8.6.1 There are no further mitigation measures identified for the Proposed Development and, as such, the cumulative effects remain as described in Section 8.6 for the construction and operational phases respectively.

## 8.7 Summary

8.7.1 This Chapter has summarised the likely significant effects of the Proposed Development in terms of landscape character and the visual environment in the context of the Site and surrounding area. In particular it has considered the likely significant cumulative effects in combination with the Proposed Development planned through Policy Villages 5 within the Cherwell Local Plan 2011 – 2031 Part 1.

8.7.2 The Landscape and Visual Impact Assessment for the Proposed Development in isolation is contained within Appendix 8.1.

8.7.3 As set out within Section 1 of Appendix 8.1, the pre-application scoping with the Council's Landscape Officer identified three developments for consideration within the cumulative assessment. These three planning applications are summarised as follows and their locations illustrated on the accompanying scoping plan contained within LVIA Appendix 2 of Appendix 8.1:

- Cumulative Site 1: Heyford Park, South of Camp Road (reference: 16/02446/F). Status: permitted (under construction).
- Cumulative Site 2: Land East of Larsen Road Heyford Park (reference: 15/01357/F). Status: under consultation (received resolution to grant permission subject to the signing of a S106).
- Cumulative Site 3: Heyford Park, Camp Road (reference: 18/00825/HYBRID). Status: under consultation (received resolution to grant permission subject to the signing of a S106).

8.7.4 These three sites lie within the wider Policy Villages 5 allocation.



- 8.7.5 The development proposals of Cumulative Site 1 are at an advanced stage of construction and as such are considered to form part of the baseline conditions as described in the LVIA. In addition, there are no viewpoint locations identified within the LVIA (Appendix 8.1) where the two sites are observed in combination, this is largely due to the presence of the intervening settlement situated to the north and south of Camp Road between Cumulative Site 1 and the Site. Cumulative Site reference 1 was therefore excluded from this assessment.
- 8.7.6 There will be no major landscape and visual effects arising as a result of the Proposed Development in combination with Cumulative Site 2 and as such no significant effects are anticipated.
- 8.7.7 There will be no major landscape and visual effects arising as a result of the Proposed Development in combination with Cumulative Site 3 and as such no significant effects are anticipated.
- 8.7.8 At a wider scale, considering the Proposed Development with the allocation Policy Villages 5, there will be no major landscape and visual cumulative effect.



## **9 CULTURAL HERITAGE & ARCHAEOLOGY**

### **9.1 Introduction**

9.1.1 This Chapter reports the likely significant effects of the Proposed Development in terms of Cultural Heritage & Archaeology in the context of the Site and surrounding area. In particular it considers the likely significant cumulative effects in combination with the development planned through Policy Villages 5 within the Cherwell Local Plan 2011 – 2031 Part 1.

9.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, ‘Summary of Residual & Cumulative Effects’ (Chapter 11).

### **9.2 Legislation, Policy and Guidance**

9.2.1 The relevant legislation, policy and guidance are listed below, with details provided in Appendix 9.1 Built Heritage Statement and Appendix 9.2 Archaeological Desk-Based Assessment.

#### ***Legislative Framework***

9.2.2 The applicable legislative framework is summarised as follows:

- Section 66 of the Planning (Listed Buildings & Conservation Areas) Act 1990, which states that special regard must be given by the decision maker, in the exercise of planning functions, to the desirability of preserving or enhancing listed buildings and their settings.
- For development within a Conservation Area, Section 72 of the Planning (Listed Buildings & Conservation Areas) Act 1990 requires the decision maker to pay special attention to the desirability of preserving or enhancing the character or appearance of that area.

#### ***Planning Policy***

9.2.3 The applicable planning policies are summarised as follows:

#### ***National Planning Policy***

- Section 16: Conserving and Enhancing the Historic Environment of the National Planning Policy Framework (NPPF) is relevant to the Proposed Development. It

provides guidance for planning authorities and others on the conservation of the historic environment in the planning system.

#### *Local Planning Policy*

- Saved Policy C25 of the Adopted Cherwell Local Plan (1996);
- Saved Policy C28 of the Adopted Cherwell Local Plan (1996);
- Policy ESD 15: The Character of the Built and Historic Environment of The Cherwell Local Plan 2011-2031 Part 1 (July 2015); and
- Policies PD4: Protection of Important Views and Vistas, PD5: Building and Site Design of the Mid-Cherwell Neighbourhood Plan 2018-2031 (March 2019).

#### **Guidance**

9.2.4 The applicable guidance is summarised as follows:

- Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (Historic England, 2015);
- Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2<sup>nd</sup> Edition) (Historic England, 2017);
- Standard and Guidance for Historic Environment Desk-Based Assessment (CifA, 2014, updated 2020);
- LA 106: Cultural Heritage Assessment (Highways England, 2020); and
- Principles of Cultural Heritage Impact Assessment in the UK (IEMA, 2021).

### **9.3 Methodology**

#### ***Scope of the Assessment***

9.3.1 This chapter focuses on cumulative effects on built heritage and archaeological receptors from the Proposed Development and other planned development in the area as covered by Policy Villages 5. The schemes that form part of the cumulative assessment are those associated with the proposed allocation under Policy Villages 5 as set out below, in Chapter 2, and are shown at Appendix 11 of the Landscape and Visual Impact Assessment (Appendix 8.1 to this ES):

| <b>Table 9.1: Cumulative Schemes</b> |  |  |  |
|--------------------------------------|--|--|--|
| <b>Application No.</b>               | <b>Scheme Address</b>                  | <b>Approx. Distance from Site</b>          | <b>Proposal</b>  |
| 16/02446/F                           | Heyford Park, South of Camp Road       | 1.3km west of the Site                     | Full application for 296 residential dwellings and associated works<br><br><i>(Cumulative Site 1)</i>  |
| 15/01357/F                           | Land East of Larsen Road, Heyford Park | 0m (adjacent to western boundary of Site)  | Full application for 89 dwellings and associated works<br><br><i>(Cumulative Site 2)</i>   |
| 18/00825/HYBRID                      | Heyford Park                           | 0m (adjacent to northern boundary of Site) | Hybrid mixed-use scheme for residential development, medical centre, employment, school, community buildings, sports site and recreational amenities<br><br><i>(Cumulative Site 3)</i> |

*Effects Not Considered within the Scope*

9.3.2 The direct effects of the Proposed Development before and after mitigation resulting from the Construction phase and Operational phase are not considered within this chapter for any of the built heritage or archaeological receptors. As established by the accompanying baseline reports (Appendices 9.1 – 9.3), no significant effects have been identified to any receptors from the Proposed Development in isolation.

***Extent of the Study Area***

9.3.3 The Site comprises an area of approximately 11.7 hectares and is located at the eastern edge of Heyford Park. The Site is formed of three parcels of land which include an arable field to the east, a pasture field to the north, and a further pasture field to the west and north-west which is interspersed by a series of ponds and trees.

9.3.4 This assessment used a study area of 1km from the boundaries of the Site to identify heritage assets that may have been sensitive to the Proposed Development; this was informed by the site visit and the nature of the Proposed Development.

***Consultation Undertaken to Date***

9.3.5 Table 9.2 below provides a summary of the consultation activities undertaken in support of the preparation of this Chapter.

| Table 9.2: Summary of Consultation Undertaken to Date |                                  |  |  |
|---|----------------------------------|--|--|
| Organisation  | Individual(s)                    | Meeting Date and other forms of Consultation | Summary of Outcome of Discussion   |
| Cherwell District Council                             | n/a                              | Screening Opinion                            | Cumulative impact of this development alongside remaining development planned through the Policy Villages 5 allocation means the proposal constitutes EIA development.   |
| Oxfordshire County Council (OCC)                      | Richard Oram, Lead Archaeologist | Email discussions 2021                       | Approved Written Schemes of Investigation agreed for Geophysical Survey (undertaken in August 2021) and Trial Trenching (not yet undertaken). Confirmation, in December 2021, that the Geophysical Survey report meets required standards. |

### **Assessment Methodology**

9.3.6 Assessment of likely significant effects on cultural heritage resources within the Site and study area has been conducted in line with the latest and most comprehensive guidance provided in LA 106: Cultural Heritage Assessment (published Highways England in 2020), the Chartered Institute for Archaeologists Standard and Guidance for historic desk-based assessment (updated October 2020) and the IEMA Principles of Cultural Heritage Impact Assessment in the UK (published in 2021). These documents do not provide a prescriptive approach to assessment but identify principles and good practice that have been applied in the methodology for this assessment.

### *Significance Criteria*

9.3.7 This section defines how the cumulative significance of effect was determined, based on a three-stage process:

1. Evaluation of the value or importance of the resource (or heritage asset), or the **sensitivity** of the receptor (heritage asset) to change;

2. Assessment of the **magnitude** of the impact of the Development on the heritage receptor, whether adverse or beneficial; and
3. Determination of the **significance** of the effect, which depends upon the value and magnitude above.

9.3.8 The assessment has however been subject to continued professional review and testing to avoid a mechanistic approach and ensure that assessments and determinations properly reflect the baseline conditions and development effects.

9.3.9 The sensitivity of a heritage asset depends on factors such as the condition of the asset and its perceived heritage value/importance. The sensitivity of the heritage asset is also defined by its importance in terms of national, regional or local statutory or non-statutory protection and designations.

9.3.10 The non-statutory criteria used by the Secretary of State for Scheduling Ancient Monuments provide relevant criteria to assist this process, as does the advice contained in Historic England’s Historic Environment Planning Practice Guide and the NPPF. Table 9.3 sets out the criteria for assessing sensitivity.

| Table 9.3: Receptor Sensitivity Descriptors |  |
|---|--|
| Receptor Sensitivity                        | Descriptor   |
| Very High                                   | Very high importance and rarity, international scale and very limited potential for substitution (i.e. World Heritage Sites, Scheduled Monuments).   |
| High  | High importance and rarity, national scale and limited potential for substitution (i.e. Grade I and Grade II* Listed Buildings and Registered Parks & Gardens).  |
| Medium                                      | Medium or high importance and rarity, regional scale, limited potential for substitution (i.e. Grade II Listed Buildings and Registered Parks & Gardens and Conservation Areas).   |
| Low   | Low or medium importance and rarity, local scale (i.e. Locally Listed buildings, historic (unlisted) buildings of modest quality in their fabric or historic association, undesignated sites of demonstrable regional importance). |
| Negligible                                  | Very low importance and rarity, local scale and with importance to local interest groups (i.e. buildings of little architectural or historic note, non-  |

| Table 9.3: Receptor Sensitivity Descriptors |   |
|---|---|
| Receptor Sensitivity                        | Descriptor  |
|   | designated heritage assets, sites whose importance is limited by poor preservation and poor survival of contextual associations). |
| Unknown                                     | Importance cannot be ascertained.   |

9.3.11 The determination of significance of effect is based on the magnitude of impact that the development may have on cultural heritage resources, together with the receptor sensitivity, taking into account the nature of past development or management effects. These impacts could include temporary or permanent land take or excavation, ground disturbance and/or compaction, as well as environmental changes within the settings of receptors.

9.3.12 The assessment in this chapter is qualitative and the evaluation of significance is ultimately a matter of professional judgement. The baseline assessments have been prepared in accordance with current national guidance and policy, and follows the staged assessments set out in GPA2 and GPA3.

9.3.13 The cumulative effects considered within this chapter can be characterised as to whether they would be:

- Direct or Indirect;
- Beneficial or Adverse;
- Short, Medium or Long Term; and/or
- Reversible or Irreversible.

9.3.14 ‘Impacts’ result from change in the significance (as defined in the NPPF) of the asset attributable to the Development, and the magnitude of impact reflects the degree of change in the asset’s significance. The magnitude of impact is assessed by taking into consideration the extent/proportion of the site/feature affected, its type, survival/condition, its fragility/vulnerability and its potential amenity value. In consideration the above factors, the criteria for assessing magnitude of predicted change on cultural heritage receptors are given in Table 9.4 below. Both physical and setting effects are included as harm to significance can result through loss to or development within the setting of a heritage asset.

| Table 9.4: Magnitude of Impact Descriptors |   |
|--|---|
| Impact Magnitude                           | Descriptor  |
| Major                                      | <ul style="list-style-type: none"> <li>Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse);</li> <li>Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality (Beneficial).</li> </ul>   |
| Moderate                                   | <ul style="list-style-type: none"> <li>Loss of resource, but not adversely affecting the integrity; partial loss of /damage to key characteristics, features or elements (Adverse).</li> <li>Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).</li> </ul>   |
| Minor                                      | <ul style="list-style-type: none"> <li>Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or element (Adverse).</li> <li>Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).</li> </ul> |
| Negligible                                 | <ul style="list-style-type: none"> <li>Very minor loss or detrimental alteration to one or more characteristics, features of elements (Adverse).</li> <li>Very minor benefit to or positive addition of one or more characteristics, features or elements (Beneficial).</li> </ul>  |
| No change                                  | No loss of alteration of characteristics, features or elements; no observable impact in either direction.   |

9.3.15 The sensitivity of the receptor together with the magnitude of impact defines the significance of the effect on each receptor. The significance of effect has been established with reference to the matrix set out in Table 9.5. Effects that are deemed to be significant for the purposes of this assessment are those that are described as being major or moderate (beneficial or adverse).

9.3.16 This process is not quantitative, but relies upon professional judgement at each step. However, the factors considered in informing these judgements and in arriving at the various rankings and significance of effect are observable facts (i.e. numbers of assets, special relationships, designations, impacts). This matrix approach is not intended to mechanise judgement on the significance of effect, but to act as a check to ensure that judgements regarding sensitivity, magnitude of impact and significance of effect are reasonable and balanced, in order to allow for professional judgement.

| <b>Table 9.5: Criteria for Assessing Significance of Effect</b> |                            |                    |                    |                   |                  |
|---|----------------------------|--------------------|--------------------|-------------------|------------------|
| <b>Sensitivity of Receptor</b>                                  | <b>Magnitude of Impact</b> |                    |                    |                   |                  |
|   | <b>Major</b>               | <b>Moderate</b>    | <b>Minor</b>       | <b>Negligible</b> | <b>No Change</b> |
| <b>Very High</b>  | Major                      | Major              | Moderate           | Minor             | No impact        |
| <b>High</b>   | Major                      | Major/<br>Moderate | Moderate           | Minor             | No impact        |
| <b>Medium</b>   | Major/<br>Moderate         | Moderate           | Moderate/<br>Minor | Negligible        | No impact        |
| <b>Low</b>  | Moderate                   | Moderate/Mi<br>nor | Minor              | Negligible        | No impact        |
| <b>Negligible</b>   | Negligible                 | Negligible         | Negligible         | Negligible        | No impact        |

9.3.17 Where the matrix offers more than one significance option, professional judgement was used to decide which option was more appropriate.

#### **9.4 Baseline Conditions**

9.4.1 The Baseline Conditions considered in this chapter have been established from the findings of a Built Heritage Statement (Appendix 9.1), an Archaeological Desk-Based Assessment (Appendix 9.2) and a Geophysical Survey (Appendix 9.3).

9.4.2 There are no designated heritage assets within the Site (Listed Buildings, Conservation Areas, Scheduled Monuments, Registered Parks & Gardens, Registered Battlefields).

9.4.3 Within the vicinity of the Site, the baseline assessment (Appendix 9.1) has identified that the RAF Upper Heyford Conservation Area (BHR1) is sensitive to development within the Site through changes within its setting. The Conservation Area contains a number of designated and non-designated heritage assets; these are not inter-visible with the Site and there is no evidence of a historic functional associated between them and the Site. These assets are therefore not considered to be individually sensitive to the development of the Site.

9.4.4 The RAF Upper Heyford Conservation Area is considered to be a receptor of Medium sensitivity and is directly adjacent to the northern boundary of the Site. The Conservation Area extends over most of the RAF Upper Heyford airbase, which includes the almost total survival of the airfield landscape of buildings, structures, subterrain stores and infrastructure spanning the twentieth century. Individually and collectively, these elements help to demonstrate how military strategies and technologies evolved over time, in particular during the Cold War period, which culminated in then, the most advanced theory and practice on ‘hardening’ airfields from attack and the ability to launch effective counter-strikes. The character and



appearance of the Conservation Area is therefore principally embodied by the built elements and open and operational spaces within the Conservation Area itself, whereby its historic development and operation can be fully understood. This character is also supported by the survival of fixtures and fittings and more minor aesthetic details derived from surface makings, signage, perimeter fencing etc., which reinforces the former military presence.

- 9.4.5 The Conservation Area Appraisal describes that the central part of the airbase and its main runway sits upon the edge of a plateau (Upper Heyford Plateau). This location was clearly an important technical and localised consideration in the choice of the airfield's placement. However, the operational role of the airfield in World War Two and in its later, more significance role as a USAF SAC base during the Cold War, was not intended to interact with, or be integrated into, its surroundings. Except for the airfield's military accommodation (off Camp Road), this was reflected by the relative isolation of the airfield. Additionally, the tall, barbed-wire perimeter fencing serves both as an impenetrable physical barrier between the base and its surroundings and also marks a clear boundary between two landscapes of vastly differing character: the functional Cold War landscape of the airbase, and the surrounding mostly farming landscape. A reinforcement of this separation has also been achieved from the maturity of tree planting on the edges and surrounding the airbase.
- 9.4.6 The significance of the Conservation Area is principally understood from within the extent of its designated areas. By virtue of the limited opportunities to experience the airfield from and in conjunction with the Site, the Conservation Area derives no contribution from the Site as part of its setting. The Appraisal also does not identify any important views to or from the Conservation Area that include the Site. It is therefore considered that the Site comprises a neutral element within the setting of the Conservation Area which makes no contribution to its significance.
- 9.4.7 The Desk-Based Assessment (Appendix 9.2) and Geophysical survey (Appendix 9.3) identified an area of possible archaeology in the form of undated boundaries and enclosures in the northern part of the Site (AR1) that is sensitive to development within the Site. It has been concluded that there is a low potential for the Site to contain any further remains that were not identified by the geophysical survey. As the putative features forming AR1 have not been confirmed or dated by intrusive evaluation, the sensitivity of the possible enclosures and boundaries is currently unknown, although given the lack of recognisable archaeological morphology, their

limited extent and fragmented survival in plan, it is considered most likely to be low or negligible.

***Sensitive Receptors***

9.4.8 A number of heritage receptors are known within the Site and the surrounding area. The only ones potentially affected by the cumulative effects considered in this chapter are discussed below and summarised in Table 9.6. A plan showing the location of the built heritage and archaeological resources in relation to the Site are shown in Appendix 9.4.

| <b>Table 9.6: Heritage Receptors</b> |  |   |                       |
|--------------------------------------|--|---|-----------------------|
| <b>Receptor ID</b>                   | <b>Description</b>   | <b>Sensitivity</b>                      | <b>On or Off Site</b> |
| BHR1                                 | RAF Upper Heyford Conservation Area                            | Medium                                  | Off Site              |
| AR1                                  | Area of Geophysical Anomalies possibly relating to archaeology | Unknown; likely to be negligible or low | On Site               |

***Limitations***

9.4.9 An archaeological geophysical survey formed part of the work undertaken to establish baseline conditions for assessment, however no intrusive archaeological fieldwork has been undertaken to confirm the results of the geophysical survey. The results of the survey appear to indicate that if substantial archaeological remains were present these would have been identified. The potential for unrecorded archaeology to be present cannot, however, be written off entirely on the basis of the geophysical survey. Similarly, the interpretation of the anomalies and cropmarks recorded has not been tested by intrusive fieldwork. A Written Scheme of Investigation for Trial Trenching to confirm the results of the current baseline studies has been approved by the Lead Archaeologist at Oxfordshire County Council (OCC).

9.4.10 In undertaking the desk-based and built heritage assessments, there are a number of assumptions and limitations to be aware of:

- The site visit was limited to areas in the ownership of the Applicant and public rights of way; and
- Archival research was limited to accessible – largely online – resources due to the temporary closure of regional archives as a result of the Covid-19 pandemic.

## 9.5 Assessment of Cumulative Effects

### *Design Solutions and Assumptions*

#### *Construction Phase*

9.5.1 The sources of cumulative effects on heritage receptors during the Construction phase include:

- Soil stripping and terracing;
- Cutting of new roads, foundations and associated services;
- Generally hard and soft landscaping of the Site; and
- Indirect setting impacts.

9.5.2 The cumulative effects during this phase include both the temporary effects related to construction activity (i.e. dust, noise, light, construction traffic), as well as temporary visual effects (i.e. spoil heaps, machinery). There will also be permanent effects in relation to the loss of the undeveloped land within the Site and the delivery of housing and infrastructure.

9.5.3 In relation to the Site, the temporary construction effects will be controlled through the CEMP and the permanent effects relating to the visual impact of the built form are mitigated through the approach to the landscape strategy and layout of the Proposed Development. This includes the open space and planting along the northern boundary of the Site which will filter views between the Site and Conservation Area.

#### *Operational Phase*

9.5.4 The following design measures comprise primary mitigation incorporated into the Proposed Development relevant to the assessment of cumulative effects on the RAF Upper Heyford Conservation Area.

- Reinforcement of existing planted boundaries;
- Buffer zone and gardens along northern edge providing a setback from the Conservation Area boundary; and
- Layout of housing closest to the Conservation Area reflects residential development already established within its setting.

## ***Assessment of Cumulative Effects***

### *Construction Phase*

- 9.5.5 The Construction phases of the cumulative schemes will result in the urbanisation of areas within the Conservation Area itself (Cumulative Site 3) as well as parts of its setting Cumulative Sites 1 and 2). However, Cumulative Site 1 is not experienced in conjunction with the Site due to the distance between them and the intervening buildings and vegetation.
- 9.5.6 It has also been established that the significance of the Conservation Area is understood from the designated area. Whilst Cumulative Site 3 will result in direct impacts on the character and appearance of the Conservation Area, the Site and Cumulative Site 2 are located adjacent to its southern boundary within a neutral element of its setting.
- 9.5.7 The cumulative effects associated with the Construction phase will therefore result in temporary and permanent changes to the designated asset itself as well as aspects of its setting. However, as the Site does not provide any contribution to the significance of the Conservation Area, it is not considered the Proposed Development will modify or increase the magnitude of impact associated with the cumulative effects resulting from Cumulative Sites 2 and 3. As shown by Table 9.5, there will be no impact on the Conservation Area.
- 9.5.8 The archaeological investigations undertaken to date in support of the cumulative sites have not identified any archaeological remains that directly relate to the possible archaeology evidenced by geophysical anomalies on the Site. If the Proposed Development was to be granted, the putative archaeological remains AR1 would be subject to a programme of archaeological trenching, and if proven to be significant, to mitigation through excavation and preservation by record. This would contribute valuable information to the local archaeological record, which will also be augmented by archaeological works relating to the cumulative sites as identified, an overall minor beneficial cumulative effect, when considering the archaeological resource of the wider area.

### *Operational Phase*

- 9.5.9 The cumulative effect of the Operational phase will maintain the permanent effects associated with the built form delivered by the schemes. There will also be permanent effects resulting from the operation of the Proposed Development within the Site.

9.5.10 Cumulative Site 1 does not contribute to any cumulative effects associated with the development of Site on the RAF Upper Heyford Conservation Area due to the distance between them.

9.5.11 The development within the Site will be experienced in conjunction with Cumulative Sites 2 and 3. There will be direct impacts on the significance of the Conservation Area from Cumulative Site 3; however, the Site and Cumulative Site 2 are located within a neutral element of the Conservation Area's setting. As a result of the embedded mitigation and that the setting makes no contribution to the significance of the Conservation Area, it is not considered the Proposed Development will modify or increase the magnitude of impact associated with the cumulative effects resulting from Cumulative Sites 2 and 3. As such in accordance with Table 9.5 there will be no impact on the Conservation Area.

## **9.6 Mitigation**

9.6.1 No additional mitigation measures are required for the cumulative effects associated with either the Operational or Construction phases in respect of the RAF Upper Heyford Conservation Area (BHR1). There will be no impact from the cumulative effects on this receptor.

9.6.2 The individual effects of the Proposed Development and the other cumulative schemes on archaeological assets will be mitigated through individual programmes of archaeological investigation and recording, to be facilitated by conditions attached to the individual planning permissions – with regard to the Proposed Development itself, a programme of trial trench investigation has already been agreed with the Lead Archaeologist at OCC. No additional mitigation measures are required for the cumulative effects associated with either the Operational or Construction phases in respect of the geophysical anomalies AR1. There will be no impact from the cumulative effects on this receptor.

## **9.7 Residual Effects**

9.7.1 The Proposed Development will not result in any significant cumulative effects on either heritage receptor (BHR1 and AR1).

## **9.8 Summary**

9.8.1 This chapter has assessed the likely cumulative effect of the Proposed Development on sensitive heritage receptors identified within the Site and a 1km study area of the Site. This assessment is based on desk-based studies, a geophysical survey of the Site,

site visits and plans relating to the Proposed Development. The chapter sets out the relevant policy and guidance, details assessment methodologies and summarises the baseline.

- 9.8.2 The heritage receptors identified as being sensitive to the Proposed Development are the RAF Upper Heyford Conservation Area (adjacent to the northern boundary of the Site) and an area of geophysical anomalies possibly relating to archaeology (located within the northern part of the Site). They are receptors of Medium and Unknown (liked to be negligible or low) sensitivity respectively.
- 9.8.3 The assessment has established that there will be no significant cumulative effects associated with the Proposed Development on either heritage receptor.



## **10 WATER RESOURCES**

### **10.1 Introduction**

10.1.1 This Chapter reports the potential cumulative effects for the Proposed Development in terms of Water Resources. In particular it considers the likely significant cumulative effects in combination with the development planned through Policy Villages 5 within the Cherwell Local Plan 2011 – 2031 Part 1.

10.1.2 This Chapter (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the front end of this ES (Chapters 1 – 5), as well as the final chapter, ‘Summary of Residual & Cumulative Effects’ (Chapter 11).

### **10.2 Legislation, Policy and Guidance**

10.2.1 The relevant legislation, policy and guidance are listed below.

#### ***Legislative Framework***

10.2.2 The applicable legislative framework is summarised as follows:

- Water Industry Act 1991;
- The Water Act 2014; and
- Building Regulations Part H.

#### ***Planning Policy***

10.2.3 The applicable planning policy is summarised as follows:

- National Planning Policy Framework (NPPF) 2021;
- Cherwell Local Plan 2011-2031 - Policy ESD 3: Sustainable Construction;
- Cherwell Local Plan 2011-2031 - Policy ESD 8: Water Resources; and
- PPG for Water Supply, Wastewater and Water Quality 2015.

#### ***Guidance***

10.2.4 The applicable guidance is summarised as follows:

- Future Water The Government’s Water Strategy for England 2008;
- Thames Water: Final Water Resources Management Plan;
- Flows and Loads – 4 (British Water, Code of Practice, 2013); and



- Sewers for Adoption 8<sup>th</sup> Edition.

### 10.3 Methodology

#### *Scope of the Assessment*

10.3.1 This assessment considers the effects of the committed developments (listed in Table 2.2 of Chapter 2) in combination with the Proposed Development, on potable water supply and foul drainage infrastructure.

#### *Effects Not Considered within the Scope*

10.3.2 The assessment will not consider the effects of the Proposed Development in isolation. An assessment of effects regarding the Proposed Development itself has not been undertaken, as this is not within the scope of the EIA due to the location of the development, development type and lack of likely significant effects. Further information on the scope of the EIA can be found in Chapter 2. There is a standalone Utilities Assessment report and a Sustainable Drainage Strategy which will be submitted as part of the planning application. Further information on the scope of the EIA can be found in Chapter 2.

10.3.3 The assessment will not consider the effects of the committed developments on other utilities such as gas, electricity and telecommunications because the effect of a lack of capacity in any of these areas will not result in significant environmental impacts. The works associated with these areas are heavily regulated and underpinned by OFGEM, OFCOM, HSE and other planning policy such as NPPF which ensures no development can proceed without mitigation in place.

10.3.4 The assessment will not consider the effects of the committed developments on other elements such as rainfall, topography, surface water features, flood risk, geology, hydrogeology because the effect any of these areas will not result in significant environmental impacts. The works associated with these areas are heavily regulated and underpinned by legislation, HSE and other planning policy such as NPPF which ensures no development can proceed without mitigation in place.

#### *Extent of the Study Area*

10.3.5 The extent of the Study Area of this assessment includes infrastructure surrounding the Site and the proposed committed development sites which could potentially be affected, including the catchment area for foul water drainage and potable water supply.





**Consultation Undertaken to Date**

10.3.6 Table 10.1 provides a summary of the consultation activities undertaken in support of the preparation of this Chapter. Copies of relevant correspondence are provided in Appendix 10.1.

| <b>Table 10.1: Summary of Consultation Undertaken to Date</b> |  |   |   |
|---|--|---|---|
| <b>Organisation</b>   | <b>Individual(s)</b>                   | <b>Meeting Date and other forms of Consultation</b> | <b>Summary of Outcome of Discussion</b>   |
| Thames Water  | Developer Enquiry Team (Potable Water) | Ref: DS6090849 dated: 14/12/2021                    | Water records received from Thames Water Ltd (TWL) show a well-established clean water network to the south of the Proposed Development, on Camp Road. Shown running parallel with the southern site boundary, TWL maintain a 355mm Polyethylene (PE) large diameter trunk main and a 4" Cast Iron (CI) water main; no assets are shown within the site boundary. TWL have advised, there is sufficient capacity in the existing network to service circa 49 residential properties at the Site, it is advised that further network modelling is undertaken to understand the existing network constraints and highlight the need for network reinforcement to meet the total proposed number of dwellings. |
| Thames Water  | Developer Enquiry Team (Drainage)      | Ref: DS6090860 dated: 24/12/2021                    | The Proposed Development is situated in an area where the wastewater network is privately owned, with the parent infrastructure provided by Thames Water Ltd. The well-established privately owned networks are shown near the northern, western, and southern site boundaries, no wastewater assets are shown within the site boundary. The TWL developer response (received) confirms there is sufficient   |



| Table 10.1: Summary of Consultation Undertaken to Date |               |  |   |
|--|---------------|--|---|
| Organisation   | Individual(s) | Meeting Date and other forms of Consultation | Summary of Outcome of Discussion  |
|  |               |  | capacity in the existing network to receive foul flows from the Proposed Development. TWL have advised following planning permission TWL would further assess the network to see if there is a more cost viable connection. |

**Assessment Methodology**

10.3.7 The method of baseline data collection and assessment is in accordance with current guidance and industry best practice. The method of baseline data collection and assessment has been completed in line with enquiries to the statutory undertakers to ascertain existing utility infrastructure, and desk top review study for enquiries for future capacity required to supply the Proposed Development.

*Significance Criteria*

10.3.8 The potential effects are defined as the impact of the proposed development on the sensitive receptors. The potential effects are classified as either being ‘beneficial’ or ‘adverse’; the magnitude of their significance is recorded as either ‘None’, ‘Negligible’, ‘Minor’, ‘Moderate’ or ‘Major’. These are defined as follows:

*Major – it is anticipated that the proposed development will have a considerably large (adverse/beneficial) effect on the existing potable water or foul drainage network.*

*Moderate – it is anticipated that the proposed development will have a noticeable (adverse/beneficial) effect on the existing potable water or foul drainage network.*

*Minor – it is anticipated that the proposed development will have little (adverse/beneficial) effect on the existing potable water or foul drainage network.*

*Negligible – it is anticipated that there will be no noticeable effect on the existing potable water or foul drainage network.*

10.3.9 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being of a moderate to major level (adverse or beneficial), this is known as whereby statutory undertakers are required to consider the Proposed Development within their risk register to ensure deliverability of the site, with further



detailed modelling/feasibility assessment to ensure the network upgrades are suitable to meet the required needs.

#### **10.4 Baseline Conditions**

##### *Potable Water:*

10.4.1 Water records received from Thames Water Ltd (TWL) have identified assets servicing the Heyford area.

10.4.2 South of Camp Road, TWL maintain a 355mm high performance polyethylene trunk main (HPPE), at the junction of Chilgrove Drive, this asset connects into the clean water network via a valve bridge situated in the carriageway; the trunk main continues to the east of Camp Road.

10.4.3 In addition and running Parallel with the 355mm trunk main, TWL maintain a 4" Cast Iron (CI) water main in the southern footway of Camp Road, this asset continues to the south, to supply the local area.

##### *Foul Drainage:*

10.4.4 The Proposed Development is situated in an area where the foul sewer network is privately owned and TWL maintain the parent wastewater infrastructure.

10.4.5 There is a privately maintained pumping station associated with the combined sewer network to the south of Camp Road, a well-established network of combined sewer assets is shown downstream of this asset servicing the local area.

10.4.6 In the southern footway of Camp Road, further combined sewers are present terminating at water treatment works and pumping station to the south of Camp Road. These assets maintain supply to the east of Camp Road and adjoining streets.

##### ***Sensitive Receptors***

10.4.7 The existing Thames Water adopted potable water and foul drainage infrastructure located adjacent to the Site is considered the preferred method for connectivity of the Proposed Development. The private foul drainage infrastructure that is noted to be present may be constrained to take flows for the Proposed Development.

##### ***Limitations***

10.4.8 The existing potable water and foul drainage infrastructure considerations form a live operational network, however subject to changes within the local area for increase or decrease in demand can impact on the baseline information provided within the



contents of this chapter which inform a indicative assessment of the broad parameters that need to be considered, the investigations at the time of writing this document have a validity period of 6-12 months which may be subject to future reinforcement/change by the network operators.

## **10.5 Assessment of Cumulative Effects**

### ***Design Solutions and Assumptions***

10.5.1 It is anticipated that the required strategic level solution to facilitate the Proposed Development will be undertaken as part of Thames Water’s future investment in their existing infrastructure.

### ***Assessment of Effects***

#### ***Construction Effect***

10.5.2 The impact of the Proposed Development at the construction stage from each the Foul Drainage and Potable water requirements will result in a moderate adverse effect on foul flooding and water resource and as such the unmitigated result is Significant.

#### ***Operational Effect***

10.5.3 Whilst the operational impact of the cumulative sites is anticipated to require a strategic level solution to facilitate the proposed developments this will be undertaken as part of Thames Water’s future investment to their existing infrastructure. Whilst it is anticipated the impact of the proposed operational requirements from each the Foul Drainage and Potable water requirements will result in a moderate to major adverse effect on foul flooding and water resource and as such the unmitigated result is Significant. However Thames Water are obligated to ensure that this impact is planned for and mitigated during the construction phase of the works as such there is no perceived impact during the Operational stage and as such is Not Significant.

## **10.6 Mitigation**

10.6.1 Thames Water are obligated to accept the development with the benefit of planning consent and would therefore take necessary steps to ensure there is sufficient treatment capacity available and clean water. Section 106 and S98 of the Water Industry Act 1991 ensures that no development can be connected to an adopted network of sewers or water mains until the unacceptable impact to water quality, flooding and or capacity has been successfully mitigated. This is the responsibility of the asset owner for this mitigation in this instance this sits with Thames Water. As such



early and regular dialogue will be necessary between the asset owner and the developers of the individual developments to ensure that the appropriate proposals are put in place in a timely manner. The scope of this mitigation will need to be considered to ensure successful implementation of the Proposed Development as part of the cumulative schemes. This is likely to take the form of new and replacement infrastructure to ensure suitable capacity is available during the operational phase of the development.

## **10.7 Residual Effects**

10.7.1 Following the successful completion of the identified mitigation works it is anticipated that any residual effect is considered negligible and as such the impact will not be significant.

## **10.8 Summary**

10.8.1 This Chapter summarises the cumulative impacts on the existing networks because of the substantial planned growth in the local area.

10.8.2 The Chapter concludes that independently the cumulative proposed developments, following the appropriate mitigation to be employed by the statutory undertaker to re assess the network and identify the improvements mitigation strategy in line with industry standard practice, will not have any significant impact on Water Resources.

10.8.3 Cumulatively, the Chapter also concludes that while pre-mitigation there is the potential for substantial impacts on the networks and therefore Water Resources locally generally, post mitigation the residual effect of development is considered negligible and the impact of the development in the area will not be significant.

## 11 SUMMARY OF CUMULATIVE AND RESIDUAL EFFECTS

### 11.1 Cumulative Effects

11.1.1 Schedule 4 of the EIA Regulations states that an ES must include a description of the likely significant effects of the development, including reference to the possible cumulative effects.

11.1.2 When considering potential significant cumulative impacts, there are two aspects to consider:

- Intra-cumulative effects; and
- Inter-cumulative effects.

11.1.3 As it is not likely that the Proposed Development would result in significant effects in isolation, it is not considered likely that significant intra-cumulative effects would occur. As such an assessment of intra-cumulative effects has been scoped out of further consideration within this ES and only inter-cumulative effects have been considered within each of the technical chapters.

11.1.4 A summary of the inter-cumulative effects of the scheme are provided below and within Table 11.1, with further details provided within each technical chapter.

#### *Inter-cumulative effects*

11.1.5 In relation to inter-cumulative effects, the EIA has considered committed developments in the area surrounding the Site which, in conjunction with the Proposed Development, could collectively impose a significant impact on the environment.

11.1.6 The committed developments considered comprise those that make up Local Plan Policy Villages 5. Further details on the schemes considered are set out within Chapter 2.

| Table 11.1: Summary of Cumulative Effects |  |
|---|--|
| Technical Chapter                         | Summary of Cumulative Effects  |
| Traffic                                   | <p>The transport assessment work takes into account the cumulative impact of traffic generation from both the Proposed Development and committed developments across the wider Heyford Park area, including the schemes of Policy Villages 5.</p> <p>Owing to the expected construction of c.40 dwellings per annum at the Site, along with the construction traffic associated with committed developments across the wider Heyford Park area, it is considered unlikely that the IEMA thresholds for a detailed assessment would be reached. On the basis of the above, the construction traffic effects</p> |

| Table 11.1: Summary of Cumulative Effects |   |
|---|---|
| Technical Chapter                         | Summary of Cumulative Effects   |
|   | <p>are forecast to be (Temporary) Negligible Adverse (Not Significant). No further assessment regarding construction traffic impacts is necessary given the IEMA thresholds will not be exceeded.</p> <p>The assessment also demonstrated that operational traffic will not exceed IEMA thresholds the traffic effects are forecast to be Negligible Adverse (Not Significant).</p>   |
| Ecology                                   | <p>There are known GCN breeding ponds on Site. These are to be retained and terrestrial habitat removed will be compensated for via creation and enhancement. While impacts are likely to occur in synergy with the development to the north on Heyford Park site, these can be mitigated for through district level licensing. This should result in a positive significant effect at the county level during operation.</p> <p>The identified ecological features that could be negatively impacted significantly post development in combination with Policy Villages 5 within the Cherwell Local Plan 2011 – 2031 Part 1 are ambient light levels on bat foraging and increased predation on GCN populations. Therefore, a sensitive bat lighting strategy and habitat manipulation to form a barrier between ponds and development is of paramount importance here, and suggested mitigation prescriptions to aid design are provided to negate these impacts to minor/negligible levels.</p> <p>The creation of additional hedgerows, enhancement of grassland, creation of sustainable urban drainage feature and planting of trees should result in a substantial net gain in biodiversity on Site. This will likely be compounded by the development to the north due to the requirement for net biodiversity gain at this site. Therefore, there is likely to be a significant beneficial effect to biodiversity in the long-term during operation.</p> <p>The Cherwell Local Plan requires developments to have a net gain in biodiversity of 10%. It is assumed that all developments included in Policy Villages 5 and the Proposed Development will achieve the required levels of biodiversity net gain. As such there is anticipated to be a significant beneficial effect on biodiversity.</p> |
| Landscape and Visual                      | <p>The development proposals of the Heyford Park, South of Camp Road site are at an advanced stage of construction and as such are considered to form part of the baseline conditions. In addition, there are no viewpoint locations identified where the two sites are observed in combination, this is largely due to the presence of the intervening settlement situated to the north and south of Camp Road between the Heyford Park, South of Camp Road site and the Site. The Heyford Park, South of Camp Road site was therefore excluded from this assessment.</p>  |



| <b>Table 11.1: Summary of Cumulative Effects</b> |  |
|--|--|
| <b>Technical Chapter</b>                         | <b>Summary of Cumulative Effects</b>   |
|  | <p>There will be no major landscape and visual effects arising as a result of the Proposed Development in combination with the Land East of Larsen Road Heyford Park site and as such no significant effects are anticipated.</p> <p>There will be no major landscape and visual effects arising as a result of the Proposed Development in combination with the Heyford Park, Camp Road site and as such no significant effects are anticipated.</p> <p>At a wider scale, considering the Proposed Development with the allocation Policy Villages 5, there will be no major landscape and visual cumulative effect.</p>  |
| Cultural Heritage and Archaeology                | <p>The Heyford Park, South of Camp Road site does not contribute to any cumulative effects associated with the development of Site on the RAF Upper Heyford Conservation Area due to the distance between them.</p> <p>As a result of the embedded mitigation and that the setting makes no contribution to the significance of the Conservation Area, it is not considered the Proposed Development will modify or increase the magnitude of impact associated with the cumulative effects resulting from the Heyford Park site and the Land East of Larsen Road Heyford Park site.</p> <p>The Proposed Development will be subject to a programme of archaeological trenching. If the findings are proven to be significant, they will be mitigated through excavation and preservation by record. The cumulative schemes will also include for individual programmes of archaeological investigation and recording where required. This would contribute valuable information to the local archaeological record and is considered to result in a minor beneficial cumulative effect (not significant), when considering the archaeological resource of the wider area.</p> |
| Water Resources                                  | <p>Independently, the committed developments, following the appropriate mitigation to be employed by the statutory undertaker to re assess the network and identify the improvements mitigation strategy in line with industry standard practice, will not have any significant impact on Water Resources.</p> <p>Thames Water are obligated to accept the development with the benefit of planning consent and would therefore take necessary steps to ensure there is sufficient treatment capacity available and clean water. Section 106 and S98 of the Water Industry Act 1991 ensures that no development can be connected to an adopted network of sewers or water mains until the unacceptable impact to water quality, flooding and or capacity has been successfully mitigated. This is the responsibility of the asset owner for this mitigation in this instance this sits with Thames Water. As such early and regular dialogue will be necessary between the asset owner and the developers of the individual</p>  |



| Table 11.1: Summary of Cumulative Effects |   |
|---|---|
| Technical Chapter                         | Summary of Cumulative Effects   |
|   | <p>developments to ensure that the appropriate proposals are put in place in a timely manner. The scope of this mitigation will need to be considered to ensure successful implementation of the Proposed Development as part of the cumulative schemes. This is likely to take the form of new and replacement infrastructure to ensure suitable capacity is available during the operational phase of the development.</p> <p>Mitigation will ensure that the residual cumulative effect of development is considered negligible and the impact of the development in the area will not be significant.</p> |

## 11.2 Residual Effects

11.2.1 A description of the measures envisaged to avoid, reduce or, if possible, offset any identified significant adverse cumulative effects, i.e. the mitigation measures, has been set out within each technical chapter. These measures have been used to reduce impacts to the lowest practicable level consistent with the overall objectives of the scheme.

11.2.2 Each technical chapter has assessed the effectiveness of these measures in order to identify the residual effects.

11.2.3 Following the implementation of the mitigation measures outlined within each technical chapter, the majority of residual environmental effects have been assessed as being not significant, as summarised within Table 11.2 below. Further details are provided within the relevant technical chapters.

| Table 11.2: Summary of Significant Residual Cumulative Effects |                               |
|--|-------------------------------|
| Technical Chapter  | Significant Residual Effects? |
| Traffic  | No                            |
| Ecology  | Yes ( <i>beneficial</i> )     |
| Landscape and Visual   | No                            |
| Cultural Heritage and Archaeology                              | No                            |
| Water Resources  | No                            |

11.2.4 As stated above within Table 11.1, the Proposed Development will result in significant beneficial residual effects upon ecology.

11.2.5 The creation of additional hedgerows, enhancement of grassland, creation of sustainable urban drainage feature and planting of trees should result in a substantial net gain in biodiversity on Site. This will likely be compounded by the development to the north due to the requirement for net biodiversity gain. Therefore, there is likely to be a significant beneficial effect to biodiversity in the long-term during operation.



## **STATEMENT OF EXPERTISE**

This Environmental Statement has been prepared by competent experts, and the following statement outlines this relevant expertise and qualifications of the EIA Co-ordinator and the lead author of each technical chapter.

### ***EIA Coordination***

The ES has been prepared and co-ordinated by Susan Raine, BSc MSc PIEMA, Associate Director at Wardell Armstrong LLP. Susan has an MSc in Environmental Impact Assessment and Management from the University of Manchester and is also a Practitioner member of the Institute of Environmental Management and Assessment (IEMA). Susan has extensive experience in the co-ordination of EIAs and the preparation of ESs for a range of developments.

Wardell Armstrong LLP is a registrant of the IEMA EIA Quality Mark, demonstrating their commitment to excellence in their EIA activities. Susan manages Wardell Armstrong's registration to the EIA Quality Mark, ensuring the high standard of the scheme is adhered to.

### ***Traffic***

The traffic chapter has been prepared by James Parker at Hub Transport Planning Ltd. James has almost 25 years' experience in transport and traffic consultancy, is a full member of the Chartered Institute of Highways and Transportation (MCILT), a full member of the institute for Logistics and Transport (MILT) and holds a BSc (Hons) degree in Geography and an MSc (Eng) degree in Transport Planning & Engineering. James has experience of undertaking numerous traffic and transport assessments and making recommendations for traffic and transport mitigation across a range of sites and development projects in the UK.

### ***Ecology***

The ecology chapter has been prepared by Jennifer Carr at RammSanderson. Jennifer has over 10 years' experience in ecological consultancy, is a chartered member of the Chartered Institute for Ecology and Environmental Management (CIEEM) and holds a BSc (Hons) in Biodiversity Conservation and Management and an MSc (Hons) degree in Conservation Biology. Jennifer has experience of undertaking numerous ecological surveys, specialising in great crested newt, reptile and badger impacts and mitigation. She has completed Shadow



Habitat Regulations Assessments, Ecological Impact Assessments and written ecology chapters for ESs across a range of sites and development projects in the UK.

### ***Landscape and Visual***

The landscape and visual chapter has been prepared by Anneliese Walker and reviewed by Rob Mayers; both Associates at Tyler Grange Group Limited. Anneliese has over 8 years' experience in landscape planning, is a Chartered Member of the Landscape Institute (CMLI) and holds both a BA (Hons) degree and Postgraduate Diploma in Landscape Architecture. Rob has over 9 years' experience in landscape planning and is also a CMLI. Both Anneliese and Rob have extensive experience of preparing Landscape and Visual Impact Assessments for EIAs for large mixed-used schemes, residential developments, infrastructure projects and commercial developments.

### ***Cultural Heritage & Archaeology***

The cultural heritage & archaeology chapter has been prepared by Hannah Hamilton-Rutter BA(Hons) PGDip MA AssocIHBC and Paul Clark BA(Hons) MCIfA at RPS Group.

Hannah has ten years' experience working in both local authority and private consultancy as a historic buildings' specialist. She has undertaken numerous ES chapters for commercial, residential and infrastructure schemes throughout the UK.

Paul has over twenty years' experience as a professional archaeologist working in both contracting units and consultancy. He has directed extensive fieldwork programmes on a number of major infrastructure projects and written numerous technical reports and ES chapters for sites across the country.

### ***Water Environment***

The Water Resources chapter has been prepared by Dan Bailey (Director) and has been checked and approved by Stuart Nelmes (Regional Director) of BWB Consulting Limited.

Dan has over 14 years' experience in engineering and environmental consultancy, holds a BSc (Hons) degree and an MSc degree in Civil Engineering. Dan has experience of undertaking and managing numerous technical assessments and making recommendations for mitigation and enhancements across a range of sites and development projects in the UK.



Stuart has over 22 years' experience in engineering and environmental consultancy, holds a BSc (Hons) degree in Geography & Geology, an MSc by Research in to the Implementation of Sustainable Drainage Systems, is a Chartered Environmentalist, a Member of the Chartered Institute for Water & Environmental Management (CIWEM) and a Chartered Water & Environment Manager (C.WEM). Stuart has experience of undertaking and managing numerous technical assessments and making recommendations for mitigation and enhancements across a range of sites and development projects in the UK.



## REFERENCE LIST

In accordance with Schedule 4 of the EIA Regulations, the following provides a reference list of the sources used in the preparation of the ES.

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## GLOSSARY

| Terminology  | Explanation   |
|--|---|
| AADT   | Annual Average Daily Traffic.   |
| AAWT   | Annual Average Weekday Traffic.   |
| Above Ordnance Datum (aOD)                                   | Ordnance Datum is the vertical datum used by ordnance survey as the basis for deriving altitudes on maps. Topography may be described using the level in comparison or 'above' ordnance datum.  |
| Access Land  | Land where the public have access either by legal right or by formal agreement  |
| Ambient  | Background levels.  |
| Analysis (Landscape)   | The process of breaking the landscape down into its component parts to understand how it is made up.  |
| aOD  | Above Ordnance Datum  |
| Assemblage (ecology)   | A group of species found in the same location.  |
| Assessment (Landscape)                                       | An umbrella term for description, classification and analysis of landscape.   |
| ATC  | Automatic Traffic Count.  |
| Avoidance  | Prevention of impacts occurring, having regard to predictions about potentially negative environmental effects (e.g. project decisions about site location or design).  |
| Baseline conditions  | The conditions that would pertain in the absence of the proposed project at the time that the project would be constructed / operated / decommissioned. The definition of these baseline conditions should be informed by changes arising from other causes (e.g. other consented developments).                        |
| Baseline studies   | Studies of existing environmental conditions, which are designed to establish the baseline conditions against which any future changes can be measured or predicted.  |
| Biodiversity   | The biological diversity of the earth's living resources. The total variability among organisms and ecosystems. In common usage, and within these Guidelines, biodiversity is used to describe the conservation of the natural environment, rather than describing the variation within it.                             |
| CEMP   | Construction Environmental Management Plan  |
| Characterisation   | The process of identifying areas of similar landscape character, classifying and mapping them and describing their character.   |
| Characteristics  | Elements, or combinations of elements, which make a contribution to distinctive landscape character   |
| Committed Development  | Development that benefits from planning consent.  |
| Compensation   | The measures taken to offset or compensate for residual adverse effects which cannot be mitigated or for which mitigation cannot entirely eliminate adverse effects.  |
| Competent person (to prepare site investigation information) | A person with a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution or land instability, and membership of a relevant professional organisation.  |
| Completed Development  | Within the ES this phase refers to the Proposed Development when fully built and operational.   |
| Connectivity (ecology)                                       | A measure of the functional availability of the habitats needed for a particular species to move through a given area. Examples include the flight lines used by bats to travel between roosts and foraging areas or the corridors of appropriate habitat needed by some slow colonising species if they are to spread. |
| Conservation (for heritage policy)                           | The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance.  |



| <b>Terminology</b>                  | <b>Explanation</b>  |
|-------------------------------------|---|
| Conservation Area                   | An area of special environmental or historical importance that is protected from changes by law.  |
| Conservation objective (ecology)    | Objective for the conservation of biodiversity (e.g. specific objective within a management plan or broad objectives of policy).  |
| Countryside                         | The rural environment and its associated communities (including the coast).   |
| Cumulative effects                  | The summation of effects that result from changes caused by a development in conjunction with other past, present or reasonably foreseeable actions.  |
| Design Manual for Roads and Bridges | A comprehensive series of documents, including standards, specifications and standard details, for the design of new road infrastructure.   |
| Designated heritage asset           | A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.  |
| Designated Landscape                | Areas of landscape identified as being of importance at international, national or local levels, either defined by statute or identified in development plans or other documents.   |
| Development (landscape and visual)  | Any proposal that results in a change to the landscape and/or visual environment.   |
| Development plan                    | This includes adopted Local Plans, neighbourhood plans and the London Plan, as defined in section 38 of the Planning and Compulsory Purchase Act 2004 (regional strategies have all been abolished by Order using powers taken in the Localism Act 2011). |
| Direct Effect                       | An effect that is directly attributable to the proposed development   |
| Distribution (ecology)              | The geographical presence of a feature. This can depend on factors such as climate and altitude.  |
| Diversity                           | Where a variety of qualities or characteristics occurs.   |
| "Do-nothing" scenario               | The predicted future environmental conditions which would exist in the absence of the development.  |
| "Do Nothing" Situation              | Continued change/evolution of landscape or of the environment in the absence of the proposed development.   |
| EIA Planning Regulations            | In England and Wales these are The Town and Country Planning (Environmental Impact Assessment) Regulations 2017, plus amendments.   |
| EIA Directive                       | Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment. Reproduced in the Guide to Procedures.   |
| Ecological feature                  | Habitats, species or ecosystems.  |
| Ecosystem                           | A community of interdependent plants and animals together with the environment which they inhabit and with which they interact.   |
| Effect                              | A physical or measurable change to the environment attributable to the project.   |
| Elements                            | Individual parts which make up the landscape, such as, for example, trees, hedges and buildings.  |
| Enhancement                         | Landscape improvement through restoration, reconstruction or creation.  |
| Enhancement (ecology)               | Improved management of ecological features or provision of new ecological features, resulting in a net benefit to biodiversity, which is unrelated to a negative impact or is 'over and above' that required to mitigate/compensate for an impact.        |
| Enhancement (landscape and visual)  | Proposals that seek to improve the landscape resource and the visual amenity of the proposed development site and its wider setting, over and above its baseline condition.   |
| Environment                         | Our physical surroundings including air, water and land.  |



| <b>Terminology</b>                    | <b>Explanation</b>  |
|---------------------------------------|---|
| Environmental Assessment              | A process by which information about the environmental effects of a project is collected, both by the developer and from other sources, and taken into account by the relevant decision making body before a decision is given and whether the development should go ahead.   |
| Environmental Effects                 | The consequences for human being in terms of health and well-being, including the well-being of ecosystems and natural systems on which human survival depends, which stem from environmental impacts.  |
| Environmental Impact                  | The process whereby a change, which may be adverse, beneficial, or both, is brought about in the existing environment as a result of development activities.  |
| Environmental impact assessment (EIA) | The evaluation of the effects of particular development proposals on the environment.   |
| Environmental Statement (ES)          | A document which sets out the developer's assessment of the likely effects of the project on the environment and which is submitted in conjunction with an application for planning permission.   |
| Environment Agency                    | The EA is a non-departmental public body of the Department for Environment Food and Rural Affairs. Its purpose is, "to protect or enhance the environment, taken as a whole" (section 4, Environment Act 1995) to promote the objective of achieving sustainable development. |
| Fauna                                 | All members of the animal kingdom: vertebrates (e.g. birds, mammals and fish) and invertebrates (e.g. insects).   |
| Feature                               | Particularly prominent or eye-catching elements in the landscape, such as tree clumps, church towers or wooded skylines OR a particular aspect of the project proposal.   |
| Field pattern                         | The pattern of hedges and walls that define fields in farmed landscapes.  |
| Flood Zone 1                          | This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding.   |
| Flood Zone 2                          | This zone comprises land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river, or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding in any year.   |
| Flood Zone 3                          | This zone comprises land assessed as having between a 1 in 100 or greater annual probability of river (>>11%%), or a 1 in 200 or greater annual probability of sea flooding (>>00.5%%).   |
| Flora                                 | All members of the plant kingdom: higher ferns, ferns and fern allies, mosses and liverworts, algae and phytoplankton, fungi and lichens.   |
| Fragmentation (ecology)               | The breaking up of a habitat, ecosystem or land-use type into smaller parcels with a consequent impairment of ecological function.  |
| Geographical Information System (GIS) | A system that captures, stores, analyses, manages and present data linked to location. It links spatial information to a digital database.  |
| GLVIA                                 | Guidelines for Landscape and Visual Impact Assessment.  |
| Ground conditions                     | An assessment of the history and chemical and physical characteristics of the soil conditions at a site.  |
| Green infrastructure (GI)             | Networks of green spaces and watercourses and water bodies that connect rural areas, villages, towns and cities.  |
| Greenhouse Gas (GHG)                  | Gases such as carbon dioxide, methane and nitrous oxide, that trap heat in the atmosphere.  |
| ha                                    | Hectares  |



| <b>Terminology</b>   | <b>Explanation</b>   |
|--|--|
| Habitat  | The place or type of site where an organism or population naturally occurs. Often used in the wider sense referring to major assemblages of plants and animals found together.   |
| Heritage   | The historic environment and especially valued assets and qualities such as historic buildings and cultural traditions.  |
| Heritage asset   | A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing). |
| HGV  | Heavy Goods Vehicle  |
| Historic environment   | All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.  |
| Historic environment record (HER)  | Information services that seek to provide access to comprehensive and dynamic resources relating to the historic environment of a defined geographic area for public benefit and use.  |
| Historic Landscape Characterisation (HLC) and Historic Land-use Assessment (HLA) | Historic characterisation is the identification and interpretation of the historic dimension of the present-day landscape or townscape within a given area. HLC is the term used in England and Wales, HLA is the term used in Scotland.   |
| Hydrology  | The study of the movement, distribution, and quality of water.   |
| Important ecological features  | Ecological features requiring specific assessment within EclA. Ecological features can be important for a variety of reasons (e.g. quality and extent of designated sites or habitats, habitat / species rarity).  |
| Indirect Effects   | Effects that result indirectly from proposed project as a consequence of the direct effects, often occurring away from the site, or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in time from the source of the effects.                                 |
| Infiltration   | The passage of water into soil.  |
| Iterative Design Process   | The process by which project design is amended and improved by successive stages of refinement which respond to growing understanding of environmental issues.   |
| Key Characteristics  | Those combinations of elements which are particularly important to the current character of the landscape and help to give an area its particularly distinctive sense of place.  |
| Land Cover   | The surface cover of the land, usually expressed in terms of vegetation cover or lack of it. Related to but not the same as land use.  |
| Land Use   | What land is used for, based on broad categories or functional land cover, such as urban and industrial use and the different types of agriculture and forestry.   |
| Landform   | The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation and physical process.  |
| Landscape  | An area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors.   |
| Landscape and Visual Impact Assessment (LVIA)                                    | A tool used to identify and assess the likely significance of the effects of change resulting from development both on the landscape as an environmental resource in its own right and on people's views and visual amenity.   |
| Landscape Character  | A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.   |



| <b>Terminology</b>                   | <b>Explanation</b>  |
|--------------------------------------|---|
| Landscape Character Areas (LCAs)     | These are single unique areas which are the discrete geographical areas of a particular landscape type.   |
| Landscape Character Assessment (LCA) | the process of identifying and describing variation in the character of the landscape, and using this information to assist in managing change in the landscape. It seeks to identify and explain the unique combination of elements and features that make landscape s distinctive. The process results in the production of a Landscape Character Assessment.   |
| Landscape Character Types (LCTs)     | These are distinctive types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetic attributes.  |
| Landscape Classification             | A process of sorting the landscape into different types using selected criteria but without attaching relative values to different sorts of landscape.  |
| Landscape Effects                    | Effects on the landscape as a resource in its own right.  |
| Landscape Feature                    | Particularly prominent or eye-catching elements in the landscape, such as tree clumps, church towers or wooded skylines OR a particular aspect of the project proposal.   |
| Landscape Quality (Condition)        | A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.  |
| Landscape Receptors                  | Defined aspects of the landscape resource that have the potential to be affected by a proposal.   |
| Landscape Sensitivity                | The extent to which a landscape can accept change of a particular type and scale, without unacceptable adverse effects.   |
| Landscape Strategy                   | The overall vision and objectives for what the landscape should be like in the future, and what is thought to be desirable for a particular landscape type or area as a whole, usually expressed in formally adopted plans and programmes or related documents.   |
| Landscape Type                       | These are the distinct types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetic attributes.   |
| Landscape Value                      | The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons.   |
| LEAP                                 | Locally Equipped Area for Play  |
| Listed Building                      | A building, object or structure that has been judged to be of national importance in terms of architectural or historic interest and included on a special register.  |
| Local Plan                           | The plan for the future development of the local area, drawn up by the local planning authority in consultation with the community. In law this is described as the development plan documents adopted under the Planning and Compulsory Purchase Act 2004. Current core strategies or other planning policies, which under the regulations would be considered to be development plan documents, form part of the Local Plan. The term includes old policies which have been saved under the 2004 Act. |
| Local planning authority             | The public authority whose duty it is to carry out specific planning functions for a particular area.   |
| Local Transport Plan                 | A document that sets out the long-term strategy for travel and transport within an area for a defined plan period.  |



| <b>Terminology</b>               | <b>Explanation</b>   |
|----------------------------------|--|
| LVIA                             | Landscape and Visual Impact Assessment   |
| Magnitude (of effect)            | A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term in duration.  |
| Methodology                      | The specific approach and techniques used for a given study.   |
| Mitigation                       | Any process, activity or thing designed to avoid, reduce or remedy adverse environmental impacts likely to be caused by a development project.   |
| NGR                              | National Grid Reference  |
| Non Technical Summary (NTS)      | A report which briefly describes the main points discussed in the Environmental Statement in a clear manner, without the use of technical jargon and phraseology.  |
| NPPF                             | National Planning Policy Framework   |
| Open space                       | All open space of public value, including not just land, but also areas of water (such as rivers, canals, lakes and reservoirs) which offer important opportunities for sport and recreation and can act as a visual amenity.  |
| Parameters                       | A limit or boundary which defines the scope of a particular process or activity.   |
| Pathways                         | The routes by which impacts are transmitted through air, water, soils or plants and organisms to their receptors.  |
| Perception                       | Combines the sensory (that we receive through our senses) with the cognitive (our knowledge and understanding gained from many sources and experiences).   |
| Phase 1 Habitat Survey           | An ecological survey technique that provides a standardised system to record vegetation and wildlife habitats. It enables a basic assessment of habitat type and its potential importance for nature conservation. Each habitat type or feature is identified and presented on a map.  |
| Photomontage                     | A visualisation which superimposes an image of a proposed development upon a photograph or series of photographs.  |
| Planning condition               | A condition imposed on a grant of planning permission (in accordance with the Town and Country Planning Act 1990) or a condition included in a Local Development Order or Neighbourhood Development Order.   |
| Pollution                        | Anything that affects the quality of land, air, water or soils, which might lead to an adverse impact on human health, the natural environment or general amenity. Pollution can arise from a range of emissions, including smoke, fumes, gases, dust, steam, odour, noise and light.  |
| Population (ecology)             | A collection of individuals (plants or animals), all of the same species and in a defined geographical area.   |
| POS                              | Public Open Space  |
| Public Right(s) of Way (PRoW)    | Footpaths (for walking, running, mobility scooters or powered wheelchairs); Bridleways (for walking, horse riding, bicycles, mobility scooters or powered wheelchairs); Restricted byways (for any transport without a motor and mobility scooters or powered wheelchairs); Byways open to all traffic (for any kind of transport, including cars, but mainly used by walkers, cyclists and horse riders). |
| Rarity                           | A measure of relative abundance.   |
| Receptor                         | Physical landscape resource, special interest or viewer group that will experience an effect.  |
| Receptors                        | A component of the natural or man-made environment such as water, air, a building, or a plant that is affected by an impact.   |
| Receptors (landscape and visual) | See Landscape receptors and Visual receptors.  |





| <b>Terminology</b>                         | <b>Explanation</b>  |
|--|---|
| Reference Case Scenario                    | The modelling scenario that includes background traffic and committed development traffic, but excludes traffic associated with the Proposed Development.   |
| Residual Effects                           | Those effects of a development that cannot be mitigated following implementation of mitigation proposals.   |
| Scheduled Monument                         | A nationally important archaeological site or historic building, given protection against unauthorised change.  |
| Scoping                                    | An initial stage in determining the nature and potential scale of the environmental impacts arising from the proposed development, and assessing what further studies are required to establish their significance.   |
| Sensitivity                                | A term applied to specific receptors, combining judgments of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.  |
| Setting of a heritage asset                | The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.                       |
| Significance                               | A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic.   |
| Significance (for heritage policy)         | The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.  |
| Site of Special Scientific Interest (SSSI) | Sites designated by Natural England under the Wildlife and Countryside Act 1981.  |
| Stakeholders                               | The whole constituency of individuals and groups who have an interest in a subject or place.  |
| Susceptibility                             | The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences.   |
| Sustainable Drainage System (SuDS)         | Sustainable Drainage Systems are drainage solutions that provide an alternative to the direct channelling of surface water through networks of pipes and sewers to nearby watercourses.   |
| Supplementary planning documents           | Documents, which add, further detail to the policies in the Local Plan. They can be used to provide further guidance for development on specific sites, or on particular issues, such as design. Supplementary planning documents are capable of being a material consideration in planning decisions but are not part of the development plan. |
| Sustainable transport modes                | Any efficient, safe and accessible means of transport with overall low impact on the environment, including walking and cycling, low and ultra low emission vehicles, car sharing and public transport.   |
| Threshold                                  | A specified level in grading effects e.g. of magnitude, sensitivity or significance.  |
| Topography                                 | The natural or artificial features, level and surface form of the ground surface.   |
| Townscape                                  | The character and composition of the built environment including the buildings and relationships between them, the different types of urban open space, including green spaces, and the relationship between buildings and open spaces.   |
| Tranquillity                               | A state of calm and quietude associated with peace, considered to be a significant asset of landscape.  |



| <b>Terminology</b>   | <b>Explanation</b>  |
|--|---|
| Transport Assessment   | A comprehensive and systematic process that sets out transport issues relating to a proposed development. It identifies what measures will be required to improve accessibility and safety for all modes of travel, particularly for alternatives to the car such as walking, cycling and public transport and what measures will need to be taken to deal with the anticipated transport impacts of the development. |
| Travel plan  | A long-term management strategy for an organisation or site that seeks to deliver sustainable transport objectives through action and is articulated in a document that is regularly reviewed.  |
| Visual Amenity   | The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting or travelling through an area.  |
| Visual Effects   | Effects on specific views and on the general visual amenity experienced by people.  |
| Visual Receptors   | Individuals and/or defined groups of people who have the potential to be affected by a proposal.  |
| Visualisation  | A computer simulation, photomontage or other technique illustrating the predicted appearance of development.  |
| Zone(s) of influence   | The area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities.   |
| Zone of Theoretical Visibility (ZTV; sometimes Zone of Visual Influence) | A map, usually digitally produced, showing areas of land within which a development is theoretically visible.   |



## **NEXT STEPS**

This ES has been submitted to Cherwell District Council (CDC) for the respective Planning Officers to consider in consultation with the relevant stakeholders in the context of planning policy, prior to making a recommendation to the planning committee on the planning application.

During the period of determination, CDC will contact the relevant government bodies and agencies, and other consultees regarding the Proposed Development. Members of the public are also invited to make comments on the planning application.

Comments can be sent to:

Cherwell District Council

Bodicote House

Bodicote

Banbury

Oxon

OX15 4AA

Telephone: 01295 227006

Email: [Planning@cherwell-dc.gov.uk](mailto:Planning@cherwell-dc.gov.uk)

### ***Copies of the Environmental Statement***

The ES, including a copy of the planning application documents and the NTS, will be available to view online on the CDC planning website:

<https://www.cherwell.gov.uk/info/9/planning-and-building>

Hard copies or CDs of the ES and NTS are also available and are charged at £25 per CD and £450 per hard copy plus P+P. Hard copies can be obtained by contacting Susan Raine at Wardell Armstrong on 01782 276700.

### ***Coronavirus Amendments***

The Town and Country Planning (Local Planning, Development Management Procedure, Listed Buildings etc. (England) (Coronavirus) (Amendment) Regulations 2020/1398 allows for the publicity and inspection of documents (including an ES) to be undertaken electronically.

As set out above, the application documents can be assessed on CDC's planning website.

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