

RIDGE

SCOPING REQUEST FOR THE FIRST PHASE OF THE PROPOSED URBAN EXTENSION AT LOWER BULLINGHAM, HEREFORDSHIRE

> ON BEHALF OF BLOOR HOMES WESTERN

> > **AUGUST** 2023

SCOPING REQUEST FOR THE FIRST PHASE OF THE PROPOSED URBAN EXTENSION AT LOWER BULLINGHAM, HEREFORDSHIRE

August 2023

Prepared for Bloor Homes Western

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1. INTRODUCTION

Background

- 1.1. This report has been prepared by Ridge and Partners LLP, on behalf of Bloor Homes Western ('the Applicant') in support of a written request for an Environmental Impact Assessment (EIA) Scoping Opinion from Herefordshire Council. This report has been prepared pursuant to Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) Regulations, 2017 (hereafter 'the EIA Regulations').
- 1.2. This report relates to an emerging application proposal for outline planning permission at land at Lower Bullingham, Herefordshire ('the Site') for:

"Outline planning application with all matters reserved, except access, for the first phase of an urban extension comprising up to 540 homes (Use Class C3); employment land (Use Class B and E), local centre and a country park together with supporting open and play space, infrastructure and associated works."

- 1.3. The above Development Proposal is for the first phase of the 'Southern Urban Expansion' site allocation, at Lower Bullingham as per Policy HD6 of the Herefordshire Local Plan Core Strategy. A full description of the Development Proposal is set out at Section 4 below.
- 1.4. The Development Proposal follows a previous proposal (which is currently the subject of a live planning application) that includes the Site as well as additional land forming the Southern Urban Expansion allocation site, as detailed further in Chapter 3 of this report. As part of that previous proposal, an Environmental Impact Assessment (EIA) Screening and Scoping request was prepared by Harris Lamb and submitted to Herefordshire Council in 2019. The previous proposal related to a larger development proposal than the current Proposed Development, including for up to 1,300 dwellings including specialist accommodation, B1 (business), B2 (general industrial use) and B8 (storage or distribution uses), employment uses, a neighbourhood, community hub, a new primary school, a Park and Choose facility, a country park, public open (reference 174101).
- 1.5. Herefordshire Council adopted an EIA Screening and Scoping Opinion on 5 June 2019 confirming that the proposal put forward at that time was an EIA development and provided a Scoping Response in relation to the content of the EIA.
- 1.6. The purpose of this document is to support a new Scoping Request from Herefordshire Council in relation to the revised Development Proposal to ensure that the scope of the EIA remains proportionate and relevant. In order to facilitate the revised EIA Scoping Table 1 summarises key

differences between the previous development proposal in 2019 and the current Proposed Development.

Parameter	Previous Development Proposal (2019)	Current Development Proposal
Application area	74.46ha	42ha
Residential dwellings	Up to 1,300	Up to 540
Total Green Infrastructure (GI)	Approx. 19.62ha	Approx. 10.14ha
Play provision, including	Approx. 0.95ha	Approx 1.69ha
sports pitch		
Education provision	Approx. 1.1ha	n/a
Specialist housing	Approx. 1ha	n/a
Neighbourhood Community	Approx. 0.5ha	Approx. 0.77ha
Hub		
Park and choose	Approx. 3.17ha	n/a
Country park	Approx. 16.38ha	Potentially 6.92ha
Employment land	Approx. 4.46ha	Approx. 5.78ha

Table 1: Key development detail changes since previous EIA screening/scoping request

The requirement for an Environmental Impact Assessment (EIA)

- 1.7. The aim of an Environmental Impact Assessment (EIA) is to protect the environment by ensuring that the Local Planning Authority (LPA) grants planning permission for a project in full knowledge of the likely significant effects on the environment¹. As set out in Regulation 4(1) of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations'), an EIA is a process comprising three parts:
 - (a) *"The preparation of an environmental statement;*
 - (b) Any consultation, publication and notification required by, or by virtue of, these Regulations or any other enactment in respect of EIA development; and
 - (c) The steps required under regulation 26."
- 1.8. Regulation 4(2) states an EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors:
 - (a) Population and human health;

¹ PPG: Paragraph: 002 Reference ID: 4-002-20140306.

- (b) biodiversity, with particular attention to species and habitats protected under [any law that implemented] Directive 92/43/EEC and Directive 2009/147/EC;
- (c) Land, soil, water, air and climate;
- (d) Material assets, cultural heritage and the landscape; and
- (e) The interaction between the factors referred to in sub-paragraphs (a) to (d).
- 1.9. The EIA Regulations categorise proposed developments into two types. Schedule 1 of the EIA Regulations lists developments that always require EIA, and Schedule 2 of the EIA Regulations lists developments that may require EIA if it is considered that they could give rise to significant environmental effects.
- 1.10. The application qualifies as EIA development under Schedule 2, Category 10 (b) which relates to 'Infrastructure Projects' of which the proposal would fall under the category of *'urban development projects, including the construction of shopping centres and car parks, sports stadiums, leisure centres and multiplex cinemas'.* Category 10 (b) sets the threshold as follows:
 - i. the development includes more than 1 hectare of urban development which is not dwellinghouse development; or
 - ii. the development includes more than 150 dwellings; or
 - iii. the overall area of the development exceeds 5 hectares.
- 1.11. Regulation 6 of the EIA Regulations makes provision for a developer to request a 'Screening Opinion' from the LPA to ascertain whether an EIA is required if the development meets the above thresholds. The decision is based on the likelihood of significant environmental effects arising from the development proposals. The more environmentally sensitive the location, the more likely it is that the effects on the environment will be significant and will require an EIA.
- 1.12. The Planning Practice Guidance (PPG) includes an Annex showing 'indicative screening thresholds', which are intended to help determine whether significant effects are likely. However, it does caveat that when considering the thresholds, it is important to also consider the location of the proposed development. In respect of 'urban development projects' it highlights that:

'Environmental Impact Assessment is unlikely to be required for the redevelopment of land unless the new development is on a significantly greater scale than the previous use, or the types of impact are of a markedly different nature or there is a high level of contamination. Sites which have not previously been intensively developed:

- area of the scheme is more than 5 hectares; or
- it would provide a total of more than 10,000 m2 of new commercial floorspace; or

- the development would have significant urbanising effects in a previously nonurbanised area (e.g. a new development of more than 1,000 dwellings).'
- 1.13. It also identifies that the key issues to consider are the scale of such developments, potential increase in traffic, emissions and noise.
- 1.14. The Site does not fall within a 'sensitive area'. However, it is the subject of a previous EIA planning application that is currently pending consideration under planning application reference P194402/O (as detailed further in Section 2.0 of this Report). Informal discussions with Herefordshire Council have also identified that a revised application for the Proposed Development is likely to also warrant the submission of an ES. Therefore, a formal Screening Opinion has not been requested from Herefordshire Council in relation to this proposal and an Environmental Statement (ES) will be submitted with the application.
- 1.15. In accordance with Regulation 15(1) of the EIA Regulations, 'a person who is minded to make an EIA application may ask the relevant planning authority to state in writing their opinion as to the scope and level of detail to be provided in the Environmental Statement (a 'scoping opinion')'.
- 1.16. As such, this Scoping Report provides the necessary background to the proposed development, in accordance with the EIA Regulations, in order to assist Herefordshire Council in forming its Scoping Opinion. As per Regulation 15(2) of the EIA Regulations, this Scoping Report therefore includes:
 - a plan sufficient to identify the land (Appendix 1);
 - a brief description of the nature and purpose of the development, including its location and technical capacity;
 - an explanation of the likely significant effects of the development on the environment; and
 - such other information or representations as the person making the request may wish to provide or make.
- 1.17. The scoping exercise has been informed by desk-based research, professional judgement, and other information available.

2. PROJECT TEAM

2.1. Regulation 18(5) of the EIA Regulations states an ES must be prepared by competent experts and accompanied by a statement from the developer outlining their relevant expertise or qualifications. This report has been co-ordinated by Ridge and Partners LLP with input from the following competent experts (Table 2):

Organisation	Project Role/EIA Input		
Ridge and	EIA Co-ordination		
Partners LLP	Planning		
	Geology and Soils		
	Air Quality		
B/V/B	Noise and Vibration		
	Flood Risk and Drainage		
	Utilities		
	Waste		
EDCB	Landscape and Visual		
TT CN	Arboriculture		
PJA	Transport and Access		
Ecology Solutions	Biodiversity		
Lightigldg	Socioeconomics		
Licinieius	Human Health		
Turlov	Climate Change		
Tuney	Major Accidents and Disasters		
Headland Archaeology	Cultural Heritage		

Table 2: Technical Experts

2.2. The above project team will be responsible for the preparation of the ES Chapters and supporting technical reports that will accompany the planning application. All the EIA team members listed above have contributed to the preparation of this EIA Scoping Report.

3. SITE CONTEXT

Site location

3.1. The Site is situated in Lower Bullingham, approximately 2.1km to the south of Hereford city centre.The location of the Site is shown at Appendix 1.

Site context

- 3.2. The Site forms 'Phase 1' of the larger allocated site under Policy HD6 of the Herefordshire Local Plan – Core Strategy 2011-2031 for a comprehensively planned sustainable urban expansion expected to provide for, inter alia, a minimum of 1,000 new homes as well as around 5 hectares of employment land.
- 3.3. The Site and surrounding land that is allocated for development under the Southern Urban Expansion (Lower Bullingham) is currently the subject of an existing outline planning application under planning application reference P194402/O for a larger development proposal than the current Proposed Development². That application was submitted on Friday 20th December 2019, but it is pending determination, as detailed further below.
- 3.4. The above application for the larger development proposal is supported by an Environmental Statement and the full description of development is as follows:

"A mixed use urban extension of land at Lower Bullingham (known as the 'Southern Urban Expansion' in the Local Plan) to provide up to 1300 dwellings (including specialist housing), B1, B2 and B8 employment uses, a Neighbourhood Community Hub (A1, A3 & A5), a new primary school, a Park and Choose, a country park, public open space, access, drainage and other associated works and demolition of existing industrial buildings. All matters are reserved for future consideration save for 'access'. Only the means of access into the site is sought as part of this outline application, not the internal site access arrangements (i.e. not formally form part of application)."

3.5. All statutory consultees have now responded to the current application. Nearly all the technical consultees have not raised an objection to the application. However, during the application determination process Herefordshire Council withdrew its proposal for a new Hereford Bypass and Southern Link Road, which was intended to enable the delivery of a significant proportion of planned growth at Hereford, including the allocation of the Southern Urban Expansion. As a result, issues have been raised in relation to the current application in respect of highway congestion in the immediate and wider area. As a result, its determination has been stalled.

² The Site Location Plan for the previous and larger development proposal is contained at Appendix 2 for ease of reference.

- 3.6. Since Herefordshire Council's withdrawal of the planned bypass, a significant amount of work has been undertaken by PJA Transport Consultants over the past 18 months to establish what level of development at the Site would be acceptable in relation to the operation of the A49 and the local highway network in consultation with National Highways (NH) and Herefordshire Council. The scheme the subject of this scoping exercise has, therefore, been the subject of very lengthy discussions with the local highway authority and NH to establish an appropriate amount of development that could be delivered at the Site.
- 3.7. Those discussions have confirmed that a proposal for up to 540 dwellings and circa 5 hectares of employment land³ could be delivered in advance of any bypass, link road, or wider highway improvements (subject to several on and off-site mitigation measures and assuming the active travel strategy is in place). This conclusion generally aligns with the Herefordshire Core Strategy which anticipates a similar number of dwellings being delivered prior to the delivery of the Southern Link and a river crossing associated with a western bypass.

Site description

- 3.8. The total Site area in relation to this scoping request is approximately 42 hectares. The Site is roughly divided into four land parcels:
 - The largest land parcel is situated south/west of Watery Lane and the Rotherwas Industrial Estate, and to the north of the B4399. The Red Brook runs centrally through the parcel. To the south there is further agricultural land which forms part of the wider allocated Urban Expansion site. The red line also extends from this parcel across Watery Lane to Twyford Road to provide for a new bus / cycle / pedestrian connection to the Rotherwas Industrial Estate.
 - A further land parcel is situated between Green Crize Lane and Lower Bullingham Lane, to the west of the largest land parcel contained in the red line site area. This land parcel lies directly south of the Welsh Marches railway line which separates this part of the Site from the existing built-up area of Lower Bullingham.
 - An additional area is situated south-west of the largest land parcel, which is proposed as a
 possible new Country Park. This land parcel is situated to the west of the rear gardens of
 existing dwellings along Hoarwithy Road and to the east of Norton Brook. The B4399 is
 situated further south.

³ Employment trips are contained within the Rotherwas Local Development Order (Herefordshire Enterprise Zone) transport envelope.

- Finally, a very small area of land is also included in the red line to the south of the Welsh Marches railway line and west of Watery Lane to allow a vehicle-by-pass facility on Watery Lane for use by residents along the lane in time of flood.
- 3.9. The entire Site is located within the administrative boundary of Herefordshire Council. Most of the Site falls within the parish of Lower Bullingham, with the exception of the land parcel to the southwest which is currently shown as a new country park, which falls within the parish of Callow and Haywood.
- 3.10. Most of the Site is currently in arable agricultural use. There are also some existing agricultural/industrial buildings located to the southeast of the largest land parcel contained in the red line Site area.
- 3.11. A summary of the key landscape features within the Site includes grassland and ruderal vegetation, ponds, watercourses and ditches, dense scrub, semi-natural broadleaved woodland, scattered trees, and hedgerows.
- 3.12. The key environmental baseline conditions, including any statutory designations, in relation to the Site are set out under the relevant receptor headings within the following sections of this Scoping Report. Overall, the Site is not in or directly adjacent to an environmentally sensitive area, as defined by Regulation 2(1) of the EIA Regulations (i.e. sites designated as Sites of Specific Scientific Interest (SSSI), National Parks, World Heritage Sites, Scheduled Ancient Monuments, Area of Outstanding Natural Beauty and sites covered by international conservation designations) and therefore is not considered to represent an environmentally sensitive location.

4. THE PROPOSED DEVELOPMENT

- 4.1. At present, an outline planning application is to be submitted with all matters reserved except for access. The Proposed Development is for up to 540 dwellings (approximately half the number of dwellings set out in the allocation) as well as approximately 5.78ha of employment land (Use Classes B and E).
- 4.2. The Proposed Development also includes for a local centre (including the possibility of some retail) to assist in creating a sustainable community together with supporting open and play space, infrastructure (for example, new access points and drainage) and associated works (for example, landscaping and ground modelling).
- 4.3. A Concept Masterplan is contained at **Appendix 3** of this Report.
- 4.4. The key Parameters for the Proposed Development are outlined in **Table 3** below.

Parameter	Current Development Proposal
Application area	42ha
Residential dwellings	Up to 540
Total Green Infrastructure (GI)	Approx. 10.14ha
Play provision, including sports pitch	Approx 1.69ha
Neighbourhood Community Hub	Approx. 0.77ha
Possible Country Park	Approx. 6.92ha
Employment land	Approx. 5.78ha

Table 3: Proposed Development Parameters

5. GENERAL APPROACH TO THE EIA

5.1. This Chapter sets out the proposed general approach to the EIA process and the scope and methodology for assessment.

Content of the Environmental Statement

- 5.2. In accordance with Regulation 18(1) of the EIA Regulations, subject to Regulation 9, an EIA application must be accompanied by an ES for the purposes of those Regulations. As such, an ES will be prepared to accompany the planning application in accordance with Regulation 18(3) of the EIA Regulations and reference will be made to current EIA good practice guidance.
- 5.3. Regulation 18(3) defines an ES as a statement that at least includes:
 - a) "A description of the proposed development comprising information on the Site, design, size and other relevant features of the development;
 - b) A description of the likely significant effects of the proposed development on the environment;
 - c) A description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
 - A description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;
 - e) A non-technical summary of the information referred to in sub-paragraphs (a) to (d); and
 - f) Any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected."
- 5.4. With regard to the above, the likely structure of the Main ES Report is set out in Chapter 10 of this report. In summary, the introductory chapters of the ES will provide an overview of the methodology employed as well as a detailed description of the Site, the proposed development and summary of the national and local planning policy context. These chapters will be followed by a series of separate assessment chapters on each of the topics that have been agreed with Herefordshire Council to be 'scoped in'. These topics will be supported by figures and technical appendices where required. Finally, the assessments will be brought together into a concluding chapter that summarises the identified effects and any proposed mitigation measures or enhancements. A Non-Technical Summary will also be provided.

- 5.5. Regulation 18(4) of the EIA Regulations states an ES must be in accordance with the most recent scoping opinion or direction issued that complies with Regulation 15 or 16 of the EIA Regulations (albeit that the proposed development remains materially the same as the proposed development that was subject to that scoping opinion or direction). As such, the ES will be based on the Scoping Opinion provided by Herefordshire Council in response to this request. Each ES technical chapter will set out key points made during the scoping and consultation process between the project team and stakeholders and will clearly explain how these have been addressed by the EIA process.
- 5.6. Additionally, the ES will include information required for reaching a conclusion on the significant effects of the development on the environment and be prepared to take into account results of any relevant UK environmental assessment. The assessment of likely significant effects will set out the effects associated with construction works and once the Proposed Development is completed and operational.

Consultation

- 5.7. A programme of consultation with key stakeholders and statutory and non-statutory consultees will be undertaken throughout the design process and in the lead up to submission of the planning application.
- 5.8. Significant consultation has already been undertaken with NH and Herefordshire Council Highway and Planning departments over the past 18 months. The advice received has established what level of development would be acceptable in relation to the operation of the A49 and the local highway network in consultation with NH and HC. The scheme the subject of this Scoping Request has, therefore, been informed by and the subject of very lengthy discussions with the local highway authority and NH to establish an appropriate development proposal.
- 5.9. The Applicant has also recently submitted a further formal pre-application advice and consultation request to Herefordshire Council on the 3rd July 2023.

Consideration of alternatives

5.10. EIA Regulation 18(3) requires that the ES includes a description of the reasonable alternatives considered. Under Paragraph: 041⁴ of the Planning Practice Guidance (PPG) it states *"the 2017 Regulations do not require an applicant to consider alternatives. However, where alternatives have been considered, Paragraph 2 of Schedule 4 requires the applicant to include in their Environmental Statement a description of the reasonable alternatives studied (for example in terms of development*

⁴ Reference ID: 4-041-20170728

design, technology, location, size and scale) and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.

- 5.11. The potential alternative scenarios comprise:
 - 'Do nothing' scenario the consequence of no development taking place
 - 'Alternative sites' the rationale behind choosing the application site; and
 - 'Alternative designs' the consideration of an alternative design configurations as part of the design process.
- 5.12. In the Council's Scoping Opinion dated 5 June 2019 in relation to the previous development proposal at the Site (for a much larger development proposal), the Council stated:

"The Council agrees that the consideration of alternatives with respect of location or nature (quantum) of development is not necessary. This is on the basis that as the Report identifies, the development is formally allocated via Policy HD6 of the Herefordshire Local Plan – Core Strategy."

- 5.13. It is therefore considered that the above conclusion is equally applicable to the current Development Proposal which forms part of an allocated Site within the Herefordshire Local Plan Core Strategy 2011-2031 for sustainable mixed-use urban extension to Hereford.
- 5.14. As such, a 'Do nothing' scenario and an 'Alternative sites' scenario are not anticipated to form part of the assessment. However, the alternative design configurations and iterations that have been considered by the Applicant and the reasons for the final masterplan proposed will be set out in the ES.
- 5.15. The Applicant respectfully asks the LPA to consider the above and to confirm that the approach to 'alternatives' is acceptable as part of the Scoping process.

Defining the study area

5.16. The study area for each environmental topic is generally individual to that topic and will be based on the geographical scope of the potential for significant effects relevant to that topic, or the information required to assess the likely significant effects. It will also consider any specific guidance and consultation with stakeholders. The proposed study areas are therefore defined and justified for each topic in the following chapters of this report.

Establishing baseline and future baseline conditions

5.17. The baseline scenario (against which any likely significant effects will be assessed) will be taken to be the Site as it currently is.

- 5.18. Generally, baseline information will be gathered through desk-based research and Site surveys and informed and supported by any previous assessments on the Site between 2017/2018/2019. Topic specific approaches to defining baseline conditions will be defined and justified in the relevant topic chapters. The ES will set out what year the baseline data is sourced from.
- 5.19. In addition to the current baseline conditions, the Schedule 4 of the EIA Regulations also requires an outline of the likely evolution of the baseline conditions "without implementation of the Development, as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge." The future baseline conditions will therefore also be described in each chapter of the ES.

Determining the significance of effects

- 5.20. The focus of the EIA process is the identification and evaluation of impacts and the assessment of 'significance of effects' of a project on the environment.
- 5.21. The approach to identifying whether any predicted environmental effects are significant relies on standards or codes of practice, professional judgement and the views of other agencies and organisations. Broadly, the level of effect is derived from a number of parameters including:
 - Magnitude (size of effect);
 - Spatial extent (size of the area affected);
 - Duration (short, medium or long term);
 - Nature of the effect (direct or indirect, secondary, cumulative, permanent or temporary);
 - Number and sensitivity of the receptors;
 - International, national or local standards; and
 - Relevant planning policy.
- 5.22. In terms of significance, the terms negligible, minor, moderate or major are typically used to identify the level of effect. Effects are also described according to whether they are considered to be adverse, neutral or beneficial. The applicability of these criteria is specific to each individual topic and is to be explained in detail in the Technical Chapters. Where possible, this will be based upon quantitative and accepted criteria, but where no such standards exist, valued judgement and professional interpretation will be utilised. Unless otherwise specified under the specific topic headings later in this Scoping Report, each of the Technical Chapters will use the following criteria to determine the magnitude of change and the sensitivity of the receptor/receiving environment.
- 5.23. The sensitivity of the receptor, and the magnitude of change will be assessed on a scale of high, medium, low and negligible.

5.24. The overall effect of significance will be calculated based on the interaction between magnitude and sensitivity, whereby the effects can be beneficial (positive), adverse (negative) or negligible (neutral). The significance matrix is set out in Table 4, below:

Magnitude	Sensitivity of Receptor			
	High	Medium	Low	Negligible
High	Major	Major/Moderate	Moderate/Minor	Negligible
Medium	Major/Moderate	Moderate	Minor	Negligible
Low	Moderate/Minor	Minor	Minor/Negligible	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

Table 4: Significance Matrix

- 5.25. In terms of significance, the terms negligible, minor, moderate or major are typically used to identify the level of effect. The terms outlined in the above table have been defined as the following:
 - **Major (adverse or beneficial)** where the development would cause considerable deterioration (or improvement) of the existing environment;
 - **Moderate (adverse or beneficial)** where the development would cause noticeable deterioration (or improvement) to the existing environment;
 - **Minor (adverse or beneficial)** where the development would cause perceptible deterioration (or improvement) to the existing environment;
 - **Negligible** no discernible improvement or deterioration to the existing environment
- 5.26. Unless stated otherwise within a Technical Chapter, effects of moderate significance or above are considered to be significant in EIA terms and effects that are minor are not significant in EIA terms. Professional judgement is to be used to determine whether a Moderate/Minor effect is significant or not.
- 5.27. In line with Schedule 4 of the EIA Regulations, the description of the likely significant effects will cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development.

Mitigation measures and residual effects

- 5.28. Where significant adverse environmental effects are identified in the assessment process, either during the construction or operational phases of development, measures to prevent/avoid, reduce or mitigate these effects will be identified and detailed. These measures may relate to the design, construction, or operational management activities to be undertaken as far as practicable.
- 5.29. Any residual effects following the implementation of mitigation measures will be determined accordingly and will then be re-examined against the established significance criteria scale.

Cumulative effects

- 5.30. Schedule 4 (5)(e) of the EIA regulations requires a description of the likely significant effects of the development on the environment resulting from *'the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources'.*
- 5.31. There is no widely accepted methodology or best practice for the assessment of cumulative effects, although various guidance documents exist.
- 5.32. The PPG, under Paragraph: 024 Reference ID: 4-024-20170728, states each application should be considered on its own merits. There are occasions, however, when other existing or approved development may be relevant in determining whether significant effects are likely as a consequence of a proposed development. The local planning authorities should always have regard to the possible cumulative effects arising from any existing or approved development.
- 5.33. In assessing the cumulative impacts, all technical assessments will consider 'inter-project effects' and 'intra-project effects'. Inter-project effects are those effects of the proposed development and other committed developments in the vicinity of the Site. Intra-project effects relate to the interrelationship between topics and those effects of the proposed development which, when considered together, may have a combined effect on a receptor.
- 5.34. As required by the EIA Regulations, this Scoping Report considers the potential cumulative schemes to be considered as part of the ES which we would seek to agree with the Council. It is intended that the assessment would be limited to committed developments, allocated sites, and other developments that are 'reasonably foreseeable'. Reasonably foreseeable includes those with planning applications that have been submitted but not yet determined, but only where there is a likelihood that the application may be granted planning permission before, or at the same as this application is determined and for which sufficient information is readily available to make an informed assessment.
- 5.35. A set of screening criteria has been developed to identify which cumulative schemes in the area should be subject to assessment, as follows:
 - Committed developments⁵, allocated sites and other developments that are reasonably foreseeable; and
 - Spatially linked to the development (within 2km of the Site boundary of the main Site area and within 2km of the boundary of the possible Country Park Site area); and

⁵ Either an extant planning permission with construction yet to begin, or extant planning permission with construction underway.

- The development includes more than 1 hectare (site area) of urban development which is not dwellinghouse development, the development includes more than 150 dwellings, or the overall area of the development exceeds 5 hectares; or
- Committed developments and other developments that are reasonably foreseeable within the Herefordshire Enterprise Zone⁶; and
- Other EIA development or major expansion projects (allocated sites) within 5km of the Site boundary of the main Site area and within 5km of the boundary of the possible Country Park Site area.
- 5.36. Only those sites that are considered to have the potential to generate likely significant cumulative effects in combination with the Proposed Development during the construction or operational phase should be assessed within the ES. Based on the above screening criteria, a list of potential sites for further consideration and discussion with Herefordshire Council to determine which sites should be included within the cumulative effects assessment is identified in **Table 5** below.
- 5.37. In respect of the allocated sites, it is also important to note that the Council would have considered cumulative impacts of this Site in relation to other strategic allocations in the preparation of the Plan. We would welcome the LPA's views on the approach and list of sites contained below.

Site Address and LPA	Application Reference	Description	Status			
Committed of foresee	Committed developments, allocated sites and other developments that are reasonably foreseeable within 2km of the main Site area and possible Country Park area					
Land north and south of Grafton Lane Hereford HR2 8BJ	P193042/O	Outline application for residential development (230 dwellings), with all matters reserved except for access, footway/cycleway and vehicle turning head, stopping up and re-routing of a short section of Grafton Lane near the A49, public open space, landscaping and associated infrastructure works.	Approved 4 May 2023.			
Hereford, Newton Farm, Land at Ashley Farm Grafton Court	P223281/CD4	Outline permission for proposed mixed use development to provide community hub with enhanced	Validated 6 April 2023. Awaiting determination.			

Table 5: Cumulative Sites

⁶ It has already been agreed with the Highway Authority in earlier discussions that any development sites forming part of the Herefordshire Enterprise Zone do not need to be assessed when considering highway-related impacts in relation to the employment element of the Proposed Development.

Close Grafton Hereford Herefordshire HR2 8BL	I developments	recreation facilities including a 3G pitch, car park and access roads, change of use of land from agricultural to allotments and productive gardens new buildings to provide changing facilities, classrooms, equipment storage, poly tunnels cafe, and kitchen.	to that are reaconably foreseeable
Committee	withi	n the Herefordshire En	terprise Zone
Plot 6 Skylon Park Skylon View Rotherwas, Hereford	P214430/PEZ	Proposed new office building with on-plot car parking, landscaping, and associated development infrastructure including new access incorporating footway, drainag,e and utilities.	Approved 14 January 2022.
Lower Bullingham, Dinedor Hill, Plot N24 at Skylon Park Rotherwas Hereford	P210548/PEZ	Application for landscaping and revised development for a proposed D1 development and associated estate road, car parking and landscaping.	Approved 15 March 2021.
Dinedor, Dinedor Hill, Land North of Woodstock Trading Co Poplar Way Hereford Enterprise Zone Hereford	P200447/PEZ	Mixed B1, B2, B8 development and associated estate road, SUDS drainage and landscaping.	Approved 6 March 2020.
Dinedor, Dinedor Hill, Plot 6 North Magazine Hereford Enterprise	P231436/PEZ	Proposed new office and warehouse building and associated development	Approved 26 May 2023.

Zone Rotherwas Hereford HR2 6SR		including car parking and landscaping.	
Plot 9 Skylon North Magazine Skylon Park Hereford HR2 6ST	P214430/PEZ	Proposed new office building with on-plot car parking, landscaping and associated development infrastructure including new access incorporating footway, drainage and utilities.	Approved 13 January 2022.
Lower Bullingham, Dinedor Hill, Land at Ramsden Road Rotherwas Hereford Proposed erection of industrial units with parking and turning area (For DOC 7 8 11 & 12 see	P213306/F	Proposed erection of industrial units with parking and turning area.	Approved 16 February 2022.
Priority Space Ltd Skylon Central Rotherwas Hereford	P220625/PEZ	Proposed Phase 2 Development. Provision of 9no. speculative B1/B2/B8 industrial units including all associated external works and provision of amended car parking layout to suit the phase 1 office development already constructed.	Approved 11 April 2022.
Plot 12 Skylon North Magazine, Skylon Park Hereford HR2 6ST	P213553/PEZ	Proposed new light industrial/warehouse building with ancillary offices, on-plot car parking, service yards, landscaping and associated development	Approved 19 November 2021.

		infrastructure including new access incorporating shared footway/cycleways, drainage, utilities, and landscaping.	
Land at Chapel Road Site 2, Units 1 and 2 Rotherwas Industrial Estate Hereford HR2 6NS	P212213/PEZ	Hereford Enterprise Zone - LDO submission - The proposal is the erection of a building for B8 storage use with ancillary office space.	Approved 2 July 2021.
Other EIA	development o	or major expansion pro	jects (allocated sites) within 5km
Hereford, Holmer, Land at Holmer Trading Estate College Road Hereford Herefordshire	P150659/O	Demolition of all existing buildings and hard standings, remediation of the site, including reinstatement or landscaping of the former canal and development of up to 120 homes, landscaping, public open space, new vehicle and pedestrian access, and associated works.	Approved 17 August 2018. Reserved Matters approved 17 November 2022 under ref. 201838. Non-material amendment approved to permission 201838 approved 3 February 2023 under ref.230085.
Holmer & Shelwick, Burghill, Holmer, and Lyde - prior 2015, Land to the north of the Roman Road west of the A49 Holmer West Hereford	P150478/O	Proposed erection of up to 460 dwellings including affordable housing, public open space, a Park & Ride facility, with associated landscaping access, drainage and other associated works.	Phase 1 for 88 dwellings and Phase 2 application (182712) for 221 dwellings are already complete. The specialist housing scheme (201183) for 80 dwellings and the permission (201445) for 77 dwellings have both commenced and the RM permission (201445) also has occupations.
Land at Three Elms, Hereford	P162920/F	Outline Planning Application with all matters reserved, except access, for the demolition of existing agricultural buildings and an urban extension comprising up to 1,200 homes (Use	Validated 9 September 2016. Pending determination following the Council's decision to stop progress on the South Wye Transport Package and the Hereford Transport Package (HTP), which includes the bypass. As a consequence, the application determination has stalled and a further application for up to 350 homes has

		(1 - 1 - 1)	
		Class C3); employment development (comprising Use Classes B1/B2/B8); a neighbourhood centre comprising a mix of retail (Use Classes A1/2/3/5), health provision (Use Class D1) and leisure uses (Use Class D2); a new one form entry primary school; park & choose interchanges; together with open and play space, landscaping, highways, infrastructure and associated works. **Please see also 162921 (Representations)	subsequently been submitted, as detailed below.
Land at Three Elms, North East Quarter To the north east of Huntington and bounded by Three Elms Road and Roman Road Hereford Herefordshire HR4 7RA	P222138/O	Outline Planning application with all matters reserved, except access, for the first phase of an urban extension comprising up to 350 homes (Use Class C3); park & choose interchange; together with open and play space, landscaping, infrastructure and associated works.	Validated 12 July 2022. Target determination 1 September 2023.

6. TOPICS WHERE SIGNIFICANT EFFECTS ARE UNLIKELY

Introduction

- 6.1. As stated within the EIA Regulations, an ES is required to identify only the 'likely significant environmental effects' of a development.
- 6.2. The rationale for this scoping exercise has been guided by the PPG, which states that the ES should focus on the 'main' or 'significant' environmental effects only:

"Whilst every Environmental Statement should provide a full factual description of the development, the emphasis should be on the "main" or "significant" environmental effects to which a development is likely to give rise. The Environmental Statement should be proportionate and not be any longer than is necessary to assess properly those effects. Where, for example, only one environmental factor is likely to be significantly affected, the assessment should focus on that issue only. Impacts which have little or no significance for the particular development in question will need only very brief treatment to indicate that their possible relevance has been considered".

- 6.3. Based on the information available to date, there are a number of topics for which it is considered that 'significant' effects are unlikely to arise. As such, an assessment as part of the EIA is not justified and it is proposed that these technical topics are scoped out of the EIA.
- 6.4. In summary, the topics proposed to be scoped out of the EIA are:
 - Transport and Access
 - Arboriculture
 - Cultural Heritage
 - Waste
 - Water Resources, Flood Risk and Drainage
 - Geology and Soils
 - Air Quality
 - Major Accidents and Disasters
 - Human Health
- 6.5. The justification for scoping out the above topics is provided underneath the individual topic headings below.

Transport and access

- 6.6. It is considered that the requirement for a Transport and Access chapter can be screened out on the basis of other documentation that will be required to support the planning application, namely a Transport Assessment and Travel Plan. This documentation will set out the proposed access and transport strategy, assessment of cumulative impacts and consideration of measures and improvements required to mitigate any residual impacts to ensure they are not severe.
- 6.7. A comprehensive Transport Assessment will be prepared in line with current guidance set out in NPPF/PPG and the scope of which is being fully agreed with Local Highway Authority (LHA) officers at Herefordshire Council and strategic highway authority officers at NH, in advance of submission for planning. This report will include the following:
 - Local and national transport related policy context.
 - Existing conditions in terms of the road network, sustainable travel links, road safety analysis.
 - Travel demand forecasts for the proposed use.
 - Details of the proposed development in terms of quantum, land use, access, parking etc.
 - Development of a comprehensive and cohesive on and off-site transport and access strategy with a focus on sustainable travel.
 - An assessment of the highway network performance without and with the proposed development and pertinent committed development, using a methodology agreed with the LHA.
 - Consideration of improvements to mitigate if residual cumulative impacts are deemed severe.
- 6.8. A Travel Plan will also be prepared in line with relevant guidance and in discussion with Herefordshire Council/NH to manage travel demand and promote sustainable travel choices in place of private car use. This will be further supported by the sustainable access strategy developed for the site.
- 6.9. These will be coordinated with other disciplines to ensure that adequate traffic data is provided for use in the noise and air quality assessments which would be in line with the methods used for assessing the highway impacts. Measures to reduce the need to travel and increase the uptake of sustainable travel modes, thus improving air quality levels, will also be discussed and shared with the relevant disciplines.

Arboriculture

6.10. An updated comprehensive baseline tree survey in accordance with the latest version of British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction–Recommendations' will be undertaken and used to inform the layout of the development proposal alongside other technical baseline work.

- 6.11. BS5837 provides guidance and makes recommendations for the relationship between existing and new trees through design, demolition, and construction processes to achieve a harmonious and sustainable relationship between retained trees and structures. Trees will be recorded as one of four categories based on Table 1 of BS5837, 'Cascade Chart for Tree Quality Assessment'.
- 6.12. The application will be accompanied by the baseline tree survey and an Arboricultural Impact Assessment in accordance with the guidance to detail potential impacts arising from the outline proposals. At this outline planning stage, only preliminary details will be provided as to the means of Tree Protection, but any retained trees will be protected by the requisite barriers or ground protection around the calculated root protection areas (RPA), erected prior to the commencement of any construction work. Full details of Tree Protection and if necessary, an Arboricultural Method Statement would be reserved for the full planning stage and Conditioned.
- 6.13. An initial review of the preliminary proposals for the site concluded that most of the existing tree stock will be retained by development and will not be detrimentally affected by the proposals. Extensive additional tree planting as part of the landscaping scheme and Green Infrastructure proposals will result in a net gain from an arboricultural perspective whilst also offering the potential improvement of the existing ecological habitats. New planting will form an integral part of the new development.
- 6.14. The baseline tree survey would inform the LVIA and ecological assessment within the ES. The Arboricultural Impact Assessment would be submitted as a standalone report with the planning application documentation and not included within the ES.

Cultural heritage

Introduction

- 6.15. An ES was previously produced in November 2019 by Harris Lamb on behalf of Bloor Homes to accompany the earlier planning application (REF: P194402/O) which incorporated a much larger application site. The Development Proposal the subject of this Scoping Request has since been reduced, as identified in Section 1 of this Report.
- 6.16. Consultee responses to the previous application noted that "sufficient archaeological information and justification is present to accord with national and local policy and good practice" and that "subject to design specifics that will be required in due course, and the securing of necessary

archaeological mitigation / protection, the proposal is regarded as permissible"⁷. Further responses noted that "The Heritage Statement supplied accords with Policy 189 of the NPPF. For the avoidance of doubt a site visit is required post COVID to confirm that the proposals would not harm the setting of the Listed Church at Bullinghope "⁸. The church had been visited prior to Covid.

- 6.17. The Site has already been the subject of an archaeological evaluation undertaken by Headland Archaeology (2014), which identified areas of prehistoric activity. These range in date from the Mesolithic period (9000 4300 BCE) to the Iron Age (900 BCE-55 CE). Among the features uncovered during earlier excavations for the Rotherwas Link Road and further evaluated in 2014 was the 'Rotherwas Ribbon'. This is a serpentine path at least 75 m in length and made up of fire-cracked pebbles. It is thought to date from either the late Neolithic (c3500 2500 BCE) or Middle Bronze Age (c 2000-1200 BCE) periods.
- 6.18. The Site has been extensively evaluated and the archaeological resource of the site is well understood as acknowledged in the consultee response to the previous application. The previous ES found no significant effects to designated assets in the surrounding area. An effect of negligible significance was predicted to the Lower Bullingham DMV scheduled monument through change in its setting.

Study areas

6.19. Three overlapping study areas were used to gather baseline data for the previous ES and have informed this scoping report. The Inner Study Area corresponds to the previous application site boundary (**Appendix 2**) and has been used to gather information on the known and potential archaeological resource of the Site. A Middle Study Area extending to 1 km from the Inner Study Area was used for the previous Desk-Based Assessment to gather baseline information to inform the assessment of archaeological potential. An Outer Study Area extending up to 3 km from the Inner Study Area has been used to identify designated heritage assets with the potential for changes within their setting that may result in harm to their significance.

Baseline conditions

Heritage Assets within the Site

6.20. There are no designated heritage assets and eleven non-designated heritage assets within the Inner Study Area these comprise known remains relating to Mesolithic, Neolithic, Bronze Age and Iron Age or Roman activity, and evidence of the medieval field system survives in the form of preserved field boundaries. Of these eleven, seven are wholly or partly within the Site.

⁷ Julian Cotton, Archaeological Advisor, response to consultation on P194402/O dated 2nd March 2020.

⁸ Consultation response from M Knight (Historic Buildings Officer) dated 9th April 2020.

- 6.21. The most significant of these is the series of Prehistoric features to the east of Watery Lane (HA8), which includes the Early Prehistoric monument known as the 'Rotherwas Ribbon' (HA7), as well as evidence of Mesolithic to Roman period activity. Prehistoric and Roman activity was also recorded at the Western End of the Access Road (HA10).
- 6.22. A palaeochannel (HA9) was excavated to the east of Red Brook and a thin scatter of other features and deposits were encountered throughout the route, some of which remain undated. These include:
 - traces of Medieval Ridge and Furrow on the western slopes of the field leading down to the Norton Brook from the A49
 - a double-ditched earthwork, probably post-medieval in date, in the southeast comer of the Rotherwas Industrial estate
 - an undated stone feature, possibly a ford, exposed in a drainage culvert near the western end of the route
 - an isolated hearth of probable post-medieval date recorded between the main excavation Site and Watery Lane
 - a second small, undated palaeochannel running off Dinedor Hill
 - a set of earthwork banks and ditches to the rear of the former munitions factory, which proved to be shallow and of no great antiquity.
- 6.23. Aerial photographs taken in 2011 revealed:
 - a cropmark of a rectilinear enclosure 500 m northwest of Camp Farm (HA5), which corresponded with an area of archaeological features of late Iron Age date revealed during trial trenching in 20149,
 - a polygonal enclosure 500 m east of Grove Farm (HA6), which also corresponded with archaeological features of Iron Age or Roman date, and
 - a square enclosure with entrance towards the southwestern corner of the Site (HA3).
- 6.24. A further area of late Iron Age or early Romano-British settlement evidence was revealed during the evaluation to the west of the eastern area of the Site (HA12). Field names recorded on the tithe map of 1840 provide evidence of two weirs in the north of the Site (HA1 and HA2), indicating the presence of a former watercourse and possible mill in the vicinity.
- 6.25. A number of cropmarks are recorded from aerial photos taken in 2001 of the eastern part of the Site (HA4) including an oval enclosure and a number of small circular enclosures to the southwest which may result from the previous use of this area as a gravel pit (as recorded on the tithe map),

⁹ Mayes, S. 2014. Archaeological Evaluation. Land to the South of Rotherwas. Headland Archaeology Ltd. Unpublished Report,

rectangular enclosures visible to the west of the field may represent buildings. This area was found to contain evidence of Bronze Age and earlier occupation during the 2014 evaluation¹⁰.

- 6.26. The present field boundaries within the Site form part of a field system which predates enclosure and as such the Hedgerow Regulations will apply to these boundaries. The Historic Landscape Character of the Site Includes areas of degraded landscape to the west and good preservation of the small-scale enclosure fields to the east. There are also a large number of locally significant but undesignated buildings within the study area (largely those shown on the first edition Ordnance Survey map) which contribute positively to the character of the area.
- 6.27. The majority of these heritage assets are of low importance, they are non-designated heritage assets which are generally of quite common types of archaeological site Iron Age and early Roman settlement although they may contain archaeological evidence that could contribute to regional research aims. It is unlikely that these features would be considered of sufficient importance to merit preservation in situ. The one exception is the Rotherwas Ribbon, which crosses the eastern corner of the Site from north to south. This feature contributes to the understanding of prehistoric activity within the West Midlands. However, there are no known parallels of this monument in the UK and It has been identified by the planning authority as being of national significance. It is associated with Neolithic and Bronze Age settlement and there is also evidence of ancient field systems in the east of the Site.

HA no.	HER reference	Asset name	Period	Importance	Within Application Site?
1	25443	Weir near Floodgate, Lower Bullingham	Undated – probably post- medieval	Low	Yes
2	25444	Weir at Floodgate, Lower Bullingham	Undated – probably post- medieval	Low	Yes
3	30271	Romano-British enclosure, north of the B4399, Bullinghope	Roman	Low	No
4	34024 & 53760	Prehistoric settlement, enclosure cropmarks, Lower Meadow, Watery Lane; associated with Mesolithic flint scatter	Prehistoric (including Mesolithic)	Low to Medium	Yes
5	51418	Occupational site (LIA-RB) north of B4399, Lower Bullingham	Late Iron Age or Roman	Low	Yes (partly)

Table 6: Known heritage assets within the Inner Study Area

¹⁰ Mayes, S. 2014. Archaeological Evaluation. Land to the South of Rotherwas. Headland Archaeology Ltd. Unpublished Report,

6	51419	Iron Age/Romano-British enclosure, c.500m east of Grove Farm, Bullingham	Iron Age or Roman	Low	Yes (partly)
7	52021	The "Rotherwas Ribbon", Rotherwas Industrial Estate, Lower Bullingham	Late Neolithic to Early Bronze Age	High	Yes (partly)
8	52022; 52023; 52024	Excavated remains of Neolithic / Bronze Age occupation, Iron Age occupation and Roman occupation, Rotherwas Industrial Estate, Lower Bullingham	Neolithic or Bronze Age, Iron Age and Roman	Low	Yes (partly)
9	52025	Paleochannel west of the Rotherwas Ribbon, Rotherwas Industrial Estate, Lower Bullingham	Lower Palaeolithic to Medieval	Low	No
10	52026	Excavated remains of prehistoric and Romano- British activity, western end of Rotherwas Access Road, Lower Bullingham	Prehistoric to Roman	Low	No
11	53758	Occupational features, c.500 m south-east of Grove Farm, Lower Bullingham	Iron Age or Roman	Low	No

Heritage Assets in the Outer Study Area

Scheduled Monuments

- 6.28. There are eleven Scheduled Monuments within the 3 km Outer Study Area of which four are within 1 km of the Inner Study Area. The majority of the Scheduled Monuments are of medieval date. Three relate to the medieval defences of Hereford. They are the Castle (an 11th century motte and bailey castle of which only part of the bailey survives), the city walls, ramparts and ditch (forming a continuous defence around the city dating to the 13th century) and the Row Ditch (an entrenchment contemporary with the city walls). In addition, there are the sites of two medieval villages (at Lower Bullingham and at Dinedor), and the remains of the 12th century Bullingham Old Church. The 15th century Wye Bridge is also Scheduled as are the remains of the medieval and post-medieval Rotherwas House.
- 6.29. Prehistoric remains are represented by the Dinedor Camp Iron Age hillfort and by the earthwork remains of settlement at Tupsley. Most of the Scheduled Monuments are not predicted to have any visibility of the Proposed Development and no changes will occur to their setting. Those predicted to have visibility of the previous application are: Bullingham Old Church; Lower Bullingham DMV, and Dinedor Camp.

Areas of archaeological importance

6.30. The central area of Hereford city (which is partly within the 3 km Outer Study Area) is designated as an Area of Archaeological Importance (AAI) under the Ancient Monuments and Archaeological Areas Act (1979). The purpose of this designation is to protect the archaeological remains relating to the historic city of Hereford (and several other historic cities in England). The area encompasses the whole zone within the medieval walls of the city, together with some of the early suburbs and former monastic precincts. The AAI is comprised of numerous designated and non-designated above and below ground heritage assets. The heritage significance of the AAI lies in the archaeological interest of these assets and their inter-relationships. There will be no impacts to this significance and this asset was scoped out of the previous ES.

Registered Parks and Gardens

6.31. There are no registered parks and gardens within the 3 km Outer Study Area, however the previous ES included consideration of Sufton Court, Grade II* Registered Park and Garden c. 4.4 km east of the Site, north of the village of Mordiford, because of its sensitivity to change in its setting. The park was designed by Humphry Repton and has views to the south and west from its elevated position above the River Lugg.

Listed buildings

- 6.32. The 392 Listed Buildings within the 3 km Outer Study Area comprise four Grade I Listed Buildings, 42 Grade II* Listed Buildings and 346 Grade II Listed Buildings. The vast majority of the Grade II listed structures are post-medieval vernacular buildings. Most of these are houses, inns or shops within the historic core of Hereford (as represented by the AAI), reflecting the importance of the city as a focus for settlement, although others are present within the few surrounding villages and there are some isolated farmsteads and associated buildings such as barns, stables and a coach house. Other types of structure represented include parts of the city defences, memorials in churchyards, mileposts and water pumps and a well, a bridge, groups of almshouses and a hospital.
- 6.33. The majority of Listed Buildings (all of the Grade I and II* Listed Buildings and 324 of the Grade II Listed Buildings) lie over 1 km from the Site and are not predicted to experience any visual change in their setting (most are experienced only within close proximity within the built-up area of Hereford). Fourteen of the 22 Grade II Listed Buildings within 1 km of the Site were not predicted to experience any visual change in their setting in the 2019 ES. These are:
 - the assets at Putson (the 16th century Putson Manor (LB1025034) and a 17th century granary (LB1025013) known as The Granary, as well as the 17th century Acacia House (LB1196846) which contains a 15th century stone fireplace which may have been reused from an earlier building)
 - the churchyard monuments at Church of St Peter, Bullingham (a coffin lid (1099561), and the Bullinghope war memorial (1450353))
 - St Charles House (1099576)

- Manor Cottage (1157557)
- a barn 20 mwest of Watery Lane Farmhouse (1310543)
- the Church of St Andrew, Dinedor (1099598) and associated monuments (the Bethel Monument (1099599) and the Turner Monument (1301726)); and
- Glebe Farmhouse (1099601), an associated barn 40 mto the north (10348866) and waterpump (1180026).
- 6.34. The medieval hall and cross wings at Freedom Church (List Entry 1472533) were listed in January 2021, the building is located in a built up area, close to Manor Cottage and it is also not expected to experience visual change to its setting as a result of the proposed development. The Listed Buildings predicted to experience some visual change in their setting as a result of the previous application were:
 - the Church of St Peter (1099560),
 - the ruins of the old church (1348848 also protected as a Scheduled Monument),
 - Bullinghope Court (1099562),
 - the barn at Green Crize (1099575),
 - Church Cottage (1348849),
 - Grafton Bank (1280105) and
 - Grafton Lodge (1196833).
- 6.35. No effects to these assets were found as a result of the previous application.
- 6.36. Although not predicted to have visibility of the Proposed Development, the Grade I listed Cathedral Church of St Mary and St Ethelbert (1196808) is the most prominent building in Hereford. It dates from the 11th century with later alterations. The church forms a focal point for the Central Area Conservation Area, highlighting the location of the historic core of Hereford in views of the city from the surrounding area. As it is therefore experienced across a wide area it has an extensive setting and is considered to be very sensitive to visual impacts, it was therefore included in the previous assessment, although no significant effects were found.

Conservation Areas

6.37. There are eight Conservation Areas within the 3 km Outer Study Area. All but one of these areas protect the character and appearance of parts of Hereford, the largest being the Central Area Conservation Area. The remaining area, Hampton Bishop protects the character and appearance of this historic settlement to the east of Hereford. No visibility of the previous application was predicted from the Central Area Conservation Area, or from Broomy Hill, Bulmer Garden Suburb, Bodenham Road, or Hampton Bishop. Limited areas of visibility were predicted within Hafod Road Conservation Area, Bodenham Road Conservation Area and Hampton Park Conservation Area. However, the distance from the application site and intervening built form and vegetation meant that no effects were found.

Non-designated heritage assets

- 6.38. The non-designated heritage asset known as the Rotherwas Ribbon (52021) is considered to be of national importance and as such has a high sensitivity to impacts. It was included in the ES for the potential for setting effects to be significant, following embedded mitigation to preserve the physical remains of the asset and create a green corridor above it the residual effect was found to be minor beneficial. Beyond the Inner Study Area, a total of ten non-designated built heritage assets were considered within the previous ES as having the potential for changes in their setting which may harm their significance. These were:
 - The farmstead at Green Crize (which incorporates a Grade II Listed barn already included in the assessment).
 - three other small farmsteads at Dinedor, The Hollies and Hillview (all at the foot of Dinedor hill)
 - the former vicarage known as The Cedars, Bullinghope
 - a bam or granary associated with the vicarage,
 - the farmstead at Bulingham Court
 - a post medieval woodbank (37162),
 - earthworks at Well Cottage (26428), and
 - the site of a house (19080).

Reference	Name	Status	Grid Reference	2019 ES significance of effect
1005357	Bullingham Old	Scheduled	SO 51091	No effect
&	Church / Ruins of	Monument and	37146	
1348848	Church of St	Grade II Listed		
	Peter	Building		
1005320	Lower	Scheduled	SO 52148	Negligible Adverse
	Bullingham	Monument	38105	
	Deserted			
	Medieval Village			
1001758	Dinedor Camp	Scheduled	SO 52357	No effect
		Monument	36358	
1196808	Cathedral Church	Grade Listed	SO 50999	No effect
	of St Mary and St	Building	39790	
	Ethelbert			
1099560	Church of St	Grade II Listed	SO	No effect
	Peter	Building	5098337060	
1099562	Bullinghope	Grade II Listed	SO 51120	No effect
	Court	Building	37210	
1099575	Barn at Green	Grade II Listed	SO 51548	No effect
	Crize	Building	36935	
1348849	Church Cottage	Grade II Listed	SO 51078	No effect
		Building	37064	
1280105	Grafton Bank	Grade II Listed	SO 49950	No effect
		Building	37422	

Table 7: Heritage assets in the Outer Study Area included in the previous assessment for setting effects

1196833	Grafton Lodge	Grade II Listed	SO 49929	No effect
		Building	37383	
100898	Sufton Court	Grade II*	SO 57340	No effect
		Registered Park	37815	
		and Garden		
n/a	Bodenham Road	Conservation Area	SO 52105	No effect
			40231	
n/a	Hafod Road	Conservation Area	SO 52395	No effect
			39699	
n/a	Hampton Park	Conservation Area	SO 53056	No effect
			39232	
HA7	Rotherwas	Non-designated	SO 52511	Minor Beneficial – through
	"Ribbon"	heritage asset	37137	creating green corridor
				above the monument
				increasing awareness of
				its presence
47092	Green Crize Farm	Non-designated	SO 51539	No effect
		heritage asset	23695	
9093	Court Farm	Non-designated	SO 51161	No effect
		heritage asset	37195	
35389	The Cedars	Non-designated	SO 51048	No effect
		heritage asset	37171	
9095	Barn or Granary	Non-designated	SO 51100	No effect
		heritage asset	37202	
48210	Dinedor	Non-designated	SO 52275	No effect
	Farmstead	heritage asset	36888	
48208	The Hollies	Non-designated	SO 52306	No effect
		heritage asset	36757	
48209	Hillview	Non-designated	SO 52340	No effect
		heritage asset	36765	
37162	Earthworks of	Non-designated	SO 52288	No effect
	woodbank	heritage asset	36593	
26428	Earthworks at	Non-designated	SO 52052	No effect
	Well Cottage	heritage asset	36711	
19080	Site of a house at	Non-designated	SO 57864	No effect
	Well Cottage	heritage asset	36662	

Likely significant effects

- 6.39. The ES in 2019 found that following embedded mitigation through design there would be no significant effects to archaeological remains within the Site. The proposed masterplan for the site retains an area of open space along the line of the Rotherwas Ribbon to preserve it in situ. No other archaeological remains within the Site are deemed to require preservation in situ and a programme of archaeological work secured by condition would be appropriate mitigation for such remains. No significant effects on below ground archaeological remains within the Site are predicted.
- 6.40. The ES also found that there would be no significant effects on any designated or non-designated heritage assets in the Outer Study Area. The amended masterplan for the Site does not increase the building heights or density and does not expand the development beyond the previously submitted proposals. The effects on designated heritage assets are therefore anticipated to be the

same as, or less than, the previously submitted proposals and therefore no significant effects are predicted.

Conclusion

- 6.41. As no significant effects were identified for the previous application, the newly listed assets are not anticipated to experience changes in their setting and the new application is for a smaller scheme which retains the embedded mitigation for the archaeological remains affected by the previous application, it is proposed to scope out cultural heritage from the ES and to prepare a standalone Heritage Impact Statement covering the below ground archaeological remains within the Site and updated assessments of setting effects on designated assets in the surrounding area to take into account any changes in baseline setting since 2019. The report would have the following structure:
 - 1. Introduction
 - 2. Site Description
 - 3. Legislation, Policy and Guidance
 - 4. Aims And Objectives
 - 5. Methodology
 - 6. Historic Environment Baseline
 - 7. Statement Of Significance and Importance
 - Known and potential heritage assets within the application site Setting of heritage assets in the study area
 - 8. Predicted Impacts of The Proposed Development
 - Direct Impacts
 - Setting Impacts
 - 9. Discussion And Conclusions

Water resources

Introduction

6.42. BWB have historically provided several documents to support the preceding planning application for the previous application proposal under reference: P194402/O, which encompasses this Site and a wider area. These documents included a Flood Risk Assessment, Sustainable Drainage Statement, and a Water Framework Directive Scoping Assessment, which contributed to an ES Chapter submission. That Chapter concluded that the previously proposed development would have no significant effect on the water environment.

Study area

- 6.43. The Site can be split into three separate areas as follows:
 - Western Parcel: this is located between the Norton Brook and Green Crize, in which a country park is proposed. The country park will seek to retain the current agricultural use.
- Eastern Parcel: this is located between the B4399, Green Crize, the railway line, and Watery Lane. This parcel also includes a track between Watery Lane and Twyford Road. This parcel represents the main development area.
- Northern Parcel: this is a small parcel located off Watery Lane, next to the railway line in which a new layby/passing place is proposed along with a restricted access beneath the railway line.
- 6.44. The study area includes areas within and immediately adjacent to the Site, including a reach of the Withy Brook, the Norton Brook, and the Red Brook, as well as two minor unnamed watercourses as they pass through or near to the Site.
- 6.45. There are potential receptors that exist beyond these limits and also cumulative impacts that may need to be considered. These include flood risk and drainage pathways between the Site and potential receptors, such as the River Wye, the downstream residential area on Watery Lane, the downstream Rotherwas Industrial Estate, the downstream sewerage system, water supply network, and the underlying groundwater.

Baseline conditions

- 6.46. All three parcels that make up the Site are underlain by one groundwater body, the "Wye Secondary Devonian ORS (Old Red Sandstone)". This is identified by the Environment Agency in the latest Water Framework Directive indices to have an overall poor status, due to agricultural land use and associated diffuse pollution sources.
- 6.47. The Site is located in the downstream extent of the Withy Brook, Norton Brook and Red Brook catchments just before they join the River Wye. The Site is located just outside of the River Wye floodplain. Flood risk in the Site is principally a product of the smaller ordinary watercourses and surface water runoff, whereas land to the north of the Site is more influenced by the River Wye.
- 6.48. Previous consultations with Welsh Water undertaken with respect to the Site and the previously encompassing development area, assessed in 2019, identified that they are increasing capacity in the local Water Supply network to accommodate the development as part of their capital works programme. Additionally, the consultations identified that there was sufficient capacity in the Welsh Water treatment works to accommodate that development (which was for a much larger development proposal including for up to 1,300 new dwellings).

Western parcel

6.49. The western parcel is located next to the Norton Brook, and the immediate adjoining corridor falls within Flood Zone 3 and Flood Zone 2, land classified to be at a high risk and medium risk of river flooding respectively. However, the areas at flood risk are constrained to the very western boundary, the majority of the parcel falls within Flood Zone 1, land at a low risk of river flooding.

- 6.50. The majority of the parcel, with the exception of the river corridor, is also identified to be at a low to very low risk of surface water flooding, and there is no reported flood history on the Site.
- 6.51. This parcel is greenfield and currently used for farming, it has no known formal drainage infrastructure. It currently drains surface water through a combination of infiltration into the underlying ground and runoff to the Norton Brook.
- 6.52. This parcel is understood to be underlain by Raglan Formation Mudstone and Siltstone. Superficial deposits of alluvium and alluvial fan deposits are present within the river corridors, and some river terrace deposits are present in the east. The bedrock and superficial deposits are classified as a 'Secondary A' aquifer, and a 'Minor Aquifer' with Intermediate Vulnerability. The parcel is not shown to be located within a groundwater protection zone.
- 6.53. This parcel falls within the "Norton Brook (source to confluence River Wye)" surface waterbody. This is identified by the Environment Agency to have a moderate ecological status under the latest Water Framework Directive indices. It is prevented from reaching a good status by agriculture land use and associated diffuse pollution sources.

Eastern parcel

- 6.54. The Red Brook and two minor tributary channels flow through the eastern parcel. A hydraulic assessment of this area was previously completed in consultation with the Environment Agency. The modelling assessment confirmed the floodplain extents of the Red Brook and two minor tributary channels, it also identified that the Withy Brook floodplain is directed into this parcel by the downstream railway embankment.
- 6.55. The central Red Brook River corridor falls within Flood Zone 3 and 2, while the northern edge of the site alongside the railway line falls within Flood Zone 3 and 2 of the Withy Brook. Areas of the site away from the watercourses fall within Flood Zone 1 and are at a low risk of river flooding.
- 6.56. There is a recorded history of river flooding from the Red Brook in the Site, and which has also been observed to affect access on Watery Lane and impact businesses within the Rotherwas industrial Estate beyond.
- 6.57. The proportion of the parcel associated with the access track between Watery Lane and Twyford Road also falls within the floodplain of the Red Brook, and consequently it is also classified as Flood Zone 3 and 2.
- 6.58. A proportion of the eastern parcel is identified to be at a high risk of surface water flooding, this area generally correlates with the fluvial floodplain.

- 6.59. The parcel is largely greenfield and is currently used in agriculture. There is no known surface water or foul water sewer infrastructure. Surface water drains via a combination of limited infiltration into the underlying ground, and runoff to the Red Brook and the other minor watercourses. The proportion of the parcel associated with the access track between Watery Lane and Twyford Road, is believed to shed surface water runoff to the adjoining verges or into the adjacent highway drainage.
- 6.60. The parcel is understood to be underlain by Raglan Formation Mudstone and Siltstone. Superficial deposits of alluvium and alluvial fan deposits are present within the river corridor and floodplain, and river terrace deposits are shown to cover much of the remaining site area. The bedrock and superficial deposits are classified as a 'Secondary A' aquifer, and a 'Minor Aquifer' with Intermediate Vulnerability. Site Investigations have identified that the soils within the parcel are largely of a clay composition. The parcel is not shown to be located within a groundwater protection zone.
- 6.61. Previously completed intrusive ground investigations have identified the potential for shallow groundwater which could pose a flood risk to the low-lying areas of the parcel. The area most at risk correlates with the river corridor and the fluvial floodplain.
- 6.62. This parcel falls within the "Wye Bredwardine Br to Hampton Bishop" surface waterbody. This is identified by the Environment Agency to have a moderate ecological status under the latest Water Framework Directive indices. It is prevented from reaching a good status by agriculture land use, associated diffuse pollution sources, and wastewater management practises.

Northern parcel

- 6.63. The northern parcel is located next to the Red Brook as it passes beneath the railway line. It is also in a location where it could be affected by the River Wye in a flood event. It is located within Flood Zone 3.
- 6.64. This parcel is also at a high risk of surface water flooding and falls in an area with a reported history of flooding.
- 6.65. This parcel falls within the "Wye Bredwardine Br to Hampton Bishop" surface waterbody, in the same manner as the Eastern Parcel.
- 6.66. This parcel is understood to be underlain by a similar geology to the Eastern Parcel.

Likely significant effects

6.67. The 2019 ES concluded that the larger development that encompassed this Site and a wider surrounding area would have no significant effect on Water Resources. The mitigation measures

previously identified have been carried forward into the design of the Proposed Development on this Site. Therefore, as described in the forthcoming section, the Proposed Development is also not expected to have a significant impact on Water Resources.

Operational stage

Western parcel

6.68. The Proposed Development of the Western Parcel is proposed as a country park. It is understood that no significant built development is proposed, proposals are understood to be limited to the formation and formalisation of footpaths. From a Water Resources perspective, the change in use from agriculture land would result in a reduction in the use of agri-chemicals in the site, which is expected to have a minor benefit to downstream surface water and groundwater quality receptors.

Eastern parcel

- 6.69. The Proposed Development in the Eastern Parcel will be sequentially arranged to avoid the low-lying river corridor and to fall outside of the 1 in 100-year floodplain including an allowance for climate change (the design event floodplain) where possible. This approach will minimise any loss of floodplain or interruption of overland flow routes. Where an encroachment into the floodplain cannot be avoided (for example: the new bridge crossing of the Red Brook), then the development levels will be elevated above flood levels, and the nominal loss in floodplain will be re-created in landscaped areas to ensure that there is no loss in floodplain storage. The design of the watercourse crossing will be informed by hydraulic analysis to ensure that it does not detrimentally affect flood risk outside of the Site.
- 6.70. The Proposed Development will introduce new areas of impermeable surfacing to the Site. However, appropriate mitigation will be embedded to prevent the increase in runoff from affecting downstream receptors. Attenuated surface water storage and Sustainable Drainage Systems (SuDS) form an integral part of the Proposed Development. For the main development area, surface water runoff will be discharged to the local watercourses at a rate no greater than the greenfield annual average runoff rate (QBAR). Attenuated storage in the form of SuDS will accommodate all storm events up to the 1 in 100-year with an appropriate allowance for climate change. The SuDS will be located outside of the high-risk floodplain to ensure that they remain operational during a flood event. For the access track located between Watery Lane and Twyford Road, it is expected that source control measures will be used to minimise the amount of runoff generated. These measures will manage the surface water runoff from the development and ensure that there will be no significant effect on downstream flood risk receptors.
- 6.71. Additionally, the SuDS will treat the runoff from the Proposed Development. This, combined with a reduction in the agri-chemicals used on the Site, is expected to offer a minor benefit to downstream surface water and groundwater quality receptors.

- 6.72. The Proposed Development is to be generally offset at least 8m from the watercourses. While a new crossing of the Red Brook is proposed, this can be designed to clear span the channel so that low flow conditions, geomorphological processes, and mammal passage are preserved. Therefore, there is not expected to be a significant effect on the ecological status of the watercourse.
- 6.73. Foul water is to be drained separately to surface water. Consultations with Welsh Water will continue to confirm an appropriate point of connection, and that any necessary reinforcement works are in place prior to occupation of the development. Therefore, there is not expected to be any significant impacts on the downstream sewage system.
- 6.74. Consultations with Welsh Water will continue to ensure that any necessary reinforcement works to the water supply network are in place prior to occupation of the development. The use of water efficient fixtures and equipment will also help minimise demand. Therefore, there is not expected to be any significant impacts on water supply.

Northern parcel

- 6.75. It is understood that the Proposed Development in the Northern Parcel is limited to the formation of a new layby/passing place next to the proposed restricted access beneath the railway. The layby is expected to be constructed at grade so that there is no significant impact on the floodplain or overland flows in this location.
- 6.76. Due to the minor nature of the Proposed Development in this location, it is expected at this stage that the layby/passing place will be constructed from permeable materials to minimise the generation of new runoff. Due to the minor nature of this aspect, there is not expected to be a significant effect on downstream flood risk receptors.

Construction stage

- 6.77. Due to the sequential arrangement of the Proposed Development the construction phase is not expected to have any significant impacts on the floodplain. Some temporary works in the floodplain will be necessary when constructing the new crossing of the Red Brook. However, any impacts can be mitigated by providing any necessary floodplain compensation prior to starting the crossing, and by following best practice when working near to watercourses.
- 6.78. The use of heavy machinery and the movement of traffic over the Site could lead to compaction of the soil and a reduction in the infiltration rates and an increase in surface water runoff to the local watercourses.
- 6.79. Suspended solids are one of the most common causes of water pollution from construction sites.They could emanate from excavations; exposed ground or stockpiles; plant and wheel washing;

build-up of dust and mud on roads; or pumping or contaminated surface waters or groundwater accumulated on the Site. The mobilisation of suspended solids has the potential to affect habitats, impact on the ecological and chemical quality of watercourses, block watercourses and alter flow regimes.

- 6.80. Oil, diesel and petrol are common construction site pollutants, caused by either spillages from fuel stored on the Site or vehicles operating during the construction phase. Hydrocarbons may impact on the ecological and chemical quality of surface waters and groundwater.
- 6.81. The uncontrolled release of substances such as solvents, cleaning agents, paints and other chemicals, liquids or solids could lead to surface water and groundwater pollution. These could become a hazard if used in the construction process or stored on the Site.
- 6.82. However, as established in the preceding 2019 ES, mitigation measures to minimise the potential impact above are expected to include the preparation of a detailed Construction Environment Management Plan (CEMP). This will set out detailed methodologies and monitoring requirements of the measures required to minimise adverse effects on the water environment. This would include a construction stage surface water strategy to manage water quantity and quality. With appropriate mitigation put in place, the potential temporary impacts on downstream flood risk, and surface water and groundwater quality are not expected to be significant.

Conclusion

- 6.83. A standalone Flood Risk Assessment document will be prepared and submitted as part of the application which will demonstrate how flood risk to the Proposed Development will be managed without adversely affecting flood risk in the wider catchment.
- 6.84. The Flood Risk Assessment will include an updated hydrological and hydraulic study of the associated watercourse(s) (the Norton Brook, Withy Brook, Red Brook, associated tributaries, and River Wye) to reconfirm floodplain extents and flood levels, identify the potential impact of future climatic change, as well as the potential impact of the development on downstream receptors. This will use the site-specific hydraulic model previously approved by the Environment Agency.
- 6.85. A standalone Sustainable Drainage Statement document will be prepared and submitted as part of the application which will demonstrate how surface water will be managed in accordance with national and local guidance. An assessment of the existing surface water regime from the Site, and how this may change with development, will be completed. The Sustainable Drainage Statement will outline the proposed approach to surface water management within the development, this will include consideration of the drainage hierarchy, and SuDS principals including appropriate measures to mitigate the developments impact on downstream receptors.

6.86. A standalone Water Framework Directive Scoping Report will be prepared to assess the potential impact of the development on surface and ground water bodies. It will consider the potential implications on the ecological, chemical and hydro-morphological quality of these receptors.

Geology and Soils

Introduction

- 6.87. BWB have historically provided several documents to support a preceding planning application for a larger development under planning application reference: P194402/O, which encompasses this Site and the wider surrounding area. These documents included a Phase 1 Geo-Environmental Assessment, A Soils Assessment, and a Minerals Assessment in 2018/2019, which contributed to an ES Chapter submission.
- 6.88. BWB have been asked to contribute to a new planning submission for a reduced site area. BWB will be providing updated reports to support the submission. The Proposed Development comprises a residential-led scheme with associated employment land, similar to the plans for the wider site planning application, but on a smaller scale.

Study area

6.89. The Proposed Development area covers 42 hectares, reducing from 75.64 hectares under the previous 2019 application submission.

Baseline conditions – wider site

- 6.90. The Phase 1 Desk Study prepared in respect of application ref. P194402/O reported that the site the subject of that application (which includes the site the subject of this Scoping Request) comprises predominantly agricultural land, with a small industrial estate present in the east. Red Brook and Norton Brook were both identified as crossing the wider site with overhead powerlines also identified in the central and eastern areas of the site.
- 6.91. Historically the Site (and wider area) has not been previously developed other than a small building present in the area of the industrial estate which was developed between 2002 and 2010. A landfill site was historically mapped some 30m north of the eastern site area.
- 6.92. Superficial deposits comprising sand and gravel of the River Terrace Deposits were identified in some areas beneath the eastern and central sections of the wider site. Alluvial deposits were mapped in the eastern area of the wider site following the route of Red Brook and in the central area following the route of Norton Brook. A small area of Head deposits was mapped in the far south of the eastern area of the wider site. Beneath the superficial deposits (or directly beneath Topsoil in the west of the site) bedrock of the Raglan Mudstone Formation (interbedded siltstone and

mudstone) were mapped. The superficial deposits and bedrock geology are classified by the Environment Agency (EA) as Secondary A aquifers.

- 6.93. The central and western areas of the site were proposed as a country park and park and choose sites respectively. The eastern area of the site was proposed for predominantly residential development. The current site area was identified as posing a potentially moderate risk to residential site end users, driven by the sensitive end use, the likely presence of made ground associated with the industrial estate and the potential for ground gas generation from alluvial and head deposits, and potential migration onsite from the offsite landfill.
- 6.94. The Minerals Assessment prepared in respect of the previous application covering the site and wider area identified that the river terrace deposits represented a potential mineral resource with respect to Chapter 11 of the Herefordshire Unitary Development Plan and draft Herefordshire Minerals and Waste Local Plan (MWLP), dated 2017.
- 6.95. An approximate outline of where River Terrace Deposits were recorded to (or are anticipated to) exceed 2.0m in thickness on the site, and wider area the subject of the previous application, is presented as Figure 1 below. This area extends to approximately 16.55 hectares and was considered to represent a best-case scenario as overburden thickness and groundwater elevation vary across this area. The area of potential resource over 2.0m in thickness was estimated to be approximately 154,500m2. Assuming all the resource in this area were viable, the volume of the resource at Lower Bullingham was likely to be in the region of 195,000m3.



Figure 1: RTD Recorded or Anticipated to Exceed 2.0m in Thickness

- 6.96. The report identified a number of constraints which were considered likely to limit large scale mineral extraction, however, incidental extraction from foundation and utility excavations and general earthworks should be possible where overburden is thinner and extracted materials could be used on site as part of the proposed development.
- 6.97. The Soils Assessment prepared in respect of the previous application covering the site and wider area reviewed various background data sources alongside an ALC Survey that was conducted by the Resource Planning Team of FRCA Western Region, on behalf of MAFF in its statutory role in the preparation of the Herefordshire Local Plan. The ALC Survey covered a larger area than the site, with the approximate classifications shown for the wider site in **Figure 2** below.
- 6.98. The Site is predominantly Grade 1 or Grade 2, considered the best and most versatile (BMV) agricultural land, with the main limitations due to droughtiness or wetness, with some gradient limitations.
- 6.99. No mitigation measures could be adopted in relation to the loss of agricultural land. However, it is noted that the Site is within an area where the land has already been identified for development within the Herefordshire Local Plan Core Strategy.



Figure 2: Approximate ALC Gradings

Changes to baseline conditions based on alteration of site boundary

- 6.100. The most sensitive end use (residential) and controlled water receptors, and the most likely cause of contamination (industrial estate) are both retained within the reduced site area. Subject to an up to date site walkover, the risk assessment in the Phase 1 Desk Study and subsequent recommendations for a Phase 2 ground investigation to inform mitigation measures are not going to significantly change.
- 6.101. The majority of the sand and gravel resources identified across the wider site under application ref. P194402/O are also located within the proposed site. The underpinning Herefordshire Unitary Development Plan remains applicable today, and the sand and gravel resource remains at the site. However, the constraints highlighted in the Minerals Assessment remain relevant to the proposed development and therefore the conclusions of the assessment are likely to continue to apply.
- 6.102. The Soils Assessment will not significantly alter based on the revised layout, as the site retains a similar proportion of Grade 1,2 and 3b land as in the previous assessment.

Conclusion

- 6.103. From a geology and soils perspective, the reduction in site area will have a minimal impact upon the contents, effects and mitigation measures included within the underpinning background reports and the previous EIA in relation to planning application ref P194402/O which covers the site and a much wider area.
- 6.104. The previous EIA in relation to the above application concluded that "following the implementation of applicable impact avoidance and mitigation measures, all potential geological and soils related effects associated with the construction and operation of the Proposed Development are assessed as being not significant under the EIA Regulations."
- 6.105. BWB consider that given the conclusions above, and the reduction in the proposed site area the proposal would result in no significant changes to the previous ES submission, and a Geology and Soils Chapter should be Scoped Out of the proposed new EIA submission.
- 6.106. BWB will update the documents that require resubmission through planning, and any minor alterations/updates to the risk assessments will be picked up through the planning process.

Air Quality

Introduction

6.107. An air quality assessment will consider the impacts of the Proposed Development on existing sensitive receptors and the suitability of the Site for the proposed use. The assessment will consider

the potential impacts during both the construction and operational phases of the Proposed Development and where necessary, mitigation measures will be recommended in order to minimise any potential impacts with regard to air quality.

6.108. It is considered that Air Quality can be scoped out, as the ES for the previous, larger development scheme predicted no significant impacts in relation to air quality.

Study area

- 6.109. A construction phase dust assessment will be undertaken in accordance with Institute of Air Quality Management (IAQM) guidance. The assessment will consider human receptors and ecological designations within the required screening distances provided by the guidance.
- 6.110. The operational phase road traffic emissions assessment will be undertaken in accordance with Defra technical guidance and IAQM and Environmental Protection UK (EPUK) guidance. Roads experiencing a change in 24 hour Annual Average Daily Traffic (AADT) flow exceeding the relevant thresholds provided by the IAQM and EPUK will be considered in the assessment.

Baseline conditions

- 6.111. The Proposed Development is not located within an existing Air Quality Management Area (AQMA). The closest AQMA to the Proposed Development is located approximately 1.5km to the north and covers the A49 corridor in Hereford which was declared for the potential exceedance of the annual mean NO2 air quality objective.
- 6.112. Herefordshire Council undertakes monitoring of NO2 using passive diffusion tube within its administrative area. The closest monitoring locations to the Proposed Development site are located within the AQMA. All monitoring undertaken by Herefordshire Council within the study area is below the current annual mean NO2 objective for England.
- 6.113. Defra background mapping will be used to obtain background concentrations within the study area to be used in the assessment.

Potential effects

6.114. The Proposed Development has the potential to affect local air quality within the study area though the generation of construction phase dust emissions and operational phase road traffic emissions. The assessment undertaken will determine the impact of the Proposed Development on local air quality and identify any mitigation measures required to minimise such impacts.

Proposed mitigation

6.115. Mitigation measures will be required to minimise the generation of construction phase dust. Such mitigation is likely to be those measures routinely adopted on construction sites in the UK and will

ensure that if implemented in accordance with requirements, the impacts are likely to be not significant.

6.116. The road traffic emissions assessment will be undertaken, and the assessment findings will determine the requirement for any additional mitigation to be recommended.

Proposed methodology

- 6.117. Consultation will be undertaken with Herefordshire Council to agree the methodology for the air quality assessment.
- 6.118. A qualitative assessment of construction phase dust will be undertaken in accordance with IAQM guidance. The potential dust magnitude for demolition, construction, earthworks and trackout activities will be identified and combined with the identified area sensitivity to determine the risk of dust impacts. The identified risk will then be used to provide site-specific mitigation for each of the four activities considered.
- 6.119. It is unlikely that construction traffic generated by the development will exceed the IAQM and EPUK criteria. Additionally, any impacts will be short-term and temporary in nature. Therefore, a detailed road traffic emissions assessment of construction traffic is not proposed.
- 6.120. A detailed road traffic emissions assessment will be undertaken to determine the impact of Proposed Development-generated traffic on local air quality at identified sensitive receptor locations. The dispersion model ADMS-Roads will be used in the assessment to predict concentrations of nitrogen dioxide (NO2), and particulate matter (PM10 and PM2.5) at existing sensitive receptor locations. Changes in pollutant concentrations at identified receptor locations within the study area will be predicted and compared to the relevant significance criteria provided in the IAQM and EPUK guidance. Existing monitoring undertaken by Herefordshire Council will be used in the model verification process.
- 6.121. Pollutant concentrations will also be predicted at the proposed sensitive areas of the development to determine the suitability of the site for the proposed use with regard to air quality. Predicted pollutant concentrations will be compared to the relevant air quality objectives for England.

Waste

6.122. Waste generation will occur as a result of the construction of the Proposed Development and once the Proposed Development is completed and operational. Waste produced during all activities on Site will be subject to the 'Duty of Care' under the Environmental Protection Act (ref).

- 6.123. Registered landfill sites and disposal facilities used by the Proposed Development may be affected by construction, operational and decommissioning works through a material increase in the volume of waste types received.
- 6.124. In accordance with the Environmental Impact Assessment (EIA) Regulations (2017, as amended), an assessment of Waste was undertaken by competent experts (HLPC), to best current best practice standards, and submitted in support of the previous planning application that has yet to be determined (See Chapter 14: Waste)11, hereby referred to as the '2019 Assessment'. It comprised an assessment for up to "1,300 dwellings, B1 (business), B2 (general industrial use) and B8 (storage or distribution uses) employment uses, a neighbourhood community hub, specialist housing, a new primary school, a park and choose a country park, public open space, access, drainage and other associated works and demolition of existing industrial buildings", and therefore incorporated a greater quantum of development than the current Proposed Development.
- 6.125. The previous assessment set-out the methodology, baseline conditions, identified likely effects and the proposed mitigation measures required to prevent, reduce or offset any negative effects on the Site and in Herefordshire and the wider area of the West Midlands region (i.e. where it is anticipated the treatment and/or disposal of the majority of waste from the Proposed Development would take place). In conclusion, the infrastructure in the region surrounded the Site was deemed "adequate to deal with a development of this scale" [paragraph 14.8.2] and "following the implementation of mitigation measures the generation of waste during operation of the Proposed Development is likely to comprise a negligible negative effect on off-site waste management infrastructure in the long-term for household waste [Paragraph 14.8.3]." Herefordshire Council therefore approved the generation of approximately 44,789 tonnes of construction waste for residential dwellings and an increase in the throughput of annual municipal waste (including householder waste) of approximately 713 tonnes per annum.
- 6.126. A review of baseline conditions with respect to generation and capacity in the study area showed an overall decline in the collection and management of total household waste in 2021/22 in comparison with the 2019 Assessment baseline (Herefordshire County Council, 2022)12. This is reflected in the respective calculations of residual household waste per household (kg/household), with the 2019 Assessment applying a more conservative value (549 kg per household) in comparison with the latest authority statistics (514 kg per household). The Consultant therefore considers the 2019 Assessment to remain valid and fit for the purposes of this Scoping Report.

¹¹ Environmental Statement: Volume 1: Proposed urban extension at land in Lower Bullingham (2019)

¹² https://www.herefordshire.gov.uk/rubbish-recycling/waste-management-herefordshire

- 6.127. Given the spatial scope and quantum of development considered in the 2019 Assessment, compared to the current Proposed Development, wastes arising during both construction and operation because of the Proposed Development are considered to be accounted for and will result in significantly less volume than those totals during construction and operation. As such, there is not anticipated to be a significant environmental effect in respect of waste as a result of the Proposed Development.
- 6.128. It is therefore considered that further assessment of 'Waste and Materials' is not required and can therefore be scoped out of the ES based on the above and in summary as follows:
 - The quantum of the Proposed Development falls within the purview and is, in fact, significantly less than what was assessed for the previous planning application; the quantum of development that comprises the Proposed Development was considered and assessed under the extant permission, namely through the 2019 Assessment;
 - The 2019 Assessment remains valid and fit for purpose;
 - The 2019 Assessment concluded that the Proposed Development would not result in likely significant effects as defined by the EIA Regulations if the mitigation measures recommended were implemented;
 - No objections to the previous application were raised in relation to waste within the consultation responses received from the Minerals and Waste Principal Planning Officer and Waste Management Officer at Herefordshire Council.
 - It is anticipated that the Proposed Development will not result in the generation of materials that require specialist treatment and disposal;
 - The Proposed Development will not result in any additional likely significant effects.
- 6.129. Given the above, it is proposed that agreed mitigation measures will be provided in support of the application where necessary:
- 6.130. The effects upon soils as a result of preparatory earthworks will be considered in the Ground Conditions and contamination assessment (see REF). It is anticipated that any ground remediation and/or soil reuse would be undertaken on the Site, with contaminated soils and water treated and reused on the Site this will be subject to a remediation strategy and regulatory approval.
- 6.131. Mitigation measures that will be adopted with respect to waste generation and handling will largely comprise standard industry practice focused on the principles for implementing the Waste Hierarchy, seeking to minimise the volume of waste sent to landfill. As per the previous planning application, the effects on waste management and associated waste treatment and disposal facilities will be mitigated by the following initiatives:
 - Adherence to the Waste Hierarchy:
 - Implementation of SWMPs and associated waste monitoring:

- Reuse of earthworks/construction materials on-site or reuse/recycling off-site;
- Registration of the development with the Considerate Constructors Scheme;
- Management of supply chains and good on-site storage of materials to prevent wastage; and
- Segregation of recyclable materials within the new buildings
- 6.132. Demolition and construction waste would be managed by the contractor in line with current legislation and best practices. Waste management will be dealt with in line with legislative requirements, good practice and local policy standards which would ensure that measures are in place to reduce waste generation and minimise material going to landfill.
- 6.133. During the construction phase of the Proposed Development, the contractor will be required to develop and implement a construction phase Waste Management Plan (WMP).
- 6.134. A waste and recycling strategy will be implemented for the Proposed Development to reduce waste and facilitate recycling and adequate waste and recycling storage facilities will be provided having regard to the 'Design Guidance for the Storage and Collection of Recyclable Waste' (PAN05, 2007)32 and other relevant sector guidance.

Major accidents and disasters

6.135. The proposed development is not expected to have any significant effects in respect of Major Accidents or Disasters, furthermore this topic was scoped out of the Environmental Statement that was prepared to inform the previous planning application for 1,300 dwellings at Lower Bullingham. As such, it is not considered that this matter needs to be specifically addressed as part of the Environmental Statement.

Health impacts

- 6.136. The Herefordshire Core Strategy Local Plan does not include any requirement for the preparation of health impact assessments to inform the determination of planning applications. In addition, human health was scoped out of the Environmental Statement that was prepared to inform the previous planning application for 1,300 dwellings at Lower Bullingham. In the light of this and given that the proposed development is not expected to have any significant effects on public health, it is not considered that this matter needs to be specifically addressed as part of the Environmental Statement.
- 6.137. In any event, potential health impacts associated with air quality, noise and road safety noise will be considered by other ES chapters while access to work and education, access to open spaces/recreational facilities and medical will be addressed in the socio-economic assessment.

7. ECOLOGY

Introduction

7.1. This section provides an overview of the current baseline conditions at the Site in relation to ecology and biodiversity, as well as a summary of the information and prior survey work that is currently available in relation to the Site. It also summarises the potential impacts of the proposed development that could arise during construction and following completion of the development. Finally, the proposed assessment methodology is described.

Study area

7.2. The Site boundary includes an area of 42 hectares located in Lower Bullingham, South Hereford. The Site comprises four parcels of land, with the largest parcel situated south/west of Watery Lane and north of the B4399 where Red Brook runs centrally through the parcel. Another parcel of land lies between Lower Bullingham Lane and Green Crize road, while the southwestern parcel lies west of Green Crize road and east adjacent to Norton Brook. The final (smallest) parcel lies south of the railway line to the north adjacent to the west of Watery Lane. In addition, a 5km Zone of Influence (ZOI) has been incorporated into the assessment with regard to nearby statutory designated sites.

Baseline conditions

- 7.3. In general, the Site comprises arable land with semi-improved grassland, tall ruderal vegetation, ponds, dense scrub, semi-natural broadleaved woodland, scattered trees and hedgerows. Watercourses and ditches and a number of buildings are also present within the study area.
- 7.4. The ecology and biodiversity assessment will be based on baseline conditions derived from a range of sources including a detailed desk study and review of existing information from the previously completed environmental statement, combined with surveys of a range of ecological receptors within the Site, identified as being potentially affected by the proposed development.
- 7.5. In order to compile background information on the Site and the surrounding area, Ecology Solutions contacted the Herefordshire Biological Records Centre (HBRC) in June 2023.
- 7.6. Further information on designated sites from a wider search area was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database.
- 7.7. An extended Phase 1 habitat survey is to be undertaken in June 2023 in order to ascertain the general ecological value of the Site and to identify the main habitats and associated plant species. Findings of the previous ecological assessment have been included below.

- 7.8. Specific surveys for bats, reptiles, Dormouse, Great Crested Newt, breeding birds and Otter and Water vole commenced in May 2023 by Ecology Solutions.
- 7.9. Previous consultancies undertook a range of protected species surveys in 2016 2018 and the results of the previous surveys have been detailed below. Ecology Solutions' surveys seek to update the prior findings to present the current baseline position with reference back to the prior surveys, as necessary.

Statutory designated sites

- 7.10. Internationally important designations include Special Areas of Conservation (SAC), Special Protection Areas (SPA), Wetlands of International Importance (Ramsar Sites) and Biosphere Reserves.
- 7.11. Nationally important designations, include Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR).
- 7.12. The ZOI relevant to nationally designated statutory sites has been specified as a 5km search area.
- 7.13. Three statutory designated sites are located within 2.5km of the Site. River Wye SAC and SSSI is located approximately 0.5km north of the Site. The River Wye SAC is designated for containing Annex 1 habitats comprising Ranunculion fluitantis and Callicho-Batrachion, and the transition mires and quaking bogs. The SAC is also designated for supporting White-clawed Crayfish Austropotamobius pallipes, Sea Lamprey Petromyzon marinus, Brook Lamprey Lampetra planeri, River Lamprey Lampetra fluviatilis, Twaite Shad Alosa fallax, Atlantic Salmon Salmo salar, Bullhead Cottis gobio and Otter. The site is designated as a SSSI on the grounds that it represents a large linear ecosystem which acts as an important wildlife corridor, an essential mitigation route and a key breeding area for many nationally and internationally important species such as Otter Lutra lutra, White-clawed Crayfish Austropotamobius pallipes and Freshwater Pearl Mussel Margaritifera
- 7.14. Tupsley Quarry Local Nature Reserve (LNR) located approximately 2km northeast of the Site is designated for its small area of scrub woodland and seasonal ponds which is considered an important site for amphibians. The next closest designated site is Belmount Meadows LNR located approximately 2.1km west of the Site and is designated for its grassland habitats.
- 7.15. It is noted that the Site is situated within the River Wye SAC catchment area and is not located within the River Lugg SAC catchment area. As such, there are not deemed to be any likely adverse impacts in relation to nutrient neutrality as a result of the proposals. Appropriate safeguarding measures regarding pollution/contamination would be detailed in a CEMP (which could be secured via a planning condition) and implemented during construction to ensure the local watercourses

associated with the River Wye SAC are safeguarded and integrity of the SAC would therefore be maintained.

7.16. The Proposed Development lies within multiple SSSI Impact Risk Zones (IRZ). The guidance from Natural England states that the Proposed Development may be assessed for likely impacts on the surrounding SSSIs:

"Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals."

"Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction."

"Large non-residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha."

"Residential development of 100 units or more."

"Any residential development of 50 or more houses outside existing settlements/urban areas."

"Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t)."

"General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion."

"Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill."

"Any composing proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composiing, in-vessel composiing, anaerobic digestion, other waste management."

"Any discharge of water or liquid waste including to mains sewer."

"Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > $1,000m^2$ or any development needing its own water supply."

7.17. Given the development falls within some of the development types listed above it is considered that there is potential risk to nearby SSSIs and therefore an assessment of potential effects on the River Wye SSSI will be completed.

Non-statutory designated sites

- 7.18. An updated desk study is to be conducted by Ecology Solutions to ascertain the current position with regard to non-statutory sites in the vicinity.
- 7.19. The desk study undertaken as part of the previous environmental statement revealed 41 nonstatutory sites located within 2km of the Site, however it is noted that the previous planning application supported a larger site boundary extending further west then the current Site. The nonstatutory sites comprised six Special Wildlife Sites (SWS) and 33 Sites of Interest for Nature Conservation SINCs. Of the 41 sites, six are located on or south of the River Wye and Hereford-to-Abergavenny railway. The other sites either form part of the statutory designated sites referenced above, or isolated from the Site by urban areas and the River Wye corridor – it is not anticipated that any adverse effects (direct or indirect) on these wider sites and these sites will therefore not be considered further.
- 7.20. The closest non-statutory designated site is SINC_54 active railway south of the River Wye and approximately <100m north of the current Site boundary. This SINC is designated for its dense scrub. The next closest non-statutory designated site is SINC_55 Withy Brook located <100m west of the previous Site boundary and is designated for its stream with dense scrub situated on the banks of the watercourse (for full details see previous Environmental Statement dated November 2019 for planning application REF: P194402/O). Potential effects on these SINCS will be assessed.</p>

<u>Habitats</u>

- 7.21. Previous habitat surveys were conducted with regard to the Phase 1 Habitat methodology. An extended Phase 1 assessment was undertaken by Ecus Environmental consultants in 2017 and was subsequently updated by Harris Lamb in April 2018 with a further update in September 2019. The surveys revealed the following habitats to be present: arable land, semi-improved grassland, tall ruderal, ponds, watercourses and ditches, dense scrub, semi-natural broadleaved woodland, scattered trees, hedgerows and buildings and hardstanding.
- 7.22. Ecology Solutions intend to carry out an updated habitat survey with regard to the Phase 1 Habitat Methodology in June 2023, which is considered to be the optimal time for undertaking an assessment of botanical interest.
- 7.23. The majority of the habitats across the Site, such as the arable land, are considered to be of limited intrinsic ecological value. The areas of semi-improved grassland and dense scrub are also considered to be of low ecological value in terms of its species content, comprising only common and

widespread species. The habitats that are of relatively greater ecological importance include the boundary hedgerows, scattered trees, semi-natural broadleaved woodland, the onsite /adjacent watercourses and onsite pond.

7.24. The updated desk study being conducted by Ecology Solutions will ascertain the current position with regard to listed Priority (and other notable) Habitats within, and in close proximity to, the Site.

Protected species

7.25. The updated desk study being conducted by Ecology Solutions will ascertain the current position with regard to records of protected / notable species from within, and in close proximity to the Site.

<u>Breeding bird</u>

- 7.26. A previous breeding bird survey was conducted by Falco Ecology in May and June 2018. Due to cold weather in April 2018 two visits were undertaken in May to ensure the surveys followed best guidance in terms of optimal temperatures. During the survey a total of 53 species were recorded, 25 of which were considered to be holding territory and potentially breeding within the Site (full species list can be found within the Environmental Statement dated November 2019). Within the 53 species recorded approximately 18 key species were identified adjacent or over the Site (a key species being a bird of conversation concern and listed on one or more of the following: Annex 1, Schedule 1, Red & Amber List, UK BAP or Local BAP). However, the survey identified only 8 key species were confirmed or suspected to be breeding within the Site itself.
- 7.27. Ecology Solutions are currently undertaking breeding bird surveys (these began in May 2023) with further surveys taking place in June and early July 2023.
- 7.28. It is considered that the hedgerows, scattered trees, semi-natural broadleaved woodland and dense scrub within the Site offer suitable nesting and foraging habitat for birds, while the semi-improved grassland offer some limited foraging opportunities for birds. It is also considered that the arable land provides suitability for some bird species in terms of nesting.

<u>Badger</u>

- 7.29. A Badger Meles meles survey was previously conducted by Ecus LTD in 2016 and subsequently updated by Harris Lamb in 2018. Neither survey identified any active badger setts within the Site, however a disused sett was noted north of the Site south of Watery Lane.
- 7.30. Ecology Solutions intend to carry out updated Badger surveys in 2023.
- 7.31. It is considered that the semi-natural broadleaved woodland and semi-improved grassland provide some foraging opportunities for this species while the arable land provides seasonal foraging opportunities for Badger.

<u>Bats</u>

- 7.32. Bat automated detector surveys, bat activity transect surveys and ground level roost assessments of trees were conducted by Ecus in 2016 between May and September inclusive. The Automated detectors were placed within suitable locations around the Site (hedge lines, wooded areas, watercourses and open field areas). The activity and automated detector surveys revealed the most frequently recorded bats as being Soprano Pipistrelle Pipistrellus pygmaeus, Common Pipistrelle Pipistrellus pipistrellus and Noctule Nyctalus noctula, as well as Myotis recorded frequently. A single registration was recorded from Lesser Horseshoe Rhinolophus hipposideros commuting along a hedgerow in the eastern section of the Site during a transect survey.
- 7.33. Updated surveys were undertaken by JBA consulting in 2018 and revealed similar results to the surveys conducted by ECUS in 2016, albeit Lesser Horseshoe was not recording during the course of the surveys whilst small numbers of Daubenton's Bats Myotis daubentonii were recorded along the watercourse.
- 7.34. Updated monthly activity transect and static automated detector surveys are to be conducted by Ecology Solutions in spring, summer and autumn 2023.
- 7.35. It is considered that the hedgerows, scattered trees and semi-natural broadleaved woodland within the Site provide existing opportunities for foraging and commuting bats.

<u>Hazel Dormouse</u>

- 7.36. Hazel Dormouse Muscardinus avellanarius surveys were conducted by Ecus in 2016, 2017 and 2018. The surveys focused on the hedgerows in the eastern part of the Site where the habitats were considered suitable for Dormouse. The surveys confirmed likely Hazel Dormouse presence within the Site with a single confirmed nest located within a nesting tube along Withy Brook, albeit Withy brook is no longer included within the current application boundary and lies east of the Site. Potential Dormouse nests were identified within the hedgerows along the southern boundary of the Site that borders the B4399, which is within the new application boundary.
- 7.37. Ecology Solutions have set out nesting tubes within suitable locations around the Site and will be conducting updated Dormouse surveys in 2023.
- 7.38. It is considered that the bounding hedgerows and dense scrub offer suitable nesting and foraging habitat for Hazel Dormouse.

Water Vole

7.39. A riparian mammal survey was undertaken along all three watercourses that were contained within the previous site boundary. Water Vole Arvicola amphibius surveys were conducted by Ecus in 2016, subsequently an updated survey was conducted by JBA Ecology in April 2018. The surveys revealed no Water Vole field signs to be present despite the habitats showing suitability to support the species.

- 7.40. Given the known suitability of the habitats for Water Voles, updated surveys will be conducted by Ecology Solutions in June and September 2023 along Red Brook that runs through the Site and Norton Brook that runs adjacent to the western parcel of the Site.
- 7.41. It is considered that the onsite watercourse (Red Brook) and the adjacent watercourse (Norton Brook) provides suitable habitat for this species in terms of both foraging and burrowing opportunities.

<u>Otter</u>

- 7.42. Otter Lutra lutra surveys were conducted along the three watercourses that were contained within the previous Site which includes Red Brook, Withy Brook and Norton Brook. The Otter surveys were undertaken by Ecus in June 2016 and again in October 2017. The surveys undertaken in 2017 identified a suitable resting place for Otters along Norton Brook where occasional runs were noted within the vegetation. Updated surveys were then undertaken by JBA ecology in April 2018, however no evidence of Otter was recorded. The habitat suitability, connectivity and historical presence of this species mean that the watercourse corridors onsite are considered to be of local importance for Otters.
- 7.43. Updated Otter surveys are to be conducted by Ecology Solutions in tandem with the Water Vole surveys in 2023.
- 7.44. As above for Water Vole, it is considered that the onsite watercourse (Red Brook) and the adjacent watercourse (Norton Brook) provides suitable habitat for this species in terms of both foraging and burrowing opportunities.

Great Crested Newt

- 7.45. Ecus conducted a variety of Great Crested Newt surveys in both 2016 and 2017. Approximately 17 ponds were identified within 500m of the previous site boundary, however only 8 of the 17 ponds were subject to eDNA surveys to test for the presence of Great Crested Newts Triturus cristatus due to no limited access. A total of five ponds tested positive for Great Crested Newts which underwent further aquatic population estimate surveys. The results revealed that ponds 1 and 3 supported low populations of Great Crested Newt, while pond 17 supported a moderate population of Great Crested Newts.
- 7.46. Although it is known that Great Crested Newts can disperse up to 500 metres through suitable terrestrial habitat from their breeding pond, it is widely accepted that they tend to utilise suitable terrestrial habitat within a much closer distance. Activity is usually concentrated within 100 metres

of breeding ponds and key habitat is located within 50 metres (termed by Natural England as core habitat).

7.47. Indeed, English Nature Research Report Number 576 (An assessment of the efficiency of capture techniques and the value of different habitats for the Great Crested Newt Triturus cristatus by Warren Cresswell and Rhiannon Whitworth) states:

"The most comprehensive mitigation, in relation to avoiding disturbance, killing or injury is appropriate within 50m of a breeding pond. It will also almost always be necessary to actively capture newts 50-100m away. However, at distances greater than 100m, there should be careful consideration as to whether attempts to capture newts are necessary or the most effective option to avoid incidental mortality. At distances greater than 200-250m, capture operations will hardly ever be appropriate."

- 7.48. The updated proposals show that only five ponds (ponds 1, 2, 3, 4, 5, 6 & 7) are situated within 250m of the current Site boundary as well as one pond (pond 12) located within the Site itself. Updated surveys are to be carried out by Ecology Solutions. Access could not be obtained in time for full aquatic surveys of the offsite ponds, and so the update surveys are to comprise eDNA surveys only, to establish presence/absence of this species within the ponds. The eDNA test undertaken on the onsite pond (P12) revealed GCN to be absent from the pond.
- 7.49. Given the Site comprises mainly arable land it is not considered that Great Crested Newt would utilise this habitat for dispersal opportunities, albeit the bounding hedgerows do offer some suitable refuge/resting habitat and dispersal opportunities for this species.

<u>Reptile</u>

- 7.50. Reptile surveys were conducted by Ecus in 2016 (seven visits from July to October) which used 140 artificial refugia and 2017 (seven visits in September and October) which used 160 artificial refugia. The artificial refugia was placed within habitats considered suitable for reptiles (hedgerow verges, rough grassland, dense scrub, tall ruderal and woodland edge). The surveys revealed a population of Slow-worm Anguis fragilis on site in two locations, one along the northern boundary of the Site and one along the border of the Site adjacent to the A49. However, the parcel of adjacent to the A49 is no longer part of the current Site. Only one individual was counted at any one time indicating a low population of Slow worm. No other reptiles were recorded within the Site during the course of the surveys.
- 7.51. Updated reptile surveys are currently being conducted by Ecology Solutions and these began in May 2023.
- 7.52. The arable field margins and semi-improved grassland are considered to offer some suitable opportunities for reptiles, while the hedgerows offer shelter/resting opportunities for this faunal group.

<u>Fish</u>

- 7.53. A fisheries habitat assessment was undertaken in April 2018 by JBA Ecology during low flows on Norton Brook, Withy Brook and Red Brook to identify features that could be utilised by fish.
- 7.54. Red Brook was considered to provide the best fisheries habitat in the context of the Site, however was still considered as being relatively poor. The channel showed evidence of being re-sectioned and contained little variance in geomorphology that would be utilised by fish during their life cycle. The fish species observed during the survey included Bullhead Cottus gobio, Brown Trout Salmo trutta, and Three-spined stickleback Gasterosteus aculaeatus. There were occasional areas of riffles that would allow salmonid spawning. Vegetation present would also provide good habitat for feeding and provide refuge as well as spawning for course fish species.
- 7.55. The surveys conducted by Ecus revealed that the fisheries habitat surveyed along Withy Brook was considered to be relatively poor, the watercourse showed evidence of being re-sectioned leaving reduced geomorphological features that fish would benefit from. No incidental fish sightings were observed during the course of the survey. Observations were made regarding the presence of small riffles and submerged vegetation as well as tree roots that are considered to provide opportunities for fish.
- 7.56. The surveys conducted by Ecus along Norton Brook showed relatively poor fisheries habitat as well as evidence of the channel re-sectioned showing reduced geomorphological features that would be used by fish. The channel itself was also seen to be impacted by siltation which has a negative impact on fish spawning. Fish seen during the survey was limited to Three Spined Stickleback. Very few areas were recorded along the channel that showed suitability for spawning.
- 7.57. Given the above findings and the reduced application boundary, which now only includes Red Brook that runs through the Site and Norton Brook that runs adjacent to the southwestern most parcel, along with the proposals indicating significant open spaces adjacent to both watercourses, it is cosnidered that updated surveys are not necessary. Adequate construction measures can be emphasized within a Construction and Environmental Management Plan to safeguard the existing brooks from any potential runoff / pollution effects. A clear span bridge construction for the crossing of Red Brook would further avoid any potential effects on fish.

White-clawed crayfish

7.58. A crayfish survey was undertaken at Red Brook, Withy Brook and Norton Brook in April 2018 by JBA Ecology. The survey approach was designed to ensure that both White-clawed Crayfish and any invasive species of Crayfish such as American Signal Crayfish were identified. No crayfish were recorded within any of the brooks surveyed.

7.59. As per the reasoning given above with regard to fish surveys, it is not considered necessary to undertake updated surveys for White-clawed Crayfish.

Aquatic macroinvertebrates

- 7.60. Sampling of macroinvertebrate assemblages was undertaken By JBA Ecology in April 2018. The survey involved undertaking a 3-minute kick sample followed by a 1-minute hand search undertaken along each watercourse. The sampling was carried out using the standard equipment and methodologies as detailed within the RIVPACS guidance (further details regarding the methodology employed can be found within the Environmental Statement dated November 2019). The results indicated no rare or protected species present, however the non-native Jenkins Spire Shell Potamopyrgus antipodarum was recorded within all three watercourses. Red Brook and Withy Brook showed good BMWP and ASPT scores indicating the brooks contain food macroinvertebrate assemblages indicative of low anthropogenic impacts, however Norton brook had low BMWP and ASPT score suggesting the brook had received a level of anthropogenic impacts affecting the presence of macroinvertebrates.
- 7.61. As per the reasoning given above with regard to 'Fish' and 'White-clawed Crayfish', it is not considered necessary to undertake updated surveys for aquatic macroinvertebrates.

Likely effects

7.62. Important ecological features/receptors are likely to include, but not limited to the following:

Statutory designated sites

7.63. The nearest statutory designation to the proposed development is River Wye SAC and SSSI is located approximately 0.5km north of the Site. This SAC and SSSI is separated from the Site by a railway line with existing residential development beyond. As such, with implementation of pollution safeguards to watercourses and the inclusion of a clear span bridge structure over Red Brook it is considered unlikely that the Proposed Development will have any adverse effects (direct or indirect) on this statutory designated site or its associated fauna.

Non-statutory designated sites

- 7.64. The non-statutory designated site SINC_54 active railway south of the River Wye is approximately <100m north of the current site boundary and the SINC_55 Withy Brook is located <100m west of the previous Site boundary.</p>
- 7.65. Potential impacts to SINC_54 active railway and SINC_55 Withy Brook could include potential damage to the dense scrub and discharge of water or liquid waste and dust deposition (and potentially other pollution) from construction activities.

<u>Habitats</u>

- 7.66. The development proposals will include losses to arable land, semi-improved grassland, dense scrub, pond, scattered trees, tall ruderal, and minor losses to existing hedgerows in order to facilitate access for the proposed development.
- 7.67. As mentioned above in section 1.3.16, the majority of the habitats within the Site are considered to be of low intrinsic ecological value comprising mainly arable land. The boundary features, which include the hedgerows and scattered trees, are of relatively greater ecological value as well as the semi-natural broadleaved woodland that sits centrally within the Site running adjacent to Red Brook. The hedgerows, scattered trees and semi-natural broadleaved woodland offer suitable foraging and nesting opportunities for birds and foraging and dispersal/navigational opportunities for wildlife, e.g. bats. The hedgerows (a Priority Habitat) and scattered trees are to be scoped into the assessment as they are of greater ecological value in the context of the Site.
- 7.68. Potential impacts to the hedgerows and scattered trees include potential minor losses to hedgerows. During the construction phase, impacts include potential damage to retained sections of hedgerows and trees, and dust deposition (and potentially other pollution) to retained hedgerows.

Protected species

Breeding bird

7.69. The previous breeding bird surveys revealed a low diversity of key species within the Site. It is considered that the habitats of ecological value to birds (i.e. hedgerows, scattered trees, seminatural broadleaved woodland) are largely to be retained with small losses to hedgerows to facilitate access. Impacts during the construction phase include potential impacts to nesting birds during vegetation clearance.

<u>Bats</u>

7.70. Given the previous survey results indicate that no roosting bats are present within the onsite buildings, it is not considered any loss to bat roosts will occur as a result of the proposals. The hedgerows, semi-natural broadleaved woodland and scattered trees offer suitable foraging and navigational opportunities for bats. These habitats are largely to be retained as part of the proposals, with only small losses to hedgerows to facilitate access. Impacts during the construction phase is anticipated and lighting effects could impact bat usage at the operational phase.

<u>Badgers</u>

7.71. Badgers were not previously recorded on site during specific surveys conducted in 2016, 2017 and 2018, however this protected species is known to the local area. It is considered that there is a low

likelihood that Badgers may be impacted however, precautionary measures during the construction phase will be outlined.

<u>Hazel Dormouse</u>

7.72. Hazel Dormouse were previously recorded within the western section of the Site that is no longer within the Site, however potential Dormouse nests were identified within the eastern section of the Site. It is considered that there is a low likelihood that Dormouse may be impacted, and as such, precautionary measures during the construction phase will be outlined.

Water Vole

7.73. Water Vole were not previously recorded within the Site as such it is considered that there is a low likelihood that Water Voles may be impacted, albeit a bridge is to be created over Red Brook to provide vehicle access (albeit a clear span bridge is proposed which would limit direct impacts to the banks of the watercourse and allow continued wildlife movements). Given that their presence is known along the River Wye, precautionary measures during the construction phase will be outlined.

<u>Otter</u>

7.74. Otter activity was previously recorded along Norton Brook adjacent to the western most parcel of the Site. However, updated surveys in 2018 revealed no signs of Otter. It is considered that there is a low likelihood that Otter may be impacted, as for Water Voles. However, similarly to Water Vole, precautionary measures during the construction phase will be outlined.

Great Crested Newt

7.75. The onsite pond tested negative for the presence of Great Crested Newt in May 2023. The offsite ponds are undergoing eDNA surveys to test for their presence/absence, however previous surveys identified Great Crested Newts as being present within two of the ponds within 250m of the Site boundary. It is considered that there is a low likelihood that Great Crested Newts may be impacted, given limited terrestrial habitat suitability and as such, precautionary measures during the construction phase will be outlined.

<u>Reptiles</u>

7.76. Reptiles were previously recorded on Site during specific surveys conducted in 2016-2017 where a single Slow worm was recorded in two locations. It is considered that there is potential for reptiles to be impacted during the construction phase, and as such, precautionary measures to prevent death or injury to this protected species will be outlined.

Fish, White-clawed Crayfish and aquatic macroinvertebrates

7.77. Given the results of the previous surveys indicating a lack of notable fish and aquatic macroinvertebrate species, along with the absence of White-clawed Crayfish it is considered that there is a low likelihood that these faunal groups may be impacted.

Proposed assessment methodology

- 7.78. The evaluation and impact assessment method will be undertaken with due regard to the guidelines produced by the Chartered Institute of Ecology and Environmental Management^{13,} which avoids the provision of definitions as to how to assign habitats and species different levels of value and relies on an approach that involves professional judgement and the use of available guidance and information.
- 7.79. The value of each resource is determined within a defined geographical context:
 - International;
 - UK;
 - National (England/Northern Ireland/Scotland/Wales);
 - Regional;
 - County (or Metropolitan e.g. in London);
 - District (or Unitary Authority, City or Borough);
 - Local or Parish; or
 - Within Zone of Influence only
- 7.80. A number of other key considerations include:
 - Designated Sites and Features (e.g. Special Protection Areas, Sites of Special Scientific Interest, important hedgerows etc.);
 - Biodiversity Value (Use of Biodiversity Action Plans, development plans and other published documents);
 - Potential Value;
 - Secondary or Supporting Value;
 - Social or Economic Value; and
 - Legal Issues
- 7.81. For example, the Herefordshire Biodiversity Action plan are useful tools that has been used to assist in valuing features and developing mitigation strategies, where necessary. Consideration has also been given to policies contained within the Local Plans.
- 7.82. Having identified the ecologically important features likely to be affected by the development, the current guidance promotes a transparent approach in which an impact is determined to be significant or not on the basis of a discussion of the factors that categorise it. This includes characterising the

¹³CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester

nature of the likely impacts on each important feature in terms of ecological structure and function, by considering the following parameters:

- Positive or negative / beneficial or adverse;
- Extent;
- Magnitude
- Duration;
- Reversibility; and
- Timing and frequency.
- 7.83. Where it is concluded that there would be an impact (positive or negative and including cumulative impacts) on a defined site or ecosystem(s) and / or the conservation status of habitats or species within a given geographical area, its overall effect of significance is described in the following terms; major, moderate, minor, negligible and none.

<u>Summary</u>

- 7.84. Previous ecological surveys were undertaken in 2016, 2017 and 2018 by Ecus and JBA Ecology including an extended habitat survey and a desk study.
- 7.85. The River Wye SAC and SSSI, which is located 0.5km north of the Proposed Development, has been scoped into the assessment as case law associated with the Conservation of Habitats and Species Regulations 2017 (as amended) dictates that consideration of effects without mitigation/avoidance measures is required to determine if an Appropriate Assessment is necessary. It is considered that with the proposed standard construction safeguards and appropriate bridge design there would be no effects on the integrity of the SAC (and associated fauna). Two non-statutory designated sites are located approximately <100m of the current application have also been scoped into the assessment.
- 7.86. The hedgerows and scattered trees located along the boundaries and the semi-natural broadleaved woodland, as well as the onsite water courses of the Proposed Development are deemed to be of relatively good ecological value and have been scoped into the assessment. Indeed, it is considered that the hedgerows, scattered trees and semi-natural broadleaved woodland are likely to provide existing opportunities for foraging and commuting bats, and foraging and breeding opportunities for birds, while the onsite watercourses could potentially provide suitable habitat for Otter and Water Vole.
- 7.87. Given that reptiles were previously recorded onsite, this faunal group has been scoped in as a constraint as to provide precautionary measures in order to prevent any impacts during construction.

- 7.88. Badgers have not been recorded on site, however these species are known to the local area. As such, Badgers have been scoped in as a potential constraint as to provide precautionary measures in order to prevent any impacts during construction.
- 7.89. Effects on fish, White-clawed Crayfish and Aquatic Macroinvertebrates have been scoped out of the assessment.

8. LANDSCAPE AND VISUAL

Introduction

- 8.1. FPCR Environment and Design Ltd (FPCR) are instructed by Bloor Homes Western to undertake a landscape and visual impact assessment (LVIA) for the proposed development.
- 8.2. An LVIA ES chapter was prepared by FPCR in 2019 for the previous planning application covering the Site and wider area. This concluded that whilst there were some significant landscape and visual effects on completion of the proposed development in relation to that application, by year 15, as the mitigation planting within the embedded green infrastructure approached maturity, it was judged that no residual significant landscape or visual effects remained.
- 8.3. The following text defines the study area, baseline conditions, potential for significant effects and the assessment methodology adopted in the assessment of potential effects on landscape character and visual amenity.

Study area

- 8.4. The study area comprises the Site, its' immediate and wider landscape context. The immediate and wider landscape context are defined in the baseline conditions section below.
- 8.5. The potential visibility of the proposed development is considered within a 5km radius of the Site.

Baseline conditions

- 8.6. A review has been undertaken of the landscape and visual baseline conditions provided within the original 2019 LVIA to update the baseline specifically for the proposed development. The review updates the desktop survey findings, and a new site visit will also be undertaken to identify any changes that may have occurred within the Site and its landscape context, and to review the representative viewpoints identified previously.
- 8.7. The baseline conditions for the Site are summarised below.

Site and its' immediate context

- 8.8. The Site comprises predominantly large-scale arable farmland which slopes gradually towards the river Wye to the north, where the river flows through the centre of Hereford.
- 8.9. Within the immediate context, Lower Bullingham residential areas lie just north of the Site, beyond a railway embankment, with Rotherwas Industrial Estate to the east. The linear settlement of Green

Crize lies between the western and eastern parts of the Site. The B4399 is to the south of the Site and adjoins part of the southern site boundary.

Landscape features

- 8.10. Landscape features on the Site comprise field boundary hedgerows with occasional trees and the Red Brook which passes through the main eastern part of the Site. Norton Brook defines the western boundary of the western parcel. Much of each watercourse is tree lined. Tree groups are present along the northern edge of the B4399 adjacent to the southern Site boundary.
- 8.11. A public footpath crosses the B4399 into the main eastern part of the Site from Dinedor Hill to the south, it passes north across the site to the Red Brook then follows the Red Brook to Watery Lane. A second public footpath between Green Crize and Dinedor Hill crosses fields just to the southwest of the Site. A public footpath also crosses the western Site area between Bullinghope and Green Crize/Lower Bullingham Lane.

Wider context

8.12. Within the wider context, to the west, the hamlet of Bullinghope and St Peter's Church are located on a prominent outcrop of land. To the south of the Site, beyond the B4399, the landform steepens dramatically towards the distinctive ridge of Dinedor Hill. Parts of Hereford define the skyline to the north. The distant hills of the Wye Valley Area of Outstanding Natural Beauty (AONB) lie circa 4.5km to the east of the eastern Site boundary.

Relevant planning policy

- 8.13. The following policy documents have been identified as relevant to landscape and visual matters:
 - National Planning Policy Framework (NPPF, July 2021)
 - Planning Practice Guidance (PPG)
 - Herefordshire Local Plan Core Strategy 2011-2031 (Adopted Oct 2015)
 - o HD6 Southern Urban Expansion (Lower Bullingham)
 - LD1 Landscape and Townscape
 - LD3 Green Infrastructure
 - Evidence Base
 - Herefordshire Landscape Character Assessment Supplementary Planning Guidance (updated 2009)
 - Urban Fringe Sensitivity Analysis: Hereford and the Market Towns, HC Jan 2010
 - o Green Infrastructure Strategy Herefordshire, HC Feb 2010

Landscape character & sensitivity

Natural England National Character Area (NCA)

8.14. The Site primarily falls within the very northern edge of National Character Area (NCA) 104 South Herefordshire & Over Severn. The eastern edge strays into NCA 100 'Herefordshire Lowlands' - Lower Bullingham, the Rotherwas Industrial Estate and Hereford also fall within this area. Both NCAs stretch across extensive landscape tracts. The 'landscape opportunities' and 'Statements of Environmental Opportunity' for each are described at a regional level.

Herefordshire Landscape Character Assessment Supplementary Planning Guidance (updated 2009)

8.15. This document locates the Site within the 'Central Herefordshire' Sub- Regional Landscape Character Area and within the 'Principal Settled Farmlands' Landscape Type, which is divided along Hoarwithy Road, Green Crize by a small area of 'Enclosed Settled Commons'. The landscape management objective for the 'Principal Settled Farmlands' is 'Conservation and Enhancement'. The document includes management guidelines and environmental mitigation recommendations for each Landscape Type.

The Urban Fringe Sensitivity Analysis: Hereford and the Market Towns (January 2010)

- 8.16. This document locates the Site within the Grafton-Lower Bullingham Landscape Zone. A sensitivity analysis divides the land further into sensitivity zones. Most of the site, comprising the area proposed for development, falls within 2b Grafton-Lower Bullingham. The document states that intensive arable use has degraded the character of this area, the railway line has reduced visual cohesion and the large-scale industrial development at Rotherwas is a detractor.
- 8.17. The sensitivity mapping (Map 3.1) within the document indicates that assessed sensitivity varies across Area 2b. The northern part of the Site falls within of medium-low sensitivity reflective of the above description for 2b. However, the southern part of the Site falls within an area indicated on the mapping as high-medium sensitivity. No specific written justification looks to be provided for this judgement and the document observes at paragraph 1.6.1 that: "For the purposes of clear graphic presentation there is no gradation in the level of sensitivity passing from one zone of sensitivity to another. However, it is recognised on the ground, in some areas, the landscape is experienced more subtly, with a gradation in sensitivity between one zone of land and another".
- 8.18. The western Site parcel, proposed for the 'country park', along with land around Bullinghope and the enclosed commons around Green Crize fall within 5e Grafton Lower Bullingham. Key landscape features in this area include Bullinghope and St Peter's Church on a prominent knoll of land. The sensitivity mapping indicates that Area 5e, is judged to be of high sensitivity.

Designations

- 8.19. The Site and its immediate context are not covered by any statutory or non-statutory landscape designations at either a national or local level, such as National Parks, Area of Outstanding Natural Beauty (AONB), Special Landscape Areas, or Area of Great Landscape Value (AGLV).
- 8.20. The north-western edge of the Wye Valley AONB, is over 3km southeast of the Site boundary, at its nearest point, visible hills within the AONB are circa 4.5km to the east. To the southeast the grade

II* Holme Lacy Registered Park and Garden (RPG) adjoins the AONB and is not within the visual envelope for the Site.

8.21. The Dinedor Camp Scheduled Monument is positioned on the top of Dinedor Hill to the south of the Site. A small number of Grade II Listed buildings are present alongside Bullinghope Lane within Bullinghope, including St Peter's Church. A further listed building; a barn, is present within Green Crize.

Landscape value

8.22. Landscape value will be fully assessed in the LVIA in terms of the range of local factors set out in LI TGN 02-21A (which updates Box 5.1 of GLVIA3). The previous assessment, undertaken by FPCR, determined that a larger site area and its immediate context were of a Medium landscape value overall. It is anticipated that this judgement will not change.

Visual baseline

- 8.23. Based upon the representative views agreed with the landscape officer at Herefordshire Council (HC) for the previous LVIA, and given the reduction in red line area, a similar set of key representative viewpoints have been determined, omitting those that are not relevant to the reduced site area. These are included at Appendix 4 (Figure 1) and Appendix 5 (Figure 2) for consideration / approval by HC.
- 8.24. The proposed development may have the potential to influence the following identified visual receptors:
 - Users of the public rights of way through and close to the site.
 - Peripheral views from adjacent roads and properties, including the B4399.
 - Limited potential for views for residents in Lower Bullingham.
 - Views from Rotherwas Industrial Estate.
 - Views across the western site area from Bullinghope, Green Crize and public rights of way in the vicinity.
 - Elevated views for users of the public rights of way on Dinedor Hill south of the site.
 - Limited potential for views from Dinedor Camp Scheduled Monument for visitors (the previous LVIA identified heavily filtered winter views, with summer views out towards the site screened when trees were in leaf).
 - Potential for distant views from elevated parts of Hereford to the north of the river Wye, however no publicly accessible representative viewpoint was identified for the previous LVIA.
 - Very long-distance panoramic views in the direction of the Site from the south west (circa 3-4km) and from Wye Valley AONB / Lugwardine (circa 4-4.5km) to the east / northeast.

Likely effects

8.25. The landscape assessment will consider the effects on both the local landscape resource and the wider context of the site i.e. from the physical effects on site-based features and characteristics to the potential effects on the landscape character of the Site and it's immediate and wider context.

Similarly, the visual impact assessment will consider the potential visual effects upon receptors bordering the site (properties, industry, roads and public rights of way, including those crossing the site) and within its wider visual envelope.

- 8.26. The masterplan design will be developed to incorporate in-built landscape mitigation, and to comply with the relevant landscape policy framework of the adopted Core Strategy, including the Herefordshire Green Infrastructure Strategy and the recommendations made within the published landscape character assessments. This includes provision for a new 'country park'. As part of the Chapter, the green infrastructure principles for the proposed development will be described. A standalone Green Infrastructure Strategy plan will also be prepared.
- 8.27. The Proposed Development has the potential to cause significant changes to the current landscape and visual context of the site and surrounding area and impacts may be beneficial or adverse and could change over time. Within the previous LVIA for the more extensive proposed development, on completion, significant effects were assessed for the following: -

Landscape Character

- Grafton Lower Bullingham Landscape Zone
- The Site and its' immediate context

Visual Receptors

- Lower Bullingham Lane (road users)
- Green Crize (road users)
- Lower Bullingham Footpath 2 (PRoW users)
- Lower Bullingham Footpath 1 (PRoW users)
- 8.28. However, by year 15, when the embedded green infrastructure planting would be approaching maturity, the assessed effects on these receptors were all judged to reduce to <u>not significant.</u>
- 8.29. It is anticipated that compared to the previous application, the revised Development Proposal in covering a reduced site area, will result in some reductions in assessed landscape and visual effects.

Proposed assessment methodology

- 8.30. The assessment of landscape and visual effects will employ an established assessment methodology, derived from the Guidelines for Landscape and Visual Impact Assessment Third Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2013) (GLVIA 3), which is the nationally accepted guidance for these assessments.
- 8.31. The assessment will also accord with the Landscape Institute's Technical Guidance Note, Statement of Clarification 1/3 (2013); Technical Guidance Note 06/19, Visual representation of development

proposals; and Technical Guidance Note 02/21, Assessing landscape value outside of national designations (2021).

- 8.32. The LVIA chapter will consider the landscape and visual effects arising as a result of the proposed development at:
 - Construction Phase
 - Operation (Year 1)
 - Operation (Year 15)
- 8.33. In accordance with GLVIA3, landscape receptors will be assessed in terms of their 'landscape sensitivity'. This combines judgements on the value to be attached to the landscape and the landscape's susceptibility to change occurring as a consequence of the type of development proposed. The definition and criteria adopted for the contributory factors will be set out clearly within the methodology for the chapter.
- 8.34. The assessment of Landscape Value will also take account of guidance in Landscape Institute Technical Guidance Note on 'Assessing landscape value outside national designations' (TGN 02/21).
- 8.35. Key representative views that represent a variety of distances and viewing experiences towards the site will be photographed and presented as 'Type 1 Visualisations' or 'Annotated Viewpoint Photographs', as referred to in the Landscape Institute Technical Guidance Note on 'Visual Representation of Development Proposals' (TGN 06/19).
- 8.36. The assessment of visual effects will draw upon the key representative views to assess the effects of the proposed development on the identified visual receptors. An assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity. Each of the visual effects is evaluated in terms of its size or scale, the geographical extent of the area influenced and its duration or reversibility.
- 8.37. The final conclusions on effects, whether adverse or beneficial, are drawn from the separate judgements on the sensitivity of the landscape and visual receptors and the magnitude of the effects. This overall judgement is formed from a reasoned professional overview of the individual judgements against the assessment criteria as set out in the GLVIA3 guidance.
- 8.38. The following descriptive thresholds will be used for this assessment: -
 - Major;
 - Moderate;
 - Minor;
 - Negligible.
- 8.39. Where it is determined that the assessment falls between or encompasses two of the defined criteria terms, then the judgement may be described as, for example, Major/ Moderate or Moderate/ Minor. This indicates that the effect is assessed to lie between the respective definitions or to encompass aspects of both.
- 8.40. A judgement is reached, based on the assessment, as to whether an effect is significant or not. Those degrees of effects that are considered to be significant for the LVIA are judged to be effects that are either Major or Major/ Moderate.

9. SOCIOECONOMICS

Introduction

- 9.1. The socio-economic chapter will be prepared by Lichfields, a planning and economics consultancy with an unparalleled track record in assessing the economic benefits of development proposals. The Lichfields team will be led by **Economic assessing and economics work**. He leads the Lichfields' economics team in the Southwest and Wales region and has undertaken socio-economic assessments of approximately 100 development schemes throughout the country.
- 9.2. The purpose of this chapter will be to consider the key socio-economic impacts associated with the proposed development at both the construction and operational stages.
- 9.3. It is anticipated that the main socio-economic impacts of the proposed development will relate to employment and the local labour market during the construction and operation of the proposed development, together with the effects of the additional population in terms of increased local spending and the expected demand for additional education, health, and community/recreation facilities.

Study area

- 9.4. It is anticipated that the primary area of socio-economic impact for the proposed development will be the County of Herefordshire. However, subject to the availability of data, the analysis will also consider the effect of development on the city of Hereford and on the local area around the Site which falls within Lower Super Output Area Herefordshire 021A although consideration could also helpfully be given to MSOA Herefordshire 015 and LSOA 021D as the adjoining residential area.
- 9.5. The baseline assessment will include a comparative analysis of these areas in relation to the West Midlands and England. This will be important in establishing the socio-economic health of the area and in framing the assessment of the expected socio-economic impact of the proposed development on the local area.

Figure 3 Site Context Plan



Baseline

- 9.6. An initial policy review will be undertaken to highlight the most relevant planning policy context relating to the socio-economic aspects of the proposed development at the national and local levels. This review will focus on economic development and employment policies. Relevant economic development strategy documents will also be considered.
- 9.7. In order to assess the likely socio-economic impacts of the proposed development, a baseline assessment will be conducted in order to identify the current economic and labour market characteristics of Herefordshire and the defined local area around the development site. Particular consideration will be given to the following factors:
 - 1. Demographic profile;
 - 2. Job growth (overall change and change by sector);
 - 3. Economic activity and unemployment rates;

- 4. Commuting patterns;
- 5. Income levels;
- 6. Skills levels of the work force; and,
- 7. Indices of deprivation.
- 9.8. This baseline position and assessment of impacts will take account of a combination of data sources including the Office for National Statistics (ONS), Department for Levelling Up, Housing and Communities (DLUHC), Department for Business Innovation and Skills (BIS), Department for Education (DfE) and the NHS. It will also draw on data from the Marshes LEP and Herefordshire Council as appropriate.
- 9.9. This assessment will establish any strengths and weaknesses of the local economy that may be affected by the proposals.
- 9.10. An initial overview of the baseline position of Herefordshire is set out below.

Demographic profile

- 9.11. The population of Herefordshire was 187,033 in 2021, having increased by 1.9% (+3,556) residents since 201114. It has an older population than the West Midlands and England, with residents aged over the age of 65 accounting for 25.9% of its population (cf. 18.8% in the West Midlands and 18.4% in England) and residents aged over 45 accounting for over half of its population (54.3%, compared to 44.3% in the West Midlands and 44.2% in England). Between 2011 and 2021, the number of people in Herefordshire over the age of 65 increased by 24.2%.
- 9.12. The population of Herefordshire is projected to increase by 16.7% between 2021 and 2041, with its older population projected to increase by 43.9% over the same period. As a result, the old age dependency ratio in Herefordshire (which provides an indication of the relationship between the number of older people in a given population to the number of people of a working age) is expected to increase from 44.6% in 2021 to 60.3% by 2041. This compares to an increase from 29.2% to 40.3% nationally over the same period.

Economic profile

Economic activity and employment

9.13. Between January 2022 and December 2022, 93,800 residents in Herefordshire over the age of 16 were economically active (76.6% of those aged between 16 and 64) and 92,100 were in employment (75.3% of those aged between 16 and 64). The economic activity rate for those aged between 16 and 64 was lower in Herefordshire than in the West Midlands (77.5%) and England

¹⁴ Census 2011 and 2021.

(78.7%), and the employment rate was slightly lower than that for England (75.8%), but higher than the West Midlands (73.8%)15.

<u>Unemployment</u>

9.14. Between January 2022 and December 2022, model-based unemployment in Herefordshire for those aged between 16 and 64 was 1.8%. This is significantly lower than the national average of 3.7% for England, and the regional average of 3.7% for the West Midlands16.

Key employment sectors

- 9.15. According to BRES data, 80,700 people were in employment in Herefordshire in 2021, of which 43.7% (35,245) were employed in Hereford. When compared to the population data set out above, this indicates that Hereford has a disproportionately high level of employment17.
- 9.16. Key employment sectors within Herefordshire include:
 - Health accounts for 14.9% of employment in Herefordshire, 14.6% in the West Midlands and 13.3% in England;
 - Manufacturing accounts for a higher proportion of total employment in Herefordshire (13.6%) compared with the West Midlands (10.4%) and England (7.5%);
 - Retail accounts for 11.2% of employment in Herefordshire compared to 9.0% in both the West Midlands and England;
 - 4. Education accounts for 7.4% of employment in Herefordshire, proportionately less than its 8.7% share of employment in the West Midlands and England; and,
 - Accommodation & food services (which acts as a proxy for tourism and leisure) also accounts for 7.4% of employment in Herefordshire compared 6.5% in the West Midlands and 7.5% in England).
- 9.17. In total, these five sectors employ 44,000 people in Herefordshire and account for 54.5% of total employment, compared to 49.2% in the West Midlands and 46.0% nationally.

Housing profile

9.18. Median house prices were £270,000 in Herefordshire in 2022. This was 1.8% lower than the national average (£275,000) but 20.0% higher than the regional average of £225,000. The median house price in Herefordshire increased by 305% between 1998 and 2022. This was slightly higher than the level of change experienced in the West Midlands (+302%), but lower than the national average increase of (+323%) over the same period.

¹⁵ ONS Annual Population Survey Jan 2022 to Dec 2022

¹⁶ ONS Annual Population Survey Jan 2022 to Dec 2022

¹⁷ Hereford has 43.7% of the total jobs and 33.9% of total population in Herefordshire.



Figure 4 Change in median house price from 1995 to 2022

Source: Lichfields analysis of HPSSA Dataset 9



Figure 5 Change to affordability ratio from 1998 to 2022

Source: Lichfields analysis of ONS House price to workplace-based earnings ratio (data release March 2023)

9.19. The median affordability ratio in Herefordshire has consistently been higher than the regional and national averages, reaching 9.82 in 2022, compared to 8.28 in England and 7.12 in the West Midlands. This is indicative of housing market pressure which is contributing to the demographic trends that are evident and has the potential to undermine the economic well-being of the area.

Likely effects

9.20. The potential socio-economic impacts of the Proposed Development will be considered during construction and operational phases and will include:

Con	e a. Overview of potential socio-econor				
CON	Istruction	Ope	rational		
1	Investment value	1	Direct and indirect employment within employment facilities and local centre		
2	Indirect/induced construction employment	2	Direct and indirect GVA within employment facilities and local centre		
4	Direct and indirect GVA	3	First occupation expenditure by new residents		
		4	Ongoing expenditure by new residents and the local employment implications arising from this additional spending		
		5	Fiscal implications – council tax, new homes bonus and business rates		
		6	Labour market impacts – additional working age/economically active population and increase in employment opportunities		
		7	Commuting impacts, taking account of potential additional out-commuters from the new houses and in-commuters to the new jobs		
		8	Deprivation impacts and the ability to address any of the key areas in which the local area performs poorly in respect of the IMD		
		9	Education provision, taking account of the need for additional services and the provision of a new primary school which could help to address any existing shortfall in provision		
		10	Health provision		
		11	The impact on community, recreation and sporting facilities		

Proposed assessment methodology

- 9.21. The evaluation of impacts of the proposals will be based on an assessment of the magnitude of the impact and the importance of each identified receptor. Impacts will be identified on a matrix basis from major adverse through to major beneficial, representing the scale of impacts above and beyond the baseline position. Where possible, the scale of impact will be quantified in relation to current conditions under each receptor.
- 9.22. The likely employment impacts of the proposals will be assessed both at the construction phase and once the development is operational. This will be based on an estimate of the construction cost and development timescales for the construction impacts and the application of floorspace densities to a range of potential development scenarios for operational impacts. Appropriate employment multipliers will be applied to direct employment to estimate the indirect and induced employment generated by the proposals, taking account of expected expenditure within the supply chain and by new employees in the local economy. Any effects of the development on stimulating additional spinoff investment or other economic activity in the local and wider economy will be evaluated, including its contribution to relevant economic objectives. The potential of the development to support the wider competitiveness of the economy will also be considered.
- 9.23. The expected level of expenditure by new residents will be assessed, based on the application of data from the ONS Family Spending Survey (adjusted to reflect regional expenditure differentials) to the number of new dwellings that are proposed.
- 9.24. The assessment will consider the likely increase in population arising from the residential element of the proposed development, based on the application of average household size data taken from the 2021 census. It will consider the needs of these new residents and the social and community impacts of this increased population, including in relation to education, healthcare, open space and community facilities. The ability of existing services to accommodate an increased demand is an important consideration, which will be assessed in relation to each of the development scenarios.
- 9.25. The analysis will also consider Council Tax, New Homes Bonus payments and Business Rates that are likely to be made to Herefordshire Council. This will take account of existing Council Tax charges and New Homes Bonus payments per Council Tax band, and the estimated profile of new housing within the proposed development. The calculation of Business Rates will be based on a review of the rateable value of existing businesses in the local area, applied to the development scenarios that are to be tested.
- 9.26. The need for mitigation measures to address adverse effects will be considered, if required, drawing on experience and successful initiatives from elsewhere. Such measures may include contributions

through planning obligations, as well as consideration of recruitment/skills initiatives for the construction and operational phases.

9.27. Cumulative socio-economic impacts of the scheme will be considered in terms of the impacts of the proposed development when taken together with the additional identified schemes in the local area, in terms of population growth, the contribution towards meeting identified housing need in Herefordshire, the needs of residents in terms of social and community facilities and services, and impact on labour supply, job provision and the economic strength of the area. The schemes that are to be included within the cumulative assessment will be agreed with Herefordshire Council prior to the commencement of the assessment.

10. CLIMATE CHANGE

Introduction

- 10.1. The UK Climate Change Projections (UKCP18)¹⁸ set out that climate change is projected to lead to increasing annual temperatures, decreasing summer rainfall, and increasing winter rainfall because of increasing global Greenhouse Gas (GHG) emissions. This applies to the UK, including the Site.
- 10.2. In this context the EIA regulations require the consideration of Climate Change, including how resilient development is to the effects of climate change, and how development mitigates its impact on climate change through GHG emissions.
- 10.3. IEMA has prepared guidance for EIA practitioners for both Climate Change Adaptation¹⁹ and Mitigation20 which will be used in the Climate Change assessment for the Proposed Scheme.

Study area

10.4. The study area for the purposes of Climate Change primarily comprises the Proposed Development Site, however it is noted that GHG emissions, such as those associated with the manufacture and transportation of construction materials, and those associated with the off-site generation (e.g., at a power station) fall outside of the Site but are part of a GHG assessment.

Baseline conditions

Climate change mitigation

- 10.5. The existing Site currently comprises a series of agricultural fields. While these are likely to have GHG emissions associated with the agricultural use it is anticipated this is relatively minor and therefore as a worst-case scenario are considered to be zero.
- 10.6. Current local baseline conditions regarding GHG emissions for the local area, Herefordshire, and regional area, are set out below from the latest (2020) UK Government local authority and regional carbon dioxide emissions national statistics: 2005 to 2020²¹

Area	GHG Emissions (ktCO2)
Herefordshire	1417.4
West Midlands	31,551.8

¹⁸ https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/index

¹⁹ IEMA (2020). Environmental Impact Assessment Guide to Climate Change Resilience and Adaptation.

²⁰ IEMA (2022). EIA Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance.

²¹ https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2019

10.7. The future baseline conditions regarding GHG emissions are set out below, based on the carbon budgets proposed for Canterbury via the Tyndall Centre22 and the UK^{23.}

	Carbon budgets (Mt CO2)	
Carbon budget period	Herefordshire	UK
2018-2022	5.0	2,544
2023-2027	2.5	1,950
2028-2032	1.2	1.725
2033-2037	0.6	965
2038-2042	0.3	Not yet set
2043-2047	0.1	Not yet set
2048-2100	0.1	Not yet set

10.8. These can be used to contextualise GHG emissions from the Proposed Development in order to establish the magnitude if its net GHG effect.

Climate change resilience

10.9. Current baseline climate conditions for the Site have been established from the Met Office's closest automatic weather station at Hereford^{24.} The data provides average monthly conditions for the 1991-2020 period summarised in **Table 9** below to show summer maximum temperature and summer and winter rainfall.

Table 9: Current Climate Baseline

Description	Temperature / Rainfall
Summer maximum temperature (°C)	21.1
Summer rainfall (mm per month)	51.6
Winter rainfall (mm per month)	63.7

10.10. Future baseline climate conditions for the Site have been established from the Met Office's latest climate projections UKCP18²⁵ for the 25km OS grid square within which the Site is located (352043, 237703).

²² Local and Regional Implications of the United Nations Paris Agreement on Climate Change (manchester.ac.uk)

²³ Carbon Budgets - GOV.UK (www.gov.uk)

²⁴ https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/gcq0233j7

²⁵ https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/about/what-is-ukcp

- 10.11. The projections comprise forecast changes relative to 1991 to 2020 baseline conditions for annual and seasonal temperatures and rainfall as well as sea level rise and wind speed. In accordance with IEMA guidance, projections are taken from the "high" emissions scenario (known as "RCP8.5"), 50th percentile (i.e. median) scenario for the 2050s (the Works) and 2080s (Completed Development).
- 10.12. Projected changes to seasonal and annual temperature and rainfall relative to 1991-2020 conditions which could result in severe weather effects such as droughts, floods and heat waves are provided in **Table 10**.

			2050s		2080s
Description	Temperature / Rainfall baseline	Change to baseline	Future baseline temperature / rainfall	Change to baseline	Future baseline temperature / rainfall
Summer maximum temperature (°C)	21.1	2.75	23.8	5.67	29.5
Summer rainfall (mm per month)	51.6	-17%	42.9	-35%	33.7
Winter rainfall (mm per month)	63.7	10%	69.9	22%	77.5

Table 10: Future Climate Baseline

Likely effects

- 10.13. The UK Climate Projections provide guidance on the anticipated effects of climate change. Using these projections, the UK Climate Change Risk Assessment (UKCCRA)^{26,} updated in 2021, identifies potential risks and impacts of climate change across a number of areas including Infrastructure, Health, communities and the Built Environment. Key risks from the UKCCRA which relate to the Proposed Development are summarised below.
 - N1 Risks to species and habitats from climate change;
 - I2 Risks for infrastructure from flooding;
 - I7 Risks to infrastructure from subsidence;
 - H1 Risks to health and wellbeing form high temperatures;
 - H3 Risks to people, communities and buildings from flooding;
 - H5 Risks to building fabric;
 - H10 Risks to water quality and household water supplies;
 - B1 Risks to businesses from flooding;
 - B3 Risks to business from water scarcity; and
 - B5 Risks to business operations due to high temperatures.

^{.26} https://www.theccc.org.uk/publication/independent-assessment-of-uk-climate-risk/

- 10.14. Based on the Climate Projections and risks from the UKCCRA key likely receptors to be impacted by climate change include:
 - The Global Climatic System from additional GHG emissions;
 - **Construction Employees** and **Site Users** may be impacted due to overheating from increasing temperatures;
 - Site Infrastructure may be impacted due to changing ground conditions and as a result of increased rainfall and flood risk;
 - **Construction Operations** may be impacted by changing weather patterns leading to risks of flooding, pollution and impacts on **Air Quality**;
 - Site Habitats and Species impacted by changing climate space; and
 - Site Operations, Infrastructure and Site Users may be impacted by decreasing summer rainfall and water availability, as well as increased risks of flooding due to increasing winter rainfall.
- 10.15. The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (Chapter 4). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects unlikely / not significant

10.16. Based on the technical baseline and understanding of the Proposed Scheme (Chapter 4), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this.

Increasing summer mean and daily maximum temperatures during construction [construction employees]

- 10.17. Increasing summer temperatures may lead to health and safety risks for construction employees. A Construction Environmental Management Plan (CEMP) will be prepared to support the construction of the Proposed Scheme and will set out climate change adaptation and measures to reduce risks to human health from overheating such as provision of shaded refuges and potable water supplies during construction.
- 10.18. Therefore, increasing summer mean and daily maximum temperatures affecting construction employees is not considered to be significant and will not be considered further in the EIA or reported in the ES.

<u>Changing annual temperatures and rainfall patterns during construction [construction operations, site habitats</u> <u>and biodiversity, air quality]</u>

- 10.19. Changing annual temperatures and rainfall patterns may lead to a reduction of water supply and increasing risk of flooding which may impact on site construction activities, increase the potential for construction site flooding and damage, and potential harm to nearby water courses and impact on air quality.
- 10.20. The CEMP will set out climate change adaptation and measures including:
 - The monitoring and setting of targets to reduce water use during construction.
 - Measures to protect the Site from increased risk of flooding during construction, for example, compounds storage compounds with raised levels and temporary drainage; and drainage and pollution prevention systems.
 - Enhanced dust suppression measures to reduce the risk of dust from increasing summer temperatures.
- 10.21. Therefore, changing annual temperatures and rainfall patterns affecting construction operations, site habitats and biodiversity, and air quality is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changes to future climate including temperature and rainfall during operation [site infrastructure]

- 10.22. Changes to future climate including temperature and rainfall may cause ground conditions to change impacting on building foundations and structures. The Building Regulations ²⁷ require new development to consider the impact of ground movement in foundation design. Therefore, the Proposed Scheme will be designed to consider changing climate on the stability of the ground conditions, influencing foundation design as necessary.
- 10.23. Therefore, changes to future climate including temperature and rainfall to site infrastructure is not considered to be significant and will not be considered further in the EIA or reported in the ES.

<u>Changes to future climate including higher winter and summer temperatures and a decrease in summer</u> <u>rainfall during operation [site habitats and biodiversity]</u>

- 10.24. Changes to future climate including higher winter and summer temperatures and a decrease in summer rainfall will affect climate space and could impact site habitats and species.
- 10.25. The landscaping proposals will seek to maximise the ecological value of the Site through the provision of native and/or wildlife friendly landscape planting. This will provide a green space within the site and will subsequently provide new and enhanced opportunities for faunal species. Overall, the green infrastructure strategy for the Site will seek to deliver net gains of at least 10% in biodiversity. This will help mitigate the anticipated impacts of climate change in accordance with the

²⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/540328/BR_PDF_A D_L2A_2013_with_2016_amendments.pdf

England Biodiversity Strategy28 and Natural England Climate Change Adaptation Manual^{29.} This will include the selection of climate change tolerant species as part of the projects' biodiversity strategy.

10.26. Therefore, changes to future climate including higher winter and summer temperatures and a decrease in summer rainfall to site habitats and biodiversity is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Increasing rainfall during operation [site operations, infrastructure, and end users]

- 10.27. Increasing winter rainfall could increase the risk of surface water flooding impacting on site operations, site infrastructure and end users.
- 10.28. In accordance with national guidance the mitigation proposed in the Flood Risk Assessment will take into account the potential effects of climate change to minimise risk of flooding. This will include consideration of climate change effects on river levels and the design of the surface water drainage system which will take into account the 1 in 100 year storm event and required climate change allowances below, in accordance with the latest guidance from the Environment Agency:
 - the surface water drainage strategy will be designed against a +45% uplift in rainfall intensity, and
 - the flood risk mitigation strategy will be reviewed against a +37% uplift in river flows.
- 10.29. Therefore, increasing rainfall to site operations, infrastructure and end users is not considered to be significant and will not be considered further in the EIA or reported in the ES.

<u>Higher average summer mean and daily maximum temperatures during operation causing building</u> <u>overheating [end users]</u>

- 10.30. Higher average summer mean and daily maximum temperatures may lead to building overheating, adversely affecting the health and well-being of occupants and end users.
- 10.31. As part of the detailed design, a sample of units in buildings will undergo overheating assessment in line with the requirements of Part O of the Buildings Regulations³⁰ to assess and reduce the risk of summer overheating taking into account future climate scenarios. Where measures are provided to reduce the risk of overheating this will be done in accordance with the cooling hierarchy.
- 10.32. Therefore, higher average summer mean and daily maximum temperatures to end users is not considered to be significant and will not be considered further in the EIA or reported in the ES.

²⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69446/pb13583biodiversity-strategy-2020-111111.pdf

²⁹ http://publications.naturalengland.org.uk/publication/5679197848862720

³⁰ https://www.gov.uk/government/publications/overheating-approved-document-o

Decreasing summer rainfall during operation [end users]

- 10.33. To reduce water use and provide resilience to reducing summer rainfall, the Proposed Scheme will incorporate measures to reduce water consumption, including the provision of water-efficient fixtures and fittings, i.e., low flow taps and low water use WCs. Homes will target a water consumption rate of 110l/p/d, the school will target two water efficiency BREEAM credits.
- 10.34. Therefore, decreasing summer rainfall to end users is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Effects likely/significant

10.35. **Table 11** outlines the effects (and associated receptor[s]) that are considered to be likely and significant and therefore will be assessed within the EIA and reported in the ES.

Table 11: Potential Likely Significant Effects and Sensitive Receptors

Effect	Receptor(s)	Applicable Stage(s)	
GHG Emissions	Global climatic system	Construction and Operation	

Proposed assessment methodology

10.36. The following background surveys/studies have/will be undertaken.

Table 12: Background Surveys/Studies

Survey / Study / Analysis / Evaluation	Date of Completion	
Completed		
Climate Change Analysis to inform EIA Scoping	A review of UKCP18 climate change projections and potential climate change risks	June 2023
Pending	-	
Review of potential GHG emissions	Estimate of the Proposed Scheme GHG emissions and contextualisation against local and national emissions and carbon budgets.	July 2023

Climate change mitigation

10.37. The assessment of climate change mitigation will be undertaken in accordance with IEMA's EIA Guide to Climate Change. The GHG emissions of the Proposed Scheme will consider both the construction and operational stage. The GHG assessment will consider the net GHG emissions of the Proposed Scheme, including any emissions that may be associated with any existing site operation.

- 10.38. The Site will form the principal study area for the assessment; however, the assessment will include off-site GHG emissions / savings such as those associated with the manufacture and transportation of construction materials, and those associated with the off-site generation (e.g., at a power station) of grid electricity consumed by the completed Proposed Scheme.
- 10.39. The significance of the Proposed Scheme's net GHG effect will then be determined by considering the magnitude of its net GHG emissions effect in conjunction with consideration of whether it makes an appropriate contribution to the UK's net zero trajectory.
- 10.40. The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low, and negligible), the magnitude of change (on a scale of large, medium, small, and negligible), and the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined from this evaluation and including professional judgment.
- 10.41. The global climate system is the receptor for GHG emissions and is considered highly sensitive in accordance with IEMA guidance.

Climate change adaptation

- 10.42. While potential effects to climate change adaptation have been scoped out at this stage, the Climate Change assessment will continue to review the UKCCRA for additional potential receptors and climate effects. Should further details and/or consideration necessitate its inclusion, this will be undertaken in the following manner.
- 10.43. As above, if required the assessment will be undertaken in accordance IEMAs EIA Guide to Climate Change Resilience and Adaptation. This will include establishing the baseline climate conditions and review of the UKCP18 projections as noted in this document to determine the extent of potential impacts, and identifying any further effects not noted here.
- 10.44. As part of the ongoing design work, the climate change projections and potential impacts will be considered as part of ongoing technical work, in particular, to ensure the Proposed Development is resilient to the long-term effects of climate change given the likely lifespan of the proposals.
- 10.45. The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low, and negligible), the magnitude of change (on a scale of large, medium, small, and negligible), and the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined from this evaluation and including professional judgment.

10.46. In accordance with the IEMA guidance, the 2080s cRCP8.5 climate scenarios will be used as a worst-case scenario.

11. STRUCTURE OF THE ENVIRONMENTAL STATEMENT

- 11.1. The ES will comprise the main report (Volume 1), Figures (Volume 2), and Appendices (Volume 3), as well as a Non-Technical Summary.
- 11.2. The contents of Volume 1 would include:

Table 13: Structure of ES

Chapters	Content	
Chapter 1 – Introduction	This Chapter will summarise the background of the Site and the Applicant, the proposed development, the requirement and purpose of an EIA, and a summary of the structure of this ES and the project team involved.	
Chapter 2 – Approach to EIA	This Chapter will outline the approach to the EIA to meet the information required in an ES under the EIA Regulations.	
Chapter 3 – Description of the Site and Surrounding Area	This Chapter will describe the Site location, defined by the red line boundary, and the surrounding area.	
Chapter 4 – Consideration of Alternatives	This Chapter will outline the description of the alternatives in terms of alternative site layouts during the evolution of its design.	
Chapter 5 – Description of Development	This Chapter will describe the development.	
Chapter 6 – Planning Policy Context	This Chapter will summarise the relevant national and local planning policy context against the proposed scheme.	
Chapter 7 – Ecology and Nature Conservation	These Chapters will describe the existing baseline environment, the	
Chapter 8 – Landscape	specific methods used to assess the potential effects of the proposed scheme, an assessment of these effects, and mitigation measures proposed to remove/reduce adverse effects for each receptor on a	
Chapter 9 – Climate Change	chapter-by-chapter basis. A summary of the significant effects will be given at the end of each chapter.	
Chapter 10 – Socioeconomics		
Chapter 11 – Cumulative Effects	This Chapter will assess the potential for significant cumulative environmental effects associated with the Proposed Development.	
Chapter 12 – Summary	This Chapter will provide a summary of the effects of each of the technical assessment chapters of the ES. A summary of all proposed mitigation measures will also be included.	

11.3. To ensure consistency throughout the ES Chapters 7 to 10 will follow a standard structure as follows:

- Introduction
- Legislation and Policy
- Assessment Methodology and Significance Criteria
- Baseline Conditions
- Potential Effects
- Mitigation Measures and Residual Effects
- Cumulative Effects
- Conclusions (including summary table).

Appendices

Appendix 1: Site Location Plan



Date Drn Ckd 28.06.23 KT BW

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Appendix 2: Previous Site Location Plan for the larger development proposal



Application Boundary 75.64 Ha

The scaling of this drawing cannot be assured Date Drn Ckd 05.08.19 KU BW Revision G Application boundary updated

Project Lower Bullingham Hereford Drawing Title Site Location Plan

Date 23.01.19 Project No 26218

Scale 1:10000@A3

Drawing No

9000

Drawn by Check by KΤ

BW Revision

G

bst. 9001 Quality Manager



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Appendix 3: Proposed Concept Masterplan



Appendix 4: Proposed Viewpoints



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Site Boundary

Proposed Viewpoint Locations



fpcr drawing title PROPOSED VIEWPOINTS

drawn TGE/SS

project Lower Bullingham

issue date 09 June 2023

Appendix 5: Proposed Long Distance Views



Scale: 1:50000 @ A3



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Site Boundary

Proposed Viewpoint Locations



PROPOSED LONG DISTANCE VIEWS

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project Lower Bullingham

^{issue date} 09 June 2023