LAND AT THE CLAY PITS
GREEN HILL, ROYAL WOOTTON BASSETT

ECOLOGICAL APPRAISAL

APRIL 2022

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1.0 INTRODUCTION

1.1 Background

1.1.1 Aluco Ecology Ltd was commissioned to carry out an ecological appraisal of land at The Clay Pits on behalf of the landowner, Michael McDonagh.

1.1.2 An 'Ecological Appraisal' is a general investigation of the likely ecological and nature conservation issues associated with the site and its potential development. The aim of an Ecological Appraisal is to:

- highlight any features of particular ecological value;
- identify potential impacts to ecology as a result of the proposed works;
- identify any ecological issues that may have legal or planning implications such as the presence of protected species; and
- recommend any further work (such as targeted protected species surveys) if required in order to fully assess the value of the site.

1.1.3 The Government sets out its objectives for conserving and enhancing biodiversity in the National Planning Policy Framework (revised NPPF). The Government's objectives for planning include an environmental objective 'to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.'

1.1.4 The Framework goes on to state that at the heart of the planning system is a presumption in favour of sustainable development. Planning Practice Guidance on the Natural Environment provides information on taking biodiversity into account in planning (see Section 15 of the revised NPPF).

1.2 Outline of the Scheme and Site Location

1.2.1 The site is located at Green Hill, near Wootton Bassett. It is proposed to use the site for two new caravan pitches.

1.2.2 The location of the site is shown at **Figure 1**, and site proposals are shown at **Figure 2**.



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Figure 1 Site Location

1.3 Relevant Legislation and Policy

1.3.1 The outcomes of this Ecological Appraisal will be tested against relevant legislation and policy; namely the Conservation of Habitats & Species Regulations 2017 (as amended) in relation to the protection of European sites (Special Protection Areas SPA, and Special Areas of Conservation SAC) and European protected species (eg bats, dormouse, great crested newts) (see **Technical Appendix 1)** and the Wildlife & Countryside Act 1981 (as amended) and Countryside & Rights of Way Act (CRoW) 2000 for protected species and the designation and protection of SSSIs (see **Technical Appendix 1**). The Protection of Badgers Act 1992 gives protection to Badgers *Meles meles.*

1.3.2 In addition to the National Planning Policy Framework and the legislation outlined above, the strategic and local planning policies are the principal policies against which the outcomes of this ecological assessment will be considered; Wiltshire Council Local Plan contains policies relating to ecology, these are outlined at **Technical Appendix 2**.

1.3.3 Under the Governments duty to conserve Biodiversity, through Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC, 2006) a number of Biodiversity Action Plans have been prepared for habitats and species of conservation concern, including national BAP is considered in the ecological site appraisal.

1.3.4 Consideration is also given to emerging Environment Act, which has recently received Royal Assent (November 2021). A core element of this is biodiversity net gain through planned development. Local Planning Authorities are beginning to adopt the principals of demonstrated 'net gain' in planning decisions. Further information on provisions within the Environment Act 2021 are provided in **Technical Appendix 1**.

2.0 ASSESSMENT METHODOLOGY

2.1 Introduction

2.1.1 The methodology for this appraisal is based on the Guidelines for Ecological Impact Assessment (EcIA) in the United Kingdom published by the Chartered Institute of Ecology and Environmental Management (IEEM, 2006; CIEEM, 2019). Regardless of whether a statutory Environmental Impact Assessment is required, these guidelines provide a robust framework for ecological assessment.

2.2 Site Survey Methodology

2.2.1 The first stage of the appraisal is a desk study of the proposed development site and associated zone of influence. As part of this a data search with the Wiltshire Biodiversity Information Centre has been undertaken. The desk study provides background information on the site and local environment in order to effectively target field survey and further desk research. The aims of the field survey are to record land-use and broad vegetation types present on the site and in the surrounding areas, and to evaluate the ecological value of the habitats and vegetation communities, along with their potential to support protected species, species of principal importance, and any other notable species.

2.2.2 Preliminary Ecology Appraisals can be undertaken year round, however during the winter months likely value of vegetation and habitats can be harder to determine. On this basis experience and knowledge of the surveyor is used to determine likely value of vegetation, habitats and potential for protected species, and degree of precaution in evaluation. Further details of the methodology used can be found in **Technical Appendix 3.**

3.0 BIOPHYSICAL CHANGES AND THE ZONE OF INFLUENCE

3.1 Introduction

3.1.1 In order to be able to target relevant ecological survey and assess the impacts of a development, it is necessary to identify the activities that may result in biophysical changes from the development and the area these cover (i.e. the zone of influence). There are three stages of this development scheme that include activities that may have an impact on features of ecological value; namely site preparation, construction and operation / use.

3.2 Biophysical Changes associated with the Development Scheme – Determination of the Zone of Influence

3.2.1 The potential zone of influence of the proposal is determined from the predicted biophysical changes brought about by activities associated with construction and post-construction phases. Therefore, the zone is predicted to extend across the development footprint and locally within the site. The main potential influence off site is the potential for pollution derived from on-site construction and operation.

3.2.2 Consequently, desk surveys have been carried out within this zone and backed up by field survey where required.

3.3 Site Preparation / Construction Activities and Biophysical Changes

3.3.1 During the construction phase, it is predicted that site preparation activities may include localised vegetation clearance. This phase may affect habitat suitable for wildlife, including protected and/or notable species.

3.4 Predicted Operational Activities during Use Phase and Biophysical Changes

3.4.1 During the operational phase it is possible that the scheme may result in changes from current site use; and this may have impacts on features of ecological value or designated sites within the wider area through indirect impacts such as disturbance, air pollution and surface water run-off.

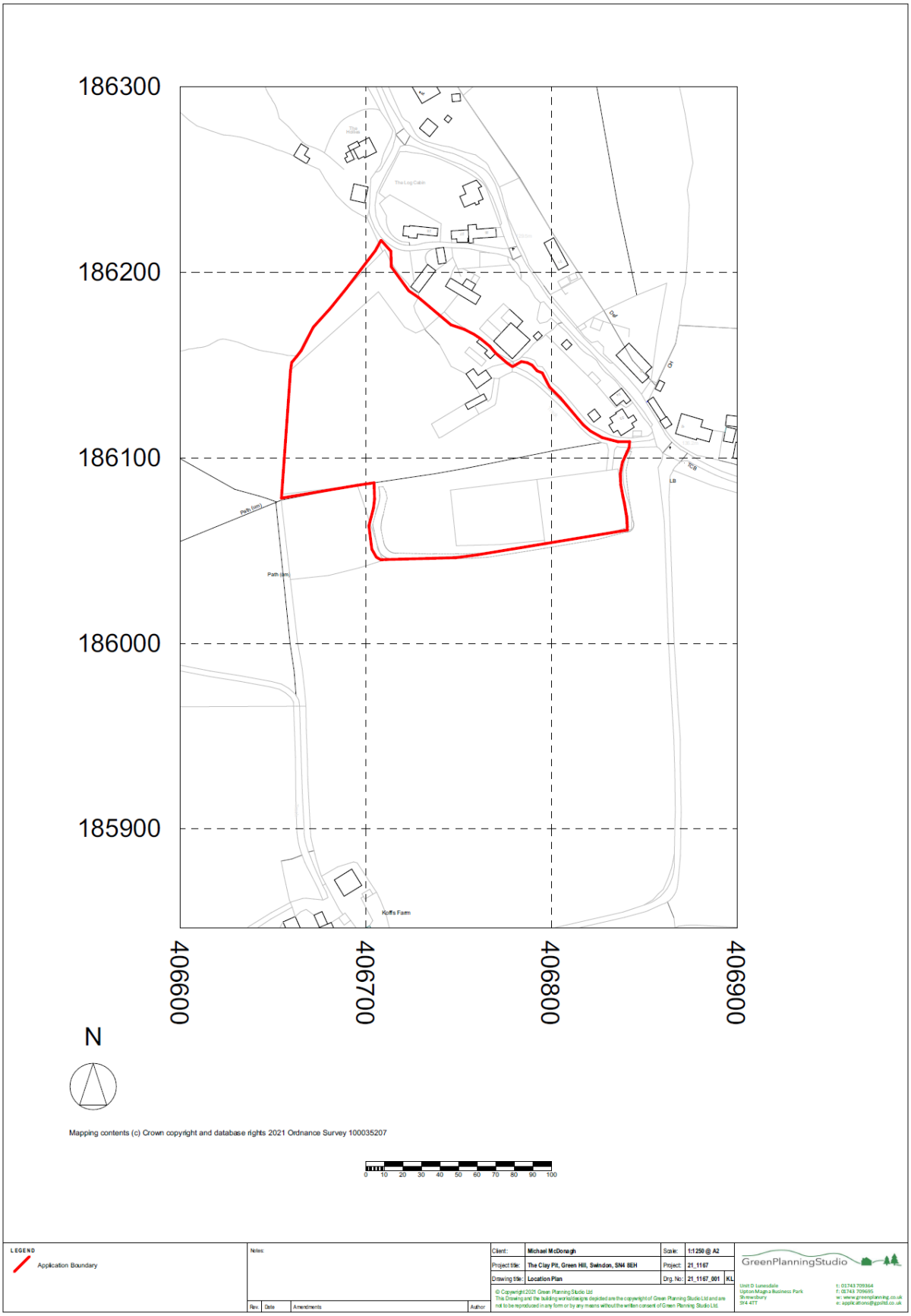


Figure 2a: Site Ownership Boundary (Green Planning Studio, 2022)



Figure 2b: Development Proposals (Green Planning Studio, 2022)

4.0 BASELINE CONDITIONS WITHIN THE ZONE OF INFLUENCE

4.1 Introduction

4.1.1 This ecological baseline describes the site in the context of the characteristic habitats of the area, and includes descriptions of designated sites and ecological features present within the potential zone of influence of any proposed development. A walkover survey of the site was undertaken on 07 April 2022.

4.2 Statutory & Non-Statutory Designated Sites

Statutory Designated Sites

4.2.1 A single Site of Special Scientific Interest (SSSI) designated of regional to national importance is within 2km of the site. This is Restrop Farm and Brockhurst Wood SSSI, which is c220m to the north east and designated for ancient woodland, pasture, meadows, scrub and hedgerow habitats and associated species.

4.2.2 Citations and conservation objectives detailing the site's special features and operations that may damage the SSSI are downloadable from https://designatedsites.naturalengland.org.uk/.

4.2.3 A single Internationally designated site is present within 15km of the site. Internationally designated sites include Special Protection Areas (SPAs), Special Areas of Conservation (SAC), and Ramsar Sites. The site is North Meadow & Clattinger Farm SAC, which is c8.6km to the north of the site at its closest point. The SAC is designated for its lowland hay meadow habitats.

4.2.4 Citations and conservation objectives detailing the sites special features are downloadable from https://jncc.gov.uk/.

Non Statutory Designated Sites

4.2.5 There are 9 non-statutory sites of nature conservation importance (Local Wildlife Sites (LWS)), which are designated through the local planning process as being of value to wildlife at the County level within 1km of the site. The closest is Brickkiln Copse LWS, which is designated for its ancient woodland, and is adjacent to the wider landholding being on the north west edge. A further 7 ancient woodland LWS's are present within 1km, and a single LWS designated for its neutral pastures and hay meadow vegetation. A plan from the Wiltshire Records Centre of LWS's is provided at **Technical Appendix 4**.

4.3 Habitats and Vegetation

Introduction

4.3.1 The following description is based on the site visit carried out on 07 April 2022.

4.3.2 The vegetation and main features of the application site are described below and in **Photos 1-10**. The site comprises a grassland that is bordered by semi-natural hedges/tree lines on the field boundaries.

Grasslands – Proposed Development Area

4.3.3 The grasslands on site are dominated by modified coarse tall grassland species including False Oat Grass *Arrhenatherum elatius,* Rye Grass *Lolium perenne,* and Cocks Foot *Dactylis glomerata*. Herb density and diversity is relatively low. Herbs included occasional Yarrow *Achillea millefolium* and Ribwort Plantain *Plantago lanceolata,* as well as patches of species typical of high nutrient environments including Nettles *Urtica dioica,* Cleavers *Galium aparine,* and Docks *Rumex sp.*

Grasslands – Wider Landholding

4.3.4 A good proportion of the grasslands on the wider site are also modified species poor and high nutrient similar to those described above with other species including Meadow Foxtail *Alopecurus pratensis* and Red Fescue *Festuca rubra* noted in patches. Bramble *Rubus fruticosus agg. p*atches are occasional in the grasslands.

4.3.5 A few areas of the site include more species rich grassland, including two patches of grassland with a neutral to calcareous influence towards the western site boundary along the public footpath, and a further area along a north west facing slope at the northern part of the landholding. These patches contain areas of herb rich grasslands with species noted including Ox-eye Daisy *Leucanthemum vulgare,* Common Knapweed *Centaurea nigra,* Glaucous Sedge *Carex flacca,* Cat's-ear *Hypochaeris radicata,* Lesser Celandine *Ficaria verna* and some patches of Pignut *Conopodium majus.* A further area of the slope is dominated by tussocky unmanaged Tor Grass *Brachypodium pinnatum agg.* with a single bush of the localised rose, *Rosa x andegavensis/R. stylosa.*

4.3.6 At the bottom of the slope towards the north west boundary of the landholding is an area of flushing that contains a rush pasture grading into a woodland hedge habitat, with some Bramble scrub and a mature Willow *Salix sp.* The rush pasture contains at least four species of rush *Juncus inflexus, J. conglomerate, J. effusus, and J. acutiflorus.* Other damp grassland species included Tufted Hair Grass *Deschampsia cespitosa* and Water Mint *Mentha aquatica.*

Boundaries & Shrubs/Woody Habitat – Proposed Development Area

4.3.7 The eastern and southern boundaries of the site contain an outgrown hedge that is dominated by Hawthorn *Crataegus monogyna.* The eastern boundary hedge is roughly 4m wide x 2-3m high and on a bank sloping down to the site. The northern end is dominated by Bramble with occasional Elder *Sambucus nigra* and Dog-roses *Rosa sp*. The understorey is nutrient rich and dominated by Nettles.

4.3.8 The southern boundary comprises an outgrown hedge dominated by over mature Hawthorn on a steep sloping bank down on to the site. The bank is c8m wide and the Hawthorns are c8m tall. Some Dog-roses and Elder are also present. The understorey is bare ground, Cleavers and Nettles, with some Wild Arum *Arum maculatum.*

4.3.9 All of the boundaries are fenced with stock fencing, including internal boundaries of the proposed development area.

Boundaries & Shrubs/Woody Habitat – Wider Land Holding

4.3.10 The wider landholding contains a number of boundary hedges dominated mostly by Hawthorn, but with some Blackthorn *Prunus spinosa* and Hazel *Corylus avellana* near the woodland edge of Brickkiln Copse. Some boundaries are dominated by Bramble scrub and some Wild Clematis *Clematis vit-alba.* Brickkiln Copse, off site to the north west, is an ancient Oak-Ash-Field Maple woodland with Dog's Mercury *Mercurialis perennis* and Bluebell *Hyacinthoides non-scripta* ground flora.

4.3.11 Along the woodland edge there is open ground habitat over recently partially cut Bramble and Hawthorn scrub, which contains a few woodland species, scattered in low numbers, including Bluebell, Dog's Mercury, Wood Anemone *Anemone nemorosa*, Wild Arum *Arum maculatum*, Wood Sedge *Carex sylvatica* and Pendulous Sedge *Carex pendula*. Not all of the scrub has been cut, however and some areas of Bramble and Hawthorn scrub are present spreading from the boundaries into the site grasslands.

4.3.12 At the north eastern edge of the site are two young mature Willow and Ash trees. A further young mature Ash tree is present on the southern boundary at the western end with some Dogwood *Cornus sanguineous.*

Buildings & Hardstanding

4.3.13 There are no buildings on the proposed development area. In the wider landholding there are two buildings; a horse stables that is single skin wood with a corrugated plastic roof, and a set of chicken sheds, also wooden sided with a corrugated tin roof, with a single skin.

4.3.14 An unsealed track leads from the site entrance to the two buildings, with a spur to the proposed development area also present.

Wetlands

4.3.15 The flushing at the north west edge of the site becomes a minor watercourse through Brickkiln Copse just off site. Within 500m of the site are two groups of waterbodies:

- A set of three linked farm ponds at Koff Farm south west of the site, the closest being c270m from the proposed development area;
- A group of ponds along a flush that becomes a watercourse through Brockhurst Wood east of the site, c370m from the proposed development area

Flora

4.3.16 No rare species were noted within the site. Ancient woodland indicator species and species indicative of neutral to calcareous grassland were noted in the wider landholding, especially along the western and north-western edges of the landholding.

Evaluation

4.3.17 The coarse modified grassland vegetation and habitats on site are considered to be of **value within the zone of influence**. The more species rich grasslands within the wider landholding are of a **local value**, but this evaluation is based on an early season survey. The woody boundaries on site contain semi-natural woody features, but are mostly dominated by Hawthorn and of **local value**. The north west boundary of the site contains woodland edge of Brickkiln Copse an ancient woodland, which is of **district value**.



Photo 1: Modified Grassland Proposed Development Area



Photo 2: Hedgerow on eastern boundary of proposed development area



Photo 3: Outgrown hedge on bank southern edge of site/proposed development area



Photo 4: North western boundary of wider landholding showing Brickkiln Copse and slope, with Tor Grass tussocks in the foreground



Photo 5: Recently cut Bramble and Hawthorn scrub edge of Brickkiln Copse and start of minor watercourse through the Copse



Photo 6: Flushing rich in Rushes, north west corner of site by Brickkiln Copse



Photo 7: Central grasslands on wider landholding, mostly coarse and modified, but with a few patches that are more species rich



Photo 8: Horse Stables, wider landholding



Photo 9: Chicken Sheds, wider landholding



Photo 10: Proposed development area, from site entrance. Fencing showing limits of area

4.4 Protected Species

Birds

4.4.1 Nesting birds are protected under the Wildlife & Countryside Act, with certain species given additional protection (see **Technical Appendix 1**). The site contains woody habitat along the boundaries provides potential nesting habitat for common bird species. Species of conservation concern (Stanbury et al, 2021) noted on or adjacent to the site during the site survey included; Dunnock *Prunella modularis*, House Sparrow *Passer domesticus*, Starling *Sturnus vulgaris* and Song Thrush *Turdus philomelos*, which are likely to breed locally. Off site at Brickkiln Copse, a Marsh Tit *Poecile palustris*, was also recorded.

4.4.2 Within the horse stables was a small amount of old evidence of Barn Owl *Tyto alba* use, with a very old pellet and feather.

4.4.3 The data search has returned records of a number of protected species, including further records of Barn Owl and Marsh Tit in the local area, as well as Curlew *Numenius arquata* in farmland around Red Lodge and Brockhurst Wood.

4.4.4 The habitats present on site are considered to be of **value in zone of influence to local value** for local bird populations. The proposed development area contains a small amount of modified grassland and mature hedges.

Bats

4.4.5 Bats are protected under the Wildlife & Countryside Act and the Habitat Regulations (see **Technical Appendix 1**).

4.4.6 No buildings or trees with potential for roosting bats are present on the proposed development area. It has some foraging potential for bats, particularly the boundaries which comprise mature woody features and some linear connectivity.

4.4.7 Two buildings are present in the wider landholding. These contain low potential for roosting bats, being single skin buildings made of wood, with plastic/tin roofing. The wider landholding contains woodland edge habitat with associated scrub-damp grassland-dry grassland mosaic in the western/north western parts of the site. This is likely to be a good foraging resource for local bat populations.

4.4.8 No bat records have been returned by the Wiltshire Records Centre data search.

4.4.9 Given the above the woody boundary habitats and edges to proposed development area on site are considered likely to be of **value within the zone of influence** to bat populations locally. The wider landholding comprises habitats likely to be of local value to bat populations.

Badgers

4.4.10 Badgers *Meles meles* are protected under the Protection of Badgers Act 1992. Signs of use of the site by Badger were searched for during the site visit. A couple of mammal tracks leading from Brickkiln Copse on to and through the site were noted, which are likely to be used by

Badgers on occasion. Fox *Vulpes vulpes* are also likely to be present on site. No evidence of Setts was noted on or adjacent to the site. The data search has returned a number of Badger records from within 1km of the site.

Dormice

4.4.11 Dormice *Muscardinus avellanarius* and their habitat are protected under the Wildlife & Countryside Act and the Habitat Regulations (see **Technical Appendix 1**). The woody boundaries on the wider landholding contain potentially suitable Dormouse habitat, particularly the north western edge habitats associated with Brickkiln Copse. The hedges within the proposed development area are not directly linked to the woodland to the north west and are isolated by gaps in the wider landscape. The data search has not returned any records of Dormice from within 1km of the site.

Other Mammal Species

4.4.12 The data search has returned records for Brown Hare *Lepus europaeus* and Water Shrew *Neomys fodiens* from within 1km of the site.

Reptiles

4.4.13 Commoner reptile species are protected from harm under the Wildlife & Countryside Act. The proposed development area contains suitable reptile habitat, particularly along the woody boundary margins and banks, but also within the recently unmanaged grasslands, which provide a small amount of suitable habitat structure.

4.4.14 The data search has returned Common Lizard *Zootoca vivipara* from within 1km of the site.

Amphibians

4.4.15 Great Crested Newt *Triturus cristatus* is also afforded protection under the Habitat Regulations (see **Technical Appendix 1**). As per the reptile habitat described above, the proposed development area contains suitable terrestrial amphibian habitat.

4.4.16 The data search has not returned any records of Great Crested Newt from within 1km of the site. The closest record noted is from a 2018 pond survey in Lydiard Millicent School about 2km to the east.

4.4.17 Ordnance Survey (OS) mapping and aerial photography was consulted for ponds within 250m and 500m of the site. Two groups of waterbodies have been identified within 500m from mapping:

- The closest is just c270m south west of the proposed development area, at Koffs Farm. It is a series of three ponds, each about 200m^2. The ponds are associated with the farm and contain no aquatic vegetation. They appear to be part contaminated by slurry run off from cattle;
- Ponding along a flush/minor watercourse heading north through the eastern edge of Brockhurst wood. The wood is part of an SSSI, however the ponds appear to be outside of the SSSI boundary. The ponds are heavily shaded by Willows and woody

vegetation, but contain some aquatic vegetation, mostly dominated by Fool's Watercress *Apium nodiflorum.*

4.4.18 The waterbodies have been scored according to the Habitat Suitability Index (Oldham, 2000) for potential Great Crested Newt breeding ponds. As they are linked ponds, they have been assessed grouped as two waterbodies. The details of the assessment are provided at **Technical Appendix 5**. The waterbodies at Koffs Farm score 'poor' and the waterbodies at Brockhurst Wood score 'good.' These HIS scores were undertaken by viewing the waterbodies from the local public footpath network, so are an initial guide only and taking a precautionary approach in assessment, as no detailed access was possible during the Appraisal visit.

Invertebrates

4.4.19 The wider landholding contains some semi-natural habitats for invertebrates, particularly around the north western part of the site and this habitat is considered to be of **value within the zone if influence to local value** for invertebrates. The proposed development area is dominated by species poor modified grasslands and is of lower value to invertebrates. The scarce butterfly Brown Hairstreak *Thecla betulae* has been recorded within 1km of the site, including the 1km square of the site. It's foodplant is Blackthorn. The site contains only a small amount of Blackthorn.

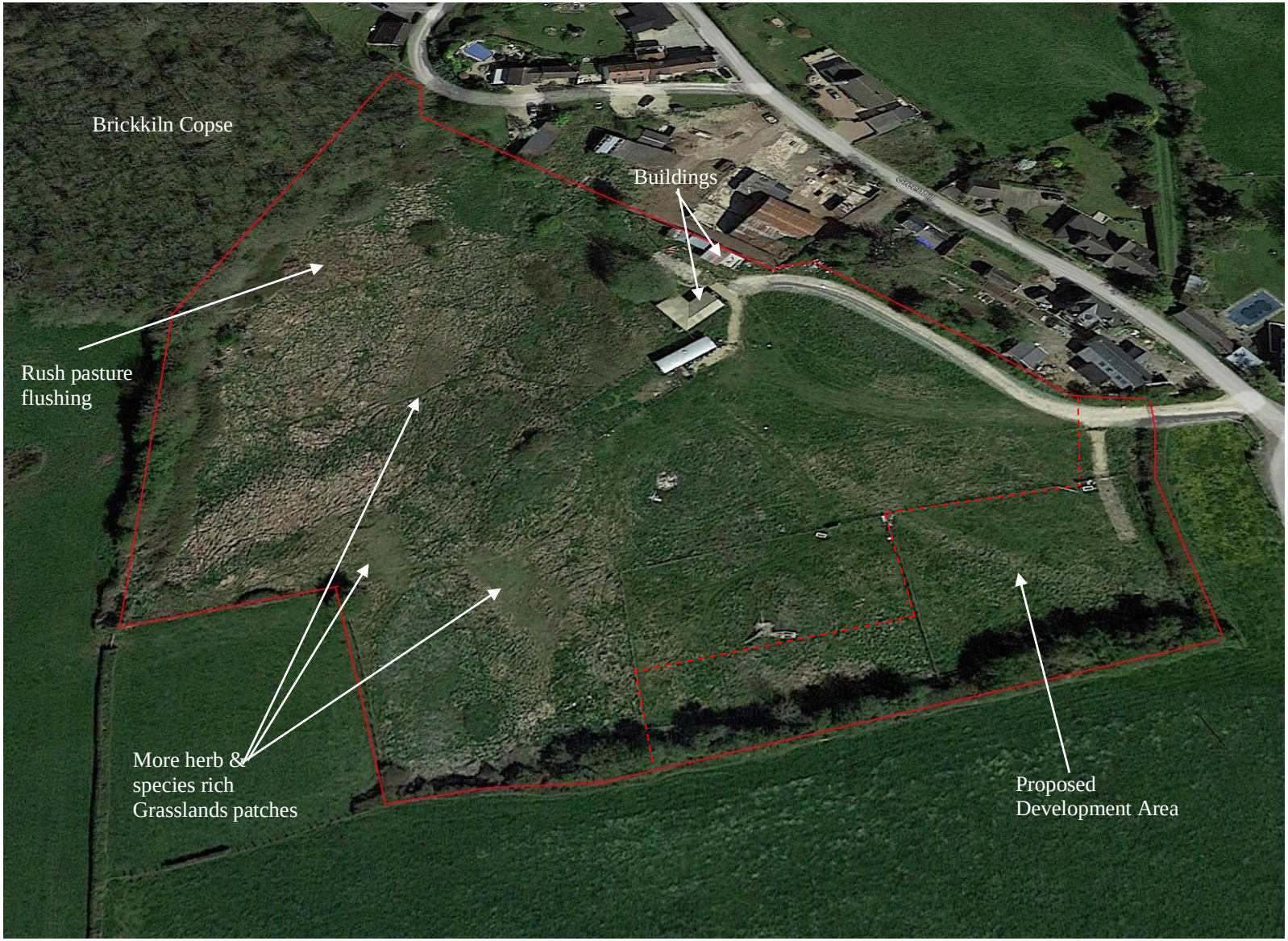


Figure 3: Habitats on Site & Wider Landholding (Image copyright: Google Earth)

5.0 ASSESSMENT OF LIKELY IMPACTS & POTENTIAL FOR MITIGATION

5.1 Introduction

5.1.1 In view of the predicted activities and the resultant biophysical changes associated with the proposal, as described in Sections 2 & 3, and shown at **Figure 2b** above, this section identifies potential ecological impacts within the predicted zone of influence.

5.2 Impacts on Designated Sites

5.2.1 The designated sites are considered to be sufficient distance from the site to provide direct impacts from the likely scheme proposals. Indirect impacts from run off into ditches and minor watercourses should be considered, particularly during construction and ongoing site use. Construction should have regard to pollution prevention guidelines (eg see gov.uk and Environment Agency guidance).

5.2.2 The ancient woodland at Brickkiln Copse LWS is private and not accessible from the wider landholding, being fenced by a stock fence. The north west part of the landholding contains habitats that provide a buffer and compliment to the ancient woodland as edge habitats. It is recommended that these habitats are maintained as lower intensity uses, for example through non-intensive grazing, to allow a mosaic of scrub and damp to dry grasslands.

5.3 Impacts on Habitats & Species on Site

Potential Impacts on Habitats and Vegetation

5.3.1 The development would have a direct impact on a proportion of the species poor modified and high nutrient grassland on site. This habitat is generally of lower intrinsic value for its vegetation composition, and would represent a small non-significant loss of such habitat in the zone of influence.

5.3.2 The adjacent woody boundaries are proposed to be retained. It is recommended that direct impacts are avoided as far as possible, and that boundaries are buffered to ensure that root protection areas of hedges are provided and a strip of grassland is retained as a small edge buffer, to help retain an element of grassland habitat and buffer the woody boundaries.

5.3.3 New woody planting is proposed on the fenced boundary of the development area. It is recommended that this comprises of locally native species, which could include a mix of the following species; Blackthorn, Hazel, Dogwood, Dog-roses, Field Maple *Acer campestre*, Hawthorn, Buckthorn Rhamnus cathartica, Spindle *Euonymus europaeus*.

Potential Impacts on Birds

5.3.4 Woody habitat on site has potential to be used by local bird populations for nesting. It is not anticipated that there will be any loss of woody habitat. However, if such habitat were to be removed during the breeding season there is potential to destroy bird nests, which would be contrary to Section 1 of the Wildlife and Countryside Act 1981 (as amended). Mitigation measures for birds include carrying out works on any woody vegetation at an appropriate time

of year, usually considered to be between September to February. Small amounts of vegetation may be able to be removed at other times of year, but only if it is able to be checked to ensure that no nesting birds are present by a suitably qualified ecologist beforehand.

Potential Impacts on Bats

5.3.5 The mature hedges on site boundaries on the eastern and southern edges of the proposed development area provide some potential foraging and commuting habitats for local bat populations. No direct impacts are predicted on these boundaries.

5.3.6 If any external lighting of the site is required this should consider potential impacts on bats and should be designed to be directional, pointing away from the boundary woody features, to retain dark corridors allowing bats to move along the edges the site and have regard to best practice guidance on bats and external lighting (see BCT & ILP, 2018).

5.3.7 The wider landholding includes two buildings with low bat roost potential. As they are away from the proposed development area, no impacts are predicted. If any works are proposed on these buildings in future a detailed internal/external bat inspection should be undertaken to provide a detailed assessment of roost potential.

Potential Impact on Badgers

5.3.8 No evidence of Badgers Setts was noted during on the site visit, but Badgers are likely to travel through the site. On this basis the following measures are recommended to minimise impacts from construction on the species:

- trenches in excess of one metre in depth should be covered or secured and a means of escape provided for any animal that does fall in (a suitable escape can be provided by wooden planks placed at a 45 degree angle);
- any temporarily exposed open pipe system should be capped in such a way as to prevent Badgers gaining access;
- chemicals and fuels should be stored carefully and as far away from any setts and badger paths as possible, and in accordance with the Code of Construction Practice; and
- any security lighting (if required) should be directed away from any sett protection zones.

Potential Impacts on Dormice

5.3.9 The southern and eastern hedgerow stretch that is directly adjacent to the proposed development area is to be retained and is isolated from substantial blocks of woody habitat at the north western edges of the site around Brickkiln Copse, so are therefore less likely to provide suitable habitat and landscape connectivity to any local populations of Dormice (if present). It is therefore considered unlikely that the development proposals would have an impact on potential Dormouse habitat.

5.3.10 All boundary woody habitat and young growth woody habitat connected to the woodland at Brickkiln Copse has some suitability as potential Dormouse habitat. As this habitat is away

from the proposed development area, no impacts are proposed, and habitat is recommended to be retained as a buffer and mosaic of semi-natural habitats adjacent to the woodland. As with bats, any lighting should also consider potential impacts on boundary habitats.

Potential Impacts on Reptiles

5.3.11 There is potential reptile habitat on site, mostly along the boundaries, and with unmanaged tussocky grassland within the proposed development area, there is potential for use of the main grassland areas. Likely historical use as more intensive farmed land suggests that reptile populations may however be localised.

5.3.12 A reptile survey is recommended in the proposed development area to determine whether reptiles would be directly impacted by the proposals. This would involve use of artificial refugia placed in potential habitat on site and checked in suitable weather conditions on seven visits during the active reptile season (April – Sept).

5.3.13 If reptiles were found to be present a reptile mitigation strategy can be devised to encourage reptiles to move to adjacent retained habitat in the wider landholding through vegetation manipulation, and translocation of remaining animals to adjacent habitats, which would require commitments to managing to retrain suitable reptile habitat.

Potential Impacts on Amphibians

5.3.14 Two small groups of ponds are present greater than 250m but within 500m of the site. The closest waterbody at Koffs Farm scores poor under the HIS criteria. The further waterbody at Brockhurst Wood scores good, but this waterbody is 370m from the site, with suitable woodland habitat present between the site and the waterbody group. Both waterbodies are outside the core 250m radius newts will travel from a pond, but within the 500m radius for survey, and both waterbodies have no substantial barriers of movement from the site to the waterbody.

5.3.15 It is recommended that where landowner access is possible, Great Crested Newt survey work should be undertaken on the waterbodies to determine whether Great Crested Newt are present within proximity of the proposed development area. This can be through standard survey work undertaking 4-6 visits during April-June (with at least 2-3 within the period 15 April – 15 May), or through eDNA sampling of the waterbodies. For Natural England to accept a negative result on an eDNA sample it needs to have been collected during the period 15 April – 30 June. If eDNA records a positive result, standard survey work would be required over 6 visits, as described above, to determine population levels to undertake an impact assessment of a proposed development.

5.3.16 The site also falls within a District Licensing zone for Great Crested Newt. An application through this process can be undertaken to determine the zone the proposed development area lies within, and level of mitigation likely to be required. If this approach is taken, no additional Great Crested Newt survey work (as described in 5.3.15) need be undertaken on site (see Natural England District Level Licensing).

Potential Impacts on Invertebrates

5.3.16 The proposed development area contains modified grassland of lower value to invertebrates. The woody boundary vegetation is being retained, and therefore no significant impacts are proposed. Given the presence of the localised Brown Hairstreak locally, it is recommended that any new hedge planting contains the butterflies foodplant, Blackthorn *Prunus spinosa.*

5.4 Potential for Additional Mitigation in Masterplanning

5.4.1 A future development can provide mitigation/biodiversity gain through the following potential measures, a combination of these would provide benefits to biodiversity in the local area. The development should aim to provide no net loss to biodiversity, and some biodiversity gain:

- Protection and buffering of boundary habitats, and continuing reduced management of hedges/woody strips to allow bushy shrubs of value to wildlife and a grassland edge to the woody habitat (and therefore providing habitat potential protected species discussed above);
- Provision of new native species continuous woody hedgerow vegetation around the edge of the proposed development area as shown on the Masterplan and to broad specifications described above;
- Provision of bird and bat boxes suitably located by an ecologist;
- Any management of the wider landholding or habitat creation and landscaping in the proposed development area has input from a qualified and experienced ecologist so that maximum wildlife benefit can be built into the proposals to manage the landholding into the future.

6.0 CONCLUSIONS

6.1 An Ecological Appraisal was undertaken of the site with a site visit in April 2022. The site comprises a grassland bounded by mature woody boundary vegetation. Potential for protected species and species of conservation has been considered and the zone of influence contains a number of ecological features and protected species. Potential for impacts are highlighted on protected species and habitats of local value, and recommendations are provided for mitigation and further survey.

7.0 REFERENCES

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Technical Appendix 1
Wildlife & Countryside Act
Habitats Regulations and Schedule 2 Species
Natural Environment & Rural Communities Act 2006

WILDLIFE & COUNTRYSIDE ACT 1981 (AS AMENDED)

The Wildlife and Countryside Act 1981 (as amended) (WCA) is the principle legislation in Britain for the protection and conservation of our wildlife and its habitats of national importance. The legislation adopts a habitat and species based approach to nature conservation. Habitats and some species are protected in designated Sites of Special Scientific Interest (SSSI). Other species are afforded some protection from harm or disturbance by way of inclusion in either Section 1 (birds), Schedule 1 (specially protected birds), Schedule 5 (specially protected animals) or Schedule 8 (specially protected plants).

Protection Afforded to SSSIs

The presence of an SSSI on or near to a development is a material consideration, and this is discussed further in planning policy (see National Planning Policy Framework)

Law Relating to Protected Species

The WCA provides protection to such species in Part 1 of the Act. These sections provide protection from intentionally:

- killing, injuring or taking any wild bird or taking, damaging or destroying the nest or eggs of a wild bird
- disturbing any wild bird in Schedule 1 whilst building, on or near a nest, or disturbing dependant young of such birds
- damaging, destroying or obstructing access to any structure or place of shelter or protection of a schedule 5 animal, or disturbs any such animal whilst it is occupying a structure or place it uses for that purpose
- killing, injuring or taking any animal listed in Schedule 5
- Having in procession or control any live or dead wild bird or egg, or any wild animal in Schedule 5, or trading in any animal under Schedule 5.
- Damage to plants listed in Schedule 8 or uprooting of wild plants unless an authorised person.

Exemption and licences for development can be obtained in certain circumstances. Protected species are also a material consideration in planning applications.

Disturbance & Recklessness

The Countryside and Rights of Way Act 2000 (CRoW Act 2000) adds to protected species legislation in the WCA. The lesser test of 'Recklessness' is added to the protection from disturbance in three circumstances. These are:

- disturbance to Schedule 1 birds and their nests, eggs and dependant young,
- disturbance to Schedule 5 animals in their place of shelter/protection, and
- disturbance to the places of shelter/protection of Schedule 5 animals.

This addition means that any person who deliberately takes an unacceptable risk or fails to notice an obvious risk is falls under the Section irrespective of intention. The CRoW Act also provides greater protection to SSSIs from operations (and non operations) of owners, occupiers and third party users of the SSSI.

For further information see: https://www.legislation.gov.uk/ukpga/1981/69

HABITAT REGULATIONS 2017

General

The Conservation of Habitats and Species Regulations 2017 ('The Habitat Regulations') consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law. They also transpose elements of the EU Wild Birds Directive in England and Wales. The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.

European Protected Species

Species listed under Annex II of the Habitats Directive were formally afforded protection by the Habitat Regulations. European protected species include the great crested newt, dormice and all species of bats. The provision relating to wild animal offences is reproduced below:

Protection of certain wild animals: offences
43.—(1) A person who—
(a) deliberately captures, injures or kills any wild animal of a European protected species,
(b) deliberately disturbs wild animals of any such species,
(c) deliberately takes or destroys the eggs of such an animal, or
(d) damages or destroys a breeding site or resting place of such an animal,
is guilty of an offence.

(2) For the purposes of paragraph (1)(b), disturbance of animals includes in particular any

disturbance which is likely—
(a) to impair their ability—
(i) to survive, to breed or reproduce, or to rear or nurture their young; or
(ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
(b) to affect significantly the local distribution or abundance of the species to which they belong.
(3) It is an offence for any person—
(a) to be in possession of, or to control,
(b) to transport,
(c) to sell or exchange, or
(d) to offer for sale or exchange,
anything to which this paragraph applies.
(4) Paragraph (3) applies to—
(a) any live or dead animal or part of an animal—
(i) which has been taken from the wild, and
(ii) which is of a species or subspecies listed in Annex IV(a) to the Habitats Directive; and
(b) anything derived from such an animal or any part of such an animal.
(5) Paragraphs (1) and (3) apply regardless of the stage of the life of the animal in question.
(6) Unless the contrary is shown, in any proceedings for an offence under paragraph (1) the animal in question is presumed to have been a wild animal.
(7) In any proceedings for an offence under paragraph (3), where it is alleged that an animal or a part of an animal was taken from the wild, it is presumed, unless the contrary is shown, that that animal or part of an animal was taken from the wild.
(8) A person guilty of an offence under this regulation is liable on summary conviction to imprisonment for a term not exceeding six months or to a fine, or to both.
(9) Guidance as to the application of the offences in paragraph (1)(b) or (d) in relation to particular species of animals or particular activities may be published by—
(a) the appropriate authority; or
(b) the appropriate nature conservation body, with the approval of the appropriate authority.
(10) In proceedings for an offence under paragraph (1)(b) or (d), a court must take into account any relevant guidance published under paragraph (9).
(11) In deciding upon the sentence for a person convicted of an offence under paragraph (1)(d), the court must in particular have regard to whether that person could reasonably have avoided the damage to or destruction of the breeding site or resting place concerned.

Section 44 provides certain defences to the above.

The granting of a licence under Part 5 Section 55 of the Habitat Regulations

In order to carry out a lawful operation (e.g. development work which has full planning permission) that may result in any of the offences above, it is necessary to obtain a licence from Natural England to allow the operation to proceed.

However, in accordance with the requirements of the Habitats Regulations, a licence can only be issued after the following conditions have been satisfied:

- *that there is no satisfactory alternative, and*
- *that the action authorized will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.*
- *that the action is required in preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;*

Full planning permission is required to apply for a Natural England licence (where such a consent is necessary for the work to be carried out). In addition, a method statement which details the survey results, methodology of work to be undertaken, mitigation and compensation measures, must be submitted to Natural England with the licence application.

Plans and Projects & Designated Sites

The Regulations provide procedure whereby designated SAC or SPA and other European Protected Sites are afforded protection from plans and projects that may be likely to have a significant effect on the Features for which these sites are designated. Where a significant effect is considered likely in-combination with other projects an appropriate assessment is required to be undertaken. Details of this procedure can be found at Part 6 of the Act onwards, see link below.

For Full details of the 2017 Habitat Regulations see:
http://www.legislation.gov.uk/uksi/2017/1012/pdfs/uksi_20171012_en.pdf

NATURAL ENVIRONMENT AND RURAL COMMUNITIES ACT 2006

This Act places a specific duty to conserve biodiversity on all public bodies, including Local Planning Authorities. In order to aid with this process Section 41 of the Act requires the Secretary of State to publish lists of living organisms and habitats which are of principal importance for the purpose of conserving biodiversity. These are the national Biodiversity Action Plan (BAP) lists, and BAP projects are also undertaken at a County, Borough or District level.

For further information see: https://www.legislation.gov.uk/ukpga/2006/16/part/3

ENVIRONMENT ACT 2021

Royal Assent 9 November 2021

The Environment Act 2021 has recently received Royal Assent and will introduce a number of nature conservation initiatives. These include Biodiversity Net Gain assessments. The following measures are part of the Act (see Gov.UK, 2021):

- Strengthened biodiversity duty;
- Biodiversity net gain to ensure developments deliver at least 10% increase in biodiversity;
- Local Nature Recovery Strategies to support a Nature Recovery Network;
- Duty upon Local Authorities to consult on street tree felling;
- Strengthen woodland protection enforcement measures;
- Conservation Covenants;

- Protected Site Strategies and Species Conservation Strategies to support the design and delivery of strategic approaches to deliver better outcomes for nature;
- Prohibit larger UK businesses from using commodities associated with wide-scale deforestation;
- Requires regulated businesses to establish a system of due diligence for each regulated commodity used in their supply chain, requires regulated businesses to report on their due diligence, introduces a due diligence enforcement system;
- Long-term targets to improve air quality, biodiversity, water, and waste reduction and resource efficiency;
- A target to halt the decline of nature by 2030;
- Environmental Improvement Plans, including interim targets;
- A cycle of environmental monitoring and reporting;
- Environmental Principles embedded in domestic policy making;
- Office for Environmental Protection to uphold environmental law;
- Air and Water pollution measures.

For further information see:
https://www.legislation.gov.uk/ukpga/2021/30/pdfs/ukpga_20210030_en.pdf

Biodiversity Net Gain under the Environment Act

Mandatory biodiversity net gain in England is likely to become law in 2023 (through amendments to the Town & Country Planning Act). The key measures include (see eg Gov.uk & Local.gov.uk):

- Minimum 10% gain required using Biodiversity Metric;
- Habitat secured for at least 30 years via obligations/ conservation covenant;
- Habitat can be delivered on-site, off-site or via statutory biodiversity credits;
- Creation of a national register for net gain delivery sites;
- Continued use of mitigation hierarchy - avoid, reduce, off-set (mitigation and compensation);
- Will apply to Nationally Significant Infrastructure Projects (NSIPs)
- Will not apply to marine development;
- Works alongside existing legal environmental and wildlife protections.

Technical Appendix 2

Local Planning Policy

Wiltshire Core Strategy 2015

Core Policy 50

Biodiversity and geodiversity

Protection

Development proposals must demonstrate how they protect features of nature conservation and geological value as part of the design rationale. There is an expectation that such features shall be retained, buffered, and managed favourably in order to maintain their ecological value, connectivity and functionality in the long-term. Where it has been demonstrated that such features cannot be retained, removal or damage shall only be acceptable in circumstances where the anticipated ecological impacts have been mitigated as far as possible and appropriate compensatory measures can be secured to ensure no net loss of the local biodiversity resource, and secure the integrity of local ecological networks and provision of ecosystem services.

All development proposals shall incorporate appropriate measures to avoid and reduce disturbance of sensitive wildlife species and habitats throughout the lifetime of the development.

Any development potentially affecting a Natura 2000 site must provide avoidance measures in accordance with the strategic plans or guidance set out in paragraphs 6.75-6.77 above where possible, otherwise bespoke measures must be provided to demonstrate that the proposals would have no adverse effect upon the Natura 2000 network. Any development that would have an adverse effect on the integrity of a European nature conservation site will not be in accordance with the Core Strategy.

Biodiversity enhancement

All development should seek opportunities to enhance biodiversity. Major development in particular must include measures to deliver biodiversity gains through opportunities to restore, enhance and create valuable habitats, ecological networks and ecosystem services. Such enhancement measures will contribute to the objectives and targets of the Biodiversity Action Plan (BAP) or River Basin/ Catchment Management Plan, particularly through landscape scale projects, and be relevant to the local landscape character.

Local sites

Sustainable development will avoid direct and indirect impacts upon local sites through sensitive site location and layout, and by maintaining sufficient buffers and ecological connectivity with the wider environment. Damage or disturbance to local sites will generally be unacceptable, other than in exceptional circumstances where it has been demonstrated that such impacts:

i. cannot reasonably be avoided

ii. are reduced as far as possible

iii. are outweighed by other planning considerations in the public interest

iv. where appropriate compensation measures can be secured through planning obligations or agreements.

Development proposals affecting local sites must make a reasonable contribution to their favourable management in the long-term.

Technical Appendix 3

Ecological Appraisal Method

Introduction

The methodology for this appraisal is based on the Guidelines for Ecological Impact Assessment (EcIA) in the United Kingdom published by the Chartered Institute of Ecology and Environmental Management (IEEM June 2006, CIEEM 2016). Regardless of whether a statutory Environmental Impact Assessment is required, these guidelines provide a robust framework for ecological assessment at any scale.

Desk Study

The first stage of the appraisal is a desk study of the proposed development site and associated Zone of Influence. This provides background information on the site and local environment so as to more effectively target field survey and further desk research.

The Multi Agency Geographical Information for the Countryside (MAGIC) database is searched for information regarding nationally or internationally designated sites within proximity of the development site.

The National Biodiversity Network (NBN) data base is searched to provide background information on local protected species records. The NBN provides access to a substantial volume of biodiversity data for the UK. Although rarely site specific, it does provide valuable background information on the local occurrence of protected species.

Where appropriate, the local environmental/biological records centre is consulted to provide information regarding locally identified sites and records of protected and/or notable species within the zone of influence of the proposed development.

Site Survey Methodology

The aims of the survey are to record land-use and broad vegetation types present on the site and in the surrounding areas, and to evaluate the habitats and vegetation communities ecological value along with the potential to support protected species, species of principal importance, and any other notable species.

Where relevant, habitat immediately adjacent to the site is also assessed as this can have a bearing on the possible presence of protected species on the site and the ecology of adjacent areas can be affected by development nearby.

Habitats and Vegetation

Habitats and vegetation communities are recorded on a broad scale by visually noting contrasting land uses, vegetation zones and landscape features, such as hedgerows and trees. Dominant plant species are recorded in each of the areas identified, as are any notable plant species, such as protected species and habitats or notifiable weeds.

Protected Species

Many plant and animal species are legally protected in the UK. Some, such as bats, badger, water vole and great crested-newt are commonly encountered on development sites.

Case law has established (Regina vs. The Cornwall County Council ex parte Hardy 2001) that "It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted.

For the most regularly encountered protected species, a brief summary of methods follows:

Bats

Bats use buildings and trees for roosting and breeding, and so the potential for any of these features on site to support bats was considered, as was the sites potential for providing bat foraging habitat. An Appraisal survey will consider potential features that could support a Bat roost, and this may include external inspections of the trees and buildings on site. The Appraisal survey will also consider bat habitats in relation to foraging and commuting potential, with semi-natural vegetation features considered and evaluated.

Where an inspection is undertaken this will look for the presence of bats as well as signs of their presence such as Bat droppings, e.g. within cavities and buildings; Staining at potential roost access points; Lack of bat evidence cannot be taken to mean the lack of use by bats because of a number of potential limitations:

- Signs of bats can be easily washed off by wind or rain;
- Droppings are hard to see where rubble and other floor debris may obscure them;
- Low numbers of droppings can easily be missed especially where they may become damp and deteriorate;
- Evidence of bats may not be apparent where bats roost out of view, such as in tree cavities etc.

Badgers

An initial inspection is undertaken during the Appraisal survey for evidence of the presence of Badgers *Meles meles*, in particular Badger setts, on or near to the site. The Appraisal will search for presence of Badger foraging activity and territorial behaviour. Such signs include foraging trails, foraging scrapes in short grass, which are commonly known as 'snuffle holes' (shallow scrapes in soft ground or even turf rolling created by foraging for ground-dwelling invertebrates such as worms and grubs), footprints, hairs caught under fences, sett entrances, and latrine sites.

Dormice

The Appraisal survey will consider the potential for presence of Dormouse on or near the site, principally through habitat suitability, combined with data on occurrence within the area from the data search. Where suitable habitat occurs, further survey for feeding signs on hazel nuts where Hazel occurs, and searches for arboreal nests. If it a site is considered suitable, further Phase 2 survey work may be required.

Other Mammals

Consideration is also given in an Appraisal survey to the potential for habitats to support other legally protected mammals, and those of nature conservation significance. Where waterbodies and watercourses occur on or near to the site, the potential presence of species including Water Vole *Arvicola amphibious* and Otter *Lutra lutra* are considered. Depending upon the geographic location consideration is also given to species such as Red Squirrel.

Breeding Birds

Any notable bird species seen during the Appraisal survey are recorded. The type and quality of breeding, foraging and roosting habitats available for birds is also considered and interpreted with particular reference to protected or notable bird species, and birds of conservation concern.

Consideration is given to any features which could support nesting birds, including buildings and other structures, and areas of vegetation that may be affected by a development.

Reptiles

Any areas of habitat considered suitable for supporting reptiles are noted (for example, areas of rough grassland and scrub, banks, burrows, and rubble piles, compost heaps). If it a site is considered suitable, further Phase 2 survey is usually required if an impact from the development or project is considered likely.

Great Crested Newt

An Appraisal Survey considers habitat suitability, through the occurrence of suitable ponds and/or terrestrial habitat, and this will be combined with knowledge on their distribution from biological records for the area. If it a site is considered suitable, further Phase 2 survey is usually required if an impact from the development or project is considered likely.

Invertebrates

A very small proportion of invertebrates are afforded legal protection under the Wildlife and Countryside Act 1981 (as amended), although a relatively high number of invertebrates are included within the UK and local BAPs, and many more species are identified as being Nationally Scarce. Most invertebrates require specialist knowledge in order to identify them, although some groups, including butterflies and dragonflies, can be readily identified by generalists. Therefore, apart from recording any species of these readily identifiable groups, an Appraisal Survey concentrates on recording the presence of any key habitats of nature conservation importance considered suitable for supporting more scarce and restricted invertebrates, for example bare ground, dead wood and botanically rich habitats.

Survey Constraints and Limitations

An Appraisal survey is carried out during a brief window of time. Therefore the survey can only provide a snapshot of the range of plants and animals that might be present. However, professional judgement is used to interpret the habitat features recorded, and their likely value for supporting protected and notable species, including species of principal importance. Survey can also be restricted through land access as it is unusual to have a landowner owning land surrounding that which is being surveyed.

Assessment Guidelines

Introduction

The IEEM guidelines (2006) and updated in 2016 (CIEEM, 2016) provide three principal reasons for an ecological feature being valued and therefore included: biodiversity value, social/community value, and economic value.

The evaluation and assessment undertaken assigns one of a number of value labels based on a geographic scale as follows:

- International
- National
- Regional
- County
- District
- Local (Parish)
- Within the zone of influence

Value is determined with reference to the following factors:

- level of designation (sites) or biodiversity-based protection (legal and policy);
- biodiversity value (e.g. inclusion in Biodiversity Action Plans, rarity, position in ecosystem, assemblages and communities, size and diversity);
- social and economic value;
- legal issues (eg protected sites).

All impacts of the scheme on features of local importance or greater are assessed in the impact assessment stage

Assessment of Likely Impacts

The ecological impact assessment methodology used is based on the following considerations.

Characterisation of Likely Impacts

The potential impacts identified as a result of the proposals are characterised according to the following parameters:

- Positive or negative
- Magnitude (and extent if not synonymous)
- Duration
- Reversibility
- Timing and frequency

Significance of Impact

A significant impact on a valued ecological feature (whether negative or positive) is defined in CIEEM's guidelines as an impact on the integrity of a defined site or ecosystem, and/or the

conservation status of habitats or species within a given geographical area. These terms are defined below.

Integrity

Integrity is defined as follows. '*The integrity of a site is the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified*.' A site or ecosystem that achieves this is considered to be at favourable conservation status.

Conservation Status

For habitats, conservation status is determined by the sum of the influences acting on the habitat and its typical species, which may affect its long-term distribution, structure and functions as well as the long-term survival of its typical species within a given geographical area.

For species, conservation status is determined by the sum of the influences acting on the species, which may affect the long-term distribution and abundance of its populations within a given geographical area.

Impact Prediction

For guidance as to whether an impact is likely to result in an adverse effect on the integrity or conservation status of a feature, reference has been made to the conservation objectives for that feature where they are available, for example in habitat and species action plans. Otherwise professional judgement has been made based on available information.

The confidence in the prediction that an activity will give rise to a significant adverse impact on a valued ecological feature is given based on a four point scale:

- Certain (or near-certain);
- Probable;
- Unlikely; and
- Extremely unlikely

Drawing Assessment Together

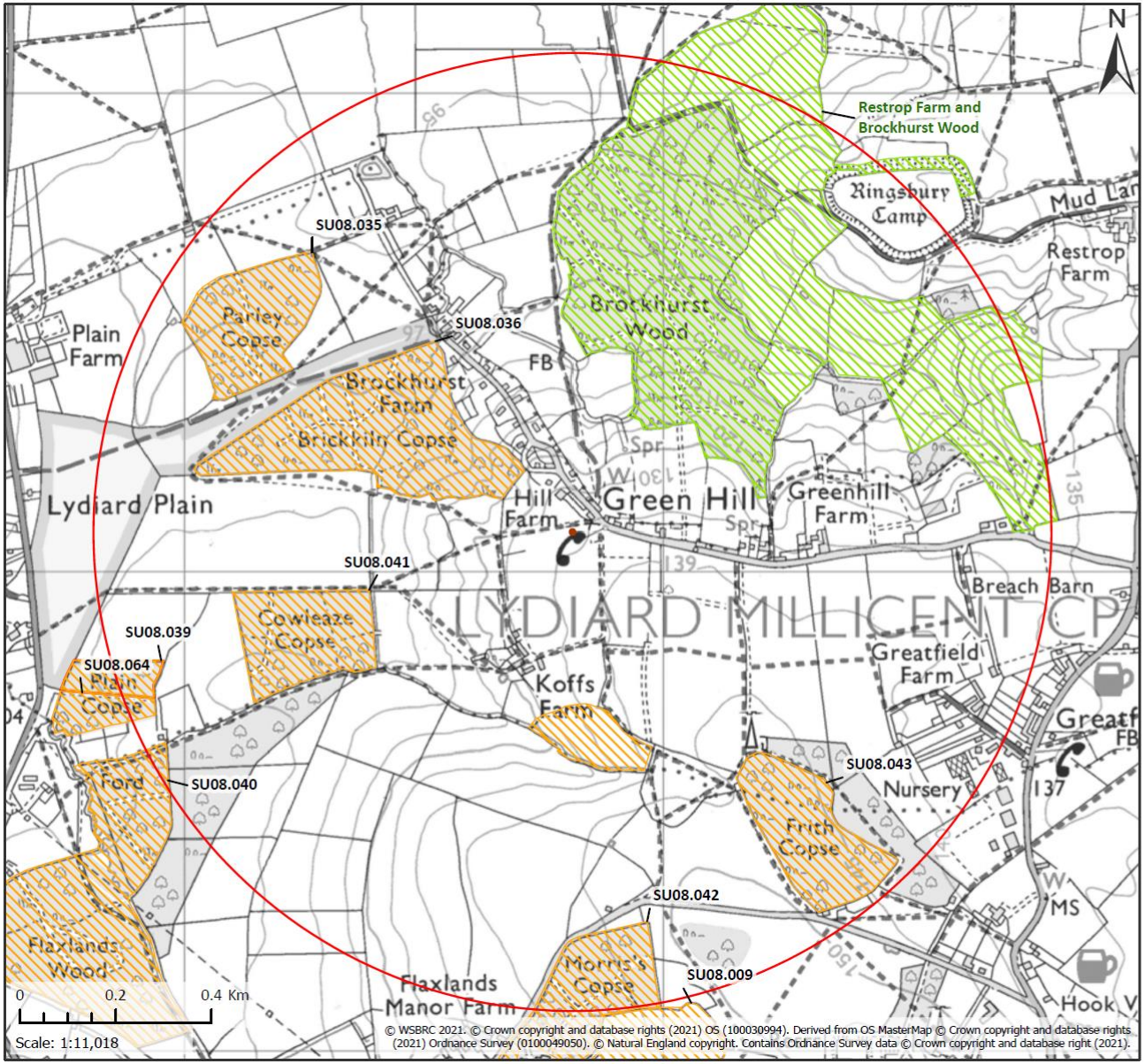
The above factors – value, integrity and conservations status of the feature, prediction and characterisation of the impact and overall significance of the impact is brought together in the final assessment. This is done without additional mitigation measures that may be proposed. An impact is then summarised as significant or not.

Mitigation, Compensation and Enhancement

Where impacts are characterised as significant mitigation or compensation may be offered to prevent, reduce or offset such impacts. In addition enhancement measures may be built into a scheme to ensure that the scheme is compliant with the proactive measures outlined in the latest Government policy on nature conservation (National Planning Policy Framework).

Technical Appendix 4

Data Search Information
Wiltshire & Swindon
Biological Records Centre



WSBRC | Wiltshire & Swindon Biological Records Centre

Wildlife Sites Within 1 km of The Clay Pit: SU0681086083

13/04/2022

- Search Area
- Wiltshire Wildlife Trust Reserve
- Site of Special Scientific Interest
- National Nature Reserve
- Special Area of Conservation
- Special Protection Area
- Local Nature Reserve
- Local Wildlife Sites
- Local Geological Site
- Protected Road Verge
- Woodland Trust Reserve (boundary information only)
- Bat Consultation Zone

Technical Appendix 5

Pond Habitat Suitability Index

Habitat Suitability Index Assessment For Great Crested Newt

Habitat Suitability Index (HSI) scoring system has been developed to provide an indication of the likely value of a waterbody to Great Crested Newt. It was initially developed by Oldham et al (2000). The methodology has been adapted by the Amphibian and Reptile Groups of the UK (see ARG UK, 2010). The index is a measure of habitat suitability. Ponds with a high HSI score are more likely to support Great Crested Newt than those with a low score. HSI is therefore useful to (see ARG UK, 2010):

- Evaluate general suitability of a pond, or ponds for Great Crested Newt,
- Compare general suitability of ponds across different areas,
- Evaluating suitability of receptor ponds in a proposed mitigation scheme,
- Identifying habitat management priorities.

The HSI scoring system is graded in five steps from poor – below average – average – good – excellent.

Table A1 below provides details of a HSI assessment for the waterbodies identified. This is based on briefly viewing the waterbodies from public rights of way only.

Table A1: HSI Assessment

HSI Criteria	**Waterbody: Koffs Farm**	**Waterbody: Brockhurst Wood**
1 – Geographic Location	1	1
2 – Pond Area	c600m^2 = 1	C800m2 =1
3 – Permanence	Never Dries = 0.9	Never Dries = 0.9
4 – Water Quality	Bad = 0.01	Moderate = 0.67
5 – Shade	50% = 1	100% = 0.2
6 – Waterfowl	Minor = 0.67	Minor = 0.67
7 – Fish	Absent = 1	Absent =1
8 – Pond Count in 1km	4 = 1	4 = 1
9 – Terrestrial Habitat	Poor = 0.33	Moderate = 0.67
10 – Macrophyte Cover	0 = 0.3	90% =0.9
Score: (Sum of 1-10)$^{0.1}$	**0.48 (poor)**	**0.74 (good)**

References

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10(4), 143-155