# Land North West of Bicester

Environmental Statement Non-Technical Summary

Prepared on behalf of Firethorn Developments Ltd

**April 2021** 



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## **1.0 INTRODUCTION**

- 1.1 Firethorn Developments Limited (the Applicant), is applying for outline planning permission for up to 530 residential dwellings, open space, landscaping and associated infrastructure (the Development) on land north west of Bicester in Oxfordshire (the Site). The Site, situated within the administrative area of Cherwell District Council (CDC), comprises two parcels of land totalling 23.97 hectares (ha) as shown on Figure 1.1.
- 1.2 An Environmental Statement (ES) has been prepared to support the planning application. An ES is the report of an Environmental Impact Assessment (EIA) carried out as required by national law known as the "EIA Regulations"<sup>1</sup>. EIA is the process by which development proposals deemed likely to have significant environmental effects are appraised. This document is the non-technical summary of the ES and summarises the content and conclusions of the ES.
- **1.3** In light of the current restrictions due to the Covid-19 pandemic, and in accordance with the 2017 EIA Regulations<sup>2</sup>, the ES can be viewed and commented on online at the address below:

Website: https://planningregister.cherwell.gov.uk/

1.4 Please contact CDC planning department with any queries:

Cherwell District Council Bodicote House Bodicote Banbury Oxfordshire, OX15 4AA.

Tel: 01295 227006 Email: customer.service@cherwell-dc.gov.uk

1.5 Paper copies of the full ES (chapters and figures) and the technical appendices can be purchased at a cost of £250 and £350 respectively. Paper copies of the non-technical summary can be obtained for £15. Copies of the full ES (with NTS) can be obtained on memory stick for £20.

<sup>&</sup>lt;sup>1</sup> SI 2017/571 as amended by SI 2018/695 and SI 2020/505

<sup>&</sup>lt;sup>2</sup> Amended Regulation 23A, SI 2020/505

1.6 For copies of any of the above please contact the Environmental Planning Team at Barton Willmore:

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## 2.0 EIA METHODOLOGY

- 2.1 EIA is a procedure used to assess the likely significant effects of a proposed development on the environment. The results are written into an ES which is submitted with the planning application. The ES provides the local planning authority (in this case CDC) with sufficient information about the potential environmental effects of the development before a decision is made about the planning application. Effects may arise during the construction and operational phases of the development.
- 2.2 The ES predicts what the significance of each environmental effect would be, which is determined by two factors:
  - The sensitivity, importance or value of the environment (such as driver delay); and
  - The actual magnitude of change taking place to the environment (i.e. the size or severity of change taking place).
- 2.3 Most environmental disciplines classify effects as negligible, adverse or beneficial, where effects are minor, moderate or major. Some disciplines use bespoke criteria based on published guidance.
- 2.4 The ES also includes a description of the current environmental conditions known as the baseline conditions, against which the likely significant environmental effects of the development are assessed.

#### EIA Scope

- 2.5 An ES should focus on the likely significant effects of the Development on the environment during the construction and operational phases. A request for an EIA Scoping Opinion<sup>3</sup> was submitted to CDC in November 2020. A Scoping Opinion was adopted by CDC in December 2020. As a result of the Scoping process, the following subject areas have been included in the ES:
  - Transport and Access;
  - Air Quality;
  - Noise and Vibration;
  - Landscape and Views;

<sup>&</sup>lt;sup>3</sup> Prior to making a planning application, a developer may ask the local planning authority to state in writing in their opinion as to the information to be provided in an Environmental Statement. The opinion given is called a 'scoping opinion'.

- Biodiversity;
- Built Heritage;
- Population and Human Health;
- Water Resources Flood Risk; and
- Climate Change.

#### Stakeholder Engagement and Public Consultation

- 2.6 A key role in the EIA process is to ensure consultation has taken place with key parties. In addition to consultation with CDC (various departments), consultation has also been undertaken with the following organisations as part of the EIA process:
  - Oxfordshire County Council (OCC);
  - Natural England;
  - Historic England; and
  - Environment Agency.
- 2.7 Given the ongoing Covid-19 considerations, the consultation and engagement process involved virtual meetings with local councillors and key stakeholders including Bicester Town Council, Caversfield Parish Council, Elmsbrook Community Organisation and Gagle Brook Primary School. In addition, a virtual public consultation and exhibition was held over a three week period from Friday 19<sup>th</sup> March to Friday 9<sup>th</sup> April. A dedicated website was created to support the public engagement programme: www.landatnorthwestbicester.com. The website included a virtual exhibition section, an interactive 360 aerial tour of the proposed Development, an online feedback facility and options to download the consultation materials.

#### Cumulative Effects

2.8 An EIA must assess the potentially significant effects of a development that may arise cumulatively (when combined with) other major development with planning permission or under construction in the local area. The EIA Regulations state that 'existing and/or approved'<sup>4</sup> developments should be considered. The cumulative schemes included in the ES were agreed with CDC and are shown on Figure 2.1.

<sup>&</sup>lt;sup>4</sup> Regulation 5(e) of the EIA Regulations.

## 3.0 SITE AND DEVELOPMENT DESCRIPTION

#### Site Context

- 3.1 The Site, forming part of a strategic allocation for 6,000 dwellings at North West Bicester<sup>5</sup>, is 2.5km to the north west of Bicester Town Centre, south east of the village of Bucknell and north west of Caversfield. The land and boundaries of the Site comprise Banbury Road (B4100) and the ongoing construction works associated with first phase of the North West Bicester allocation (Exemplar Scheme), completed housing associated with the same development, and fields, hedgerows and trees to the north, north west, and west. Further to the south lie fields running up to Lords Lane (A4095) which is approximately 550m to the south and forms the northern edge of Bicester.
- 3.2 Beyond Banbury Road to the east is the Church of St Laurence Grade II\* Listed Building, Caversfield House, which is surrounded by vegetation, and a Public Right of Way (PRoW) beyond that. Home Farmhouse Grade II Listed Building is located approximately 85m to the south east at the closest point to the Site.
- 3.3 The land separating the two parcels of the Site comprises residential development part complete and part under construction. The new development includes housing development and a primary school (Gagle Brook). An estate road, Charlotte Avenue, travels north of the new housing development, in between the two parcels of land comprising the Site becoming Braeburn Avenue before joining Banbury Road.

#### Site Description

3.4 The Site comprises two parcels of land totalling approximately 23.97 hectares (ha) of uncultivated agricultural land. The land is predominantly grassland with fields bounded by hedges with some large trees, woodland and plantation, and is classified as good to moderate value (primarily Grade 3b) under the Agricultural Land Classification system. The west of the Site contains two distinct areas of woodland, and the most northern area of woodland contains a dry pond. There is a historic hedgerow which runs along the north eastern border of the Site and is a drainage feature running through the south of the Site, which also comprises areas of Flood Zones 2 and 3 (i.e., areas at medium and high risk of flooding). The Site is relatively flat rising gradually to the north west.

<sup>&</sup>lt;sup>5</sup> within Policy Bicester 1 of the adopted Cherwell Local Plan 2011-2031<sup>5</sup>

#### **Description of Development**

#### **Development Parameters**

- 3.5 For an outline planning application where EIA is required, the description of the development must be sufficient to enable the requirements of the EIA Regulations to be fulfilled, and in particular, to enable the potential significant effects of the development to be identified. In the case of the Development, it would not be feasible to make a detailed application at this stage, however, to ensure that as it evolves with the benefit of further approvals (i.e. reserved matters) the Development remains consistent with that assessed within this ES, 'Development Parameters' have been established and assessed. Development Parameters detail all the limits necessary to define and fix those aspects of a development capable of having significant environmental effects. This will enable planning conditions to be drawn up and agreed to control the implementation of the Development. The Development parameters to be defined by such conditions include:
  - the location and types of land use including access; and
  - the maximum heights of development as maximum metres Above Ordnance Datum (AOD).
- 3.6 The Development comprises an outline planning application for:

residential development (within Use Class C3), open space provision, access, drainage and all associated works and operations including but not limited to demolition, earthworks, and engineering operations, with the details of appearance, landscaping, layout and scale reserved for later determination.

3.7 The description provided in this section and section 5 of this NTS, and the parameter plans, Figures 3.1 to 3,3, comprise the Development.

#### Land Use

#### Residential

3.8 The Development comprises up to 530 residential units (Use Class C3). The range of residential accommodation within the Development may extend from one-bedroom apartments to five bedroomed detached houses, and all formats in between and will include private and affordable homes. All properties will have access to open space within the Development.

#### Building Heights

3.9 The majority of the Development will be up to 12 metres (m) above ground level however parts of the Development will comprise buildings with a maximum height of 16m above ground level (up to three storeys). Ground levels are the Site are not expected to require extensive remodelling and therefore a 2m variation has been included in Figure 3.1. The proposed storey heights have been set with reference to their wider context and on a local scale, with the massing changing through iterative feedback throughout the design process, as detailed in Chapter 4 of this ES.

#### Access

3.10 Access will be provided into the eastern and western parcel of the Development from four highway connection points, as shown on Figure 3.3. Pedestrian and cycle connections will be provided at each of the vehicular access points. Safe and attractive environments for walking and cycling will be provided to encourage local journeys to be made sustainably.

#### Green Infrastructure

3.11 The Development includes extensive retained greenspace as shown on Figure 3.2. Green space, including retained vegetation, buffers and the landscape and visual mitigation zone will comprise a minimum of 40% of the Site area when the Development is complete. The greenspace will include private gardens, landscaping, and structural planting; drainage; ecological and natural areas; parkland; formal and informal recreation areas; orchards and edible landscapes; allotments; equipped and non-equipped play areas; wetlands and watercourses, water features; flood risk management areas; and natural areas.

#### Drainage

3.12 The majority of the Site is located within Flood Zone 1 and subsequently at low risk of flooding from rivers/streams and the sea however a small portion of the Site (along the eastern boundary of the eastern parcel) lies within the extents of Flood Zone 2 (at medium risk of flooding) and Flood Zone 3 (at high risk of flooding), associated with Town Brook. The Development Parameters include water storage areas within the green spaces to reduce flooding as shown on Figure 3.2.

#### Lighting

3.13 The adoption of controlled lighting and implementation of a lighting strategy in accordance

with current best practice guidance will ensure that the potential effects on surrounding sensitive receptors from light spill, glare and sky glow are minimised and reduced to an acceptable level.

#### Energy, Sustainability and Climate Change

3.14 The Development has incorporated a range of measures to ensure sustainability principles are met, reduce the emissions of greenhouse gases and increase adaptation to climate change.

## 4.0 ALTERNATIVES AND DESIGN EVOLUTION

4.1 The EIA Regulations require an ES to outline any alternatives that have been studied by the Developer and explain the choice made with a comparison of environmental effects.

#### The 'Do Nothing' Alternative

4.2 The 'Do Nothing' alternative means leaving the Site in its current use. The beneficial and adverse effects outlined in the ES would not occur. There would be a loss of the opportunity to provide up to 530 new homes, in accordance with local planning policy (Policy Bicester 1 of the adopted Cherwell Local Plan 2011-2031<sup>6</sup>). The 'Do Nothing' alternative would avoid the temporary effects associated with the construction of the Development and the permanent effects associated with the completed Development; however, given the Site has been allocated for development by CDC, it can reasonably be expected that the Site is unlikely to remain undeveloped in the longer term. Therefore, the do-nothing option was not considered by the Applicant.

#### Alternative Sites

4.3 The Site forms part of a strategic allocation for 6,000 dwellings at North West Bicester within Policy Bicester 1 of the adopted Cherwell Local Plan 2011-2031. A Design and Access Statement (DAS) has been submitted in support of the planning application. The DAS presents an explanation of the Development, including how the proposals have been conceived, the design principles and how the Development is influenced by its surroundings. The DAS also explains the Applicant's approach to access and how relevant local policies have been taken into account, any consultation undertaken in relation to access issues and how the outcome of this consultation has informed the Development. The DAS outlines the considerations that have been taken into account to ensure the suitability of the Site for the Development. Accordingly, alternative sites were not considered by the Applicant.

### Alternative Designs

4.4 As an outline planning application, permission for detailed design is not being sought at this stage, and as discussed in Section 3, parameter plans rather than detailed scheme plans have been prepared. The extents and types of use within a site (e.g. residential) are fixed within parameter plans but the layout of the streets and houses are not. Parameter plans for assessment in an ES are generally not produced until the site constraints have been

<sup>&</sup>lt;sup>6</sup> https://www.cherwell.gov.uk/info/83/local-plans/376/adopted-cherwell-local-plan-2011-2031-part-1

established and a masterplanning exercise undertaken. Information on the evolution of the illustrative masterplan is provided in the DAS accompanying the planning application. A review of that information identified key considerations with each iteration of the masterplan through the design process.

#### Conclusion

4.5 The final illustrative masterplan for the Development has evolved as a result of this process and it is from this masterplan the Development parameters, assessed within this ES and shown on Figures 3.1 to 3.3, have been established. No other alternatives were considered by the Applicant as part of this planning application.

## 5.0 CONSTRUCTION METHODOLOGY AND PHASING

- 5.1 Planning for construction is broad at this stage. The assessment of construction phase environmental effects is based on reasonable assumptions and experience.
- 5.2 The construction phase of the Development is anticipated to commence in early 2022 subject to gaining planning permission, and span approximately five years.
- 5.3 Construction will include the following activities:
  - Enabling works<sup>7</sup>;
  - Excavation and substructure works;
  - Infrastructure and Drainage works;
  - Construction of units;
  - Fit out; and
  - Landscaping.
- 5.4 Where possible, materials and resources used during the construction of the Development will be sourced from the local area.

#### Construction Phase Vehicle Movements

- 5.5 Construction vehicle movements will be managed via a Construction Traffic Management Plan (CTMP), which will form part of the CEMP, to minimise the impact on the local road network. It is anticipated that construction traffic will access the western parcel of the Site via the B4100 and Braeburn Avenue whereas access to the eastern parcel will be directly from the B4100. Should any hazardous materials arise during the course of the works, these materials will be transported to a licensed disposal site using permitted routes as identified in the CTMP.
- 5.6 The Heavy Goods Vehicles (HGV) movements would be dispersed across the working day, outside of the AM and PM peak periods. Construction deliveries will be planned to avoid peak hours on the transport network. The arrival and departure of light vehicles would be concentrated during the morning and evening periods but would be less than the predicted levels of traffic during the operational phase of the Development.
- 5.7 All management of construction traffic and access will be carried out in accordance with a Construction Environmental Management Plan (CEMP) as set out below:

<sup>&</sup>lt;sup>7</sup> Site preparation works that would take place prior to work under the main construction contract.

- Planning and managing both vehicle and pedestrian routes;
- The elimination of reversing, where possible;
- Safe driving and working practices;
- Protection to the public;
- Adequate visibility splays and sight lines;
- Provision of signs and barriers; and
- Adequate parking for off-loading storage areas.

#### Hours of Work

- 5.8 Working hours on the Site will be agreed with CDC through the CEMP. However, it is likely that the standard hours of work will be adhered to. These are:
  - Monday to Friday, 08:00 to 18:00;
  - Saturday, 08:00 to 13:00; and
  - Sunday and Bank Holidays, no noisy working.
- 5.9 If still relevant at the start of the construction phase, it is likely that the Applicant will seek permission to extend construction hours in accordance with the UK Government guidance issued on 13<sup>th</sup> May 2020 due to Covid-19 pandemic restrictions<sup>8</sup>.
- 5.10 All noisy works outside these hours (including if construction hours are extended in line with the ministerial statement as above) will be subject to prior agreement of, and/or reasonable notice to CDC as appropriate. Night-time working will be restricted to exceptional circumstances and work internally with buildings. By arrangement, there may be some out of hours construction deliveries made to the Site.

#### **Environmental Management**

5.11 A CEMP will be prepared for the Development that will provide the methods of managing environmental issues, such as noise and dust during construction.

<sup>&</sup>lt;sup>8</sup> Gov.UK website, accessed online: https://www.gov.uk/guidance/coronavirus-covid-19-construction-updateqa [published 13th May 2020]

## 6.0 TRANSPORT AND ACCESS

6.1 The ES assessed the likely significant effects of the Development on transport and access, including the effects on pedestrians, cyclists and public transport users on the local highway network. The chapter considered the effects of the traffic associated with the construction and operation of the Site in relation to Severance, Driver Delay, Pedestrian Delay and Amenity, Fear and Intimidation, and Accidents and Safety.

#### Baseline Conditions

- 6.2 The baseline year for the assessment has been taken as 2016 and the baseline traffic flows have been provided by the Bicester Transport Model (BTM). The BTM does not currently include an up-to-date base year of 2021. Traffic data for the following junctions were provided:
  - B4100/A43 Baynards Green Roundabout Junction;
  - B4100/A4095/Banbury Road/A4095 Roundabout Junction;
  - A4095/Buckingham Road/Skimmingdish Lane/A4421 Roundabout Junction;
  - A4095/Middleton Stoney Road/Vendee Drive/B4030 Roundabout Junction;
  - B4100/Braeburn Avenue Priority Junction Site Access 1; and
  - B4100/Charlotte Avenue Priority Junction Site Access 2.
- 6.3 Due to the travel restrictions that have been in place intermittently from March 2020, it was not considered appropriate to undertake traffic surveys to establish the baseline traffic flows. However, as there are a significant number of allocated sites identified within the Local Plan, and specifically in and around Bicester, it is expected that traffic levels will generally increase during the build out of the allocated sites until the end of the Local Plan period, 2031. The potential impacts of the traffic flows associated with the Development have been assessed against the future forecasted year of 2031.

#### Construction Phase Effects

- 6.4 The effects on Severance, Driver Delay, Pedestrian Delay and Amenity, Fear and Intimidation and Accidents and Road Safety during the construction phase were assessed as negligible. Mitigation measures that will be included within the CEMP/Construction Travel Management Plan, which will be secured by a planning condition, are:
  - The contractor will set out the agreed construction vehicle routes, ensuring that

construction vehicles will keep away from minor roads wherever possible;

- A Travel Plan for construction staff will be prepared to reduce vehicle traffic generated by the construction works;
- Clearly marked pedestrian and vehicle routes will be provided on Site and wherever possible be kept separate;
- Main entry and exit points will be signposted;
- Vehicles will be able to enter and exit in forward gear;
- A Site map will be provided to all drivers with safety instructions; and
- Vehicle routes on Site will be specifically constructed to an appropriate standard for the purposes of construction.

#### Operational Phase Effects

- 6.5 The operational phase effects on the majority of assessed roads/junctions were identified as minor adverse or negligible in relation to Severance, with Braeburn Avenue being identified as having potential to experience a minor to moderate adverse effect. However, due to the fact that there would be no pedestrian or cycle activity at this junction, it is not considered that mitigation would be necessary as the junction has been demonstrated to still operate within capacity. Beyond this local junction, the Development is predicted to have a negligible adverse effect on Severance.
- 6.6 There is an identified residual effect in relation to Driver Delay at the Charlotte Avenue junction with the B4100 Banbury Road. This is proposed to be mitigated by the introduction of a traffic lights. Beyond this local junction, the Development is predicted to have a negligible adverse effect on Driver Delay. Negligible residual effects were identified in relation to Pedestrian Delay and Amenity, Fear and Intimidation, or Accidents and Road Safety as a result of the implementation of the Development.

#### Cumulative Effects

6.7 The traffic data used in the operational phase assessment includes the cumulative schemes and agreed committed developments identified with the Local Plan as coming forward by 2031, and highway improvement schemes. Therefore, the assessment of the predicted likely effects fundamentally considers the cumulative effect of the Development, other Local Plan Commitments, and known developments for the Plan Period to 2031. Therefore, the assessment has already considered the cumulative effects and the measures proposed to ensure that any cumulative impact is mitigated.

## 7.0 AIR QUALITY

7.1 The ES assessed the likely significant effects of the Development on local air quality during both the construction and operational stages. The assessment included identification of potential dust effects during construction.

#### Baseline Conditions

7.2 The baseline environment was determined by reviewing the latest available existing air quality monitoring undertaken by CDC and reviewing background air pollution maps. The Site is located approximately 1.5 km north west of the Bicester No. 4 Air Quality Management Area (AQMA), which is designated due to unacceptable levels of nitrogen dioxide (NO<sub>2</sub>), a pollutant associated with road traffic. Residential properties, hospitals, schools and care homes surrounding the Site have been identified as receptors that could be sensitive to changes in air quality as a result of the Development.

#### **Construction Phase Effects**

7.3 The construction phase assessment identified the potential impacts of construction activities and the appropriate mitigation measures to reduce the impact risks. Following the implementation of standard mitigation measures detailed in the CEMP, which will be secured by a planning condition, the residual effects of dust associated with the construction phase were determined to be negligible.

#### **Operational Phase Effects**

7.4 The effect on air quality resulting from changes in traffic flow as a result of the operational Development and pollutants which are released into the air by vehicle emissions (NO<sub>2</sub> and small particles<sup>9</sup>) has been assessed. All Development receptor locations are predicted to be below relevant air quality objectives and therefore operational effects were determined to be negligible at all identified receptor locations.

### Cumulative Effects

7.5 Following the implementation of the standard mitigation measures, there will be no effects from the Development that could combine with effects from other developments to lead to cumulative effects during the construction phase. It is anticipated that any committed

 $<sup>^{9}</sup>$  Known as 'particulate matter' or PM\_{10} and PM\_{2.5}, depending on the size of the particles.

developments would implement best practice mitigation measures through a CEMP for their respective construction phases. As the significance of the air quality effects from the Development is 'negligible' during the operational phase there will be no effects from the Development that could combine with effects from other developments to lead to cumulative effects during the operational phase.

### 8.0 NOISE AND VIBRATION

8.1 The ES assessed the likely significant effects of the Development on noise and vibration.

#### Baseline Conditions

8.2 The assessment included baseline monitoring to establish existing baseline noise levels within and around the Site including locations representative of future dwelling locations and measurements of the surrounding road network. The results were used to determine the noise exposure of proposed receptors which would be sensitive to an increase in noise during the operational phase of the Development.

#### Construction Phase Effects

8.3 In terms of construction noise levels, with the implementation of a CEMP, the results of the assessment indicate that it will have a minor effect on the noise levels at assessed receptors. In terms of construction vibration with the implementation of best practice measures detailed within the CEMP, there are not predicted to be any significant effects in relation to construction-phase vibration.

#### **Operational Phase Effects**

8.4 In terms of sensitive properties, generated road traffic noise from the operational phase of the Development, indicate a moderate adverse effect in the short-term which is considered not significant. Noise levels associated with road traffic and rail noise have been assessed at future residential properties within the Development. With the inclusion of mitigation measures in the form of a suitable glazing and ventilation strategy at the detailed design stage, noise levels at proposed sensitive receptors are predicted to be negligible.

#### Cumulative Effects

8.5 During the construction phase, the number of construction vehicles on the local road network are anticipated to be less than the number of vehicles forecasted when the Development is operational. Therefore, the traffic noise assessment for the operational phase is considered to be representative of the potential worst-case cumulative effects of construction traffic on the local road network. Any consented developments are likely to implement standard best practice measures and therefore effects from the Development that could combine with construction effects from surrounding consented sites would be minimised. The cumulative

construction effect is assessed as minor adverse, which is considered not significant.

8.6 The operational traffic noise assessment includes the cumulative impact of other consented developments within the surrounding area; traffic noise levels are expected to increase at a number of high-sensitivity residential properties. The effect will be moderate adverse and is not considered to be significant.

### 9.0 LANDSCAPE AND VIEWS

9.1 The ES assessed the likely significant effects of the Development on landscape and views.

#### Baseline Conditions

- **9.2** The baseline conditions of the Site and the surrounding landscape has been informed by deskstudy and fieldwork (undertaken in September 2020 and January 2021). The Site and surrounding areas fall within the 'Oxfordshire Estate Farmlands' landscape character type as identified in Cherwell District Landscape Character Assessment<sup>10</sup>. The landscape to the north of Bicester opens out into a rolling arable landscape with strong field patterns and trees. The area of the North West Bicester ecotown allocation contains few distinguishing or rare landscape features; occupies an area of flat, lower-lying farmland that is not prominent in the wider landscape (as opposed to the more open, rolling landform further north-west); and has a high capacity to accommodate development.
- **9.3** Visually the Site is not highly prominent in the surrounding landscape, located between two residential parcels of the Exemplar Scheme that are complete / under construction; bound by existing trees and hedgerow; and set within a generally well wooded landscape. Views of the Site are generally limited to an area of no more than 1km from the Site boundary and typically encompass parts of the Exemplar Scheme; and roads and footpaths in the surrounding landscape. There is no apparent visibility of the Site from the built up areas of Bicester; Bucknell; and Caversfield.

#### Construction Phase Effects

**9.4** Although construction activity is different in nature to the completed development, it is judged that the construction phase would not give rise to effects over and above those of the completed development.

#### **Operational Phase Effects**

**9.5** The design of the Development has been informed by the local landscape and visual context. Key design principles which are incorporated into the Development parameters include retaining and enhancing existing woodland, tree belts and hedgerows; creating new multifunctional green infrastructure; and ensuring appropriate treatment of the western extent of

 $<sup>^{10}\</sup> https://www.cherwell.gov.uk/downloads/download/388/landscape-character-sensitivity-and-capacity-assessment-june-2017-part-1$ 

the Site, creating a transition between development and countryside. The identified residual effects on landscape character ranged from Minimal Neutral to Moderate-Slight Adverse and residual effects on Visual Receptors ranged from Minimal Neutral to Moderate Adverse.

#### Cumulative Effects

**9.6** The cumulative effects on landscape character were identified as Moderate Adverse and cumulative visual effects ranged from Slight Neutral to Major-moderate Adverse.

## **10.0 BIODIVERSITY**

10.1 The ES assessed the likely significant effects of the Development on biodiversity.

#### Baseline Conditions

- 10.2 Ecological surveys were carried out in 2020 and 2021 and the Site was most recently visited in April 2021. A number of ecological designations were identified, with the closest being Bure Park Local Nature Reserve (LNR) which lies 700m south of the Site boundary. Ardley Cutting Site of Special Scientific Interest, Twelve Acre Copse Local Wildlife Site and Skimmingdish Lane Balancing Pond District Wildlife Site also lie within 2km of the Site and consideration has also been given to the Oxford Meadows Special Area of Conservation, 17.1km south-west of the Site.
- 10.3 The following important ecological habitats were identified on the Site: semi-improved grassland, hedgerows and treelines, scattered trees, woodland and off-site watercourses. Surveys of protected species found that the Site supports potential opportunities for bats, badgers and other mammals (hedgehogs and polecats), breeding birds, reptiles, common toads and Brown Hairstreak butterflies.

#### Construction Phase Effects

- 10.4 A number of mitigation measures have been incorporated into the design of the Development, with the key elements being retention of buffer zones around key habitats, the establishment of green infrastructure corridors around and across the Site, specific dark corridors<sup>11</sup> for bats, and new drainage features. This mitigation has been designed to protect existing habitats, and maintain habitat connectivity across the entire Site, which will in turn maintain corridors for mobile animals such as badgers, bats and Brown Hairstreak butterflies and provide suitable habitat for other species recorded on Site such as reptiles.
- 10.5 In the absence of mitigation, potentially significant effects are predicted at the construction phase for Bure Park LNR, semi-improved grassland, hedgerows, treelines, woodland, off-Site watercourses, bats, badgers and breeding birds. Non-significant effects are predicted in relation to scattered trees, reptiles and common toads. Mitigation will be fully developed at the detailed design stage and set out via production of a CEMP which will be secured by a planning condition. The CEMP will include pollution prevention and dust management measures, routing of construction traffic away from sensitive areas and tree protection in line

<sup>&</sup>lt;sup>11</sup> Corridors of vegetation in which artificial lighting is minimised.

with best practice. The implementation of mitigation reduces the residual effects during construction to negligible.

#### **Operational Phase Effects**

10.6 In the absence of mitigation, potentially significant effects are predicted at the completed Development phase for semi-improved grassland, hedgerows, treelines and woodland, bats, reptiles and Brown Hairstreak butterflies. The mitigation and compensation proposed, as set out above, will be developed further and set out in full in a Landscape and Ecological Management Plan (LEMP) (or similar) and a detailed lighting design which will be secured via planning condition. A number of enhancements are also proposed to create and enhance habitats and create new faunal opportunities. The implementation of mitigation, compensation, enhancement measures and ongoing long-term management brings the residual effects during operation to a level which is not significant. Overall, minor beneficial effects are predicted in relation to semi-improved grassland, hedgerows, treelines and woodland, bats, breeding birds, reptiles, common amphibians and Brown Hairstreak butterflies (in addition to invertebrates generally).

#### Cumulative Effects

**10.7** No significant adverse residual effects have been identified as a result of the Development, and there is no anticipated/foreseeable cumulative effect.

## **11.0 BUILT HERITAGE**

11.1 The ES assessed the likely significant effects of the Development on built heritage which relates to above ground heritage features.

#### Baseline Conditions

11.2 A total of 14 Listed Buildings lie within a 1km radius of the Site, comprising a single Grade II\* Listed Building and 13 Grade II status Listed Buildings. Five of the Grade II Listed Buildings lie within or on the periphery of the village of Bucknell, centred c. 1km to the north-west of the Site. A further seven Grade II Listed Buildings lie within the RAF Bicester Conservation Area, which extends from c. 530m to 2.6km to the south-east of the Site. These designated heritage assets are not considered susceptible to experience harm as a result of the Development. The Church of St Laurence was granted Grade II\* status in 1966 and is situated approximately 45m to the east of the Site. Home Farmhouse comprises an early-mid 17th century farmhouse, with 18th and 19th century extensions, it was granted Grade II status in 1987 and situated approximately 65m to the east of the Site.

#### **Construction Phase Effects**

11.3 The temporary nature of the construction effects are not deemed to be of a scale or a duration, to manifest in a material or significant effect and therefore have not been addressed further within the assessment.

#### **Operational Phase Effects**

- 11.4 Design mitigation measures have been included in the Development to reduce the potential effects on the setting and experience of the Grade II\* Listed Church of St Laurence and Grade II Listed Home Farmhouse. Most notably these include the retention and enhancement of views of the Church tower.
- 11.5 The Development would have an impact on the setting of the Church of St Laurence by changing the nature of its wider setting through the introduction of an increased urban aspect into the established agricultural landscape. The Development would not, however, prevent an understanding of the relationship between the Church and the wider area. Furthermore, key views of the Church from across the Site would be enhanced by the Development, enabling a greater appreciation and visibility of the asset from this aspect of its wider setting than is presently afforded. There would be a less than substantial harm (a non-significant effect) to

this designated heritage asset, resulting from the changes to its setting. However, the 'heritage benefits' that would come from the improved and views of the Church tower need to be acknowledged; thus the net result would be no harm.

11.6 The Development would change the agricultural character of the Site, resulting in a change to the wider setting of Home Farmhouse. Therefore, the Development would result in less than substantial harm to this designated heritage asset (a non-significant effect). However, this would be very much at lower end of this scale and the harm would not affect the 'special architectural and historic interest' of the Listed Building. The Development would result in a very minor degree of harm to the setting of Caversfield House and associated buildings. This should be weighed against the limited local significance of the building. The resultant overall harm to the significance is considered to be negligible.

#### Cumulative Effects

11.7 The cumulative effects of other known developments will not result in any material harm to the identified heritage assets.

## **12.0 POPULATION AND HUMAN HEALTH**

12.1 The ES assessed the likely significant effects of the Development on population and human health; particularly the impact on housing delivery, household expenditure, early years education/childcare, primary education, secondary education, GP services, dentist provision, wider human health, employment and open/play space.

#### Baseline Conditions

- 12.2 The Site currently comprises no residential or employment uses. The local area has a population of 25,900 people, accounting for 17% of CDC's total population (150,000 people). The 2011 Census recorded approximately 59,100 households in the CDC area, 13% of which (7,900) are within the local area. Current household expenditure is estimated to be £204.4m per annum by residents of the local area and £1,529.2m per annum by residents in the CDC area. A total of nine registered non-domestic childcare and early years facilities have been identified within the local area, which collectively provide a total of 600 places. There are a total of nine primary schools within 3.2km of the Site, which are operating under-capacity by 523 places, and four secondary schools within 4.8km of the Site which have capacity for 358 places.
- 12.3 There is one GP surgery operating within the local area and a further two GP practices within proximity. All GP provision is currently operating over-capacity, however, all three GP practices are currently accepting new patient registrations. A total of nine dental practices are operating within the local area, of which four are accepting new NHS patients. The assessment identified that the health features of Cherwell are generally better or similar to those recorded for England. In the year ending September 2020, there were 77,900 residents in the CDC area who were classified as economically active (this includes all those people in employment or available to work, for example the unemployed).
- 12.4 There is range of formal open/play space provision within 1.2km of the Site. However, the distance of such provision from the Site is beyond the CDC accessibility standard. There is only one area of play space (Charlotte Avenue) that meets CDC accessibility standard from the Site (within 400m) and three areas of outdoor sports provision that meet CDC accessibility standard (within 800m).

#### Construction Phase Effects

12.5 Construction of the Development will create an average of 133 full time equivalent (FTE) jobs

per month on-Site across all construction disciplines from ground workers to construction management over the 60-month construction period. A further 129 FTE jobs per month will also be created off-Site through supply chain linkages. In the context of 4,000 construction workers in the CDC area currently, the Development is considered to have a temporary, minor beneficial effect on employment.

12.6 The Development will have a negligible effect on wider human health with best practice mitigation measures implemented through the CEMP to control noise and air quality effects during construction.

#### **Operational Phase Effects**

- 12.7 The Development will deliver up to 530 homes which will contribute 9.3% of CDC's housing requirement over the 5-year construction period and therefore will have a permanent, moderate beneficial effect on housing. The 530 new households will generate £13.7m in commercial expenditure per annum, increasing household expenditure from the CDC area by 0.9%. The Development will have a permanent, minor beneficial effect on local expenditure.
- 12.8 The Development's future population will generate a need for 142 early years education places. Given that the number of early years places available in the Study Area is in excess of the number of early years places generated by the Development, the Development will have a negligible effect on early years education/children. The Development's future population will generate a need for 158 primary school places. Given that there is forecast to be surplus of primary school places within the existing primary school provision that is sufficient to meet the needs arising from the Development will generate a need for 96 secondary school places. Given that there is forecast to be surplus of places. Given that there is forecast to be surplus of places. Given that there is forecast to be surplus of places. Given that there is forecast to be surplus of places. Given that there is forecast to be surplus of places. Given that there is forecast to be surplus of secondary school places. The Development will generate a need for 96 secondary school places. Given that there is forecast to be surplus of secondary school places. Given that there is forecast to be surplus of secondary school places within the existing secondary school provision that is sufficient to meet the needs arising from the Development, the Development, the Development will have a negligible effect on secondary school places.
- 12.9 The Development would have a minor adverse effect on GP provision and a negligible effect on Dentist Provision. The wider human health effects of the Development are taken into consideration through the Development design and are considered to be minor beneficial effects. Through the provision of multi-functional green space, play areas and allotments on the Site, which are designed with the health and wellbeing of residents of all ages and abilities in mind, this will make for an attractive area for the surrounding communities to use. The Development will improve the quality of life for the existing residents and positively contribute to the health of the residents within the Development and the surrounding area.

- 12.10 Whilst the Development does not provide any direct employment opportunities, it is estimated that 662 of the Development's resident population will be in employment increasing resident-based employment in the CDC area by 0.9%. Some of the Development's future residents will work in positions created by the Exemplar Site and a further 79 of the Development's residents are expected to work from home. On this basis, it is considered that the Development will have a permanent, minor beneficial effect on employment.
- 12.11 The Development will incorporate at least 40% green space provision (which equates to at least 9.5ha) across the Site, which is significantly in excess of the requirement of 6.52 ha to support the Development's population based on CDC's open space quantity standards. On this basis, it is considered that the Development will have a permanent, major beneficial effect on open space.

#### Cumulative Effects

12.12 The identified cumulative effects of the construction and operation of the Development range from negligible to major beneficial.

## **13.0 WATER RESOURCES AND FLOOD RISK**

13.1 The ES assessed the likely significant effects of the Development on water resources and flood risk, particularly; flood risk, surface water drainage (surface water quantity), water quality (surface water and groundwater), wastewater drainage and potable water (demand and supply).

#### Baseline Conditions

- 13.2 Most of the Site is located within Flood Zone 1 and is considered to be at low risk from flooding due to rivers (a small portion of the Site lies within Flood Zones 2 and 3 to the east of the eastern parcel i.e. areas at risk of flooding). In addition, most of the Site is considered to be at very low risk from surface water flooding<sup>12</sup>. The risk of groundwater flooding is low. No other significant sources of flooding have been identified. The Site is located on top of groundwater aquifers (stores of fresh water below ground) and is within an area of high groundwater vulnerability (potential for fresh water to be affected). The Site drains via various watercourses to the Town Brook which has an overall water quality status of "Moderate". An existing adopted foul water sewer runs through the middle of the Site, along Charlotte Avenue, flowing from north to south.
- 13.3 There are currently no demands on the drinking water supply network within the Site boundary. The area is considered to be water-stressed and there is predicted to be supply demand deficits in the area from 2014 onwards. It is unlikely that abstraction of groundwater would be the preferred option for supplying the Development. The drinking water for the Development is likely to originate from the Swindon and Oxfordshire Water Resource Zone. An initial enquiry to Thames Water in September 2020 confirmed that the existing clean water supply network does not have sufficient capacity for more than 49 houses.

#### **Construction Phase Effects**

13.4 A CEMP outlining appropriate construction methods and best practices will be secured by planning condition and will mitigate against adverse impacts resulting from the Development. This will include best practices to mitigate against construction impacts and worker safety, including allocating all temporary buildings (such as site offices) and construction equipment, outside of the floodplain wherever possible. A Surface Water Drainage Management Plan (SWDMP) will be developed for the Site, which will include provision for surface water

<sup>&</sup>lt;sup>12</sup> Surface water flooding happens when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead.

drainage during construction and operation and will be subject to a condition of the planning permission. Surface water drainage systems will be in place prior to the construction of any impermeable surfaces. The SWDMP will ensure that surface water runoff generated during construction is effectively managed to mitigate against the adverse effects of increases in surface water runoff.

13.5 Furthermore, groundwater and surface water quality mitigation measures have been proposed to protect and mitigate against adverse impacts on water quality. The CEMP will also outline appropriate methods for the transport and/or storage of hazardous materials (such as petrol) in order to minimise risk of spillages. Should a spillage occur, and the spilt pollutant were to enter drainage systems or watercourses, this could adversely affect the surface water quality. The following residual effects will occur during construction; flood risk: negligible (not significant), surface water drainage: negligible (not significant), surface water quality: negligible (not significant), groundwater quality: negligible (not significant), wastewater (generation): negligible (not significant), potable water demand: minor adverse (not significant).

#### **Operational Phase Effects**

- 13.6 A drainage strategy will be in place on completion of the development phase which will ensure that all surface water runoff is contained and controlled. The strategy will ensure that flood risk is not increased downstream and accounts for any changes in flood risk that may arise due to climate change. The Development will include water efficiency measures which will be implemented in all residential properties to reduce the daily consumption of drinking water per household by providing some of this demand from local water recycling features either on plot, site wide schemes or a combination of the two. These measures will be confirmed at the detailed design stage. The extent of the works required to the waste and drinking water infrastructure will be confirmed by Thames Water once the Wastewater Strategy has been reviewed and capacity modelling of the existing network is completed.
- 13.7 The following residual effects will occur during operation; flood risk: minor (significant, adverse), surface water drainage: minor (significant, adverse), surface water quality: negligible (not significant), groundwater quality: negligible (not significant), wastewater (generation): negligible (not significant), potable water demand: minor adverse (not significant).

#### **Cumulative Effects**

13.8 No cumulative effects are anticipated. It is assumed that any committed development will

also implement robust mitigation measures to ensure that development is safe from flooding and flood risk will not be increased elsewhere as a result of development and that water quality is not adversely affected. The proposed mitigation measures will require reinforcement to the existing foul water network. In terms of drinking water demand no cumulative effects are anticipated given the introduction of water consumption reduction measures.

## **14.0 CLIMATE CHANGE**

14.1 The ES assessed the likely significant effects of the Development on climate change ('Greenhouse Gas (GHG) Emissions Assessment<sup>13</sup>'), and the likely significant effects of climate change on the Development ('Climate Change Resilience and Adaptation Assessment'<sup>14</sup>).

#### Baseline Conditions

#### GHG Emission Assessment

14.2 The agricultural use of the Site produces GHG emissions associated with livestock, crop fertilisation, soil based emissions from disturbing soils, waste produced as a result of farming processes, and other activities. Within the Site there are hedgerows and trees on the boundaries of the Site, as well as two distinct areas of woodland within the Site. These features are likely to store small amounts of carbon.

#### Climate Change Resilience and Adaptation

14.3 It is expected that the Site may experience warmer, drier summers and milder, wetter winters, along with an increase in frequency and intensity of extreme weather events such as droughts or heatwaves as a result of climate change in the future.

#### **Construction Phase Effects**

#### GHG Emission Assessment

14.4 During construction of the Development, GHG emission sources include enabling activities, combustion of fuels in vehicles, plants and equipment, as well as emissions associated with electricity needed for plant and welfare facilities. The assessment identified minor to moderate adverse effects resulting from construction GHG emissions without mitigation. A CEMP will be secured through a suitably worded planning condition and will include mitigation measures that will reduce GHG emissions during construction include, for example, no unnecessary idling of engines, maintenance of plant equipment to check they are operating optimally and efficient use of materials to reduce waste. A Site Waste Management Plan (SWMP) will be secured through a suitably worded planning condition. The SWMP will aid the management, procurement and delivery of materials to support material usage optimisation and

<sup>&</sup>lt;sup>13</sup> The potential of the Development to emit GHGs and impact on climate change.

<sup>&</sup>lt;sup>14</sup> The capacity of the Development to adapt to future changes in the climate.

minimisation of waste quantities. This will reduce the need for offsite waste management, limit the number of vehicle movements required during site preparation and will result in a reduction of GHG emissions associated with transport, waste and material use during construction. With the implementation of mitigation, the residual effect of the Development on climate change during construction is considered to be temporary minor adverse.

#### Climate Change Resilience and Adaptation

14.5 It is expected that risks from climate hazards during construction will be managed through standard construction and health and safety practices, such as securing material/equipment and not undertaking works during periods of extreme rainfall. The effect of climate change on the Development during the construction phase is therefore likely to be negligible.

#### Operational Phase Effects

#### GHG Emission Assessment

- 14.6 During operation, direct GHG emissions will arise from transport movements as well as indirect GHG emissions from activities not undertaken within the Site, such as processing waste or provision and treatment of water supplies. The Development includes several mitigation measures and will target net zero carbon<sup>15</sup>. This means there will be no net carbon dioxide emissions from the Development relating to energy use from buildings. The assessment identified negligible to minor adverse effects resulting from operational GHG emissions.
- 14.7 Further mitigation measures such as the implementation of a Travel Plan and specific energy efficiency measures that will be brought forward at detailed design and secured through planning conditions will reduce GHG emissions associated with the operation of the Development. GHG emissions are also expected to reduce over time with the increased use of electric vehicles over petrol or diesel vehicles in line with Government policies and targets. It is therefore considered that the Development addresses operational GHG emissions. The residual effect of the Development on climate change during operation is considered to be permanent minor adverse. It should be noted that the Local Plan gives consideration to GHG emissions and accepts the impact of GHGs from the Development.

<sup>&</sup>lt;sup>15</sup> Net zero refers to achieving a balance between the amount of GHG emissions produced and the amount removed from the atmosphere.

#### Climate Change Resilience and Adaptation

14.8 During operation, minor adverse effects were identified on future users of the Development as a result of increased frequency and intensity of heatwaves and a minor adverse effect on habitats, planting and landscaping as a result of more intense and frequent droughts without mitigation. A LEMP and water efficiency measures will be implemented at the appropriate stages of detailed design. With this mitigation in place, it is anticipated that the minor adverse effect on habitats, planting and landscaping will reduce to negligible, however effect on human health will remain as minor adverse.

#### **Cumulative Effects**

14.9 No cumulative effects are anticipated on the basis that climate change resilience and adaptation effects are specific to the Development and will not result in impacts to neighbouring development. There is the potential for in-combination climate change effects to exacerbate other environmental effects identified in other topic chapters without co-ordinated mitigation. It is considered that, with the implementation of the mitigation measures above and careful consideration of further climate change mitigation and adaptation measures at the detailed design stages, the effects identified within the topic chapters will not be exacerbated as a result of climate change. In-combination effects are therefore negligible.

## **15.0 SUMMARY AND RESIDUAL EFFECTS**

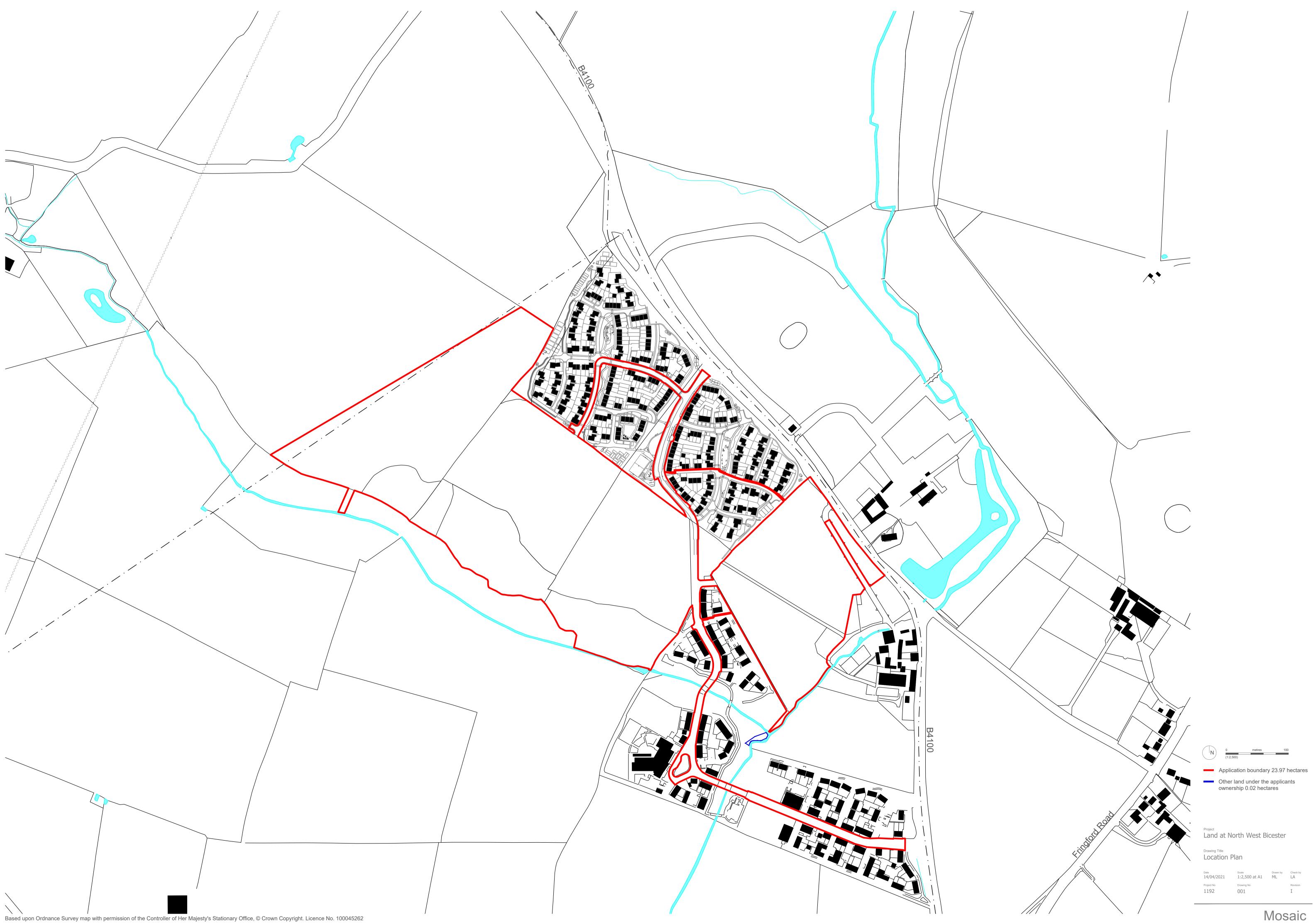
- 15.1 The ES has been prepared to support a planning application which seeks full planning permission for the development of up to 530 residential dwellings, open space, landscaping and associated infrastructure on land north west of Bicester.
- 15.2 The Development has been subject to an iterative design process. As this process progressed measures have been incorporated into the development parameters in order to avoid, reduce or offset significant environmental effects. The measures incorporated into the Development parameters include:
  - Provision of landscape buffers on the western boundary of the Site;
  - Inclusion of a viewing corridor to protect views to the Grade II\* Listed church of St Laurence; and
  - Inclusion of large areas of open space for recreation and drainage provision.
- 15.3 In summary, the Development, which includes the mitigation incorporated into the Development Parameters and the additional mitigation which will be secured through planning conditions and the detailed design (to be addressed at the reserved matters stages), will result in the following significant beneficial residual effects on the environment:
  - Moderate beneficial effect on housing provision; and
  - Major beneficial effect in terms of open space provision.
- 15.4 The ES has also identified the following significant adverse residual effects on the environment:
  - Moderate adverse effects on driver delay on completion of the Development;
  - Moderate adverse effects on completion of the Development to Wintergreen Fields and public right of way 148/7; and
  - Moderate to slight adverse effects on landscape character on completion of the Development.

#### Cumulative Effects

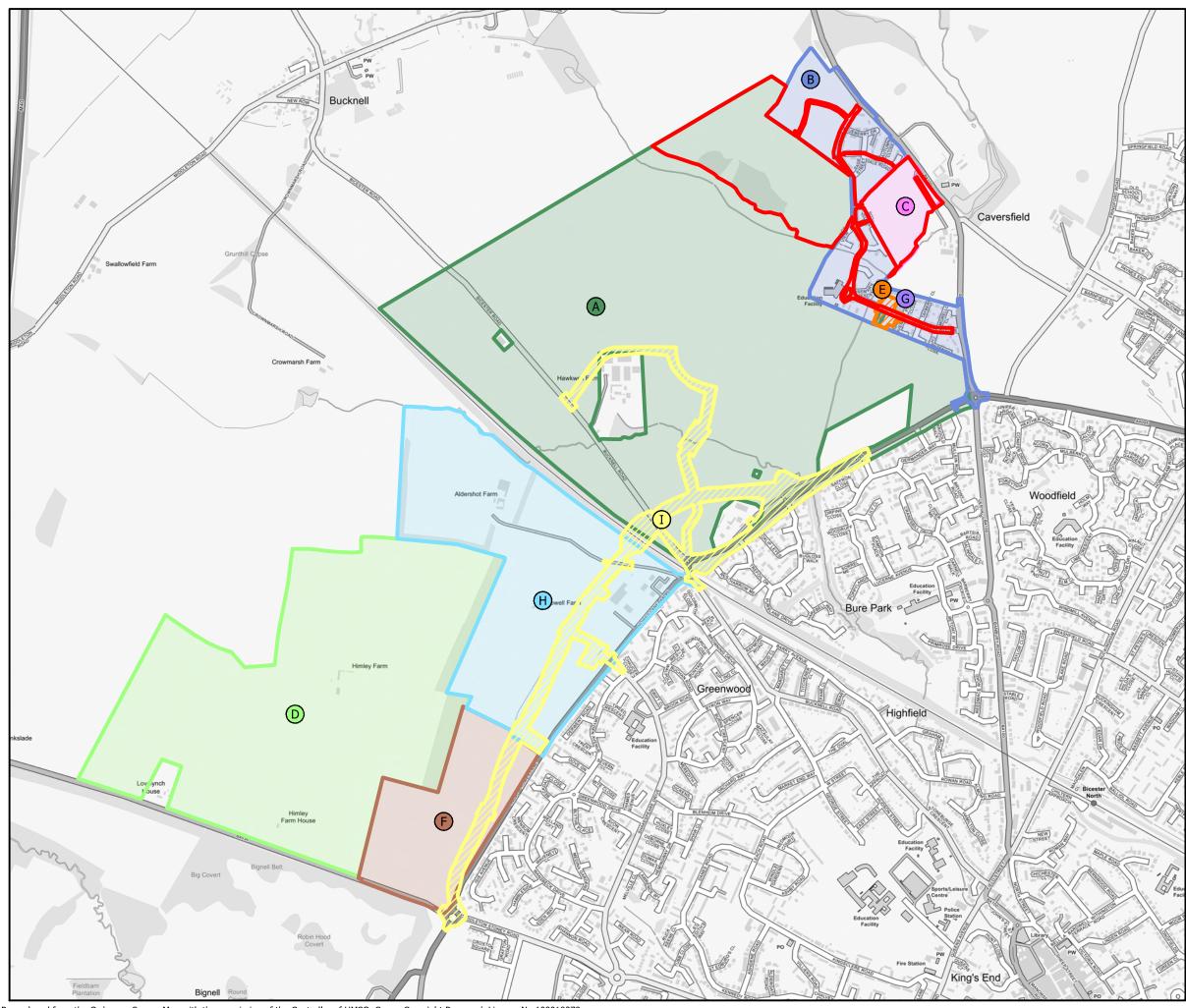
15.5 Each of the technical assessments considers the likely significant cumulative effects of the Development with the cumulative schemes set out in Section 2, Table 1.

- 15.6 The technical assessments identified the following significant beneficial cumulative effects:
  - Major beneficial effects on housing provision;
  - Major beneficial effects on household expenditure; and
  - Major beneficial effects on operational employment.
- 15.7 The technical assessments identified the following significant adverse cumulative effects:
  - Moderate adverse effects on driver delay on completion of the Development;
  - Moderate adverse effects on local landscape character; and
  - Moderate to major adverse effects on recreational users and motorists (visual receptors) within the countryside surrounding the Development.

FIGURE 1.1: SITE LOCATION PLAN



#### FIGURE 2.1: CUMULATIVE SCHEMES PLAN



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## FIGURE 2.1

Project Land North West of Bicester

#### Drawing Title Cumulative Schemes Plan

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#### FIGURES 3.1-3.3: DEVELOPMENT PARAMTER PLANS



#### Application boundary 23.97 hectares

Built form up to 12 metres

Euilt form up to at 16 metres

Note: Heights are measured from finished round level to the ridge of the roof. In residential areas incidental elements such as chimneys may exceed the ridge by up to 1.5 metres. Some re-modelling of the existing ground levels will be necessary to achieve appropriate development platforms. Finished floor levels may vary by +/-2 metres. metres.

Mosaic

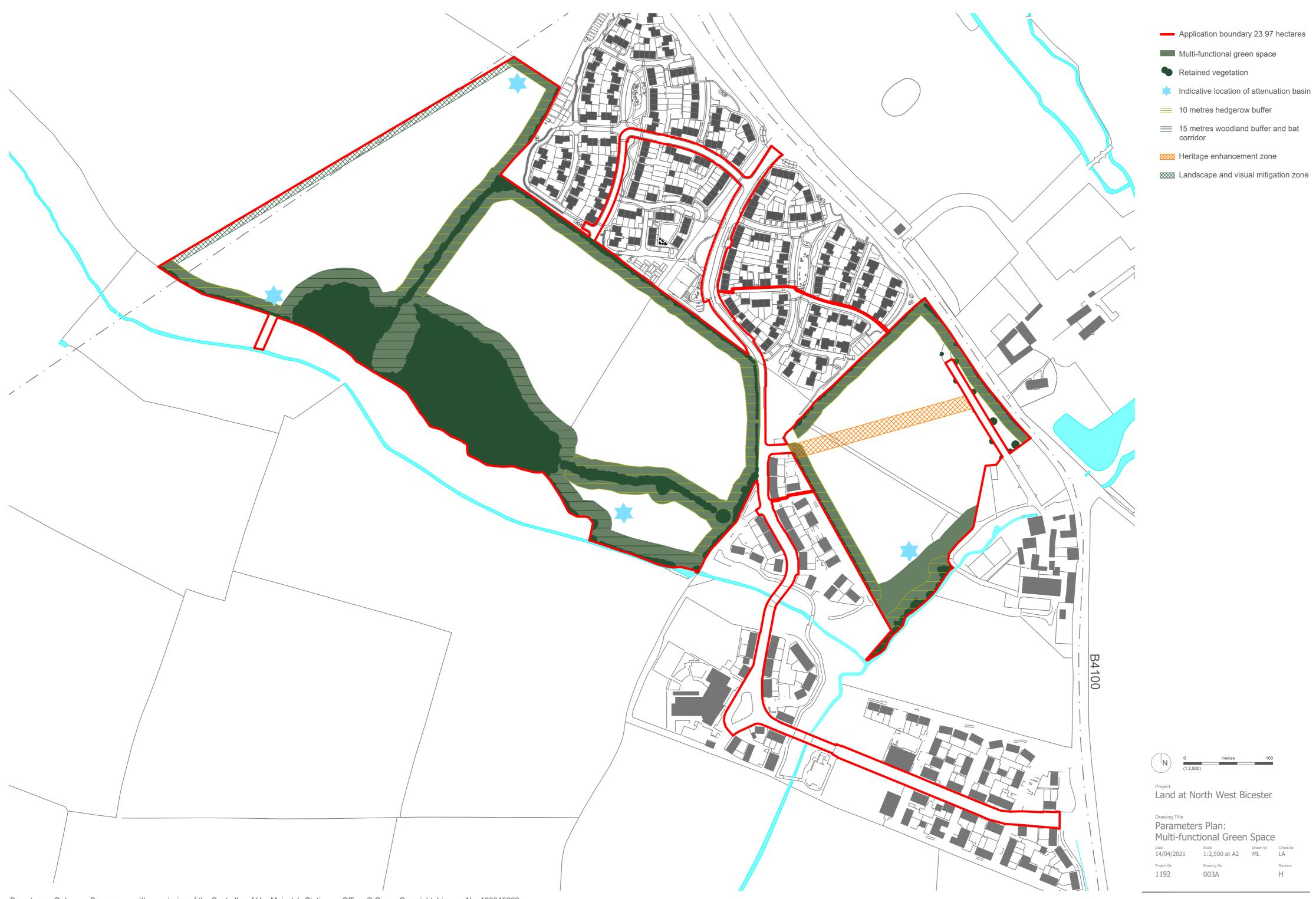
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