



Main Street, Styrrup



Preliminary Ecological Appraisal Report

30/08/2023

Faith Homes Ltd.



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Author	Rob Weston BSc (Hons) MSc MCIEEM Technical Director
Technical Review	Peter Brooks BSc (Hons), MA CIEEM, CEnv Managing Director
QA	Jon Roberts MSci (Hons) Biodiversity Technician
Authorised	Peter Brooks BSc (Hons), MA CIEEM, CEnv Managing Director
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Unit A, 1 Station Road, Guiseley, Leeds, LS20 8BX
 Phone: 01943 884451
 01943 879129
www.brooks-ecological.co.uk
 Registered in England Number 5351418

Contents

Introduction.....	1
Desk Study	2
Designated Sites.....	3
Survey.....	4
Habitat Appraisal.....	4
Faunal Appraisal.....	9
Ecological Opportunities.....	14
Conclusions and Recommendations	15
References.....	16
Appendix 1 Habitats and Ecological Features	17
Appendix 2 List of species recorded	18
Appendix 3 Explanatory Notes and Resources Used	20
Appendix 4 Bat Activity Survey Rationale	22
Appendix 5 Wildlife Legislation, Policy and Guidance.....	23



Summary

This report is produced to inform Faith Homes Ltd. of potential ecological constraints associated with their proposed development site and the need for further reporting or output to support a planning application.

This report is based on a desk study of designated wildlife sites and records of protected or notable species, and an extended Phase 1 Habitat Survey carried out in July 2023.

Key Findings

The Site is a small section of abandoned farmland, gradually being colonised by scrub. It is of generally low ecological value. Beyond the recommended retention of established trees, ecological constraints have not been identified at the Site.

Biodiversity Net Gain

Details on measurement of the Site's biodiversity and the implications of complying with the requirement to provide a net gain for biodiversity are provided in our separate report ER-7053-02.

Further surveys

Further surveys have not been recommended.

Introduction

1. Brooks Ecological Ltd was commissioned by Faith Homes Ltd. to carry out a Preliminary Ecological Appraisal (PEA) of land at Main Street, Styrrup, grid ref. SK606904
2. This report is produced with reference to British Standard BS:42020 'Biodiversity Code of Practice for Planning and Development' and the CIEEM (2017) Guidelines for Preliminary Ecological Appraisal.

Purpose of a PEA

3. A PEA is an *initial assessment* of the baseline for a proposed development site and establishes whether the Site is likely to be constrained by ecology, and whether more information is needed to identify the ecological baseline.
4. The subsequent Preliminary Ecological Appraisal Report (PEAR) is intended to give guidance to a developer and assist with the early stages of project planning and design. Where a site is not complex or constrained, and no additional ecological input is necessary, the PEAR *may* be sufficient and suitable to support a planning application.
5. Biodiversity Accounting metrics are used separately to quantify the value of a Site in Biodiversity Units, which helps in the later stage of assessing the ecological impacts of the proposed development. This process is set out separately in the Biodiversity Gain Report which accompanies this PEAR.

Proposals/Reason for PEA

6. The PEA has been commissioned to inform proposals to develop this small Site for housing.

The Site

7. The application site 'the Site' comprises a small plot of former pasture/farmland just off the Main Street through the linear village of Styrrup.

Figure 1 The Site (red line boundary).



Desk Study

- The assessment uses a 2km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.

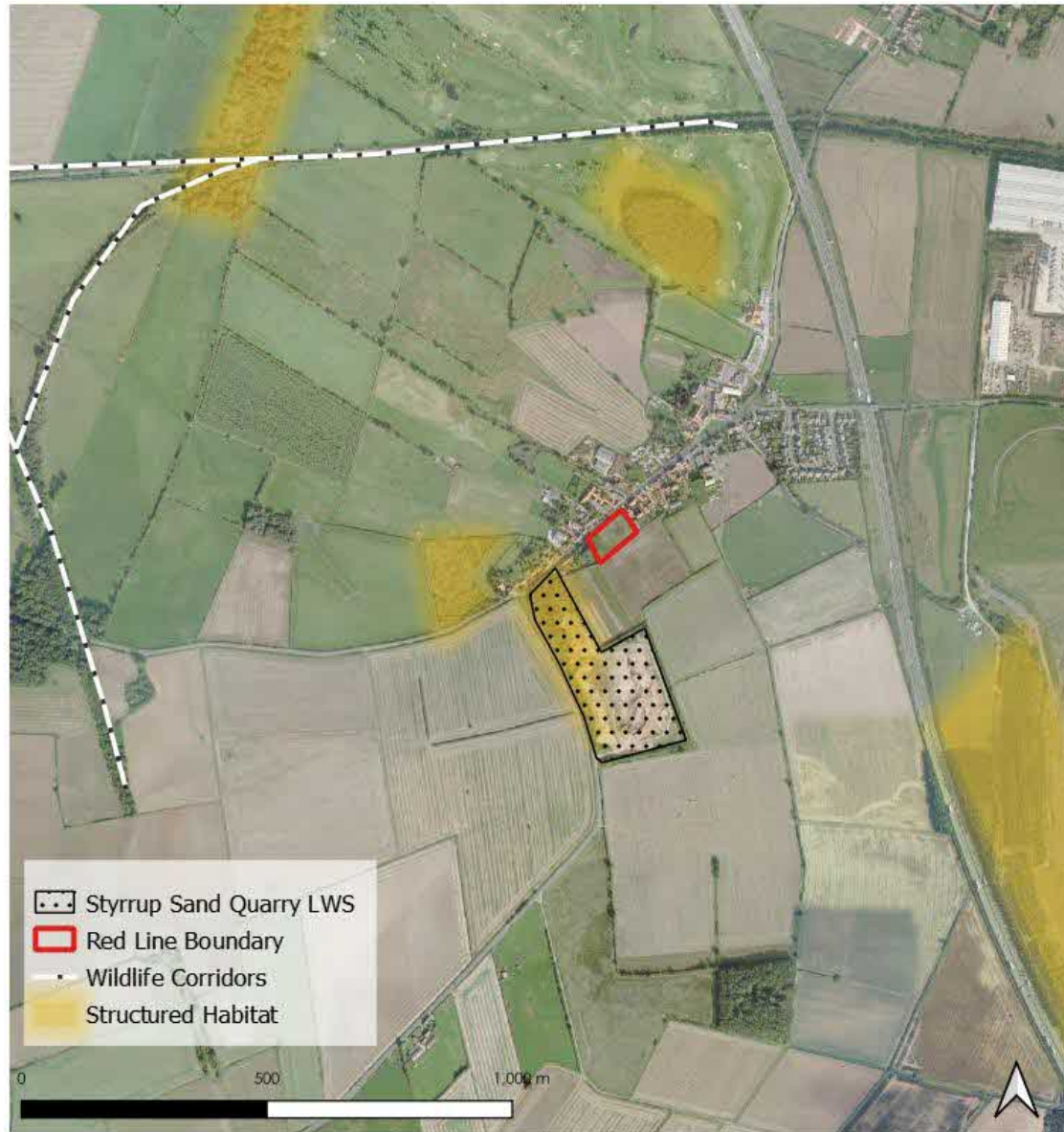
Landscape

- The Site is located just south of the main street through the linear settlement of Styrrup, south of Doncaster. Although immediately bordered by other development, this soon gives way to expansive arable agriculture with fields bounded by a disjointed network of hedgerows and ditches.
- The Site overlies the Triassic sandstones of the Chester Formation, likely to give rise to sandy, well-drained soil conditions. There is some potential for the influence of nearby Magnesian Limestone deposits to be found here also.

Wildlife Corridors

- The Site is not linked to any obvious wildlife corridors, the nearest being wooded sections of the old railway network to the north and west.
- The A1 motorway c.500m east is likely to present a major barrier to movement of wildlife traversing the area.

Figure 2 Analysis of wildlife corridors and structured habitat visible on mapping in relation to the Site.



Designated Sites

Statutory Designations

13. A search has been made to identify any nationally designated sites within a 2km radius of the Site, or internationally designated sites within a 10km radius. The results are shown in the below table.

Table 1 Statutory Designated Sites.

Site Name	Distance from Site	Designation	Summary Interest
Styrrup Quarry	95m W	Site of Special Scientific Interest (SSSI)	Exposed Triassic sediments – geology

SSSI Impact Risk Zones (IRZs)

14. The Site lies within the IRZ for the Dyscarr Wood SSSI but does not fall into any of the highlighted categories which require the LPA to consult with Natural England in relation to potential impacts.

Non-Statutory Designations

15. There are several Local Wildlife Sites in the search area. Of these only one is of potential relevance to the application:
16. 5/2163 Styrrup Sand Quarry LWS is located c.95m west of the Site at its nearest point (see Figure 2 above). This designation is a part-active quarry providing successional habitat from bare ground to woodland and supporting a range of specialist species. The Site does not share any of these habitat types or provide habitat for specialist species – impacts on the LWS interests would not be expected. There is no public access to the LWS and the proposals would not introduce any additional footfall/disturbance to the Site.
17. Direct and indirect impacts on all remaining sites as a result of this development are unlikely due to the Site's separation and distance.

Nature Improvement Area

18. The Site is not within any Nature Improvement Area.

Wildlife Habitat Network

19. The Site is not within any mapped Wildlife Habitat Network.

Granted EPSM Licences

20. There are no granted European Protected Species Mitigation (EPSM) licences shown within 1km of the Site.

Survey

21. The survey was carried out during July 2023¹ and followed the principles of Extended Phase 1 Habitat Survey methodology (JNCC, 2010).
22. Enough time was afforded the surveyor to carry out the survey. The survey was not constrained by poor weather.
23. Whilst the majority of the Site was accessible, at least 10% of the Site was inaccessible due to very dense vegetation, which could not be closely inspected. This could have concealed invasive species or protected species evidence.

Habitat Appraisal

24. The Site's habitats are described in order on the following pages. In line with the requirement to provide information on Biodiversity Net Gain (BNG), habitats are named in accordance with the UK Habitats classification system. We have used the relevant UKHabs guidance in identifying habitats. Habitat descriptions are divided into the 'distinctiveness' categories used in the calculations presented in the Biodiversity Gain Assessment, with more weight being afforded the more distinctive/important habitats.
25. Generally, the following apply to each tier of distinctiveness, although some authorities might highlight some lower distinctiveness habitats as having a higher importance locally. Where relevant we have highlighted these.

Very Low Distinctiveness Habitats

26. Habitats of little or no habitat value, i.e., lacking any significant native vegetation, but could still provide supporting habitat for protected or notable fauna such as birds or bats. In the context of BNG, their areas are included in calculations, but mitigation or compensation is not required.

Low Distinctiveness Habitats

27. Habitats which are ubiquitous, often which have been created or modified intentionally. They tend to lack diversity of species and structure. They are unlikely to support notable flora but could still provide supporting habitat for protected or notable fauna. In the context of BNG, they are included in calculations, but compensation/mitigation needs only to provide habitat of similar or higher distinctiveness.

Medium Distinctiveness Habitats

28. Habitats which are common but provide a higher level of structural and species diversity. Though unlikely to support more notable assemblages, species of interest could be present here and they are more likely to be important supporting habitat to fauna. In the context of BNG, mitigation needs to provide habitat of the same broad habitat type, or that of higher distinctiveness.

High Distinctiveness Habitats

29. Habitats which are more natural and contain more important assemblages of plants and potentially species which are rare in their own right. They will provide good habitat for fauna. These habitats are likely to be targeted as conservation priorities and will be the subject of additional policy guidance or legislation. In the context of BNG, whilst mitigation or compensation for loss or damage is possible, provision of more of the same type of habitat would be required, which (with a few exceptions) is likely to be difficult.

Very High Distinctiveness Habitats

30. These are the UK's rarest/best habitats. They will be present in very particular locations and a range of rare or important plant and animal species will depend on the particular conditions they provide. These habitats will be the subject of restrictive policy guidance or legislation. Whilst the BNG metric does not preclude mitigation or compensation in respect of these habitats, creation of the same habitat type would be required, and this would range between very difficult/expensive and impossible.
31. Each habitat is mapped and an area for each type is provided in the format of the DEFRA Biodiversity Metric 4.0 – Calculation Tool. The areas can be used to quantify the impacts of development in an Ecological Impact Assessment if this is required by the Local Planning Authority.

Condition Assessment

32. Our condition assessment for each habitat described references where available the criteria set out in DEFRA (2023) Biodiversity Metric 4.0 – Technical Annex 1. A completed version of this spreadsheet is provided digitally with the Biodiversity Gain Report which accompanies this report.

¹ This Report has been prepared during August 2023 following a visit to the Site in July 2023, and our findings are based on the conditions of the Site that were reasonably visible and accessible at that date. We accept no liability for any areas that were not

reasonably visible or accessible, nor for any subsequent alteration, variation, or deviation from the Site conditions which affect the conclusions set out in this report.

Habitats of Low Distinctiveness

Figure 3 Approximate location and extent of these habitats.



Table 2 Summary – Habitats of Low/Very Low Distinctiveness.

UK Habitats	Label Ref	Summary Description	Condition*
Cereal Crops	CC	The adjacent arable field currently used for growing maize has encroached into part of the Site. It supports the crop and a headlar devoid of vegetation at the time of survey.	n/a
Modified Grassland	G1	Rough/rank neutral grassland dominated by coarse grasses such as false oatgrass, cocksfoot and couch grass but with evidence of former improvement through fertilisation and seeding. Grasses and competitive species such as nettle dominate the sward with palatable species and white clover present. There are fewer than 8 species per m ² . A range of competitive forb species are present, predominantly nettle and creeping thistle but also with broad-leaved dock, hogweed, ragwort, rosebay willowherb, coltsfoot & mugwort. Male fern is conspicuous in part. Where grassland grades into scrub, species such as hedge woundwort, white dead-nettle, sweet violet and tufted vetch are also present. Scrub species are encroaching through this habitat.	Moderate

Figure 4 Boundary of grassland with cereal crop.



Habitats of Medium Distinctiveness

Figure 5 Approximate location and extent of these habitats.



UK Habitats	Label Ref	Summary Description	Condition*
Mixed Scrub	Sc1	Scrub formed by elements of former hedgerows at the front of the Site – blackthorn, wild privet, hawthorn, elder and wych elm.	Moderate
Hawthorn Scrub	Sc2	Similar to mixed scrub but dominated hawthorn.	Poor
Bramble Scrub	BS	Bramble-dominated scrub colonising former grassland, tall competitive species listed above and other scrub species are threaded through occasionally.	n/a

*Full condition assessments are provided as part of the Biodiversity Gain Assessment, issued separately

Habitats of Medium Distinctiveness

Figure 6 Nettle dominated grassland and bramble scrub in the south-west of the Site.



Figure 7 Mixed scrub at the front of the Site.



Figure 8 Other neutral grassland in the east.



Figure 9 Tall competitive species dominate where grass is un-cut.



Figure 10 Ivy covered wall at the front of the Site with neutral grassland beyond.



Figure 11 Neutral grassland and scrub –central.



Trees

Figure 12 Approximate location and extent of these habitats.



UK Habitats	Label Ref	Summary Description	Condition*
Medium Rural Trees	T1-T4	Beyond smaller hawthorns and wych mapped as scrub, there are only four larger trees on the Site. All are ash trees.	Moderate

*Full condition assessments are provided as part of the Biodiversity Gain Assessment –provided separately

Figure 13 Ash trees at the front of the Site.



Faunal Appraisal

33. The following pages discuss only the groups and species that could be reasonably expected to be found on the type of habitats present on, or adjacent to, the Site.

Amphibians

Desk evidence

34. There are three ponds within 500m of the Site shown in Figure 14 opposite. All are in private land and could not be accessed as part of the survey. Ponds 1 and 2 are both separated from the Site by Main Street, a double carriageway with kerbs and gully pots, aerial photography shows them to be fairly turbid and likely stocked as fishing ponds.
35. Pond 3 appears on some mapping but is within the Styrrup quarry –this appears to be still active in this area and any pond here is likely to be temporary and un-vegetated.
36. There are records of common amphibians in the area but no records of great crested newt (GCN) returned for the search area or on the DEFRA Magic datasets.

Field Evidence

37. The Site supports no potential breeding habitat but some potential cover and foraging for amphibians. It is separated from any permanent ponds by Main Street and further by the stone retaining wall which forms its boundary to Main Street.

Summary Evaluation

38. The Site is not likely to be important to this group and the protected great crested newt can reasonably be assumed to be absent.

Further Surveys and Recommendations

39. No further surveys or precautions are considered necessary.

Figure 14 Ponds mapped in relation to the Site.



Bats

Desk evidence

40. A typical assemblage of bats is reported locally comprising of common and soprano pipistrelle, myotis spp., noctule and brown long eared bats. All records are field records –mostly relating to the former Harworth Colliery.

Field Evidence (Roosting)

41. There are no buildings on Site.
42. Trees have been inspected for roost suitability. All are relatively young and have been classified as having ‘negligible roost suitability’ due the absence of potential roost features such as cavities, branch scars or other significant defects.

Table 3 Bat Roost Suitability Assessment

Ref:	Notes	Suitability
Trees 1-4	Not suitable due to age and lack of suitable features	Negligible

Field Evidence (foraging and commuting)

43. The Site presents a relatively isolated and small parcel of land, it is unlikely to contribute much to local foraging resources.
44. The Site does not form part of any apparent network of habitat which could provide key commuting habitat locally.

Summary Evaluation

45. The Site’s size and location suggest that it will not be important to this group.

Further Surveys and Recommendations

46. Further surveys are not recommended. There would be opportunities to provide new roost sites in buildings at the Site.

Birds

Desk Evidence

47. The only bird records returned are for Styrrup Sand Quarry LWS. They detail records of buzzard, sand martin, stock dove, peregrine falcon and kestrel. All likely associated with the exposures at the quarry. None of these would find key habitat at the Site.

Field Evidence

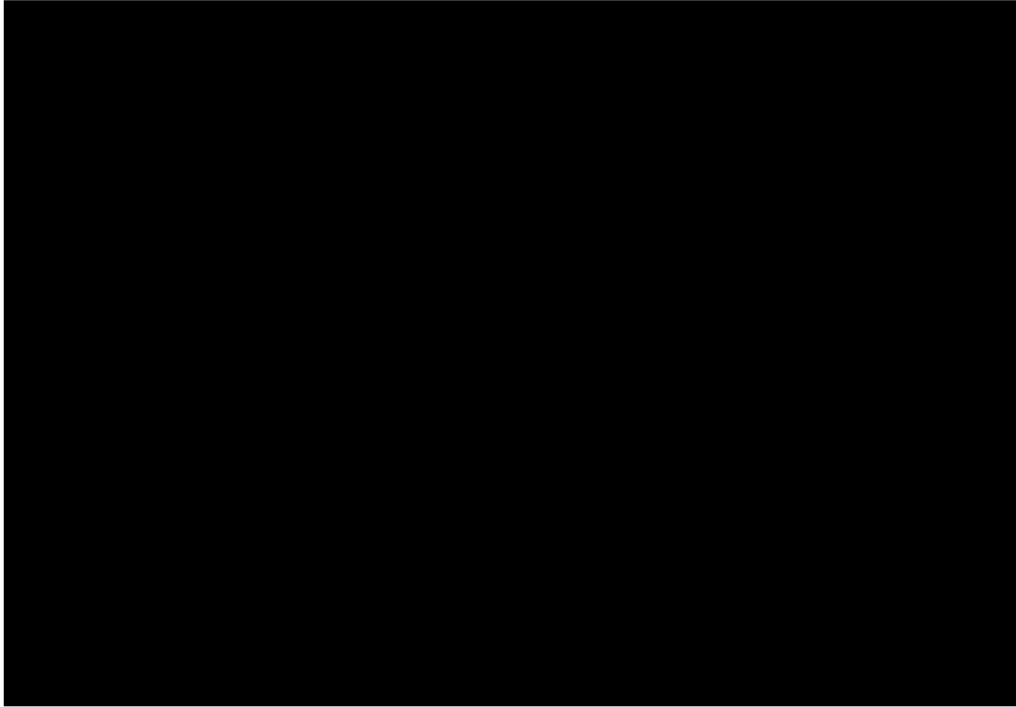
48. The Site will provide nesting, foraging and cover for a small number of a typical farmland/garden birds.
49. A small number of common bird species were noted during the survey including starling, house sparrow, great tit, wren and dunnock.

Summary Evaluation

50. Based on its size and habitats the Site will not be important to local bird populations

Further Surveys and Recommendations

51. No further surveys are considered necessary to demonstrate current baseline in respect of birds.
52. Standard precautions apply in respect of restrictions on clearing vegetation during the nesting season.



Hedgehogs (NERC Act 2006/Local BAP)

Desk evidence

58. Hedgehogs are recorded within the search area.

Field Evidence

59. No evidence of hedgehogs was found on site.

Summary Evaluation

60. The Site provides suitable habitat for this species and measures to allow them to access gardens need to be planned for.

Further Surveys and Recommendations

61. Presence assumed; no further surveys are considered necessary.

Reptiles

Desk evidence

62. Records of common lizard and grass snake have been returned for the area. The nearest is for grass snake at Styrrup Golf Course from 2017. This is c.600m north of the Site. All other records are from the former Harworth Colliery site which is c.750m east but separated from the Site by the significant barrier of the A1 motorway.
63. Reptiles are not recorded at the nearby Styrrup Sand Quarry LWS.

Field Evidence

64. The Site provides some marginal basking and cover habitat in the form of a mix of grassland and scrub, but as established in the section on amphibians the Site is not likely to support the amphibian prey favoured by grass snake.
65. No field evidence was found.

Summary Evaluation

66. Potential (marginal) habitat for this group has only established on the Site recently, and the Site is isolated from records of reptiles and is not closely linked to habitat which they could colonise from.
67. Reptiles are assessed as likely absent from the Site.

Further Surveys and Recommendations

68. No further surveys or precautions are considered necessary.

Invasive Non-Native Species (INNS)

69. INNS are species listed on Schedule 9 of the Wildlife and Countryside Act (1981), for which it is an offence to cause or allow it to grow in the wild.
70. No INNS were noted during survey².

Survey constraints

71. This survey is constrained by the presence of areas that were inaccessible due to the density of vegetation.
72. Although no INNS have been identified in this preliminary survey, it is not always possible to conclude absence from preliminary survey alone due to factors such as season, accessibility, third-party attempts to hide evidence, or undisclosed treatment programmes. For this reason, this report should not be relied upon as definitive evidence of absence of INNS.
73. This site presents a small risk of supporting undetected INNS based on the following factors:

Areas of site inaccessible to survey

Potential for recent earthworks or management which may have obscured viable material

Proximity to nearby potential sources of infection

Potential for tipping of material

74. Should further assurances be needed in relations to INNS, a dedicated Invasive Weed Survey should be commissioned.

² Whilst our ecologists are trained in the identification of invasive species, this report is not a dedicated invasive species survey. Detectability of invasive plant species can be affected by several factors, and conclusive determination status, or extent, is not

possible through preliminary survey alone. As the presence of invasive species can generate significant costs to development, the client may wish to instruct a dedicated invasive species survey prior to entering into contracts.

Ecological Constraints

Habitat Value

75. The usual approach to development is to minimise any net loss of biodiversity towards a gain in biodiversity value where this is possible on-Site. Our separate report on Biodiversity Gain sets out the position of the Site in terms of measured biodiversity.
76. Irrespective of the Biodiversity Gain process, development should still seek to retain what is best about the Site.
77. The plan opposite shows the Site in the context of mapped habitat distinctiveness with the aim of informing the design of any layout. It shows that there are no targets of higher distinctiveness which would need to be avoided by the proposals and that the Site is relatively uniform in terms of potential impact.
78. Habitats do not impose any particular design constraints. Loss of habitat of this nature are not of the order which (outside of Biodiversity Net Gain) would require specific mitigation or compensation as they are common locally.
79. In terms of structure and connectivity, trees along the Site frontage will contribute to the disjointed local network. These are of higher value in a local context and should ideally be retained.

Faunal constraints

80. Faunal constraints have not been identified.

Figure 15 Distinctiveness of habitat.



Ecological Opportunities

81. Ecological opportunities at the Site relate to:

Potential to improve connectivity locally by enhancing the streetside trees with new planting.

Potential to improve connectivity locally by providing new native hedgerow planting between the Site and the field to the south.

Installing roosting or nesting features on new buildings.

82. A Biodiversity Management Plan would be useful in defining these enhancements and can be secured by standard condition.

Figure 16 Ecological Opportunities.



Conclusions and Recommendations

Planning considerations		
Recommendation	Rationale	When
R1 Additional Surveys	Not required	n/a
R2 Produce a layout which minimises loss of biodiversity	Engage with the Constraints and Opportunities set out above, involve your ecologist in designs at an early stage. The proposals will need to consider the NPPF hierarchy of Avoid–Mitigate–Compensate in minimising any loss of biodiversity. The LPA is likely to be seeking at least a no-net-loss situation and could request that a contribution be made to address any residual loss here, off-Site. Your layout may need to change to accommodate your findings from R1 surveys.	
R3 Design	Make sure your design team follows ecological advice to and make sure there are no design conflicts.	During the design process
R4 BNG	Produce a Biodiversity Net Gain Report.	During the design process
R5 Ecological Impact Assessment (EclA)	This report summarises all survey findings and assesses the impacts of the scheme in respect of these. Due to the scale of this development and the potential issues at hand it would seem an unlikely requirement, but may be requested by the LPA.	Prior to submission, after a fixed design is agreed and all key additional surveys are completed
R6 Produce a Biodiversity Management Plan	To specify in detail how the development will cater for biodiversity on-Site and to show how habitats incorporated will be managed.	Delivery report Suitable for planning condition

Other considerations (managing legal or financial risks)		
Issue	Rationale	When
R7 Nesting bird management	As with most sites, the standard precaution in relation to birds would apply. To prevent the proposed works impacting on nesting birds, any clearance of vegetation will need to be undertaken outside of the breeding bird season, which runs from 1st March–31st August inclusive. Any clearance required during the breeding bird season should be preceded by a nesting bird survey to ensure that the law is not contravened through the destruction of nests and that any active nests are identified and adequately protected during the construction phase of the development.	Prior to and during clearance
R8 Pre-construction ecology checks	It is always advisable to check that protected species (e.g., badger) and invasive weeds have not colonised or become visible in the period between the date of this report and construction activities commencing.	Prior to site preparation or archaeological/geotechnical investigations.

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Appendix 1 Habitats and Ecological Features



Appendix 2 List of species recorded

Yarrow	<i>Achillea millefolium</i>	Curled dock	<i>Rumex crispus</i>
Ground elder	<i>Aegopodium podagraria</i>	Perennial rye grass	<i>Lolium perenne</i>
Common bent	<i>Agrostis capillaris</i>	Hedge mustard	<i>Sisymbrium officinale</i>
Creeping bent	<i>Agrostis stolonifera</i>	Prickly sow thistle	<i>Sonchus asper</i>
Garlic mustard	<i>Alliaria petiolata</i>	Chickweed	<i>Stellaria media</i>
Burdock	<i>Arctium sp.</i>	Goat's beard	<i>Tragopogon pratensis</i>
Mugwort	<i>Artemisia vulgaris</i>	Timothy grass	<i>Phleum pratense</i>
Barren brome	<i>Bromus strepilis</i>	Scentless mayweed	<i>Tripleurospermum inodorum</i>
Cow parsley	<i>Anthriscus sylvestris</i>	Coltsfoot	<i>Tussilago farfara</i>
False oat grass	<i>Arrhenatherum elatius</i>	Ribwort plantain	<i>Plantago lanceolata</i>
Daisy	<i>Bellis perennis</i>	Field speedwell	<i>Veronica persica</i>
Creeping thistle	<i>Cirsium arvense</i>	Bush vetch	<i>Vicia sepium</i>
Bindweed	<i>Calystegia sepium</i>	Rat's tail/greater plantain	<i>Plantago major</i>
Cock's-foot	<i>Dactylis glomerata</i>	Sycamore	<i>Acer pseudoplatanus</i>
Teasel	<i>Dipsacus fullonum</i>	Knotgrass	<i>Polygonum aviculare</i>
Couch grass	<i>Elymus repens</i>	Selfheal	<i>Prunella vulgaris</i>
Rosebay willowherb	<i>Chamerion angustifolium</i>	Cherry	<i>Prunus sp.</i>
Spear thistle	<i>Cirsium vulgare</i>	Lords and ladies	<i>Arum maculatum</i>
Hazel	<i>Corylus avellana</i>	Downy birch	<i>Betula pubescens</i>
Ground ivy	<i>Glechoma hederacea</i>	Rough-stalked feathermoss	<i>Brachythecium rutabulum</i>
Hawthorn	<i>Crataegus monogyna</i>	Bittercresses	<i>Cardamine spp.</i>
Red fescue	<i>Festuca rubra agg.</i>	Hemlock	<i>Conium maculatum</i>
Ash	<i>Fraxinus excelsior</i>	Leyland cypress	<i>Cupressus × leylandii</i>
Cleavers	<i>Galium aparine</i>	Male fern	<i>Dryopteris filix-mas</i>
Annual meadow grass	<i>Poa annua</i>	American willowherb	<i>Epilobium ciliatum</i>
Rough meadow grass	<i>Poa trivialis</i>	Greater willowherb	<i>Epilobium hirsutum</i>
Herb Robert	<i>Geranium robertianum</i>	Meadow buttercup	<i>Ranunculus acris</i>
Creeping cinquefoil	<i>Potentilla reptans</i>	Common fumitory	<i>Fumaria officinalis</i>
Hogweed	<i>Heracleum sphondylium</i>	Creeping buttercup	<i>Ranunculus repens</i>
Yorkshire fog	<i>Holcus lanatus</i>	Common ivy	<i>Hedera helix</i>
Common ragwort	<i>Jacobaea vulgaris</i>	Meadow oat grass	<i>Helictotrichon pratense</i>
		Common feather moss	<i>Kindbergia praelonga</i>

White deadnettle	<i>Lamium album</i>	White clover	<i>Trifolium repens</i>
Garden privet	<i>Ligustrum ovalifolium</i>	Groundsel	<i>Senecio vulgaris</i>
Wild privet	<i>Ligustrum vulgare</i>	Hedge woundwort	<i>Stachys sylvatica</i>
Common toadflax	<i>Linaria vulgaris</i>	Snowberry	<i>Symphoricarpos albus</i>
Bramble	<i>Rubus fruticosus</i>	Nettle	<i>Urtica dioica</i>
Broad leaved dock	<i>Rumex obtusifolius</i>	Red clover	<i>Trifolium pratense</i>
Dog's mercury	<i>Mercurialis perennis</i>	Wych elm	<i>Ulmus glabra</i>
Redshank	<i>Persicaria maculosa</i>	Germander speedwell	<i>Veronica chamaedrys</i>
Dandelion	<i>Taraxacum officinale agg.</i>	Tufted vetch/tare	<i>Vicia cracca</i>
Common moss	<i>Rhytiadelphus squarrosus</i>	Sweet violet	<i>Viola odorata</i>

Appendix 3 Explanatory Notes and Resources Used

Site Context

Aerial photographs published on commonly used websites were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains.

Designated Sites

A search of the MAGIC (Multi-Agency Geographic Information for the Countryside) website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Special Scientific Interest [SSSIs]) as well as many non-statutory listed habitats (e.g. ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats. In addition, information from the local record holders was referred to on locally designated sites.

Functional linkage with off-Site habitats

When assessing these we consider whether the Site could be functionally linked to them, considering links such as:

Hydrological links – is the Site upstream downstream, or could ground water issues affect it?

Physical links – is the site in close proximity and could it be directly or indirectly affected by construction and operational effects? Conversely it may be that despite proximity major barriers separate the two.

Recreational links – do footpaths and roads make it likely that increased recreational pressure could be felt?

Habitat links – is the site part of a network of similar habitat types in the wider area? These could be joined by linear corridors or could simply be ‘stepping stones’ of habitat of similar form or function.

Method

Phase 1 habitat survey methodology (JNCC, 2010). This involves walking the site, mapping and describing different habitats (for example woodland, grassland, scrub). The survey method was “Extended” in that evidence of fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2017).

Faunal Appraisal

This section first looks at the types of habitat found on Site or within the sphere of influence of potential development, then considers whether these could support protected, scarce, or NERC Act 2006 Section 41 species (referred to collectively as ‘notable species’).

Records of notable species supplied from a 2km area of search by Nottingham City Council are used to inform this appraisal.

We discuss further only notable species or groups which could be a potential constraint due to the presence of suitable habitat and their presence (or potential presence) in the wider area. We screen out and do not present accounts of notable species or groups which do not meet these criteria – in some cases it may be necessary to explain this reasoning.

Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the 'Nottinghamshire Biodiversity Action Plan'.

Species/group	Habitat
Atlantic Salmon	Canals
Barn Owl	Ditches
Bats	Eutrophic and mesotrophic standing water
Deptford Pink	Farmland
Grizzled Skipper and Dingy Skippe	Fens, marshes and swamps
Harvest Mouse	Hedgerows: including ancient and species-rich
Nightjar	Lowland calcareous grassland
Nottingham autumn crocus	Lowland dry acid grasslands
Nottingham spring crocus	Lowland heathland
Otter	Lowland neutral grassland
Water Vole	Lowland wet grassland
White-clawed Crayfish	Mixed ash dominated woodland
	Oak-birch woodland
	Parkland and wood pasture
	Planted coniferous woodland
	Reedbed
	Rivers and streams
	Urban and post-industrial habitats
	Wet broadleaved woodland

Bats

Bat roosting potential is classified according to the following criteria set out below, taken from the Bat Conservation Trust Good Practice Guidelines (2016).

Bat Roosting Suitability of Buildings and Trees

Suitability	Criteria
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions, and/or suitable surrounding habitat to be used on a regular basis or by a larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features (PRFs) but with none seen from the ground or features seen with only very limited roosting potential.

Moderate	A structure or tree with one or more potential roost sites that could be used due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that is obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitats.

Evaluation

In evaluating the Site, the ecologist will take into account a number of factors in combination, such as:

- the baseline presented above,
- the site's position in the local landscape,
- its current management and
- its size, rarity or threats to its integrity.

There are a number of tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the site supports any Priority habitats or presents any opportunities in this respect.

The assessment of impacts considers the generic development proposals from which potential effects include:

- Vegetation and habitat removal
- Direct effects on significant faunal groups or protected species
- Effects on adjacent habitats or species such as disturbance, pollution and severance
- Operation effects on wildlife such as noise and light disturbance

Appendix 4 Bat Activity Survey Rationale

The Bat Conservation Trust Guidelines (BCTG) (Collins 2016) is now widely accepted as providing a basis and rationale for scoping and conducting bat surveys. It is acknowledged that the guidelines provide a wealth of background and are a very useful tool in standardising approaches to survey, it is also felt that an over reliance on some of the guidelines within this document can result in the provision of complicated surveys where they have significant consequences for the cost, or timescale of a large project, but could never deliver positives for bat conservation.

Taking the BCTG document as a whole, Chapter 2 helps the reader understand whether or not surveys are required, and that in the context of planning and development survey is required in relation to ensure;

the avoidance of legal offences, and;

the provision of a sufficient level of information – such that will allow the Local Planning Authority to make an informed decision on the proposals and their potential impacts on the Favourable Conservation Status (FCS) of bats.

Attendance at seminars presented by, and discussions with, those involved in production of the BCTG document has emphasised the point that it is within the remit of the consultant ecologist to make a decision on the necessity and scope of surveys – they will use the guidelines in doing so but are not in any way bound by them: this is reflected in Section 1.1 of the guidelines –

‘The Guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. However, in this scenario an ecologist should provide documentary evidence of (a) their expertise in making this judgement and (b) the ecological rationale behind the judgement.’

Such decisions require a consideration of the potential of the project to impact on bat habitat, alongside analysis of the value of habitat on and around the site and of local records and the likelihood that bats might

occur in significant numbers. Our reports aim to present information on how we have arrived at our decision on the Site, what assumptions we have based this on, and where further survey is recommended we indicate what the objective of this survey should be and how best this would be achieved.

The Site is small, not strategically located and does not contain any potential key habitat features for bats, its use by this group can be easily predicted making any requirement for additional survey disproportionate.

This assessment was made by Rob Weston BSc (Hons) MSc MIEEM. Rob is a Registered Consultant (RC065) under the Bats Low Impact Class License and is registered to use the Class Survey Licence WML CL18 (Level 2).

Appendix 5 Wildlife Legislation, Policy and Guidance

This is not an exhaustive list but sets out briefly the relevance of Legislation, Policy and Guidance in terms of planning applications and this assessment.

Legislation

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive).

Provides framework at an international (EU) level for the consideration/protection of European Protected Species (EPS), and habitats through the designation of sites.

Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive) and The Ramsar Convention on Wetlands of International Importance (1971)

Provides framework at an international (EU) level for the consideration/protection of important bird populations and the sites on which they are dependant.

The Conservation of Habitats and Species Regulations (2010)

This transposes 1) into UK law and provides the basis on which all EPS are protected and impacts on them can be licensed in the UK.

The Wildlife and Countryside Act (1981) as amended

This provides the basis on which UK species are legally protected or restricted and confers protection on Sites of Special Scientific Interest SSSIs. It contains annexes of plants and animals which are legally protected as well as those which are considered to be invasive or harmful. It provides the basis on which impacts on such species can be licensed in the UK and provides controls on work on or near SSSIs.

The Countryside and Rights of Way Act 2000 (CRoW)

Provides a statutory basis for nature conservation, strengthens the protection of SSSIs and UK protected species and requires the consideration of habitats and species listed on the UK and Local Biodiversity Action Plans (UKBAP/LBAP).

Natural Environment and Rural Communities Act 2006 (NERC)

Sets out the responsibilities of Local Authorities in conserving biodiversity. Section 41 of the Act requires the publishing of lists of habitats and species which are "of principal importance for the purpose of conserving biodiversity". At present these largely reflect those making up the UKBAP lists.

Hedgerows Regulations (1997)

Define and provide protection for Important Hedgerows.

Protection of Badgers Act (1992)

Protects badgers from persecution, this includes excavation/development in the proximity of setts.

Protected Sites

Statutory EU/International Protected Sites

Special Areas of Conservation (SACs); and Special Protection Areas (SPAs) and Ramsar Sites contain examples of some of the most important natural ecosystems in Europe. Work on or near these sites is strictly protected and Local Authorities will be expected to carry out 'Appropriate Assessment' of development in proximity of them. In this case there is often an increased burden on the developer in relation to provision of information and assessment.

Statutory UK Protected Sites

Local Nature Reserves (LNRs); National Nature Reserves (NNRs); Sites of Special Scientific Interest (SSSIs) all receive strict protection under UK legislation. Work in or in proximity to these sites would be restricted with any needing to be agreed with Natural England. Natural England now provide guidance on the nature of development which could impact on SSSIs through Impact Risk Zones.

Locally Protected Sites

Local Authorities have a variety of protected wildlife sites designated at a local or regional level. These are gradually being brought under the banner of Local Wildlife Sites (LWS) but at present a plethora of different designations exist –all subject to local policy.

Protected Species

European Protected Species

A number of species (most relevantly bats, great crested newts [GCN], and otters) receive strict protection from killing, injury and disturbance under The Conservation of Habitats and Species Regulations (2010). Protection is also conferred on the habitats on which they rely such as roost space in the case of bats and ponds and fields etc. in the case of GCN.

UK Protected Species

A number of species (including bats, GCN, water vole and white clawed crayfish) are strictly protected under The Wildlife and Countryside Act (1981) as amended, from killing, injury, disturbance and damage or destruction of their resting places etc. Certain species (such as reptiles)

and some birds (such as barn owl) receive partial protection e.g. at certain times of the year or from certain activities only. All nesting bird species are protected from damage or destruction of their nests –whilst active.

Invasive species

Schedule 9 of the Wildlife and Countryside Act (1981) as amended,

Lists these species and makes it an offence to cause or allow their spread in the wild. This often has impacts on development and planning in relation to the presence of invasive plant species such as: Himalayan balsam (*Impatiens glandulifera*), Japanese knotweed (*Reynoutria japonica*), and giant hogweed (*Heracleum mantegazzianum*).

Planning Policy/Guidance

The National Planning Policy Framework (NPPF)

The National Planning Policy Framework was updated in July 2021. The most relevant paragraphs from the NPPF are set out below.

The approach to assessing the natural environment is now embedded within the definition of what 'sustainable development' is and this falls under one of three objectives of the planning system –the 'environmental objective' applying in this case. Paragraph 8c (P8c) of the NPPF states that sustainable development should “protect and enhance our natural, built and historic environment”, including “improving biodiversity”. P10 sets out the Framework’s presumption in favour of sustainable development.

Section 11 of the NPPF details making effective use of land. The Framework states that planning policies and decisions should “take opportunities to achieve net environmental gains –such as developments that would enable new habitat creation” and should “recognise that some undeveloped land can perform many functions, such as for wildlife” (P120).

Section 15 details conserving and enhancing the natural environment; policies and decisions should be “protecting and enhancing valued landscape [and] sites of biodiversity [..] value”, “recognise the intrinsic character and beauty of the countryside” and contribute to conserving and enhancing the natural environment and reducing pollution (P174).

Allocations of land for development should, “allocate land with the least environmental or amenity value, where consistent with other policies in this Framework” and “take a strategic approach to maintaining and enhancing networks of habitats” (P175).

The Framework sets out ways to minimise the impacts on biodiversity through plans which “identify, map and safeguard components of local wildlife rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity” and promote the “conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity” (P179).

It is made clear in P180 that local planning authorities should apply a set of principles when determining planning applications. Planning permission should be refused “if significant harm to biodiversity resulting from development cannot be avoided [..], adequately mitigated, or, as a last resort, compensated for”. Development should not normally be

permitted where an adverse effect on a SSSI is likely, and “opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity”.

Biodiversity 2020: A Strategy for England’s Wildlife and Ecosystem Services

This strategy builds on the Natural Environment White Paper (June 2011) – Setting out the current UK Government's approach to nature conservation. It promotes a more coherent and inclusive approach to conservation and the valuing in economic and social terms of economic resources.

The strategy promotes initiatives such as Biodiversity Offsetting, Nature Improvement Areas and a focus on well-connected natural networks and introduces the concept of securing a 'no net loss' situation with regard to UKBAP/Section 41 habitats and species.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System

Provides guidance to Local Authorities on their obligations to biodiversity – particularly in relation to assessing planning applications and ensuring the adequacy of information.

BSI (2013) British Standards Institute BS 42020:2013 Biodiversity —Code of Practice for Planning and Development

Provides a standard for the biodiversity assessment and development industries and decision makers such as Local Planning Authorities to work to.