BLOOR HOMES LTD

ECOLOGYSOLUTIONS

Part of the ES Group

LAND SOUTH OF BANBURY RISE, BANBURY

Ecological Assessment

July 2022
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ecology solutions for planners and developers

PROTECTED SPECIES

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1. INTRODUCTION

1.1. Background & Proposals

1.1.1. Ecology Solutions was commissioned by Bloor Homes Ltd in November 2021 to undertake an Ecological Assessment of land south of Banbury Rise, Banbury, hereafter referred to as the 'site' (see Plan ECO1).

1.1.2. The proposal for the site is for up to 250 residential dwellings with associated infrastructure, proposed native tree, hedgerow, scrub, and native woodland planting along with bulb and marginal vegetation planting. The proposal also includes the creation of an attenuation basin, wildflower grassland and wetland grassland leading to the attenuation basin (see Appendix 1).

1.2. Site Characteristics

1.2.1. The site is located to the west of Bretch Hill, Banbury, Oxfordshire. The site is bordered to the north by residential development known as Banbury rise, which is currently under construction by Bloor Homes. To the south and west of the site is an existing farm known as Withycombe farm and a farm track that runs adjacent to the site and beyond is agricultural land with various parcels of woodland. To the east of the site is residential development.

1.2.2. The site itself is made up of two agricultural fields split by a hedgerow with access between the two fields. The site is bordered by hedgerows and treelines along with the land to the north which is currently under construction.

1.3. Ecological Assessment

1.3.1. This document assesses the ecological interest of the site. The importance of the habitats within the site is evaluated with due consideration given to the guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)[1].

1.3.2. Where necessary mitigation measures are recommended so as to safeguard any significant existing ecological interest within the site. Specific enhancement opportunities that are available for habitats and wildlife within the site are detailed where appropriate, with reference to the 'UK Post-2010 Biodiversity Framework'[2]. Finally, conclusions are drawn.

[1]CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1.* Chartered Institute of Ecology and Environmental Management, Winchester

[2] JNCC and Defra (on behalf of the Four Countries' Biodiversity Group) (2012) *UK Post-2010 Biodiversity Framework. July 2012.*

2. SURVEY METHODOLOGY

2.1. The methodology utilised for the survey work can be split into three areas, namely desk study, habitat survey and faunal survey. These are discussed in more detail below.

2.2. Desk Study

2.2.1. In order to compile background information on the site and the surrounding area, Ecology Solutions contacted the Thames Valley Environmental Records Centre (TVERC).

2.2.2. Further information on designated sites from a wider search area was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC)[3] database. This information is reproduced at Appendix 2 and where appropriate on Plan ECO1.

2.3. Habitat Survey Methodology

2.3.1. A habitat survey was carried out in January 2022 in order to ascertain the general ecological value of the site and to identify the main habitats and associated plant species.

2.3.2. The site was surveyed based around extended Phase 1 survey methodology[4], as recommended by Natural England whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail.

2.3.3. Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified.

2.3.4. All the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent at different seasons. Although the habitat surveys were carried out in January, given the intensive management of the agricultural fields, it is considered an accurate and robust assessment has been made of the botanical interest.

2.4. Faunal Survey

2.4.1. Obvious faunal activity, such as birds or mammals observed visually or by call during the course of the surveys, was recorded. Specific attention was paid to any potential use of the site and by protected species, species of principal importance (Priority Species), or other notable species.

2.4.2. In addition, specific surveys were undertaken for bats, Badgers *Meles meles*.

[3] magic.defra.gov.uk

[4] Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council, reprinted JNCC, Peterborough.

2.4.3. Experienced ecologists undertook the faunal surveys with regard to established best practice and guidance issued by Natural England. Details of the methodologies employed are given below.

Bats

2.4.4. Field surveys were undertaken with regard to best practice guidelines issued by Natural England[5], the Joint Nature Conservation Committee[6] and the Bat Conservation Trust[7].

Tree Assessment

2.4.5. All trees within the site were assessed for their potential to support roosting bats. Features typically favoured by bats were searched for, including:

- Obvious holes, e.g. rot holes and old Woodpecker holes;
- Dark staining on the tree, below the hole;
- Tiny scratch marks around a hole from bat claws;
- Cavities, splits and or loose bark from broken or fallen branches, lightning strikes etc; and
- Very dense covering of mature Ivy over trunk.

Activity and Automated Surveys

2.4.6. An assessment of the habitats present was undertaken with regard to foraging / navigational opportunities for bats and the site was considered to provide low quality habitat for bats.

2.4.7. A bat activity transect survey was undertaken across the site in June 2022 using Echo Meter Touch 2 (EMT2) bat detectors to record the data.

2.4.8. During the survey two SongMeter4 FS (SM4) bat detectors were left to record for a minimum of five nights survey at strategic locations within the site in. The locations of these detectors are shown on Plan ECO3.

2.4.9. This data was subsequently analysed using Kaleidoscope Pro bat sound analysis software. This survey method aimed to identify the level of foraging, the species present within the site and any areas of potentially high importance for foraging / commuting bats.

[redacted]

[5] Mitchell-Jones, A. J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.
[6] Mitchell-Jones, A.J. & McLeish, A.P. (2004). *Bat Workers' Manual*. 3rd edition. Joint Nature Conservation Committee, Peterborough.
[7] Bat Conservation Trust (2016). *Bat Surveys for Professional Ecologist – Good Practice Guidelines 3rd Edition*. Bat Conservation Trust, London.

2.4. 

3. ECOLOGICAL FEATURES

3.1. Habitat surveys were initially undertaken within the site in January 2022. The following main habitat/vegetation types were identified within the site:

- Arable and Grassland Margins;
- Hedgerows;
- Tree lines and Tree belts.

3.2. The locations of these habitats are shown on Plan ECO2.

Arable

3.3. The majority of the site comprises two arable fields. During the time of the survey the fields appeared to have remnants of previously harvested crops.

3.4. Grassland margins of approximately 1m in width are present along the boundaries of both fields. The grassland is subject to regular management and as such is maintained to a short sward. The grassland sward includes Perennial Rye-grass *Lolium perenne*, False Oat-grass *Arrhenatherum elatius* and Yorkshire-fog *Holcus lanatus* with herbaceous species including Cow Parsley *Anthriscus sylvestris*. In addition, scrubby species within the field margins include Bramble *Rubus fruticosus agg*. and Common Nettle *Urtica dioica*.

Hedgerows

3.5. There are 6 hedgerows present within the site (H1-H6), each of which is described individually below.

3.6. Hedgerow **H1** lies along the eastern boundary of the site and of field F1, is unmanaged and is approximately 4m in height. This hedgerow is dominated by Hawthorn with other species present including Elder *Sambucus nigra*, Dog-rose *Rosa canina*, Field Maple *Acer campestre*, Holly *Ilex aquifolium*, Lime *Tilia x europaea,* Cherry laurel *Prunus laurocerasus* and *Cotoneaster* with Oak *Quercus robur*, Beech *Fagus sylvatica* Ash *Fraxinus excelsior* and Sycamore *Acer pseudoplatanus* plotted throughout the hedgerow. Bramble and Ivy *Hedera helix* are present trailing through the hedgerow. Species present in the ground flora include Cleavers and Greater Periwinkle *Vinca major*.

3.7. Hedgerow **H2** lies within the centre of the site, forming a boundary between fields F1 and F2. This hedgerow is box-cut, is approximately 2-3m in height and is dominated by Blackthorn *Prunus spinosa* and Hazel *Corylus avellana*. Other species present include Field Maple, Dog-rose, Elder, Dogwood *Cornus sanguinea* with Sycamore and Ash trees plotted along the hedgerow, with Ivy trailing through.

3.8. Hedgerow **H3** forms part of the southwestern boundary of the site and western boundary to field F2, is box-cut and is approximately 2m in height. This hedgerow is dominated by Elm *Ulmus procera* while other species include Blackthorn, Dog-rose, Elder, Hawthorn, Dogwood and Field Maple, with an Oak tree plotted along the hedgerow. Bramble and Ivy are also present trailing through the hedgerow.

3.9. Hedgerow **H4** forms part of the southernmost boundary of the site, is box-cut and is approximately 2-3m in height with occasional gaps. This hedgerow is also

dominated by Elm. Other species include Dogwood, Hawthorn and Hazel, with Bramble and Ivy trailing through.

3.10. Hedgerow **H5** forms the remaining southernmost boundary of the site, is face-managed ranging from approximately 3m to 6m in height, which represents more of a tree line at its eastern end . This hedgerow is dominated by Hawthorn with other species present including Dog-rose, Elder, Elm and Field maple with Ash trees plotted along the hedgerow with a higher presence of Ash trees towards the eastern end of the hedgerow. Bramble and Ivy are present trailing through the hedgerow.

3.11. Hedgerow **H6** forms part of the Northern boundary of the site and field F1, is box-cut and is approximately 2m in height. This hedgerow is also dominated by Hawthorn, with Dog-rose, Elder, Elm, Beech and Yew *Taxus baccata* also present with Ash, Sycamore and Sweet chestnut *Castanea sativa* trees plotted along the hedgerow. Ivy is also present trailing through the hedgerow.

Tree Lines and Tree Belts

3.12. Tree line **TL1** forms part of the northeast boundary of the site and field F1, is approximately 5-6m in height and is unmanaged. Species present include Ash, Wild Cherry *Prunus avium*, Lime *Tilia x europaea* and Rowan *Sorbus aucuparia*. The scrubby understory comprises of Dog-rose, Field maple, Hawthorn and Common box *Buxus sempervirens.*

3.13. Tree line **TL2** forms part of the northern boundary of field F2 and found south of field F1, is approximately 6-8m in height and is unmanaged. Species present include Ash, Horse chestnut and sycamore with a scrubby understory comprising of Blackthorn, Elder, Hawthorn and Hazel as well as Ivy seen trailing through.

3.14. Tree belt **TB1** forms part of the southern of field F1, is approximately 10m in height and is unmanaged. Species present include Ash and Oak with a scrubby understory of Elder, Field maple, Hawthorn and sycamore. Ivy is seen trailing through.

3.15. Tree belt **TB2** forms the eastern boundary of field F2 and is found in the south of the site, is approximately 10m in height and is unmanaged. Species present include Ash and sycamore with a Blackthorn, Elm, Field maple and Hawthorn scrubby understory. Ivy was seen trailing through.

Background Records

3.16. The TVERC returned no records of any notable plant species from within the site. The closest record returned is of the Schedule 8 (protected from sale only) species Bluebell *Hyacinthoides non-scripta* located approximately 0.52km north east of the site in 2010. The next closest record returned is of the Oxon scare species Wild Pansy *Viola tricolor* located approximately 1.59km north of the site in 2015, while the Oxon scarce species Lesser Chickweed *Stellaria pallida* was recorded within the same 1km grid square that the site is situated within in 2016.

3.17. None of the above species were recorded during surveys.

4. WILDLIFE USE OF THE SITE

4.1. General observations were made during the surveys of any faunal use of the site, with specific attention paid to the potential presence of protected species. Specific surveys have been undertaken with regard to Badgers and bats.

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Bats

Tree Surveys

4.4. One tree (T2) was identified as having developed features to support roosting bats, which is described individually below. The location of the tree is shown on Plan ECO3.

4.5. Tree **T2** is a mature Sweet Chestnut tree located along the northern boundary of the site within hedgerow H6. This tree has multiple split branches that will provide crevasses to allow for bats to roost. The tree is considered to have moderate potential to support roosting bats.

Activity Surveys

4.6. A bat activity survey was undertaken within the site on 1st June 2022. Results of the survey are detailed below along with a visual representation illustrated on Plan ECO3. Weather conditions for the survey can be seen at Appendix 3.

4.7. During the bat activity, bat activity was low with a total of 64 registrations recorded from Common Pipistrelle *Pipistrellus pipistrellus*, 13 registrations from Soprano Pipistrelle *Pipistrellus pygmaeus,* 6 registrations from Noctule *Nyctalus noctula* and 3 registrations recorded from *Myotis* sp. The bat activity during this survey was mainly associated with hedgerows H2, H5 and H6 and treeline TL2, while an individual registration was recorded along treeline TL1 and several registrations recorded along tree belts TB1 and TB2. Several registrations were recorded along hedgerow H1 and individual registrations recorded along hedgerows H3 and H4. The results of this survey can be seen on Plan ECO3.

4.8. In summary, bat activity recorded during the survey was low, with the majority of registrations recorded from Common Pipistrelle and very low activity recorded from Soprano Pipistrelle, Noctule and *Myotis*.

Automated Surveys

4.9. Two automated bat detectors were left to record for a minimum of five consecutive nights in June at strategic locations within the site. The locations of these detectors can be seen on Plan ECO3. The results of the automated surveys completed are detailed below, while weather conditions for the survey are included at Appendix 3.

Table 1. 1st – 6th June Automated Detector Results – Location 1.

Species	Number of registrations - Location 1					
	01.06.22	02.06.22	03.06.22	04.06.22	05.06.22	06.06.22
Common Pipistrelle	**92**	**121**	**465**	**33**	**2**	**99**
Soprano Pipistrelle	**17**	**8**	**2**	0	**4**	**12**
Noctule	**2**	**1**	**1**	**3**	0	**3**
Myotis sp.	**1**	**4**	**1**	0	0	0
Brown Long-eared	0	0	0	0	0	**1**
Barbastelle	**0**	0	0	**1**	0	0

4.10. In June 2022, the detector placed at location 1 along hedgerow H1 (see Plan ECO3) recorded generally low numbers of registrations with most activity from Common Pipistrelle (albeit moderate numbers of registrations recorded from Common Pipistrelle one of the six nights). There were very low numbers of registrations from Soprano Pipistrelle, Noctule, Leisler's and *Myotis* sp. A single registration was recorded from Brown Long-eared and Barbastelle during the six nights surveyed (see table 1 above).

Table 2. 1st – 6th June Automated Detector Results – Location 2.

Species	Number of registrations - Location 2					
	01.06.22	02.06.22	03.06.22	04.06.22	05.06.22	06.06.22
Common Pipistrelle	**89**	**86**	**122**	**37**	**56**	**89**
Soprano Pipistrelle	**7**	**5**	**2**	**1**	**2**	**2**
Nathusius' Pipistrelle	0	0	0	0	0	**3**
Noctule	**5**	**1**	**5**	**1**	**1**	**3**
Leisler's Bat	**4**	**3**	**1**	0	0	0
Myotis sp.	**8**	**5**	**4**	0	0	**3**
Brown Long-eared	**1**	**1**	**2**	0	**1**	0
Barbastelle	**3**	0	**5**	**1**	0	**1**

4.11. In June 2022, the detector placed at location 2 along hedgerow H2 (see Plan ECO3) recorded generally low numbers of registrations with most activity from Common Pipistrelle. There were very low numbers of registrations from Soprano

Pipistrelle, Noctule, Leisler's *Nyctalus leisleri*, *Myotis* sp., Brown Long-eared and Barbastelle *Barbastella barbastellus*. The results are shown in table 2 above.

4.12. In summary, it is considered that the site has low usage by bats, with Common Pipistrelle being the most commonly recorded species. There is also (lesser) usage by Soprano Pipistrelle, *Myotis* sp. and Noctule, Leisler's, Brown Long-eared and very occasional usage by Brown long-eared, Leisler's and Barbastelle.

4.13. From the results of the activity and automated survey results, it can be seen that bat activity was present throughout the site and generally associated with boundary features. In light of the above results, it is not considered that the site represents a particularly important foraging or navigational resource to local bat populations.

4.14. **Background Information.** The TVERC returned no records of bats within the site itself. The closest record of a roost was of a Common Pipistrelle located approximately 1.06km west of the site in 2015. The closest field records of bats were of Common Pipistrelle, Leisler's, Noctule, Nathusius's Pipistrelle *Pipistrellus nathusii*, Soprano Pipistrelle, Barbastelle and *Myotis sp*. were located approximately 30m southeast of the site in 2019.

Other Mammals

4.15. No evidence of any other notable mammals was recorded within the site during surveys.

4.16. **Background Information.** No records of other mammals were returned by the WSBRC from within the site itself. A record of the Priority Species Hedgehog *Erinaceus europaeus* was returned from approximately 1.26km southeast of the site in 2018.

4.17. It is considered that the rough grassland margins and hedgerows within the site offer suitable habitat for Hedgehog. It is not considered that this species would be reliant on habitats present within the site, given the surrounding habitats. In any event, suitable habitat for this species will be present post-development e.g. gardens, retained hedgerows and areas of public open space enhanced by new tree and hedgerow planting.

Birds

4.18. During the habitat survey, a number of common birds were recorded including the red listed and Priority Species Starling *Sturnus vulgaris* and Song thrush *Turdus philomelos* and non-notable species Blue Tit *Cyanistes caeruleus,* Blackbird *Turdus merula* and Robin *Erithacus rubecula.*

4.19. It is considered that the hedgerows and trees within the site offer suitable nesting and foraging habitat for a number of common birds, while the rough grassland and arable land offer some foraging opportunities.

4.20. **Background Information.** The closest record returned by the TVERC was of the Schedule 1 Barn Owl *Tyto alba* in 2008 located within a 1km grid square also contains the site, while the next closest record was of the Red Listed and Priority Species Cuckoo *Cuculus canorus*, located approximately 0.28km southwest of the site in 2014.

4.21. The majority of the site does not offer opportunities for these species, given its intensive management, however the tree belts may offer some limited foraging opportunities for Cuckoo.

Reptiles

4.22. Given the intensive agricultural management of the arable margins, it is not considered that reptile would be present within the site. Potential usage of habitats for reptiles within the site would be restricted to sheltering/hibernation within the hedgerows and tree lines/belts.

4.23. **Background Information.** TVERC returned no records of reptiles from within the site. The closest reptile record returned by TVERC was of a Common Lizard *Zootoca vivipara* located approximately 1.04km southeast of the site in 2013.

Invertebrates

4.24. Given the habitats present and their regular management / agricultral use (e.g. Intensively managed rough grassland margins and arable field), it is likely an assemblage of common invertebrate species would be present within the site.

4.25. **Background Information.** No notable records of invertebrates were returned by the TVERC from within the site itself or within the 1.5km search radius.

Other Species

4.26. Given the habitats present and records from the local area, there is no evidence from site surveys or desk studies to suggest that any other protected or notable species would be present within the site or affected by the proposed development.

5. ECOLOGICAL EVALUATION

5.1. The Principles of Ecological Evaluation

5.1.1. The latest guidelines for ecological evaluation produced by CIEEM[8] propose an approach that involves professional judgement, but makes use of available guidance and information, such as the distribution and status of the species or features within the locality of the project.

5.1.2. The methods and standards for site evaluation within the British Isles have remained those defined by Ratcliffe[9]. These are broadly used across the United Kingdom to rank sites, so priorities for nature conservation can be attained. For example, current Site of Special Scientific Interest (SSSI) designation maintains a system of data analysis that is roughly tested against Ratcliffe's criteria.

5.1.3. In general terms, these criteria are size, diversity, naturalness, rarity and fragility, while additional secondary criteria of typicalness, potential value, intrinsic appeal, recorded history and the position within the ecological / geographical units are also incorporated into the ranking procedure.

5.1.4. Any assessment should not judge sites in isolation from others, since several habitats may combine to make it worthy of importance to nature conservation.

5.1.5. Furthermore, relying on the national criteria would undoubtedly distort the local variation in assessment and therefore additional factors need to be taken into account, e.g. a woodland type with comparatively poor species diversity, common in the south of England may be of importance at its northern limits, say in the border country.

5.1.6. In addition, habitats of local importance are often highlighted within a local Biodiversity Action Plan (BAP). The Local Nature Partnership for Oxfordshire highlights a number of habitats and species. This is referred to below where relevant.

5.1.7. Levels of importance can be determined within a defined geographical context from the immediate site or locality through to the International level.

5.1.8. The legislative and planning policy context are also important considerations and have been given due regard throughout this assessment.

[8]CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1*. Chartered Institute of Ecology and Environmental Management, Winchester.
[9] Ratcliffe, D A (1977). *A Nature Conservation Review: the Selection of sites of Biological National Importance to Nature Conservation in Britain*. Two Volumes. Cambridge University Press, Cambridge.

5.2. Habitat Evaluation

Designated Sites

5.2.1. **Statutory Sites:** There are no statutory designated sites of nature conservation value within or immediately adjacent to the site. The nearest statutory designated site is Neithrop Fields Cutting SSSI (see Plan ECO1), located approximately 1.4km northeast of the site and is designated for its geological interest. This SSSI site is well-separated by existing urban development and as such, no adverse impacts to this SSSI are anticipated as a result of the proposed development.

5.2.2. There are no SSSIs designated for their ecological interest located within 10km of the site boundary, therefore no adverse impacts are anticipated to any other SSSI as a result of the proposed development. Indeed, the SSSI Impact Risk Zones do not identify any likely impacts from the proposed residential development.

5.2.3. **Non-statutory Sites:** There are no non-statutory designated sites of nature conservation value within or immediately adjacent to the site. The nearest non-statutory site is The Bretch Cherwell District Wildlife Site (CDWS) (see Plan ECO1), that lies approximately 0.5km southwest of the site and it is designated for its lowland calcareous grassland. This CDWS is separated from the site by open agricultural land. As such, it is not considered that there would be any adverse impacts to this non-statutory designated site as a result of residential development at the site.

5.2.4. A number of additional non-statutory sites are located within the wider area (see Plan ECO1), however no impacts are anticipated to any of these sites as a result of the proposed development.

Habitats

5.2.5. The majority of habitats within the site are considered to be of low ecological importance comprising arable land. The hedgerows and trees, however, are of some relatively greater ecological value in the context of the site.

Arable Land and Grassland Margins

5.2.6. The arable land and grassland margins within the site are of relatively low ecological value, comprising mainly common and widespread species and subject to an intensive management regime.

5.2.7. The arable land within the site boundary is to be lost to the proposed development, with some losses proposed to the grassland margins, while the remainder of the grassland margins are to be retained / incorporated into open spaces.

5.2.8. **Mitigation and Enhancements.** The illustrative master plan includes the loss of arable land and grassland margins which are offset by the creation of new species-rich grassland within areas of open space, which will be sown with a native, species-rich seed mixture (such as Emorsgate's Standard General Purpose Meadow Mixture EM2) and subject to a suitable management regime, to increase the floristic diversity of the site accordingly. The planting of new native hedgerows and trees as part of the

proposed development will also serve to enhance the floristic diversity of the site.

5.2.9. New attenuation basins, designed to store runoff water and infiltrate gradually into the ground, where during periods of heavy rainfall will store water, are to be created as part of the proposed development, which will be planted with a species-rich grassland seed mixture tolerant of wet / damp condition (such as Emorsgate's Meadow Mixture for Wetlands EM8) where dry.

5.2.10. The grassland surrounding attenuation features will be sown with a native wildflower grassland seed mixture (such as Emorsgate's Tussock Mixture EM10 / or Emorsgate's Meadow Mixture for Wetlands EM8), and will be subject to a suitable management regime.

Hedgerows and Trees

5.2.11. The hedgerows and trees within the site are of relatively greater ecological value in the context of the site. These areas offer suitable foraging and nesting opportunities for birds and foraging and dispersal/navigational opportunities for wildlife, e.g. bats.

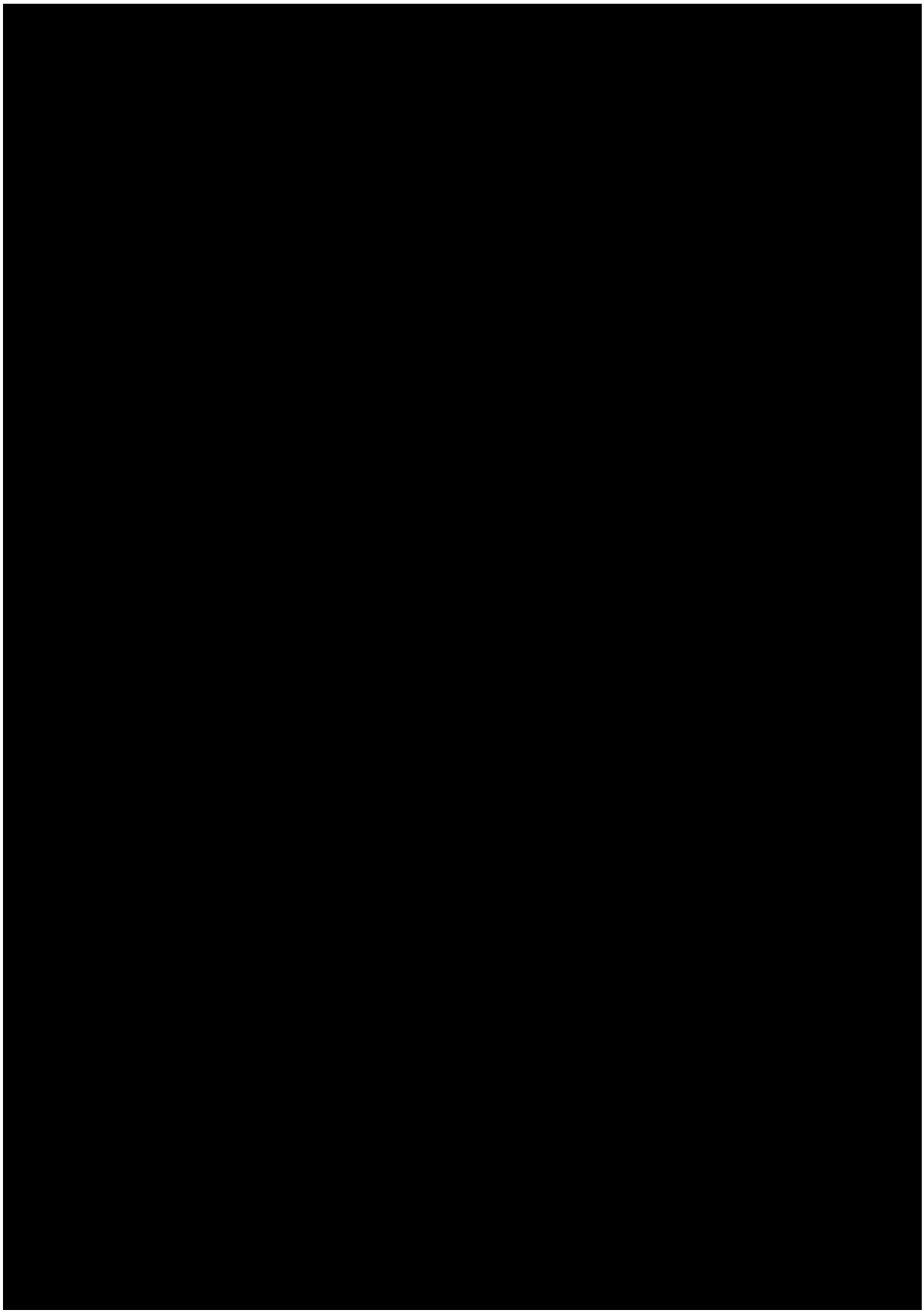
5.2.12. The majority of the hedgerows and trees are to be retained within the development proposals, albeit a small loss is proposed to hedgerow H2 to facilitate an access road.

5.2.13. **Mitigation and Enhancements.** New tree and hedgerow planting of an equal/greater length/area greater than that proposed to be lost is to be included as part of the proposed development, for example new lengths of hedgerow are to be planted along the southern edge to enclose the site and new trees are to be planted throughout the open spaces. It is recommended that the proposals utilise native species of local provenance, or those of benefit to wildlife, wherever possible. New trees will also be included within the landscape proposals, which will be based around native species of local provenance and will more than offset losses to this habitat.

5.2.14. It is recommended that all retained trees within the site be fenced at canopy width (as required) according to the current British Standards before construction work commences, to protect roots from compaction. Fences should remain in place until construction work is complete within the vicinity of these trees.

5.3. Faunal Evaluation

[redacted]



[10] Protection of Badgers Act 1992 (as amended). Guidance on 'Current Use' in the definition of a Badger Sett http://programmeofficers.co.uk/Preston/CoreDocuments/LCC332.pdf
[11] https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects

Bats

5.3.19. **Legislation.** All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations")[12]. These include provisions making it an offence to:

[12] On 1st January 2021 The Habitats Regulations were replaced by the Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019, however this does not materially alter the provisions of the Regulations and this assessment. Most of these changes involved transferring functions from the European Commission to

- Deliberately kill, injure or take (capture) bats;
- Deliberately disturb bats in such a way as to be likely to significantly affect:-
  (i) the ability of any significant group of bats to survive, breed or rear or nurture their young; or to hibernate; or
  (ii) to affect significantly the local distribution or abundance of the species concerned;
- Damage or destroy any breeding or resting place used by bats;
- Intentionally or recklessly obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).

5.3.20. While the legislation is deemed to apply even when bats are not in residence, Natural England guidance suggests that certain activities such as re-roofing can be completed outside sensitive periods when bats are not in residence provided these do not damage or destroy the roost.

5.3.21. The words 'deliberately' and 'intentionally' include actions where a court can infer that the defendant knew 'the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.

5.3.22. The offence of damaging (making it worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.

5.3.23. Licences can be granted for development purposes by an 'appropriate authority' under Regulation 55 (e) of the Habitats Regulations. In England, the 'appropriate authority' is Natural England (the government's statutory advisors on nature conservation). European Protected Species licences permit activities that would otherwise be considered an offence.

5.3.24. In accordance with the Habitats Regulations the licensing authority (Natural England) must apply the three derogation tests as part of the process of considering a licence application. These tests are that:

1. The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
2. There must be no satisfactory alternative; and
3. The favourable conservation status of the species concerned must be maintained.

5.3.25. Licences can usually only be granted if the development is in receipt of full planning permission (and relevant conditions, if any, discharged).

5.3.26. Seven species of bat are Priority Species, these are Barbastelle, Bechstein's *Myotis bechsteinii*, Noctule, Soprano Pipistrelle, Brown Long-eared, Greater Horseshoe *Rhinolophus ferrumequinum* and Lesser Horseshoe *Rhinolophus hipposideros*.

5.3.27. **Site Usage.** One tree (T1) was identified as having potential to support roosting bats. This tree is to be retained and would be unaffected by the proposed development.

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the appropriate authorities in England and Wales. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

5.3.28. The hedgerows and trees within the site offer suitable foraging and dispersal/navigational opportunities for bats. The majority of the hedgerow network is to be retained, with minor losses offset through planting of an equal/greater length/area to that lost, which will maintain green corridors for bats through the site.

5.3.29. **Mitigation and Enhancements.** The provision of new trees and hedgerows, will provide new foraging and navigational opportunities for bats. It is recommended that new hedgerow or tree planting within the site comprise native species of local provenance wherever possible. The majority of the hedgerows will be buffered from built form to create green corridors. The creation of new attenuation features will provide enhanced foraging opportunities for bats and diversify the habitats available to this faunal group.

5.3.30. If deemed necessary, a sympathetic lighting regime associated with the new proposals could be used to minimise light spillage into key areas, such as the retained and new hedgerows and trees, in order to retain suitable foraging and navigation opportunities for bats in the form of 'dark corridors'. A sympathetic lighting regime could be achieved through the use of warm white spectrum LED lights, which produce less light spillage than other types of lighting and have no low / no UV content, or UV-filtered lights. In addition, the spillage of the light can be reduced further through use of low-level lights, the employment of lighting 'hoods' which will direct light below the horizontal plane, preferably with no upward tilt and the use of short-timer motion sensors for any external lighting. Such lighting measures (and other appropriate design measures, e.g. planting of trees either side of roads) can also be applied to points where roads cross existing hedgerows to facilitate the passage of bats and minimise/avoid any fragmentation.

5.3.31. As an enhancement, it is recommended that bat boxes (see Appendix 4 for suitable examples), are erected on suitable retained trees or new buildings and positioned out of reach of opportunistic predators such as cats. These models of bat box are known to be attractive to a number of the smaller bat species, including Pipistrelle (known from the site). This measure will provide enhanced roosting opportunities within the site. This enhancement is to be considered as part of the reserved matters planning consent

Other Mammals

5.3.32. **Site Usage.** The hedgerows, trees and grassland margins provide suitable habitat for a range of common mammals.

5.3.33. **Mitigation and Enhancements.** The retention of the majority of existing hedgerows together with the recommended creation of new areas of species-rich grassland within the site and the planting of new trees and hedgerows would provide new and enhanced opportunities for small mammals.

Birds

5.3.34. **Legislation.** Section 1 of the Wildlife and Countryside Act is concerned with the protection of wild birds, whilst Schedule 1 lists species which are

protected by special penalties. All species of birds receive general protection whilst nesting.

5.3.35. **Site usage**. The Red Listed and Priority Species Starling was recorded within the site during surveys, while a number of common species were also noted.

5.3.36. The hedgerows and trees offer suitable foraging and nesting opportunities for birds, while the arable land and grassland margins offer some suitable foraging opportunities for birds.

5.3.37. **Mitigation and Enhancements**. The planting of new native trees and hedgerows, along with other new landscape planting, and creation of areas of wildflower grassland would provide new foraging and nesting opportunities for a range of bird species. The recommended provision of berry/fruit-bearing species would also provide further seasonal foraging resources for birds.

5.3.38. In order to safeguard any nesting bird species within the site, it is recommended that the clearance of any vegetation be undertaken outside of the bird breeding season (March-August inclusive). Should this not be possible it is recommended that potential nesting habitat be subject to a check survey immediately prior to its removal by an experienced ecologist. Should any nesting birds be identified then the nest will be fully safeguarded in situ and subject to a disturbance buffer of at least 5 metres and only removed once it has been confirmed any fledglings have left the nest.

5.3.39. As an enhancement, new bird nest boxes will be provided on suitable retained trees / new buildings within the site. These will provide new nesting opportunities for a range of birds. Using nest boxes of varying designs would maximise the species complement attracted to the site and, where possible, could be tailored to provide opportunities for the Red Listed / Priority Species that are known from the local area (see Appendix 5 for suitable examples). This enhancement is to be considered as part of the reserved matters planning consent.

Invertebrates

5.3.40. **Site Usage.** Given the habitats present it is likely an assemblage of common invertebrate species would be present within the site, but there is no evidence to suggest any notable / protected invertebrates would be present.

5.3.41. **Mitigation and Enhancements.** The majority of suitable habitat for invertebrates will be retained post development. The planting of new native trees will provide suitable opportunities for a range of invertebrates. It is recommended that log piles are created from cleared vegetation sections as part of the proposals and this would provide suitable opportunities for saproxylic invertebrates.

5.4. **Biodiversity Metric**

5.4.1. In order to assess biodiversity net gain within the proposed development, a calculation was undertaken using the DEFRA Biodiversity Metric 3.1 Calculation Tool.

5.4.2. It has been demonstrated that a biodiversity net gain in excess of 10% can be achieved as a result of the proposals. Full details of the calculation is detailed at Appendix 6.

6. PLANNING POLICY CONTEXT

6.1. The planning policy framework that relates to nature conservation at the site is issued nationally through the National Planning Policy Framework, and locally through the Cherwell District Local Plan. The proposed development will be judged in relation to the policies contained within these documents.

6.2. National Policy

National Planning Policy Framework (July 2021)

6.2.1. Guidance on national policy for biodiversity and geological conservation is provided by the National Planning Policy Framework (NPPF), published in March 2012, revised on 24 July 2018, 19 February 2019 and again on 20 July 2021. It is noted that the NPPF continues to refer to further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system provided by Circular 06/05 (DEFRA / ODPM, 2005) accompanying the now-defunct Planning Policy Statement 9 (PPS9).

6.2.2. The key element of the NPPF is that there should be “a presumption in favour of sustainable development” (paragraphs 10 to 11). It is important to note that this presumption “does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site” (paragraph 182). ‘Habitats site’ has the same meaning as the term ‘European site’ as used in the Habitats Regulations 2017.

6.2.3. Hence, the direction of Government policy is clear. That is, the presumption in favour of sustainable development is to apply in circumstances where there is potential for an effect on a European site, if it has been shown that there will be no adverse effect on that designated site as a result of the development in prospect.

6.2.4. A number of policies in the NPPF are comparable to those in PPS9, including reference to minimisation of impacts to biodiversity and provision of net gains to biodiversity where possible (paragraph 174).

6.2.5. The NPPF also considers the strategic approach that Local Authorities should adopt with regard to the protection, maintenance and enhancement of green infrastructure, priority habitats and ecological networks, and the recovery of priority species.

6.2.6. Paragraphs 179 to 181 of the NPPF comprise a number of principles that Local Authorities should apply, including encouraging opportunities to incorporate biodiversity in and around developments; provision for refusal of planning applications if significant harm cannot be avoided, mitigated or compensated for; applying the protection given to European sites to potential Special Protected Areas (SPA), possible Special Areas of Conservation (SAC), listed or proposed Ramsar sites and sites identified (or required) as compensatory measures for adverse effects on European sites; and the provision for the refusal for developments resulting in the loss or deterioration of ‘irreplaceable’ habitats – unless there are ‘wholly exceptional reasons’ (for instance, infrastructure projects where the public

benefit would clearly outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.

6.2.7. National policy therefore implicitly recognises the importance of biodiversity and that with sensitive planning and design, development and conservation of the natural heritage can co-exist and benefits can, in certain circumstances, be obtained.

6.3. Local Policy

Cherwell District Local Plan 2011-2031

6.3.1. The Cherwell District Local Plan, that is currently under review, was adopted in 2011. This document contains three policies that are of relevance to nature conservation, policies ESD9, ESD10 and ESD17.

6.3.2. Policy ESD9 is concerned with the protection of the Oxford Meadows SAC, whilst Policy ESD10 aims to protect and enhance biodiversity and the natural environment. Policy ESD17 is concerned with green infrastructure such as woodlands, nature reserves and green corridors.

Oxfordshire Plan 2050

6.3.3. The Oxfordshire Plan 2050 sets out long-term planning framework from the current period up until 2050. The Oxfordshire plan 2050 is currently being prepared under section 28 of the Planning and Compulsory Purchase Act 2004 (as amended) and is yet to be adopted. The consultation document contains five polices that are of relevance to nature conservation. These include policy option 05, 06, 07, 08 and 09.

6.3.4. Policy option 05 concerns the protection and enhancement of the landscape characters, whilst policy option 06 relates to the protection and enhancement of the historic environment within Oxfordshire. Policy 07 concerns Nature recovery in relation to the most important sites for biodiversity in the county of Oxfordshire, this includes both statutory and non-statutory designated sites, whilst policy 08 concerns biodiversity net gain. The final policy of relevance is policy 09 that concerns natural capital and ecosystem services which considers impacts of major developments and to identify opportunities for strategic environmental areas and green infrastructure.

6.4. Discussion

6.4.1. Following the recommendations set out above, it is not considered the development proposal will have any adverse effects on any statutory or non-statutory designated sites and as such the development proposals accord with Policy EDS9, NPPF and Policy option 07 of the Oxfordshire plan 2050, which is yet to be adopted. Policy option 08 of the Oxfordshire plan is addressed within Appendix 6.

6.4.2. The development proposal include the loss of arable land and small sections of grassland margins and hedgerows to facilitate the proposal. The losses are considered negligible in terms of ecology. The recommendations detailed within this report will provide enhanced opportunities for wildlife within the local area, thus enhancing the overall biodiversity of the site. As

such, the development proposals would accord with Policy EDS10 and EDS17 of the Local Plan, the NPPF and Policy options 05, 06 and 09 of the Oxfordshire Plan 2050 (which is yet to be adopted).

6.4.3. In conclusion, the implementation of the measures set out in this report would enable the development of the site to accord with national and local planning policy for ecology and nature conservation.

7. SUMMARY AND CONCLUSIONS

7.1. Ecology Solutions was commissioned by Bloor Homes Ltd in November 2021 to undertake an Ecological Assessment of land south of Banbury Rise, Banbury.

7.2. The proposal for the site is for up to 250 residential dwellings with associated infrastructure, proposed native tree, hedgerow, scrub, and native woodland planting along with bulb and marginal vegetation planting. The proposal also includes the creation of an attenuation basin, wildflower grassland and wetland grassland leading to the attenuation basin

7.3. Habitat surveys were initially carried out in January 2022 with follow up bat surveys conducted in June 2022, in order to ascertain the general ecological value of the site and to identify the main habitats and associated plant species and faunal use around the site.

7.4. There are not considered to be any significant adverse effects on any statutory and non-statutory sites of nature conservation interest from the development proposals.

[redacted]

7.6. One tree is considered to have moderate bat potential (T2). However, this tree is to be retained and safeguarded as part of the proposed development. The registrations recorded within the site were mainly from Common Pipistrelle and Soprano Pipistrelle bats, two of the most common UK species and bat activity was generally seen to be low

7.7. The majority of the hedgerows within the site will be retained, with only small losses to hedgerows to facilitate the proposal. New areas of landscape planting within the development proposal will provide continued foraging and navigational opportunities for bats. It is recommended that any new planting consists of native species or species of known value to wildlife. The recommended erection of new bat boxes within the site will provide new roosting opportunities for bats.

7.8. A sensitive lighting regime, if necessary, post-development could ensure dark corridors are retained for bats, particularly along retained trees and hedgerows.

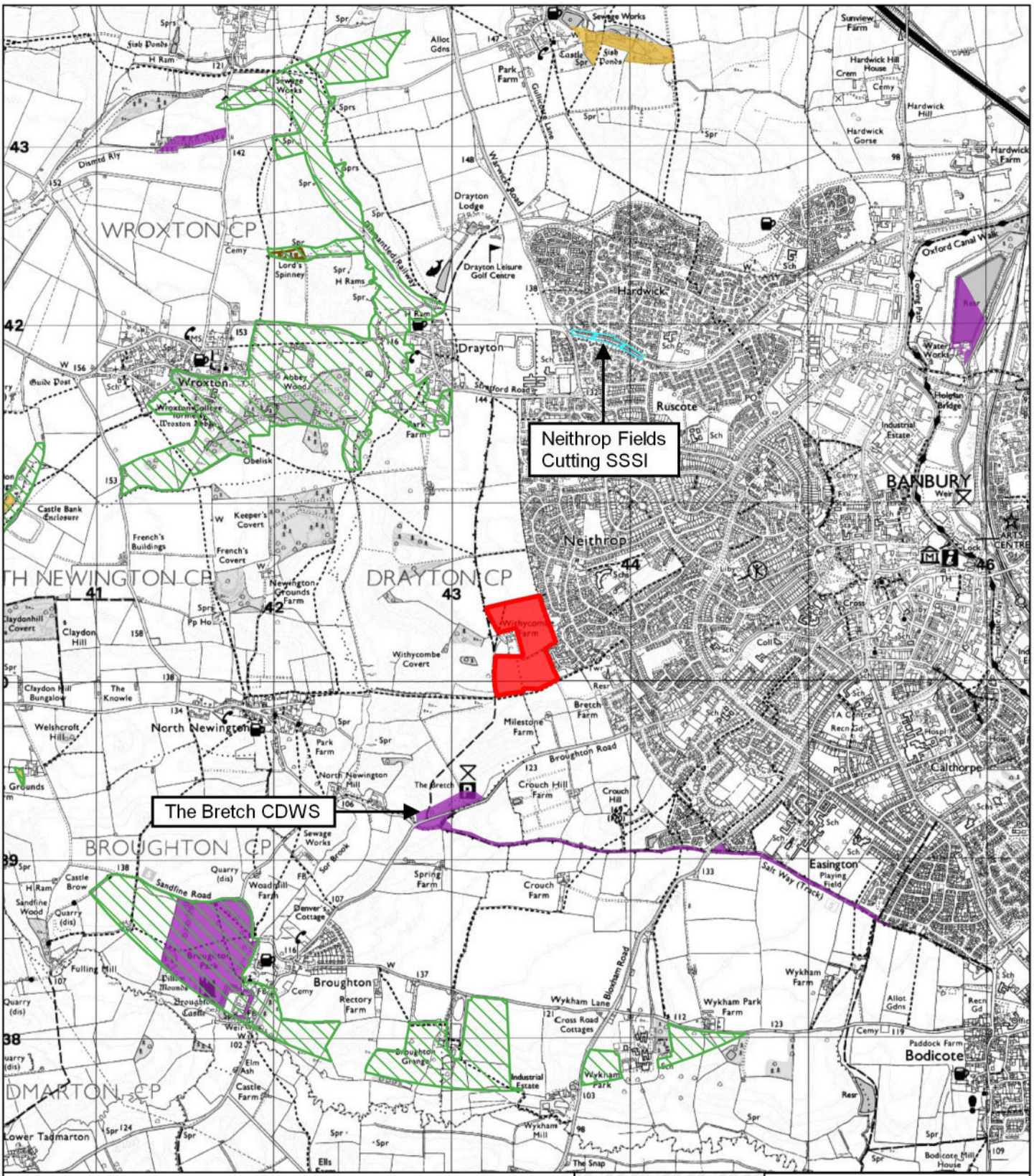
7.9. The retention of the majority of hedgerows as well as the provision of new trees and landscape planting, will maintain opportunities for birds, while the erection of bird boxes within the site will also provide new nesting opportunities. Safeguards for nesting birds during vegetation clearance are recommended.

7.10. In conclusion, with the implementation of the safeguards and recommendations set out within this report, it is considered that the proposals accord with planning policy with regard to nature conservation at all administrative levels.

PLANS

PLAN ECO1

Site Location and Ecological Designations



KEY:

- SITE
- SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)
- LOCAL WILDLIFE SITE (LWS)
- CHERWELL DISTRICT WILDLIFE SITE (CDWS)
- CONSERVATION TARGET AREA
- ANCIENT REPLANTED WOODLAND

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10308: LAND SOUTH OF BANBURY RISE

PLAN ECO1: SITE LOCATION, ECOLOGICAL DESIGNATIONS & POND LOCATIONS

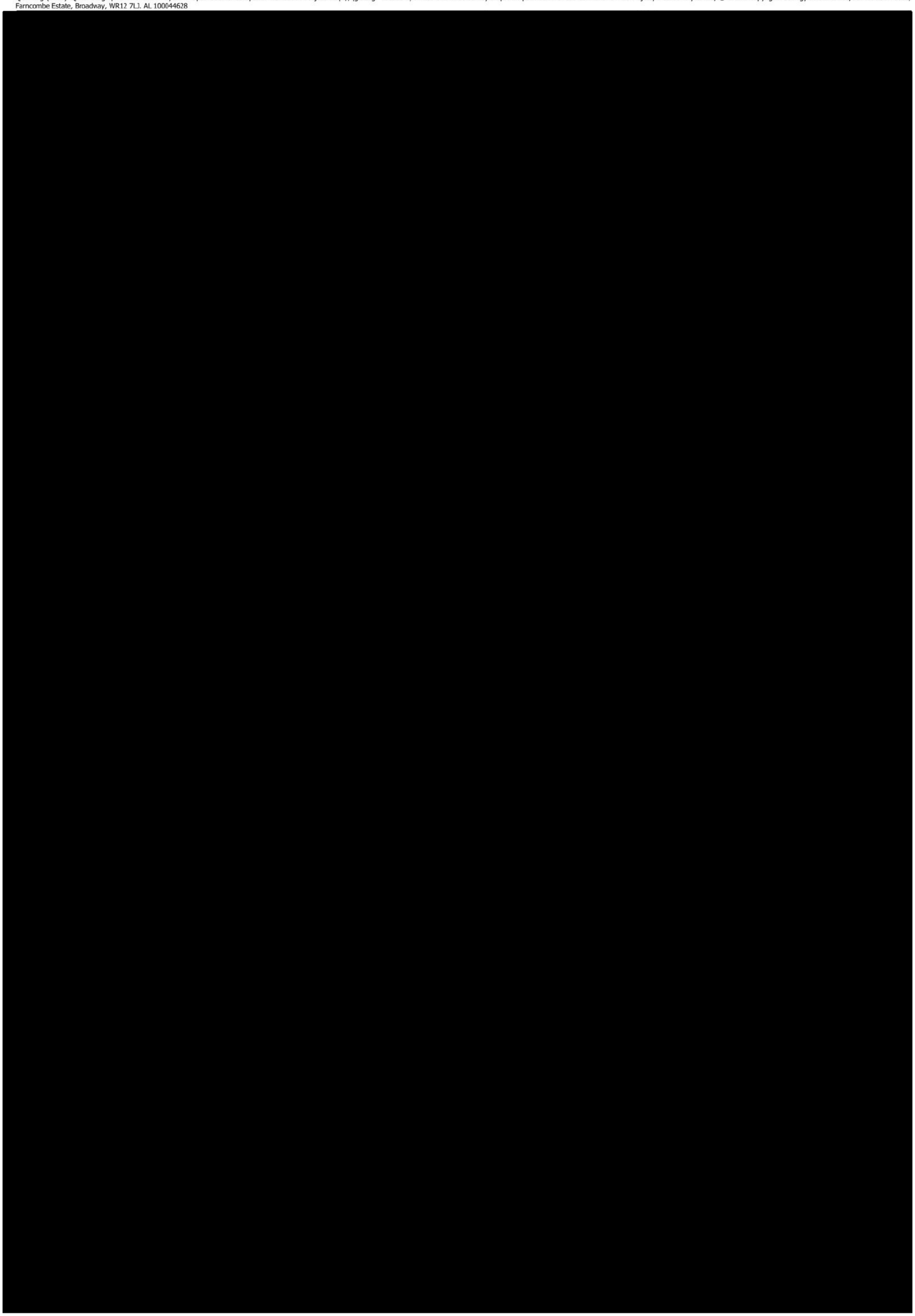
Rev: A

Feb 2022

PLAN ECO2

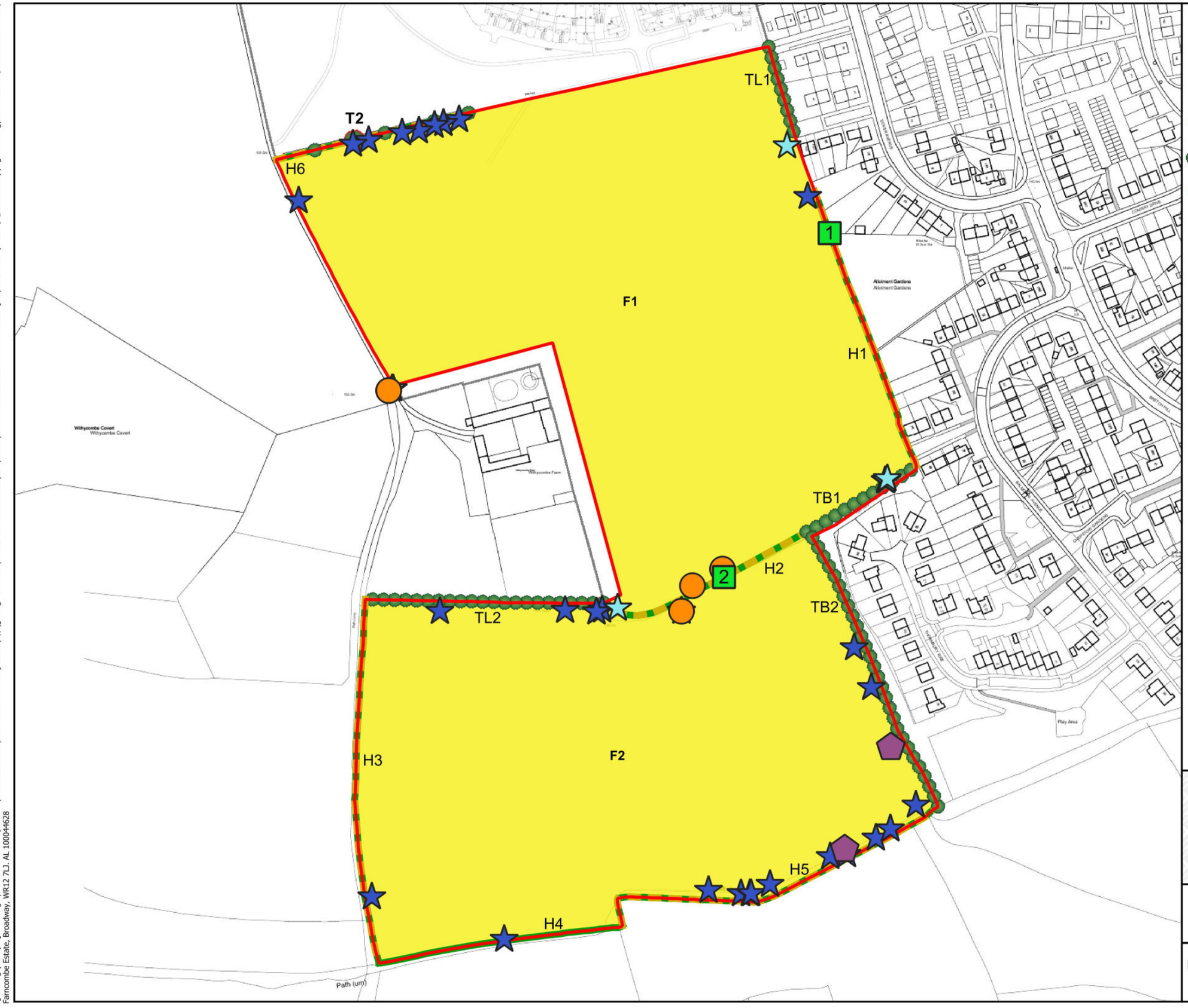
Ecological Features

QGIS.org (2020). QGIS Geographic Information System. Open Source Geospatial Foundation Project. http://qgis.org -Based upon the Ordnance Survey map with permission of the Controller of Her Majesty's Stationery Office, © Crown Copyright. Ecology Solutions Ltd, Farncombe House, Farncombe Estate, Broadway, WR12 7LJ. AL 100044628



PLAN ECO3

Protected Species Features and June Activity Plan



KEY:

- SITE BOUNDARY
- ARABLE
- NATIVE HEDGEROW
- TREE LINE
- SPECIES-RICH HEDGEROW
- TREE WITH POTENTIAL TO SUPPORT ROOSTING BATS
- TREE
- COMMON PIPISTRELLE
- SOPRANO PIPISTRELLE
- NOCTULE
- MYOTIS SPECIES
- JUNE AUTOMATED DETECTOR LOCATIONS

N

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10308: LAND SOUTH OF BANBURY RISE, BANBURY

PLAN ECO3: JUNE BAT ACTIVITY PLAN

Rev: A

Jun 2022

APPENDICES

APPENDIX 1

Illustrative Masterplan

KEY

- SITE LOCATION
- PRIMARY VEHICULAR ACCESS
- PRELIMINARY DRAINAGE LOCATIONS
- LOCALLY EQUIPPED AREA FOR PLAY
- EXISTING VEGETATION
- PEDESTRIAN/CYCLIST ACCESS
- HOUSING (up to 250 Dwellings)
- PUBLIC RIGHT OF WAY
- PEDESTRIAN/CYCLIST/EMERGENCY ONLY ACCESS
- POTENTIAL FUTURE LINK TO WITHYCOMBE FARM (RESIDENTIAL TRAFFIC ONLY)
- PROPOSED FOOT & POTENTIAL CYCLE LINKS
- INDICATIVE PLANTING
- NODAL SQUARE

N W E S

0 20 50 100m

LAND SOUTH OF BANBURY RISE, BANBURY - **INDICATIVE MASTERPLAN**

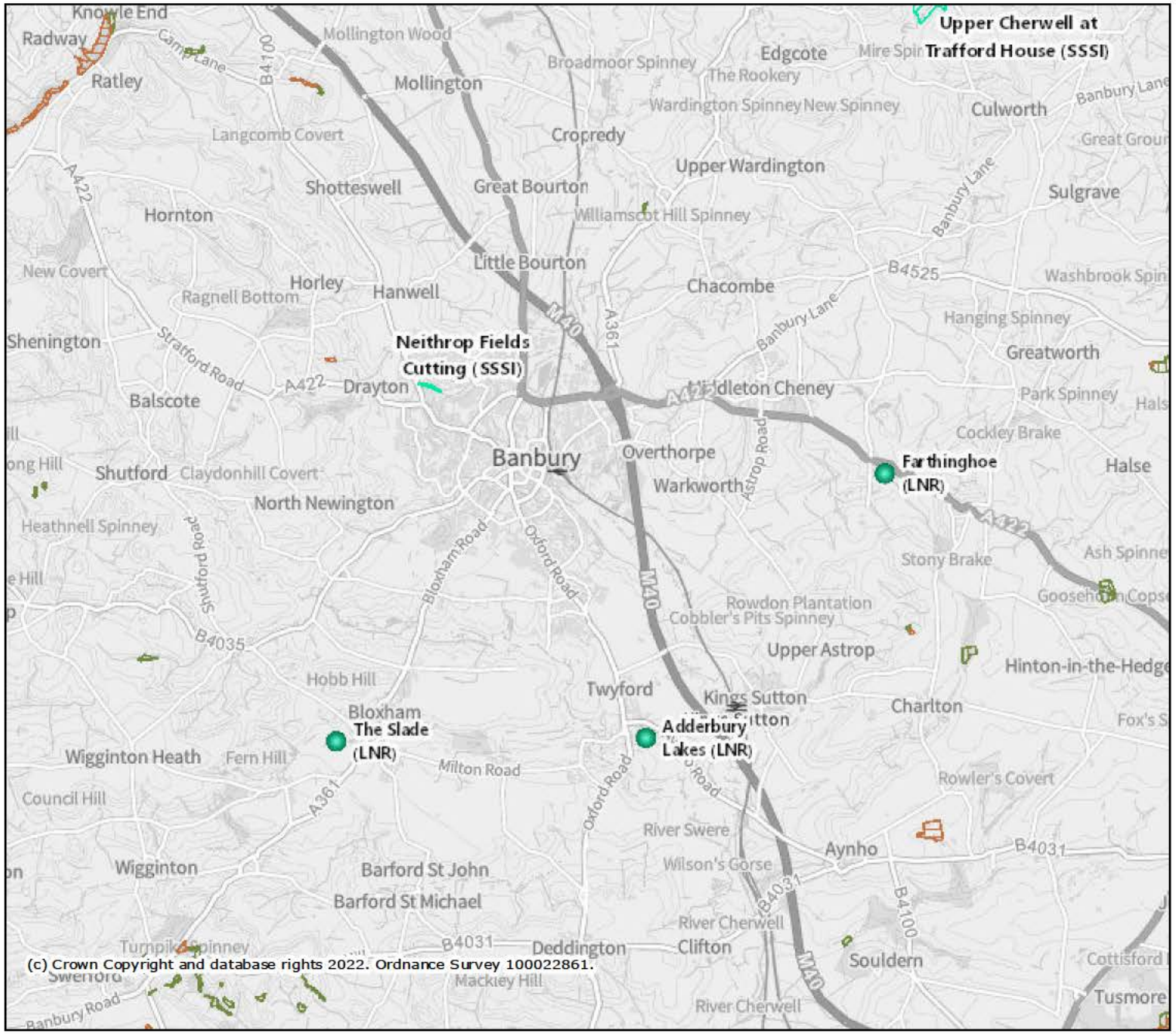
Pegasus Design

PLANNING | DESIGN | ENVIRONMENT | ECONOMICS | WWW.PEGASUSGROUP.CO.UK | TEAM/DRAWN BY: HW | APPROVED BY P.M: MC | DATE: 22/06/22 | SCALE: 1:1250 @ A1 | DRWG: P20-1853_04 SHEET NO: _ REV: B | CLIENT: BLOOR HOMES |

APPENDIX 2

Information downloaded from Multi-Agency
Geographic Information for the Countryside (MAGIC)

Magic Map



Legend

- Local Nature Reserves (England) - points
- National Nature Reserves (England) - points
- Ramsar Sites (England)
- Proposed Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- Special Areas of Conservation (England)
- Possible Special Areas of Conservation (England)
- Special Protection Areas (England)
- Potential Special Protection Areas (England)

Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland

Projection = OSGB36
xmin = 420100
ymin = 226400
xmax = 473400
ymax = 252700

0 2 4
km

Map produced by MAGIC on 17 June, 2022.

APPENDIX 3

Bat Survey Weather Conditions

APPENDIX 3 – BAT SURVEY WEATHER CONDITONS

Date	Weather Conditions	Sunset Temp. (°C)	Minimum Night Temp. (°C)	Sunset Wind Speed. (mph)
JUNE SURVEYS				
01.06.2022	Clear	15	7	5
02.06.2022	Clear with passing clouds	18	11	3
03.06.2022	Clear with occasional light rain	17	11	10
04.06.2022	Clear with occasional light rain	16	10	15
05.06.2022	Very occasional rain showers	12	11	7
06.06.2022	Partly cloudy	16	10	1

APPENDIX 4

Suitable Examples of Bat Boxes

Bat Boxes

Schwegler bat boxes are made from 'woodcrete' and have the highest rates of occupation of all types of box.
The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot and predator proof and extremely long lasting.
Boxes can be hung from a branch near the tree trunk or fixed using 'tree-friendly' aluminum nails.

1FF Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

Woodcrete (75% wood sawdust, concrete and clay mixture)
Width: 27cm
Height: 43cm
Weight: 8.3kg

2FN Bat Box

A large bat box featuring a wide access slit at the base as well as an access hole on the underside. Particularly successful in attracting Noctule and Bechstein's bats.

Woodcrete construction, 16cm diameter, height 36cm.

2F Bat Box

A standard bat box, attractive to the smaller British bat species. Simple design with a narrow entrance slit on the front.

Woodcrete construction, 16cm diameter, height 33cm.

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Images and text adapted from manufacturer's website: *https://www.schwegler-natur.de/fledermaus/?lang=en*

APPENDIX 5

Suitable Examples of Bird Boxes

Bird Boxes

Schwegler bird boxes have the highest rates of occupation of all types of box.
They are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting. Boxes are made from 'Woodcrete'. This 75% wood sawdust, clay and concrete mixture is breathable and very durable making these bird boxes extremely long lasting.

1B Bird Box

This is the most popular box for garden birds and appeals to a wide range of species. The box can be hung from a branch or nailed to the trunk of a tree with a 'tree-friendly' aluminium nail.

Available in four colours and three entrance hole sizes. 26mm for small tits, 32mm standard size and oval, for redstarts.

2H Bird Box

This box is attractive to spotted flycatcher and black redstarts.

Best sited on the walls of buildings with the entrance on one side.

2M Bird Box

A free-hanging box offering greater protection from predators.
Supplied complete with hanger which loops and fastens around a branch.

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Images and text adapted from manufacturer's website: *https://www.schwegler-natur.de/fledermaus/?lang=en*

APPENDIX 6

Biodiversity Net Gain Assessment

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10308: LAND SOUTH OF BANBURY RISE, BANBURY

BRIEFING NOTE: BIODIVERSITY NET GAIN ASSESSMENT

INTRODUCTION

1. Ecology Solutions was commissioned by Bloor Homes Ltd in November 2021 to undertake a Biodiversity Net Gain Assessment of the proposed development at Land south of Banbury Rise, Banbury, hereafter referred to as 'the site'.

2. This document details the Biodiversity Net Gain Assessment undertaken for the above site, using the DEFRA Biodiversity Metric 3.1.

BIODIVERSITY NET GAIN ASSESSMENT

3. This Biodiversity Net Gain Assessment has been based upon the proposed landscape strategy (10511-FPCR-XX-XX-DR-L-0001 REV D) for the above site, which is included at Annexe 1.

4. The landscape proposals include the loss of arable land, and minor losses to hedgerows. Plan BNG1 shows the existing habitats and measurements within the site.

5. Proposed habitats include wildflower grassland, scrub, amenity grassland, orchard, woodland and hedgerow planting, SuDS features and built environment (conservatively assigned 70:30 developed:gardens). Plan BNG2 shows the proposed habitats and measurements within the site.

6. Following calculations based upon the illustrative proposals (see Annexe 1) undertaken using DEFRA Biodiversity Metric 3.1 Calculation Tool, it can be seen that a net gain in biodiversity can be delivered as a result of the proposed development. Specifically, an increase in habitat units from 27.51 units to 38.89 units (which equates to a 41.37% increase) and an increase in hedgerow units from 12.31 units to 18.49 units (which equates to a 50.23% increase). The DEFRA Biodiversity Metric 3.1 Calculation is shown at Annexe 2.

7. It should be noted that the DEFRA Biodiversity Metric calculation does not take into consideration measures relating to protected or notable species. The provision of new species-rich grassland will provide enhanced foraging opportunities for Badgers, bats and birds, as well as potential terrestrial habitat for amphibians and reptiles, while the new attenuation feature will provide enhanced

foraging opportunities for bats and birds, as well as aquatic habitat for reptiles, amphibians and invertebrates. New native scrub and hedgerow, planting will provide enhanced foraging and navigational opportunities for bats, foraging and nesting opportunities for birds and foraging opportunities for Badgers, as well as potential hibernation/shelter opportunities for reptiles and amphibians, as well as enhanced habitat for invertebrates.

8. A number of additional enhancements will also be provided as part of the proposed development, that are not accounted for within the net gain calculation. This includes the provision of bat boxes providing enhanced roosting opportunities for bats and bird boxes providing enhanced nesting opportunities for birds, as well as the provision of log piles/hibernacula that will provide enhanced hibernation opportunities for reptiles and amphibians and create new habitat for saproxylic invertebrates post-development.

CONCLUSION

9. The calculation indicates that a net gain in biodiversity can be achieved under the current development proposals. It has also been demonstrated that the proposals would achieve a net gain in excess of 10%, which may potentially become the minimum net gain requirement following the adoption of a regulation within the Environment Act. Furthermore, it has also been demonstrated that a net gain in excess of 20% can be achieved as part of the proposals, which is a proposed Policy option within the Oxfordshire Plan 2050 (albeit this has not been adopted).

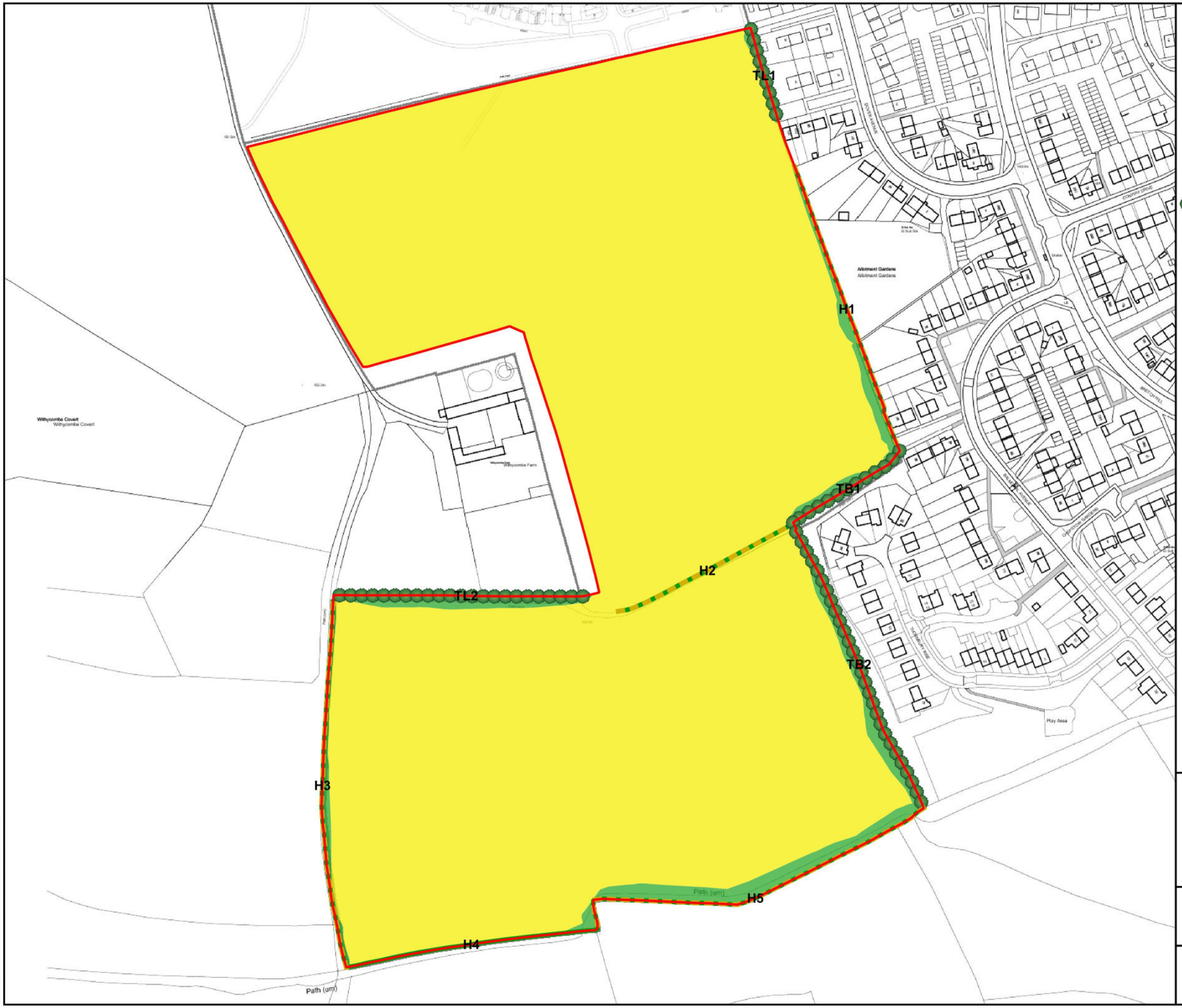
10. It is also considered that the development proposals will deliver a further net gain in biodiversity through the additional enhancement measures detailed above that are not accounted for within the calculation. As such, it is considered that it has been demonstrated that the proposed development will achieve an overall net gain in biodiversity over the existing situation.

Ecology Solutions
July 2022

PLANS

PLAN BNG1

Existing Habitat Measurements



KEY:

- SITE BOUNDARY
- ARABLE 13.109ha
- HEDGEROW (AREA) 0.644ha
- NATIVE HEDGEROW
- TREE LINE
- SPECIES-RICH HEDGEROW

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10308: LAND SOUTH OF BANBURY RISE, BANBURY

PLAN BNG1: EXISTING HABITAT MEASUREMENTS

Rev: A

Jul 2022

PLAN BNG2

Proposed Habitat Measurements

Proposed Parkland Tree Planting

Indicative mix

Species	Girth	Root
Acer campestre	14-16cm	RB
Alnus glutinosa	14-16cm	RB
Arbutus unedo	14-16cm	RB
Betula pendula	14-16cm	RB
Corylus avellana	14-16cm	RB
Fagus sylvatica	14-16cm	RB
Malus sylvestris	14-16cm	RB
Pinus sylvestris	14-16cm	RB
Populus nigra	14-16cm	RB
Prunus avium	14-16cm	RB
Quercus ilex	14-16cm	RB
Quercus robur	14-16cm	RB
Quercus frainetto	14-16cm	RB
Salix fragilis	14-16cm	RB
Sorbus aucuparia	14-16cm	RB
Sorbus torminalis	14-16cm	RB
Tilia x europaea	14-16cm	RB

Proposed Feature Tree Planting

Indicative mix

Species	Girth	Root
Quercus robur	18-20cm	RB
Quercus frainetto	18-20cm	RB
Fagus sylvatica	18-20cm	RB

Proposed Orchard Tree Planting
(locally appropriate mix of fruit trees)

Proposed Native Hedgerow Planting
Location and extents of native hedgerow adjacent to developable area shown indicatively and subject to detailed layout design. Height of hedgerow to be managed to maintain sightlines between housing and public open space

Indicative Mix

Species	Size	Root
Acer campestre	60-80cm	br
Corylus avellana	60-80cm	br
Crataegus monogyna	60-80cm	br
Ilex aquifolium	60-80cm	C
Prunus spinosa	60-80cm	br
Rosa canina	60-80cm	br

To be planted at 7 plants/m double staggered

Proposed Native Scrub Planting
(To be undersown with Emorsgate EW1 Woodland Mixture at 4g/m² or similar and approved)

Indicative Mix

Species	Size	Root
Acer campestre	60-80cm	br
Corylus avellana	60-80cm	br
Crataegus monogyna	60-80cm	br
Cornus sanguinea	60-80cm	br
Prunus spinosa	60-80cm	br
Rosa canina	60-80cm	br

To be planted at density circa 2 plants/m²

Proposed Native Woodland Planting
(To be undersown with Emorsgate EW1 Woodland Mixture at 4g/m² or similar and approved)

Indicative Mix

Species	Size	Root
Acer campestre	60-80cm	br
Alnus glutinosa	60-80cm	br
Betula pendula	60-80cm	br
Crataegus monogyna	60-80cm	br
Ilex aquifolium	60-80cm	C
Prunus spinosa	60-80cm	br
Sorbus aucuparia	60-80cm	br

To be planted at density circa 1-2 plants/m²

Indicative Attenuation Basin Areas
(Refer to SWB Indicative Drainage Strategy)

Proposed Wildflower Grassland
Emorsgate EM2 Standard General Purpose Wildflower Mix at 4g/m² or similar and approved. Approximate 1.0m strip to be maintained close mown adjacent to all highways, footpaths, residential areas and surfaces

Proposed Amenity Grassland
Emorsgate EL1 Flowering Lawn Mix at 4g/m² or similar and approved

Proposed Wet Grassland to Attenuation Basins
Emorsgate EM8 Meadow Grass for Wet Soils at 4g/m² or similar and approved

Proposed Marginal Plug Planting
To be Naturescapes N7 Wetland Areas Plant Collection or similar and approved. To be planted up to 250mm above anticipated normal water level as plugs in groups of 5-13 plants to create stands

Proposed Bulb Planting
To be planted in same species drifts

Indicative footpaths

Potential locations for Access Control)

Potential locations for Reptile Hibernacula

Potential locations for Parkland Seats

Potential locations for Signage

Potential location for 1.0m post&rail fencing
(extents to be determined)

Existing contours and levels

Potential location for viewpoint

Access (Refer to DAS for details)

Proposed primary vehicular access
(refer to engineer drawing for details)

Potential pedestrian/cycle connection

Potential pedestrian access location

Potential access location to Withycombe Farm

Potential emergency access / pedestrian access

KEY:

- SITE BOUNDARY
- SuDS 0.255ha
- MIXED SCRUB 0.14ha
- RETAINED HEDGEROW (AREA) 0.612ha
- BUILT ENVIRONMENT (ASSIGNED 70:30 DEVELOPED:GARDENS) 6.91ha
- BROAD-LEAVED WOODLAND 0.916ha
- OTHER NEUTRAL GRASSLAND 3.91ha
- TRADITIONAL ORCHARD 0.058ha
- MODIFIED GRASSLAND 0.784ha
- CREATED HEDGEROW (AREA) 0.166ha
- RETAINED HEDGEROW
- RETAINED SPECIES-RICH HEDGEROW
- RETAINED TREE LINE
- CREATED SPECIES-RICH HEDGEROW

N

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10308: LAND SOUTH OF BANBURY RISE, BANBURY

PLAN BNG2: PROPOSED HABITAT MEASUREMENTS

Rev: A

Jul 2022

ANNEXES

ANNEXE 1

Landscape Strategy

0 25 50 75 100m

N

New footpath network to provide variety of circular walking routes and connections to and between existing public rights of way

Existing Public Right of Way retained through site

Native woodland planting to screen and filter views from west

Amenity space for informal recreation

Potential location for equipped play park

Native woodland planting to screen and filter views from west

Native woodland planting to link and reinforce existing woodland blocks. Advice will be sought from an ecologist on the extent of additional planting around the badger sett

Potential foot / cycle link to recently consented development

Native woodland planting to screen and filter views from south

Withycombe Farm

Allotment Gardens

DOVER AVENUE

THORNBURY RISE

Path (um)

Milestone Farm

KEY

- Site Boundary
- Existing Woodland/Trees/Scrub Retained (Root Protection Area shown in blue)
- Proposed Parkland Tree Planting

Indicative mix

Species	Girth	Root
Acer campestre	14-16cm	RB
Alnus glutinosa	14-16cm	RB
Arbutus unedo	14-16cm	RB
Betula pendula	14-16cm	RB
Corylus avellana	14-16cm	RB
Fagus sylvatica	14-16cm	RB
Malus sylvestris	14-16cm	RB
Pinus sylvestris	14-16cm	RB
Populus nigra	14-16cm	RB
Prunus avium	14-16cm	RB
Quercus ilex	14-16cm	RB
Quercus robur	14-16cm	RB
Quercus frainetto	14-16cm	RB
Salix fragilis	14-16cm	RB
Sorbus aucuparia	14-16cm	RB
Sorbus torminalis	14-16cm	RB
Tilia x europaea	14-16cm	RB

- Proposed Feature Tree Planting

Indicative mix

Species	Girth	Root
Quercus robur	18-20cm	RB
Quercus frainetto	18-20cm	RB
Fagus sylvatica	18-20cm	RB

- Proposed Orchard Tree Planting (locally appropriate mix of fruit trees)
- Proposed Native Hedgerow Planting

Location and extents of native hedgerow adjacent to developable area shown indicatively and subject to detailed layout design. Height of hedgerow to be managed to maintain sightlines between housing and public open space

Indicative Mix

Species	Size	Root
Acer campestre	60-80cm	br
Corylus avellana	60-80cm	br
Crateagus monogyna	60-80cm	br
Ilex aquifolium	60-80cm	C
Prunus spinosa	60-80cm	br
Rosa canina	60-80cm	br

To be planted at 7 plants/lm double staggered

- Proposed Native Scrub Planting (To be undersown with Emorsgate EW1 Woodland Mixture at 4g/m² or similar and approved)

Indicative Mix

Species	Size	Root
Acer campestre	60-80cm	br
Corylus avellana	60-80cm	br
Crateagus monogyna	60-80cm	br
Cornus sanguinea	60-80cm	br
Prunus spinosa	60-80cm	br
Rosa canina	60-80cm	br

To be planted at density circa 2 plants/m²

- Proposed Native Woodland Planting (To be undersown with Emorsgate EW1 Woodland Mixture at 4g/m² or similar and approved)

Indicative Mix

Species	Size	Root
Acer campestre	60-80cm	br
Alnus glutinosa	60-80cm	br
Betula pendula	60-80cm	br
Crataegus monogyna	60-80cm	br
Ilex aquifolium	60-80cm	C
Prunus spinosa	60-80cm	br
Sorbus aucuparia	60-80cm	br

To be planted at density circa 1-2 plants/m²

- Indicative Attenuation Basin Areas (Refer to BWB IIndicative Drainage Strategy)
- Proposed Wildflower Grassland

Emorsgate EM2 Standard General Purpose Wildflower Mix at 4g/m² or similar and approved. Approximate 1.0m strip to be maintained close mown adjacent to all highways, footpaths, residential areas and surfaces

- Proposed Amenity Grassland

Emorsgate EL1 Flowering Lawn Mix at 4g/m² or similar and approved

- Proposed Wet Grassland to Attenuation Basins

Emorsgate EM8 Meadow Grass for Wet Soils at 4g/m² or similar and approved

- Proposed Marginal Plug Planting

To be Naturescapes N7 Wetland Areas Plant Collection or similar and approved. To be planted up to 250mm above anticipated normal water level as plugs in groups of 5-10 plants to create stands

- Proposed Bulb Planting (To be planted in same species drifts)
- Indicative footpaths
- Potential locations for Access Control)
- Potential locations for Reptile Hiberncula
- Potential locations for Parkland Seats
- Potential locations for Signage
- Potential location for 1.0m post&rail fencing (extents to be determined)
- Existing contours and levels
- Potential location for viewpoint

Access (Refer to DAS for details)

- Proposed primary vehicular access (refer to engineer drawing for details)
- Potential pedestrian/cycle connection
- Potential pedestrian access location
- Potential access location to Withycombe Farm
- Potential emergency access / pedestrian access
- Existing Public Right of Way

10511
Banbury, Oxfordshire
Bloor Homes

LANDSCAPE STRATEGY

PLANNING 1:1000 @ A1
16th June 2022 CEP / CEP
10511-FPCR-XX-XX-DR-L-0001 issue D
Project Code - Originator - Zone - Level - Type - Role - Drawing Number

masterplanning
environmental assessment
landscape design
urban design
ecology
architecture
arboriculture

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File: L:\10500\10511\LANDS\Drawings\10511-FPCR-XX-XX-DR-L-0001-P01.01-LANDSCAPE STRATEGY [D].vwx

ANNEXE 2

DEFRA Biodiversity Metric Calculation

A-1 Site Habitat Baseline

Condense / Show Columns | Condense / Show Rows | Main Menu | Instructions

	Habitats and areas			Distinctiveness		Condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline
Ref	Broad habitat	Habitat type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance multiplier			Total habitat units
1	Cropland	Cereal crops	13.109	Low	2	N/A - Agricultural	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required	26.22
2	Sparsely vegetated land	Ruderal/Ephemeral	0.644	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required	1.29
3												
4												
5												
			13.75									27.51

Retention category biodiversity value						Bespoke compensation agreed for unacceptable losses	Comments	
Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area lost	Units lost		Assessor comments	Reviewer comments
0		0.00	0.00	13.11	26.22			
0.612		1.22	0.00	0.03	0.05		Vegetation below hedgerows	
0.61	0.00	1.22	0.00	12.14	26.28			

A-2 Site Habitat Creation

Condense / Show Columns | Condense / Show Rows

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Note; Habitat selected has a time to target condition greater than 30 years. Non standard agreement may be required.

			Distinctiveness		Condition		Strategic significance			Post development/ post intervention habitats												Comments	
										Temporal multiplier						Difficulty multipliers							
Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard time to target condition/years	Habitat created in advance/years	Delay in starting habitat creation/years	Standard or adjusted time to target condition	Final time to target condition/years	Final time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied	Habitat units delivered	Assessor comments	Reviewer comments
Urban	Developed land; sealed surface	4.837	V Low	0	N/A - O her	0	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	0	0	0	Standard time to target condition applied	0	1.000	Low	Standard di ficu ty appli ed	Medium	0.67	0.00		
Grassland	Modified grassland	0.784	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.968	Low	Standard di ficu ty appli ed	Low	1	1.51		
Sparsely vegetated land	Ruderal/Ephemeral	0.166	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.968	Low	Standard di ficu ty appli ed	Low	1	0.32		
Urban	Sustainable urban drainage feature	0.255	Low	2	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0	0	Standard time to target condition applied	5	0.837	Medium	Standard di ficu ty appli ed	Medium	0.67	0.86		
Grassland	Traditional orchards	0.058	High	6	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	20	0	0	Standard time to target condition applied	20	0.400	Low	Standard di ficu ty appli ed	Low	1	0.34		
Heathland and shrub	Mixed scrub	0.14	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0	0	Standard time to target condition applied	5	0.837	Low	Standard di ficu ty appli ed	Low	1	0.94		
Grassland	Other neutral grassland	3.91	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	5	0	0	Standard time to target condition applied	5	0.837	Low	Standard di ficu ty appli ed	Low	1	26.18		
Urban	Vegetated garden	2.073	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.968	Low	Standard di ficu ty appli ed	Low	1	4.00		
Woodland and forest	Other woodland; broadleaved	0.916	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	30+	0	0	Standard time to target condition applied	30+	0.326	Low	Standard di ficu ty appli ed	Low	1	3.82		
	Total area	13.14																Total Units		37.68			

B-1 Site Hedge Baseline

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	UK Habitats - existing habitats			Habitat distinctiveness		Habitat condition		Strategic significance				Ecological baseline	Retention category biodiversity value						Comments	
Baseline ref	Hedge number	Hedgerow type	Length KM	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Suggested action to address habitat losses	Total hedgerow units	Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments	Reviewer comments
1	H1	Native Species Rich Hedgerow	0.181	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Like for like or better	2.17	0.173		2.08	0.00	0.01	0.10		
2	H2	Native Species Rich Hedgerow	0.117	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Like for like or better	1.40	0.097		1.16	0.00	0.02	0.24		
3	H3	Native Species Rich Hedgerow	0.22	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Like for like or better	2.64	0.22		2.64	0.00	0.00	0.00		
4	H4	Native Hedgerow	0.152	Low	2	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.91	0.152		0.91	0.00	0.00	0.00		
5	H5	Native Species Rich Hedgerow	0.229	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Like for like or better	2.75	0.229		2.75	0.00	0.00	0.00		
6	TL1	Line of Trees	0.058	Low	2	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.23	0.058		0.23	0.00	0.00	0.00		
7	TL2	Line of Trees	0.151	Low	2	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.60	0.151		0.60	0.00	0.00	0.00		
8	TB1	Line of Trees	0.077	Low	2	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	0.46	0.077		0.46	0.00	0.00	0.00		
9	TB2	Line of Trees	0.189	Low	2	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness band or better	1.13	0.189		1.13	0.00	0.00	0.00		
10																				
11																				
12																				
13																				
14																				
			1.37									12.31	1.35	0.00	11.97	0.00	0.03	0.34		

B-2 Site Hedge Creation

Condense / Show Columns | Condense / Show Rows

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		Proposed habitats		Habitat distinctiveness		Habitat condition		Strategic significance			Temporal multiplier					Difficulty risk multipliers				Hedge units delivered	Comments	
Baseline ref	New hedge number	Habitat type	Length km	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard Time to target condition/years	Habitat created in advance/years	Delay in starting habitat creation/years	Standard or adjusted time to target condition	Final time to target condition/years	Final Time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied		Assessor comments	Reviewer comments
1	1	Native Species Rich Hedgerow	0.833	Medium	4	Good	3	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	12	0	0	Standard time to target condition applied	12	0.653	Low	Standard difficulty applied	Low	1	6.52		
2																							
3																							
4																							
5																							
6																							
			0.83																		6.52		

Headline Results

Return to results menu

On-site baseline	*Habitat units*	27.51
	Hedgerow units	12.31
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	38.89
	Hedgerow units	18.49
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	*Habitat units*	41.37%
	Hedgerow units	50.23%
	River units	0.00%
Off-site baseline	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	11.38
	Hedgerow units	6.18
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	41.37%
	Hedgerow units	50.23%
	River units	0.00%
Trading rules Satisfied?		Yes

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