

Preliminary Ecological Appraisal Report
Land South of Halifax Road, Penistone

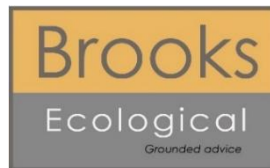
Barratt and David Wilson Homes Yorkshire West

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Summary

This report is produced to inform Barratt and David Wilson Homes Yorkshire West of potential ecological constraints associated with the proposed development site.

Methodology

The 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 May 2020.

Findings - Key Points

- The Site has been assessed as having a Biodiversity Unit score of 30.20 Habitat Units and 4.12 Hedgerow Units. Proposals will need to consider the NPPF hierarchy of Avoid - Mitigate – Compensate in minimising any loss of biodiversity. The LPA may be seeking gains for biodiversity. Efforts should be made to achieve this on Site but where this is not feasible the LPA could request that a contribution is made to address any residual shortfall in biodiversity gain, off-Site.
- A single on-site ash tree meets the criteria to qualify as a 'veteran tree' and will require protection through development. This tree is to be retained – should remedial work be necessary; survey will be required to assess the status of roosting bats.
- A Biodiversity Management Plan (BMP) should be produced to set out how available green space will be managed to provide maximum benefit for wildlife.

Introduction

1. Brooks Ecological Ltd was commissioned by Barratt and David Wilson Homes Yorkshire West to carry out an updating Preliminary Ecological Appraisal (PEA) of Land South of Halifax Road, Penistone.
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.
3. In anticipation of the adoption of DEFRA's Biodiversity Metric 2.0 we have used the UK Habitat Classification descriptions rather than the long established JNCC codes. These habitat classifications and 'the metric' are work in progress and could be subject to future change.

Purpose of a PEA

4. 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.
5. 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.
6. Biodiversity Accounting metrics are used 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.
7. Biodiversity Units can help to inform avoidance, or on-Site mitigation levels required; or as a last resort can translate to a direct monetary value where compensation (off-Site) is required. Please be aware that they can significantly impact on costs and viability.

The Site

8. The application site 'the Site' encompasses three large agricultural grassland fields.
9. 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.

Figure 1 The Site boundary - red line



Desk Study

Landscape

10. The Site is located at the northern fringe of the town of Penistone, surrounded in the immediate vicinity by Halifax Road to the north, residential development and a railway line to the east, pasture and residential to the south, and a mixture of pasture, woodland, and commercial development to the west.
11. In the wider area the landscape is largely pastoral, with scattered areas of arable, woodland, and reservoirs. Penistone is found to the south along the River Don which runs roughly west to east from Moorland to the west, to Sheffield to the south-east.

Wildlife Corridors

12. Features likely to support the movement of wildlife through the local area include a railway line adjacent to the part of the eastern boundary, and a network of streams and reservoirs which run from the north-west to the south of the Site, eventually joining the River Don.

Figure 2 Analysis of wildlife corridors and higher value habitat in relation to the Site



Waterbodies

13. Four waterbodies have been identified within a 500m radius of the Site. These are labelled Ponds 1 – 4 in the figure, right.
14. Pond 1 is located within an area of unmanaged land, with no public access.
15. Ponds 2 and 3 are two large fishing lakes, which have been created along the course of Scout Dike. Both can be seen from the southern boundary.
16. Pond 4 is a large garden pond on private land.
17. Only Ponds 2 and 3 can be considered well connected to the Site and within the proposed developments sphere of influence.

Figure 3 Local waterbodies



Designated Sites

Statutory Designations

18. 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
Peak District Moors (South Pennine Moors Phase 1)	5.9km SW	Special Protection Area (SPA)	<u>Annex I Species</u> : Merlin, Golden Plover, Short-eared owl. <u>Non-qualifying species of interest</u> : Peregrine, Lapwing, Dunlin, Snipe, Curlew, Redshank, Common Sandpiper, Whinchat, Wheatear, Ring Ouzel, Twite.
South Pennine Moors	5.9km SW	Special Area of Conservation (SAC)	<u>Annex I Habitats</u> : European dry heath, Blanket bog, Old sessile oak woods. <u>Annex II Habitats</u> : Northern Atlantic wet heaths, Transition mires and quaking bogs.

19. South Pennine Moors SAC – The Site does not share any of the habitats for which the SAC is designated, and significant impacts (both direct and indirect) would not be expected as a result of the proposals.
20. Peak District Moors SPA – The Site is sufficiently remote from the SPA for potential impacts on the qualifying interests to be considered very unlikely.
21. In preliminary discussions with the local authority, the issue of potential use of the Site by golden plover was raised. Golden plover breed on the South Pennine Moors, and during the breeding season are known to forage in areas of farmland in proximity to the moors. The Site is sufficiently disconnected from the South Pennine Moors SPA, which lies c.5km to the south, for it to be very unlikely that populations associated with the SPA will be found on Site during the breeding season.
22. During winter golden plover form large flocks, and associate with areas which provide a suitable food source, such as mud flats, estuaries, coastal marshes, and farmland, generally with some association to large bodies of

open water. The short semi-improved grassland which the site supports generally represents lower value habitat for this species, with ploughed arable general favoured where invertebrate prey is more readily available.

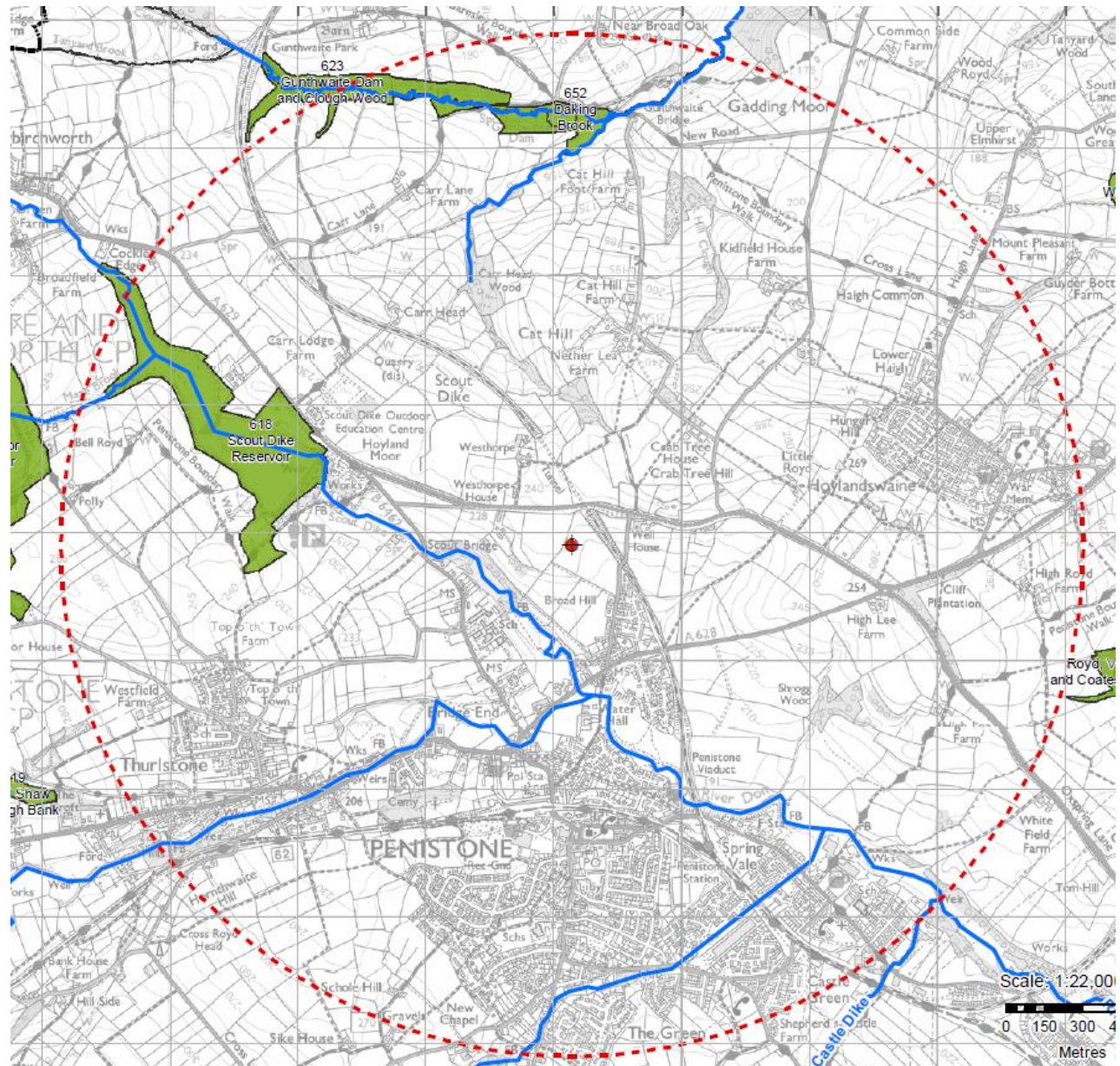
SSSI Impact Risk Zones (IRZs)

23. The Site does not fall within any IRZ.

Non-Statutory Designations

24. There are three Local Wildlife Sites (LWS's) in the search area. These are listed below and shown in the figure overleaf:
- Scout Dike Reservoir LWS, 760m west
 - Daking Brook LWS, 1.45km north
 - Gunthwaite Dam & Clough Wood LWS, 1.5km north
25. Direct and indirect impacts on all remaining sites as a result of this development are unlikely due to the Sites separation and distance.

Figure 4 Barnsley Metropolitan Borough Council; Species & Designated Sites



Survey

Method

26. An initial survey was carried out during October 2018¹, with an updating survey carried out in May 2020; both surveys followed the principles of Extended Phase 1 Habitat Survey methodology (JNCC, 2010).

Limitations

27. Enough time was afforded the surveyor to carry out the survey. The survey was not constrained by poor weather.
28. Sheep grazing within one of the fields constrained the identification of vegetation within the sward. However, a reasonably accurate picture of the habitat type could still be collected.

¹ This Report has been prepared during June 2020 following an updating visit to the site in May 2020 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.

Habitat Appraisal

Habitats identified

29. The Site supports of the following habitats:
- g4 – Modified grassland
 - 1170 – Trees
 - HR8 – Native Hedgerows
30. Each habitat is discussed in the following pages and the estimated area of these listed². 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

31. Our condition assessment for each habitat described references where available the criteria set out in The Biodiversity Metric 2.0 auditing and accounting for biodiversity TECHNICAL SUPPLEMENT Beta Edition.

Habitats Summary Evaluation

32. The habitats are ascribed our own qualitative value, based on their plant community make up. This evaluation is independent of faunal value which is considered in later sections.

² The location and areas of habitats in this report are estimated and should not be relied on as a definite location and extent of any habitat or feature.

g4 – Modified grassland

Area estimate: 15.08 ha

Figure 5a Approximate location and extent of habitat



33. The Site encompasses three large agricultural grassland fields, situated along a gentle hillside on the edge of Penistone. All three fields support a neutral grassland community which has been sown and modified for agricultural purposes, whether it be pasture or silage. The composition and use of each field vary slightly, and these have been labelled Fields 1 -3 in the figure above, so that they can each be described in greater detail.

34. Field 1 is used for silage / hay. Grasses dominate, with meadow brome, red fescue and smooth meadow grass being the most abundant species, with smaller, patchier components of Yorkshire fog, perennial rye grass, meadow foxtail and false oat grass. Forbs are sparsely distributed, and include ragwort, meadow buttercup, creeping buttercup, common sorrel, dandelion, common mouse ear, red clover, white clover and broad leaved dock.
35. Field 2 is also used for silage/ hay, and supports a similar species assemblage, but with perennial rye grass and smooth meadow grass being the main species, with small components of meadow brome and Yorkshire fog. Forbs are similarly sparse, and this time limited to broad leaved dock, common mouse ear and creeping buttercup.
36. Field 3 is used as sheep pasture and was heavily grazed at the time of the survey. This constrained species identification somewhat; however, from what could be seen, this field appears to be very similar in structure to Field 2.

Summary Evaluation

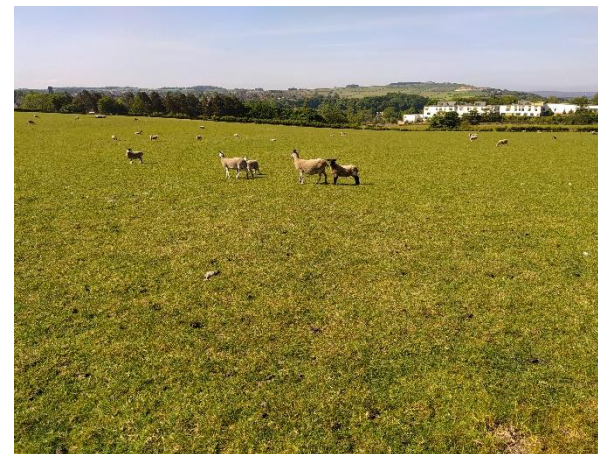
37. Species-poor, neutral grassland greatly impacted by agriculture.

Defra Metric Condition Assessment Poor

38. Meets 2 out of 5 criteria.

	Condition Assessment Criteria Grassland habitat type	Meets criteria?
1	Clearly and easily recognizable as a good example of this type of habitat.	No
2	Appearance and composition very closely matches the characteristics for the specific Priority Habitat	No
3	Wildflowers, sedges, and indicator species for the specific Priority grassland habitat are very clearly and easily visible throughout the sward and occur at high densities in high frequency.	No
4	Undesirable species and physical damage is below 5% cover.	Yes
5	Cover of bare ground greater than 10%	No
6	Cover of bracken less than 20% & cover of scrub and bramble less than 5%.	Yes

Figure 5b Typical structure and composition of this habitat. Field 1 – 3 (left to right)



1170 - Trees

Area estimate: 0.01 ha

Figure 6a Approximate location and extent of habitat



39. Save for occasional scattered elder, only a single mature tree is found on Site, this being an ash towards the south-west.
40. A small section of the Site's boundary lies adjacent to off-site woodland. Overhanging species include oak, ash, and sycamore.

Summary Evaluation

41. The mature ash tree is considered to be of high ecological value, and contains characteristics which are used (and by at least some local authorities) to define 'ancient' or 'veteran' trees. Loss of such trees is now precluded in the NPPF and these trees should (in the absence of further detail) be seen as a constraint to development - they are identified as such on the figure(s) below. If their removal is pivotal to plans for the Site further investigation will be required into their potential to fall into either of these categories.
42. Based on this, the ash tree is likely to qualify as an early ancient tree or fully mature transition veteran which should be retained within development under National Planning Policy Framework 2018.



Figure 6b

Typical structure and composition of this habitat

Defra Metric Condition Assessment **Moderate**

43. Assessment not required. Automatically assigned a score of 2 (Moderate).

HR8 – Native Hedgerow

Length estimate: 1.48 km

Figure 7a Approximate location and extent of habitat



44. Most of the field boundaries are enclosed by traditional drystone walls, or simple stock-proof post and wire fencing, with only three sections of hedgerow being noted; these being located along the southern boundaries, within a field used as sheep pasture.
45. The condition of all three hedgerows is fairly similar, with under grazing very apparent. All are maintained at around 1-1.5 high by 0.5-1.5m wide.

46. Hawthorn is the main component throughout all three hedgerows, making up over 90% cover. H1 also contains small elements of elder and ash, whilst H2 contains only occasional elder. H3 is the most diverse, containing elements of elder, honeysuckle and holly. This is also the shortest section of hedge and forms the boundary of an adjacent residence.

Summary Evaluation

47. Species-poor native hedgerows greatly affected by sheep grazing.
48. All hedgerows have been assessed against the criteria for Important status under the Hedgerow Regulations 1997 (see report ER-4578-02); this confirmed that none can be classified as Important Hedgerows. However, two sections (H1 and H2), will qualify as Habitat of Principle Importance under Section 41 of the NERC Act 2006.

Defra Metric Condition Assessment Poor - Moderate

49. Generally, meet 3 or 4 of the 8 criteria.

Favorable condition attributes and criteria: Hedgerows		
A1	Height	>1.5m average along length
A2	Width	>1.5m average along length
B1	Gap – hedge base	Gap between ground and base of canopy <0.5m for >90% length
B2	Gap – hedge canopy continuity	Gaps make up <10% of total length and no canopy gaps >5m
C1	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length & present on one side of hedge at least
C2	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of area of undisturbed ground
D1	Invasive and neophyte species	>90% of hedgerow and undisturbed ground is free of invasive non-native and neophyte species
D2	Current damage	>90% of hedgerow of undisturbed ground is free of damage caused by human activities

Figure 7b Typical structure and composition of this habitat. H1 – 3 (left to right)



DEFRA Metric (Baseline)³

50. This metric sets out the baseline for the Site - proposals should seek to achieve at least a 'no net loss' situation through **Avoiding** areas of higher value, **Mitigating** any loss on-Site through retention and enhancement, or habitat creation. The Local Planning Authority may require you to **Compensate** any residual loss elsewhere - either through direct works or an off-setting contribution.

Habitats and areas				Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
Ref	Broad Habitat	Habitat type	Area (hectares)	Distinctiveness	Condition	Ecological connectivity	Strategic significance		Total habitat units
1	Grassland	Grassland - Modified grassland	15.08	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required	30.16
2	Urban	Urban - Street Tree	0.01	Low	Moderate	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required	0.04
3									
4									
5									
Total site area ha			15.08					Total Site baseline	30.20

UK Habitats - existing habitats				Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance		Ecological baseline
Baseline ref	Hedge number	Hedgerow type	length KM	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Total hedgerow units
1	H1	Native Hedgerow	0.9	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.8
2	H2	Native Hedgerow	0.28	Low	Moderate	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.12
3	H3	Native Hedgerow	0.3	Low	Moderate	Low	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.2
4									
5									
Total Site length/KM			1.48					Total Site baseline	4.12

³ Our report provides an estimate of the sites value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the latest version of DEFRA's Biodiversity Metric Tool, the UK Habitats Classification and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk.

Faunal Appraisal

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

Records

51. Only two amphibian records have been returned from within 2km, both relating to smooth newt (c.800m to the west) in an area associated with Scout Dike Reservoir.
52. Although not returned in the data search, a breeding population of great crested newt is known to occur at Royd Moor Reservoir LWS, c. 2km west of the Site.

Field Evidence

53. The Site itself presents reasonable foraging habitat for this group, with the hay/ silage fields and hedge bottoms providing the best opportunities.
54. No ponds are present on Site, and of the four offsite ponds, only Ponds 2 and 3 are within influencing distance and free of barriers to dispersal. Both are large fishing lakes associated with South Dike. The presence of fish significantly reduces their suitability as breeding Site's for all amphibians except common toad.
55. An eDNA survey was carried out on both ponds in May 2020, which confirmed the likely absence of GCN from these two waterbodies; see report SI-4578-01.

Summary Evaluation

56. Likely absence of GCN has been reasonably concluded through eDNA survey.

Further Surveys

57. No further surveys or precautions are considered necessary.

Badger

Records

58. Sensitive badger records have been returned suggesting this species is active in the local area.

Field Evidence

59. No signs of badger activity were noted during the walkover survey.

Summary Evaluation

60. The likely absence of badger setts on Site can be reasonably concluded, and there are no obvious signs that the Site is regularly used by this species for foraging.

Further Surveys

61. Although no evidence of badger activity is currently present on Site, records of their presence locally increases the risk that badgers could move into the Site prior to construction works commencing. As such, standard precaution is recommended to manage this risk.

Bats

Records

62. Records for the area include Noctule, whiskered bat, Brandt's, daubentons, common pipistrelle, brown long eared and soprano pipistrelle.

Field Evidence

Potential Roost sites

Buildings: No buildings are present on Site.

Trees: A single mature ash tree is found on Site with potential to support roosting bats, including longitudinal cracks in decaying branches and rot holes.

Figure 8 Rot holes and cracks in branches



Foraging and commuting habitat

63. The Site encompasses habitat of relatively low value to local bat populations, in terms of foraging. Hedgerows to the south, trees to the west and scrub to the northeast provide some marginal habitat, which could attract low level irregular foraging during the main summer months. Much higher value habitat is present in the wider landscape, such as the fishing ponds to the south, and it is here that the local bat populations are more likely to congregate in any significant numbers.
64. Hedgerow also have the potential to provide small scale corridors for bats moving through the landscape, with the railway line to the northwest providing a larger scale connective function.

Summary Evaluation

65. There is the potential for bats to roost within the mature ash tree in the southwest corner.
66. The Site is unlikely to be of significance to any local bat populations in terms of foraging or commuting; however the Site lies close to a potential large-scale corridor (railway line to northeast) and higher value foraging habitat (fishing lakes to the south).

Further Surveys

67. Further survey will be required on the mature ash tree, in order to confirm the status of roosting, should this be impacted upon by the proposed development.
68. A single activity survey is recommended to confirm the assessment made within this report – that the Site is unlikely to be of significance to any local bat populations either for foraging or commuting.

Birds

Records

69. No records have been returned of golden plover relating to the Site or similar habitats within 2km. Of the 4 records returned, 2 are from over 30 years ago and provided at low resolution, and as such are of little relevance to this assessment. Other records originate from Scout Dike Reservoir to the north west. The Site is therefore not likely to be of significant value to golden plover.

Field Evidence

70. No bird activity was noted during the course of the survey.

Summary Evaluation

71. The on-Site habitat is generally of low value to birds.
72. Hedgerows have the potential to support nesting of a range of common and widespread species.
73. The Site is unlikely to be of significance to any of the Annex I species for which the South Pennine Moor Phase 1 SPA is designated.

Further Surveys

74. No further surveys are considered necessary to demonstrate current baseline in respect of birds.
75. Standard precautions apply in relation to pre-clearance.

Invasive Non-Native Species (INNS)

76. 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. The following species were noted⁴:
- None
77. 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, 3rd 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.
78. This site presents a medium-low risk of supporting undetected INNS based on the following factors:
- Proximity to nearby potential sources of infection (railway line)
 - Potential for tipping of material
79. Should further assurances be needed in relations to INNS you should commission a dedicated Invasive Weed Survey.

⁴ 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

80. The principal ecological constraint relates to the presence of an early ancient tree or fully mature transition veteran ash tree located in the Site's western corner. This will need to be retained and protected.
81. Hedgerows present a minor constraint, and these should be retained and protected behind tree protective fencing.
82. Off-site habitats, namely trees to the west and the railway line to the northeast, should also be adequately protected during construction.

Figure 9 Constraints



Ecological Opportunities

83. The key ecological opportunity here would be to enhance existing hedgerows and to expand the network through planting new sections of native species-rich hedgerow.
84. Maximising the biodiversity value of greenspace is also recommended, through planting up areas of wildflower rich grassland and native tree bunds.
85. Installing roosting, nesting or shelter features for fauna will also be beneficial.
86. Garden fences should be permeable so that hedgehogs can have access through the Site.

Figure 10 Ecological Opportunities



Conclusions and Recommendations

87. The Site has been assessed as having a Biodiversity Unit score of 30.20 Habitat Units and 4.12 Hedgerow Units. Once the Site Layout and Landscape proposals have been fixed, the Biodiversity Metric Calculations will need to be finalised to assess the overall impact of development on the Site's baseline score. A net gain in Habitat and Hedgerow Units will need to be achieved, either on Site, or through some form of offsetting - where an on-site gain is not achievable.
88. A single mature ash located in the Site boundary meet the criteria for classification as an Ancient / Veteran tree. As such this tree should be retained and protected. This tree also has the potential to support roosting bats, and precaution will be required should any remedial work be required. No evidence of Ash dieback was noted at the time of the survey, however, regular inspections of this trees health and condition should be undertaken by a suitably qualified Arboricultural Consultant.
89. Hedgerows are species-poor and generally represent poor example of their type; however, they would qualify as Habitat of Principle Importance under Section 41 of the NERC Act 2006 and will be of value to certain faunal groups.
90. Although badgers are not currently active on Site, by way of risk management, a precautionary badger survey is recommended prior to commencement to ensure the continued absence of badger.
91. The requirement for development to make a positive contribution to biodiversity is clearly set out guidance such as the NPPF and BS:42020 - beyond mitigating or compensating any potential impacts. To this end, a Biodiversity Management Plan (BMP) should be produced which details how POS can be maximised for local biodiversity. This should be produced in tandem with the Landscape Masterplan to prevent conflicts.
92. 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 is 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. Nesting management can be set out in the CEMP if one is produced.

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Appendix 1 Habitats and Ecological Features



Appendix 2 List of species recorded

field maple	<i>Acer campestre</i>
sycamore	<i>Acer pseudoplatanus</i>
creeping bent	<i>Agrostis stolonifera</i>
cow parsley	<i>Anthriscus sylvestris</i>
false oat grass	<i>Arrhenatherum elatius</i>
mugwort	<i>Artemisia vulgaris</i>
wavy bittercress	<i>Cardamine flexuosa</i>
common mouse-ear	<i>Cerastium fontanum</i>
creeping thistle	<i>Cirsium arvense</i>
spear thistle	<i>Cirsium vulgare</i>
hawthorn	<i>Crataegus monogyna</i>
cockfoot	<i>Dactylis glomerata</i>
broadleaved willowherb	<i>Epilobium montanum</i>
fescues	<i>Festuca</i> spp.
ash	<i>Fraxinus excelsior</i>
cleavers	<i>Galium aparine</i>
common ivy	<i>Hedera helix</i>
Yorkshire fog	<i>Holcus lanatus</i>
ragwort	<i>Jacobaea vulgaris</i>
perennial rye grass	<i>Lolium perenne</i>
forgetmenot	<i>Myosotis</i> sp.
ribwort plantain	<i>Plantago lanceolata</i>
rat's tail/ greater plantain	<i>Plantago major</i>
annual meadow grass	<i>Poa annua</i>
creeping buttercup	<i>Ranunculus repens</i>
bramble	<i>Rubus fruticosus</i>
dandelion	<i>Taraxacum vulgare</i> agg.
red clover	<i>Trifolium pratense</i>
white clover	<i>Trifolium repens</i>
nettle	<i>Urtica dioica</i>
Meadow brome	<i>Bromus commutatus</i>
Red fescue	<i>Festuca rubra</i>
Smooth meadow grass	<i>Poa pratensis</i>
Meadow foxtail	<i>Alopecurus pratensis</i>
Meadow buttercup	<i>Ranunculus acris</i>
Common sorrel	<i>Rumex acetosa</i>
Common mouse ear	<i>Cerastium fontanum</i>
Broadleaved dock	<i>Rumex obtusifolius</i>
Honeysuckle	<i>Lonicera periclymenum</i>
Holly	<i>Ilex aquifolium</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 [SSSI's]) 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 Barnsley Metropolitan Borough Council (BMBC) 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 '**Barnsley Biodiversity Action Plan**'.

Species/group	Habitat
Hedgehog	Upland Oakwood
Bats	Lowland Mixed Deciduous Woodland
Water Vole	Wet Woodland
Otter	Wood Pasture and Parkland
Grey Partridge	Hedgerows
Bittern	Arable Field Margins
Kestrel	Floodplain Grazing Marsh
Little Ringed Plover	Lowland Meadows
Lapwing	Lowland Dry Acidic Grassland
Barn Owl	Lowland Heathland
Skylark	Upland Heathland
Tree Sparrow	Blanket Bog
Twite	Purple Moor Grass and Rush Pasture
Great Crested Newt	Reedbeds
Salmon	Ponds
Bullhead	Rivers
White-clawed Crayfish	Open Mosaic Habitats on Previously Developed Land
Glow Worm	
Dingy Skipper	
Bluebell	

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
<i>Negligible</i>	Negligible habitat features on site likely to be used by roosting bats.
<i>Low</i>	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 PRFs but with none seen from the ground or features seen with only very limited roosting potential.
<i>Moderate</i>	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).
<i>High</i>	A structure or tree with one or more potential roost sites that are 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, protections, 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.

Bat activity is easy to predict on Site, given the simple nature of the habitats present, combined with an assessment of the local landscape and a review of local records. Mitigation is therefore straight forward to design, and is unlikely to change following further detailed surveys. As such, full activity survey was not considered necessary or proportionate. Instead, a single survey, undertaken during the peak season and during optimal survey conditions was recommended to confirm the assessment made herein; that the Site is unlikely to be of significant value to this group.

This assessment is made by Christopher Shaw BSc (Hons) MCIEEM. Chris has over 10 years' experience of carrying out bat surveys in a professional capacity and is registered to use the new Class Survey Licence WML CL18 (Bat Survey Level 2). He is an active member of the West Yorkshire Bat Group and West Yorkshire Bat Care Scheme.

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 (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*).

Planning Policy / Guidance

The National Planning Policy Framework (NPPF):

The National Planning Policy Framework was updated in February 2019. 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 “*contribute to protecting and enhancing our natural environment*” and “*help to improve 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 functions for wildlife*” (P118).

Section 15 details conserving and enhancing the natural environment; policies and decisions should be “*protecting and enhancing 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 (P170). Allocations of land for development should, “*prefer land of lesser environmental value, where consistent with other policies in this Framework and take a strategic approach to maintaining and enhancing networks of habitats*” (P171).

The Framework sets out ways to minimise the impacts on biodiversity through “*identifying, mapping and safeguarding 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 the “*conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and (the need to) identify and pursue opportunities for securing measurable net gains for biodiversity*” (P174).

It is made clear in P175 that local planning authorities should apply principles when determining planning applications. Planning permission should be refused “*if significant harm to biodiversity resulting in 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 incorporate biodiversity improvements in and around developments should be encouraged, 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.