



Site:	Barnsley West
Client:	Strata Sterling Barnsley West Ltd
Job Number:	784-A107940-3
Survey Type(s):	Badger and Hedgerow Survey
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Introduction

Background

WYG was commissioned by Strata Sterling Barnsley West Ltd on 29th May 2020 to undertake the following:

- 1) An update badger *Meles meles* survey of the site;
- 2) An update survey of hedgerows which were previously surveyed by WYG in 2018 (WYG, 2018); and
- 3) A review of assessments for those hedgerows which were surveyed by WYG in 2019 (WYG, 2019)

These surveys are required to inform a proposed development at the site known as 'Barnsley West'.

WYG Project Ecologist Jonathan Siberry BSc (Hons) ACIEEM conducted both survey visits and has prepared this report, which should be read with reference to the report conditions (Appendix A). Jonathan has over five years' experience of undertake habitat surveys in an ecological consultancy setting.

Site Location

The site is located 2 km west of Barnsley town centre, on farmland between the communities of Gawber, Higham, Pogmoor, Redbrook and Barugh Green and immediately north-east of Junction 37 of the M1 motorway. The centre of the site is approximately located at Ordnance Survey National Grid Reference SE 31778 07075.

The site has previously been subject to open-cast mining, after which it was refilled. The site measures approximately 120 hectares and generally comprises of open pastoral and arable fields, with associated boundary hedgerows, trees and ditches, and areas of semi-natural plantation woodland.

Development Proposals

The proposed development comprises a mixed-use development to provide up to 1,900 new homes and 172,000 sq.m of employment land. In addition, the proposals will provide:

- Part of the Link Road between M1, Junction 37 and the A635, Barugh Green Road;



- A new primary school;
- Small local shops and community facilities; and
- Strategic areas of greenspace and wildlife corridors.

Remodelling of the site (via a 'cut and fill') will also be required at the outset, to enable to the formation of development platforms.

Purpose of Report

The objectives of this letter report are to:

- Outline the methods undertaken to make the assessments;
- Detail existing badger records within 2 km of the site (detailed within a separate confidential appendix);
- Assess the 'importance' of hedgerows at the site under the Hedgerows Regulations 1997, at least for the 'Wildlife and Landscape' criteria; and
- Report the findings of the badger survey of the site.

Note that scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

Please note: This is a factual report only with detailed discussion and any recommendations for further survey, mitigation and compensation being included within the commissioned Ecology Chapter of the Environmental Statement for the site.



Methodology

Desk Study

Previous Reports

- Wildscapes. (2013a). *Land South of Barugh Green Road (Site Ref UB4A); Ecological Assessment Summary*. Issued May 2013.
- Wildscapes. (2013b). *Land South of Barugh Green Road (Site Ref UB4B); Ecological Assessment Summary*. Issued May 2013.
- Wildscapes. (2014). *Land at Higham (Site Ref UB2A); Ecological Assessment Summary*. Issued May 2014.
- WYG. (2018), *Barnsley West: Badger and Hedgerow Survey Report*. Issued December 2018.
- WYG. (2019), *Barnsley West: Badger and Hedgerow Survey Report*. Issued November 2019.
- WYG. (2020), *Barnsley West: Factual Ecological Appraisal*. Issued January 2021.

Data Search

An Ecological Appraisal of the site (WYG, 2020) included a data search, comprising data provided by Barnsley Biological Record Centre (BBRC) and South Yorkshire Badger Group (SYBgG). This report was reviewed as part of this assessment.

With regards to assessment of hedgerow age, Old-Maps (www.old-maps.co.uk) was used to search for historic Ordnance Survey maps.

Field Surveys

WYG Project Ecologist Jonathan Siberry BSc (Hons) ACIEEM conducted both of the survey visits detailed below. Jonathan has five years' experience of undertaking habitat and badger surveys within an ecological consultancy setting.

Badgers

The site and adjacent land (up to 50 m from site boundary, where accessible) was surveyed for evidence of badger setts or other badger activity such as paths, latrines or signs of foraging. Methodologies used and any setts recorded were classified with reference to published criteria (Harris, Cresswell & Jefferies, 1989)¹.

Hedgerows

A detailed hedgerow survey was carried out to identify if the any of the hedgerows at the site would be classified as 'Important' with regards to the 'wildlife and landscape' criteria under the *Hedgerows Regulations 1997*. The survey methodology was adapted from the Hedgerow Survey Handbook (DEFRA, 2007)² and the guidance notes set out in the *Hedgerows Regulations 1997*. The survey was

¹ Harris, S., Cresswell, P. & Jefferies, D. (1989). *Surveying badgers*. An occasional publication of the mammal society – No. 9. Mammal Society, London.

² Defra. (2007). *Hedgerow Survey Handbook. A standard procedure for local surveys in the UK*. Defra, London.



carried out over two consecutive days in July, during the optimum period for recording woodland plant species (considered to be April to September, inclusive).

In accordance with paragraph 3 of Part I of the Regulations, hedgerows which meet (whether by intersection or junction) another hedgerow are to be treated as ending at the point of intersection or junction. Similarly, hedgerows are considered to be separate hedgerows where they are separated by a gap of greater than 20 m.

The Regulations provide guidance on what constitutes a hedgerow, therefore the following definition has been used:

"A hedgerow is defined as any boundary line of trees or shrubs over 20 m long and less than 5 m wide between major woody stems at the base, provided that at one time the trees or shrubs were more or less continuous." (Defra, 2007)

In accordance with paragraph 4 of Part I of the Regulations, a hedgerow is "Important" if it, or the hedgerow of which it is a stretch:

- a) Has existed for 30 years or more; and
- b) satisfies at least one of the criteria listed in Part II of Schedule 1.

With reference to Part II of Schedule 1 of the Regulations, the following criteria are included under the heading of 'Wildlife and landscape'.

Paragraph 6(1) states that a hedgerow would be classified as Important if:

- It contains species listed or categorised as mentioned in sub-paragraph (3); or
- is referred to in a record held immediately before the relevant date by a biological record centre maintained by, or on behalf of, a local authority and in a form recognised by the Nature Conservancy Council for England or the Joint Nature Conservation Committee, as having contained any such species —
 - in the case of animals and birds, subject to sub-paragraph (2), within the period of five years immediately before the relevant date.
 - in the case of plants, subject to sub-paragraph (2), within the period of ten years immediately before the relevant date;

Sub-paragraph 3 of Part II of the Regulations includes species which are:

- listed in Part I (protection at all times) of Schedule 1 (birds which are protected by special penalties), Schedule 5 (animals which are protected) or Schedule 8 (plants which are protected) to the Wildlife and Countryside Act 1981;
- categorised as a declining breeder (category 3) in "Red Data Birds in Britain" (Batten *et al.* 1990)³; or

³ Batten, L., Bibby, C., Clement, P., Elliott, G. & Porter, R. (1990). *Red Data Birds in Britain*. The Nature Conservancy Council, London.



- categorised as “endangered”, “extinct”, “rare” or “vulnerable” in the British Red Data Books for Vascular Plants (Perring & Farrell, 1983)⁴, Insects (Shirt, 1987)⁵, other invertebrates (Bratton, 1991)⁶ and the British and Irish Red Data Book for Stoneworts (Stewart & Church, 1992)⁷.

In accordance with paragraph 7(3c) of Part II of the Regulations, to determine the number of ‘woody species’ present for the purpose of the assessment, three 30 m sections were sampled for hedgerows greater than 200 m in length, two for those that exceeded 100 m but did not exceed 200 m, and one for those less than 100 m in length. The number of woody species (as listed in schedule 3 of the Regulations) per 30 m section were counted and divided by the number of sections surveyed to give the average.

With specific reference to the criteria that consider the species-richness of a hedgerow, in South Yorkshire a hedgerow is defined as Important if it contains:

- At least 7 woody species;
- At least 6 woody species, and has associated with it at least 3 of the features specified in sub paragraph (4);
- At least 6 woody species, including one of the following –
 - Black poplar-tree *Populus nigra* spp *betulifolia*;
 - Large-leaved lime *Tilia platyphyllos*;
 - Small-leaved lime *Tilia cordata*;
 - Wild service tree *Sorbus torminalis*; or
- At least 5 woody species, and has associated with it at least 4 of the features specified in sub-paragraph (4).

The hedgerow was surveyed over its entire length in order to ascertain the presence of associated features as listed in paragraph 7(4) and 7(5) of Part II of the Regulations. Such features include;

- a bank or wall supporting the hedgerow;
- gaps which in aggregate do not exceed 10% of the hedgerow length;
- on average at least one standard tree per 50 m;
- at least three woodland species (as listed in Schedule 2 of the Regulations) growing within one metre of the hedge (Appendix B);
- a ditch along at least one half of the length of the hedgerow;
- connections scoring 4 points or more in accordance with sub-paragraph (5); and
- a parallel hedge within 15 m.

Sub-paragraph 5 of Part II of the Regulations provides the following scoring method:

- a connection with another hedgerow (1 point); and

⁴ Perring, F. & Farrell, L. (1983). *British Red Data Book 1: Vascular Plants*. JNCC, London.

⁵ Shirt, D. (1987). *British Red Data Books 2: Insects*. JNCC, London.

⁶ Bratton, J. (1991). *British Red Data Books 3: Invertebrates other than Insects*. JNCC, London.

⁷ Stewart, N. & church, J. (1992). *Red Data Books of Britain and Ireland: Stoneworts*. JNCC, London.



- a connection with a pond or a woodland in which the majority of trees are broad-leaved trees (2 points).

A hedgerow is connected with something not only if it meets it but also if it has a point within 10 m of it and would meet it if the line of the hedgerow continued

The total length of each hedgerow was measured using online aerial photography software.

Finally, in accordance with Paragraph 8 of Part II of the Regulations, the hedgerow would be classified as Important if:

- it is adjacent to a bridleway or footpath, within the meaning of the Highways Act 1980(15), a road used as a public path, within the meaning of section 54 (duty to reclassify roads used as public paths) of the Wildlife and Countryside Act 1981(16), or a byway open to all traffic, within the meaning of Part III of the Wildlife and Countryside Act 1981(17); and
- it includes at least 4 woody species, ascertained in accordance with paragraph 7(3) and at least 2 of the features specified in paragraph 7(4).

Limitations

This report considered the wildlife and landscape elements of the Hedgerow Regulations 1997. Hedgerows can also be considered Important based upon 'archaeology and history' criteria (Paragraph 1-5 of Part II of the Regulations) and it is recommended that an archaeologist is consulted to confirm whether any hedgerows are Important based upon archaeology or history.

It was not possible to access all areas within a 50 m buffer of the site to search for evidence of badger (i.e. private residences / land). However, the boundary between the site and these areas was searched and, with the exception of private residences, it was possible to view inaccessible areas from a distance with close-focussing binoculars. It was considered unlikely any badgers would be present in private residential gardens. As such, this is not considered to be a significant limitation upon this assessment.

Badgers are mobile animals and can quickly establish new setts. Therefore, this survey should be considered a snapshot of the activity on site at the time of the survey only. As such, the details of this report will remain valid for a period of **18 months** from the date of the survey (i.e. July 2022, after which the validity of this assessment should be reviewed to determine whether further updates are necessary. Note that the details within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals which this report was based on.



Results

Desk Study

Previous Reports

Surveys undertaken in 2013 and 2014 (Wildscapes, 2013a; 2013b; 2014) identified the following:

- No reference was made to badgers within these reports.
- Hedgerows on site, located north of Hermit Lane, were generally species-poor intact hedgerows (some noted to be defunct). The hedgerows were dominated by hawthorn *Crataegus monogyna* and hedgerow ground flora was not considered to be of conservation interest. Retention of hedgerows around the periphery of the site was recommended, where possible.
- Hedgerows on site, located south of Hermit Lane, were assessed to be generally species-poor intact (some defunct) and consistently comprised hawthorn, dog rose *Rosa canina* and elder *Sambucus nigra*. In addition, these hedgerows were considered to be more mature than those located north of Hermit Lane. It was recommended that hedgerows be retained, where possible, and any significant loss of hedgerows should be mitigated for by native planting elsewhere within the site.

The Preliminary Ecological Assessment (WYG, 2020) identified the following:

- The site offered suitable habitat for badger; however, no evidence of badgers was identified on site. A pre-commencement badger survey was recommended.
- Hedgerows across the site were noted to be mostly species-poor intact hedgerows (some were defunct). Two species-rich hedgerows were identified on site. Ground flora associated with the hedgerows was not considered to be notable and typically comprised species associated with the adjacent habitat type (typically improved grassland / arable fields). It was recommended that all hedgerows were assessed against the 'Important' hedgerow criteria within the *Hedgerow Regulations 1997*.

Data Search

Due to the sensitive nature of the location of badger records, due to the risk of persecution, data search records for badger have not been detailed within the main body text of this report. For data search information relating to badger, please see Appendix D (CONFIDENTIAL – Not for Public Distribution)

A search of Old-Maps identified an Ordnance Survey Plan dated 1983-1984, which shows boundary features in the locations of the surveyed hedgerows. In general, the site appears to be in a very similar form as it does today. As such, it is considered likely that all of the surveyed hedgerows, or at least stretches of each of the surveyed hedgerows, are at least 35 years old.

Badger Survey

No evidence of badgers was identified on the site, or within 50 m of the site (where access permitted), during the walkover survey.



Hedgerows Survey

Table 1 below provides a summary of the results of the hedgerow survey with regards to the criteria for 'wildlife and landscape' within Part II of Schedule 1 of *Hedgerows Regulations 1997*. **Hedgerows identified as 'Important', with regards to the criteria for 'wildlife and landscape' within the *Hedgerows Regulations 1997*, have been highlighted in bold.** Table 1 should be read in conjunction with Figure 1 which shows the locations of the hedgerows, and the additional hedgerow survey information appended (Appendix C).

In addition, it should be noted that the hedgerows on site qualify as Habitats of Principal Importance under the *NERC Act 2006* and are also afforded Habitat Action Plans under the Barnsley Biodiversity Action Plan (BBAP).

Table 1: Summary of Hedgerow Survey

Hedgerow	Contains or has contained protected / notable species (para.6)	No. of Woody Species (para.7)	No. of Features (sub.para.4)	Adjacent to footpath (para.8)
H1	No	2	0	No
H2	No	4	2	Yes
H2a	No	3	1	Yes
H3	No	5	1	No
H4	No	4	0	No
H4a	No	6	1	Yes
H5	No	3	1	Yes
H6	No	3	1	No
H7	No	3	0	No
H8	No	3	2	No
H9	No	5	2	No
H10	No	3	1	No
H11	No	2	2	No
H12	No	2	1	Yes
H13	No	7	1	No
H14	No	3	2	Yes
H15	No	4	5	No
H15a	No	5	2	No
H16	No	2	2	Yes



Hedgerow	Contains or has contained protected / notable species (para.6)	No. of Woody Species (para.7)	No. of Features (sub.para.4)	Adjacent to footpath (para.8)
H17	Yes	4	2	Yes
H17a	No	10	5	No
H17b	No	9	5	No
H18	No	3	2	No
H19	No	4	1	No
H20	No	2	1	Yes
H20a	No	3	2	Yes
H21	No	3	1	No
H22	No	2	1	No
H22a	No	4	3	Yes
H23	No	4	3	Yes
H24	No	3	0	No
H25	No	3	1	Yes
H26	No	2	1	No
H27	No	3	2	No
H28	Yes	5	3	Yes
H29	No	2	2	No
H30	No	3	2	No
H31	No	1	1	No
H32	No	1	0	No
H33	No	3	1	No
H34	No	2	2	No
H35	No	5	1	No



Relevant Planning Policy & Legislation

Revised National Planning Policy Framework

A revised NPPF was issued on 19th February 2019 (Ministry of Housing Communities and Local Government, 2019) and currently supplements government Circular 06/2005, *Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System* (Office of the Deputy Prime Minister, 2005).

Circular 06/2005 states that the presence of protected species is a material consideration in the planning process. Paragraph 170 of the NPPF also states that:

‘Planning policies and decisions should contribute to and enhance the natural environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)*
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland*
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate*
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

Paragraph 175 then goes on to confirm that:

When determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*



- c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*

Regarding EcIA's and HRA's – any sites identified, or required, as compensatory measures for adverse effects on any Natura 2000/habitats site should also be given the same level as protection as the pSPA's and cSAC's themselves. In addition, when an application is being determined, Paragraph 177 clarifies that:

"The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."

Paragraph 180 is also relevant as;

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:...

- c) *limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.*

Biodiversity 2020: A strategy for England's Wildlife & Ecosystem Services

Biodiversity 2020 (DEFRA, 2011) replaces the previous UK Biodiversity Action Plan and sets national targets to be achieved. The intent of Biodiversity 2020, however, is much broader than the protection and enhancement of less common species and is meant to embrace the wider countryside as a whole.

The priority species and habitats considered under Biodiversity 2020 are the SPI & HPI detailed under NERC Act. 'Hedgerows', defined as *"any boundary line of trees or shrubs over 20 m long and less than 5 m wide, and where any gaps between the trees or shrub species are less than 20 m wide"*(Bickmore, 2002⁸), are listed as a HPI.

Local Biodiversity Action Plan

Local Biodiversity Action Plans (LBAPs) identify habitat and species conservation priorities at a local level (typically County by County) and are usually drawn up by a consortium of local Government organisations and conservation charities. Although they are no-longer managed at a national level many are still reviewed and updated at a local level.

⁸ Bickmore, C.J. (2002) Hedgerow survey handbook: a standard procedure for local surveys in the UK. London, DEFRA.



The BBAP (Barnsley Biodiversity Trust, 2009⁹) is the relevant document for this site and affords a Habitat Action Plan to 'Hedgerows'. Badgers are not afforded a Species Action Plan under the BBAP

It should be noted that the existence of a SAP or HAP does not always infer an elevated level of importance for those features. These plans may be designed to encourage an increase in these habitats/species, rather than to protect a county-scarce feature (for example).

Local Plan

The Barnsley Local Plan (Barnsley Metropolitan Borough Council, 2019¹⁰) was formally adopted on 3rd January 2019 and sets out the key elements of Barnsley's planning framework up to the year 2033. The relevant policies from the Local Plan are detailed below:

Policy BIO1 Biodiversity and Geodiversity

Development will be expected to conserve and enhance the biodiversity and geological features of the borough by:

- *Protecting and improving habitats, species, sites of ecological value and sites of geological value with particular regard to designated wildlife and geological sites of international, national and local significance, ancient woodland and species and habitats of principal importance identified via Section 41 of the Natural Environment & Rural Communities Act 2006 (for list of the species and habitats of principal importance) and in the Barnsley Biodiversity Action Plan.*
- *Maximising biodiversity and geodiversity opportunities in and around new developments.*
- *Conserving and enhancing the form, local character and distinctiveness of the boroughs natural assets such as the river corridors of the Don, the Dearne and Dove as natural floodplains and important strategic wildlife corridors.*
- *Proposals will be expected to have followed the national mitigation hierarchy (avoid, mitigate, compensate) which is used to evaluate the impacts of a development on biodiversity interest.*
- *Protecting ancient and veteran trees where identified.*
- *Encouraging provision of biodiversity enhancements.*

Development which may harm a biodiversity or geological feature or habitat, including ancient woodland and aged or veteran trees found outside ancient woodland, will not be permitted unless effective mitigation and/or compensatory measures can be ensured.

Development which adversely affects a European Site will not be permitted unless there is no alternative option and there are imperative reasons of overriding public interest (IROPI).

Local Plan Objective 5 is also relevant and is to "achieve net gains in biodiversity". The Indicator / Target for this object is referenced as the "number of Local Wildlife Sites and Rigs sites in positive

⁹ Barnsley Biodiversity Trust. (2009). *Barnsley Biodiversity Action Plan*. [online] Available at <http://www.barnsleybiodiversity.org.uk/biodiversityplan.html>, Accessed December 2020.

¹⁰ Barnsley Metropolitan Brough Council. (2019) *Barnsley's Local Plan*. [online] Available at <https://www.barnsley.gov.uk/services/planning-and-buildings/local-planning-and-development/our-local-plan/barnsleys-local-plan/>, Accessed December 2020.



conservation management” and the Aim of this objective is “to conserve and enhance the Borough’s biodiversity and geological features”.

Site MU1 Land south of Barugh Green Road

The site is proposed for mixed use predominantly for housing and employment. The indicative number of dwellings proposed on this site is 1700. These are included in the housing numbers for Urban Barnsley in the housing chapter.

43 ha of employment land is proposed on the site and is included in the employment land figures in the Urban Barnsley section of the Economy chapter.

The development will be subject to the production and approval of a Masterplan Framework covering the entire site which seeks to ensure that the employment land is developed within the plan period, that community facilities come forward before completion of the housing and that development is brought forward in a comprehensive manner.

The development will be expected to:

- *Provide a primary school on the site;*
- *Ensure that ground stability and contamination investigations are undertaken prior to development commencing and necessary remedial works completed in accordance with the phasing plan;*
- *Provide on and off site highway infrastructure works, including a link road (Claycliffe Link) and improvements at Junction 37 as necessary;*
- *Provide small scale convenience retail and community facilities in compliance with Local Plan policy TC5 Small Local Shops;*
- *Retain, buffer and manage the watercourse, grassland and woodland north-east of Hermit Lane;*
- *Retain, buffer and manage the species-rich hedgerows and boundary features. Where this is not possible transplant hedgerows including root balls and associated soils. A method statement for this should be provided and agreed prior to works commencing;*
- *Create/retain wildlife corridors through/across the site;*
- *Provide accessible public open space;*
- *Ensure that any sustainable drainage system incorporating above-ground habitats is designed from the outset to serve the whole site;*
- *Give consideration to the drain/culvert that runs through the site; and*
- *Include measures for the protection and retention of the listed milepost on Barugh Green Road 500 m west of the junction with Claycliffe Road and its immediate setting; and*
- *Protect the routes of the Public Rights of Way that cross the site, and make provision for these as part of any proposal.*

Archaeological remains may be present on this site therefore proposals must be accompanied by an appropriate archaeological assessment (including a field evaluation if necessary) that must include the following:

- *Information identifying the likely location and extent of the remains, and the nature of the remains;*
- *An assessment of the significance of the remains; and*



- *Consideration of how the remains would be affected by the proposed development.*

Badger Legislation

The main legislation protecting badgers in England and Wales is the *Protection of Badgers Act 1992* (the 1992 Act). Under the 1992 Act it is an offence to: wilfully kill, injure, take or attempt to kill, injure or take a badger; dig for a badger; interfere with a badger sett by, damaging a sett or any part thereof, destroying a sett, obstructing access to a sett, causing a dog to enter a sett or disturbing a badger while occupying a sett.

The 1992 Act defines a badger sett as: "any structure or place which displays signs indicating current use by a badger".

Hedgerow Legislation

The *Hedgerows Regulations (1997)* were made under Section 97 of the *Environment Act (1995)* and came into force in 1997. They introduced new arrangements for local planning authorities in England and Wales to protect 'Important' hedgerows in the countryside by controlling their removal through a system of notification. Important hedgerows are defined by complex assessment criteria, which draw on biodiversity features, historical context and the landscape value of the hedgerow.

It is up to the local planning authority to decide whether circumstances justify the removal of an "Important" hedgerow. However, there is a strong presumption that Important hedgerows will be protected (Defra, 1997)¹¹.

Hedgerows are included as a 'habitat of principal importance for the conservation of biodiversity in England' under *Section 41 of the Natural Environment and Rural Communities Act (2006)* and as a priority habitat within the Barnsley Biodiversity Action Plan (LBAP). As such they are material considerations for the purposes of planning applications. Some species and their habitats are also afforded protection under national and international statutes and they can use hedgerows as a habitat resource (most notably breeding birds).

¹¹ DEFRA (1997) *The Hedgerow Regulations 1997*. Available at <http://www.legislation.gov.uk/uksi/1997/1160/contents/made>



Summary

Badgers

Although records of four badger setts were returned by SYBgG within 2 km of the site, the date of these records and the current activity levels at these setts are unknown, and the site is separated from these setts by barriers to dispersal. Similarly, the six recent records and seven historical records of badger returned by BBRC were all over 900 m from the site and considered to be separated from the site by barriers to dispersal.

No evidence of badgers or their setts, within or 50 m adjacent to the site, was found during the survey. As such, it was considered that badgers were likely absent from the site, at the time of the walkover survey.

Hedgerows

All of the surveyed hedgerows are considered likely to be at least 35 years old.

In addition, eight hedgerows (H2, H13, H17, H17a, H17b, H22a, H23 & H28) on site meet the criteria to be considered Important, with regards to the criteria for 'wildlife and landscape' listed in Part II of Schedule 1 of the *Hedgerows Regulations 1997*.

As such, permission must be gained from the local planning authority prior to removal of any of the eight Important hedgerows on site, by submitting a hedgerow removal notice (as detailed in Schedule 4 of the *Hedgerows Regulations 1997*). Where a hedgerow removal notice has been received by the local planning authority, a period of 42 days (from receipt of the notice) has expired and the local planning authority have not given notice stating that the work may not be carried out, hedgerow removal may proceed.

The removal of Important hedgerows is permitted without a hedgerow removal notice, subject to the specific conditions detailed below:

- When making a new opening in substitution for an existing opening which gives access to land, but where the existing opening is planted with replacement hedgerow within eight months of creating the new opening;
- For obtaining temporary access to any land in order to give assistance in an emergency;
- Obtaining access to land where another means of access is not available or is available only at disproportionate cost;
- The purposes of national defence;
- Carrying out development for which planning permission has been granted or is deemed to have been granted, except development for which permission is granted by article 3 of the *Town and Country Planning General Permitted Development Order 1995* in respect of development of any of the descriptions contained in Schedule 2 to that Order other than Parts 11 and 30;
- Carrying out, pursuant to, or under, the *Land Drainage Act 1991*, the *Water Resources Act 1991* or the *Environment Act 1995*, work for the purpose of flood defence or land drainage;
- Preventing the spread of, or ensuring the eradication of—



- Any plant pest, within the meaning of the *Plant Health (Great Britain) Order 1993*, in respect of which any action is being, or is to be, taken under Article 22 or 23 of that Order, or
- Any tree pest, within the meaning of the *Plant Health (Forestry) (Great Britain) Order 1993*, in respect of which any action is being, or is to be, taken under Article 21 or 22 of that Order;
- Carrying out by the Secretary of State of his functions in respect of any highway for which he is the highway authority or in relation to which, by virtue of section 4 of the *Highways Act 1980*, he has the same powers under that Act as the local highway authority;
- Carrying out any felling, lopping or cutting back required or permitted as a consequence of any notice given or order made under paragraph 9 of Schedule 4 to the *Electricity Act 1989*; or
- For the proper management of the hedgerow.

Although the remaining hedgerows on site do not meet the criteria to be classified as Important at this time, with regards to the criteria for 'wildlife and landscape' within the *Hedgerows Regulations 1997*, **all hedgerows on site** are considered to meet the criteria to be considered HPI under both the NERC Act and LBAP.

It should be noted that **hedgerows can also be considered Important based upon 'archaeology and history' criteria (Paragraph 1-5 of Part II of the Regulations)**, which have not been considered as part of this ecological assessment. As such, hedgerows on site which are not considered Important with regards to the 'wildlife and landscape' criteria, may be Important when assessed against the 'archaeology and history'.



Quality Control	
Version:	January 2021
	ISSUE
Prepared by:	 Alex Blackburn Assistant Ecologist
Checked By:	 Jonathan Siberry ACIEEM Project Ecologist
Verified By:	 Barry Clarkson CEnv MCIEEM Principal Ecologist

Version:	Date:	Updated by:	Verified by:	Description of changes:
Final	22.07.21	LV	MJ	Final Issue with updated hedge references and additions

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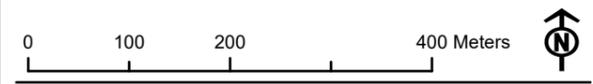
Figure 1 – Hedgerow Location Plan



Rev	Date	Notes
A	16/07/21	Initial map production

Legend

- Important Hedgerows, with reference to 'Wildlife and Landscape' criteria
- Other surveyed hedgerows
- Site boundary



Hedgerow Location Plan

**Barnsley West
Strata Sterling Barnsley West**

Scale at A3: 1:7,000	Project No: 784-A107940	Drawing No: Figure 7.3	Revision: A
Drawn by: Carys Leftley	Drawn date: 22/07/2021	Approved by: Jonathan Siberry	

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Appendix A – Report Conditions

This Report has been prepared using reasonable skill and care for the sole benefit of [Strata Sterling Barnsley West Ltd] (“the Client”) for the proposed uses stated in the report by [WYG Environment Planning Transport Limited] (“WYG”). WYG exclude all liability for any other uses and to any other party. The report must not be relied on or reproduced in whole or in part by any other party without the copyright holder’s permission.

No liability is accepted or warranty given for; unconfirmed data, third party documents and information supplied to WYG or for the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report. WYG does not purport to provide specialist legal, tax or accounting advice.

The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections'. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The “shelf life” of the Report will be determined by a number of factors including; its original purpose, the Client’s instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors.



Appendix B – Schedule 2: Woodland Species

Bluebell (<i>Hyacinthoides non-scripta</i>)	Nettle-leaved bell-flower (<i>Campanula trachelium</i>)
Broad buckler fern (<i>Dryopteris dilatata</i>)	Oxlip (<i>Primula elatior</i>)
Broad-leaved helleborine (<i>Epipactis helleborine</i>)	Pignut (<i>Conopodium majus</i>)
Bugle (<i>Ajuga reptans</i>)	Primrose (<i>Primula vulgaris</i>)
Common cow-wheat (<i>Melampyrum pratense</i>)	Ramsons (<i>Allium ursinum</i>)
Common dog violet (<i>Viola riviniana</i>)	Sanicle (<i>Sanicula europaea</i>)
Common polypody (<i>Polypodium vulgare</i>)	Scaly male-fern (<i>Dryopteris affinis</i>)
Dog's mercury (<i>Mercurialis perennis</i>)	Small cow-wheat (<i>Melampyrum sylvaticum</i>)
Early dog violet (<i>Viola reichenbachiana</i>)	Soft shield fern (<i>Polystichum setiferum</i>)
Early purple orchid (<i>Orchis mascula</i>)	Sweet violet (<i>Viola odorata</i>)
Enchanter's nightshade (<i>Circaea lutetiana</i>)	Toothwort (<i>Lathraea squamaria</i>)
Giant fescue (<i>Festuca gigantea</i>)	Tormentil (<i>Potentilla erecta</i>)
Goldilocks buttercup (<i>Ranunculus auricomus</i>)	Wild strawberry (<i>Fragaria vesca</i>)
Great bell-flower (<i>Campanula latifolia</i>)	Wood anemone (<i>Anemone nemorosa</i>)
Greater wood-rush (<i>Luzula sylvatica</i>)	Wood avens/Herb bennet (<i>Geum urbanum</i>)
Hairy brome (<i>Bromus ramosus</i>)	Wood false-brome (<i>Brachypodium sylvaticum</i>)
Hairy woodrush (<i>Luzula pilosa</i>)	Wood horsetail (<i>Equisetum sylvaticum</i>)
Hard fern (<i>Blechnum spicant</i>)	Wood meadow-grass (<i>Poa nemoralis</i>)
Hard shield fern (<i>Polystichum aculeatum</i>)	Wood melic (<i>Melica uniflora</i>)
Hart's tongue (<i>Asplenium scolopendrium</i>)	Wood millet (<i>Milium effusum</i>)
Heath bedstraw (<i>Galium saxatile</i>)	Wood sage (<i>Teucrium scorodonia</i>)
Herb paris (<i>Paris quadrifolia</i>)	Wood sedge (<i>Carex sylvatica</i>)
Herb-Robert (<i>Geranium robertianum</i>)	Wood sorrel (<i>Oxalis acetosella</i>)
Lady fern (<i>Athyrium filix-femina</i>)	Wood speedwell (<i>Veronica montana</i>)
Lords-and-ladies (<i>Arum maculatum</i>)	Wood spurge (<i>Euphorbia amygdaloides</i>)
Male fern (<i>Dryopteris filix-mas</i>)	Woodruff (<i>Galium odoratum</i>)
Moschatel (<i>Adoxa moschatellina</i>)	Yellow archangel (<i>Lamiaeum galeobdolon</i>)
Narrow buckler-fern (<i>Dryopteris carthusiana</i>)	Yellow pimpernel (<i>Lysimachia nemorum</i>)

Appendix C – Additional Hedgerow Survey Information

Hedgerows identified as 'Important', with regards to the criteria for 'wildlife and landscape' within the *Hedgerows Regulations 1997*, have been highlighted in **green**.

Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
1	Hawthorn <i>Crataegus monogyna</i> and elder <i>Sambucus nigra</i>	Annual meadow-grass <i>Poa annua</i> , perennial rye-grass <i>Lolium perenne</i> , broad-leaved dock <i>Rumex obtusifolius</i> , common nettle <i>Urtica dioica</i> and chickweed <i>Stellaria media</i> , Yorkshire fog <i>Holcus lanatus</i> , Shepherd's purse <i>Capsella bursa-pastoris</i> and pineappleweed <i>Matricaria discoidea</i> .	3	None	
2	Hawthorn, elder, ash <i>Fraxinus excelsior</i> and rose <i>Rosa sp.</i>	Cock's-foot <i>Dactylis glomerata</i> , Annual meadow-grass, perennial rye-grass, spear thistle <i>Cirsium vulgare</i> , common nettle, creeping buttercup <i>Ranunculus repens</i> . cleavers <i>Galium aparine</i> , cow parsley <i>Anthriscus Sylvestris</i> , American willowherb <i>Epilobium ciliatum</i> , Dove's-foot crane's-bill <i>Geranium mole</i> , Ragwort <i>Jacobeia</i>	3	Gaps <10%; At least one standard tree per 50 m	



Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
	Bramble <i>Rubus fruticosus</i> agg ¹²	<i>vulgaris</i> , common comfrey <i>Symphytum officinale</i> and soft brome <i>Bromus hordeaceus</i> .			
2a	Hawthorn, ash, privet sp. <i>Ligustrum</i> sp., leylandii sp. <i>Cupressus</i> sp.	Common nettle, bramble, Cock's-foot <i>Dactylis glomerate</i> , Annual meadow-grass, perennial rye-grass, spear thistle <i>Cirsium vulgare</i> , creeping buttercup <i>Ranunculus repens</i> . cleavers <i>Galium aparine</i> , cow parsley <i>Anthriscus Sylvestris</i> , American willowherb <i>Epilobium ciliatum</i> , Dove's-foot crane's-bill <i>Geranium mole</i> , Ragwort <i>Jacobea vulgaris</i> , common comfrey <i>Symphytum officinale</i> and soft brome <i>Bromus hordeaceus</i> .	2	Gaps <10%	

¹² Please note, bramble and ivy are not classified as a woody species under Schedule 3 of the *Hedgerows Regulations 1997*



Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
3	Hawthorn, ash, rose, willow sp. <i>Salix sp.</i> and cherry sp. <i>Prunus sp.</i> Bramble and sycamore <i>Acer pseudoplatanus</i> ¹³	False oat-grass <i>Arrhenatherum elatius</i> , cock's-foot, perennial rye-grass, annual meadow-grass, cow parsley, hogweed <i>Heracleum sphondylium</i> , spear thistle, common nettle, Yorkshire fog, ragwort, American willowherb, pineappleweed, dove's-foot crane's-bill and common vetch <i>Vicia sativa</i> .	0	Ditch	
4	Hawthorn, holly <i>Ilex aquifolium</i> , elder and hazel <i>Corylus avellana</i> . Bramble	Perennial rye-grass, annual meadow-grass, Yorkshire fog, soft brome, cow parsley, cleavers, broad-leaved dock, wood avens <i>Geum urbanum</i> , selfheal <i>Prunella vulgaris</i> , garlic mustard <i>Alliaria petiolata</i> , creeping thistle, chickweed, germander speedwell <i>Veronica chamaedrys</i> , common ivy <i>Hedera helix</i> , dandelion <i>Taraxacum agg.</i> , hedge bindweed <i>Calystegia sepium</i> and common nettle.	0	None	

¹³ Please note, sycamore is a non-native species and not classified as a woody species under Schedule 3 of the *Hedgerows Regulations 1997*

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Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
4a	Dog rose, elder, hawthorn, oak sp. and gorse <i>Ulex europaeus</i> . Sycamore.	Common nettle, cleavers, Perennial rye-grass, annual meadow-grass, Yorkshire fog, soft brome, cow parsley, broad-leaved dock, wood avens <i>Geum urbanum</i> , selfheal <i>Prunella vulgaris</i> , garlic mustard <i>Alliaria petiolata</i> , creeping thistle, chickweed, germander speedwell <i>Veronica chamaedrys</i> , common ivy <i>Hedera helix</i> , dandelion <i>Taraxacum agg.</i> , and hedge bindweed <i>Calystegia sepium</i> .	1	Gaps <10%	
5	Hawthorn, elder and rose Bramble	Yorkshire fog, annual meadow-grass, perennial rye-grass, cock's-foot, common bent <i>Agrostis stolonifera</i> , spear thistle, cleavers, meadow buttercup <i>Ranunculus acris</i> , dandelion, wood avens, common nettle, cow parsley, burdock <i>Articum sp.</i> , creeping buttercup and broad-leaved dock.	2	Gaps <10%	

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Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
6	Hawthorn, elder and rose Bramble	Yorkshire fog, perennial rye-grass, annual meadow-grass, cock's-foot, Timothy <i>Phleum pratense</i> , spear thistle, creeping thistle, broad-leaved dock, common nettle, cow parsley, <i>Brassica sp.</i> , and meadow buttercup.	2	Gaps <10%	
7	Hawthorn, elder and rose Bramble	False oat-grass, crested dog's-tail, cock's-foot, perennial rye-grass, annual meadow-grass, rough meadow-grass <i>Poa trivialis</i> , broad-leaved dock, cleavers, common nettle, spear thistle, bramble, meadow buttercup, creeping buttercup, great willowherb <i>Epilobium hirsutum</i> and bittersweet <i>Solanum dulcamara</i> .	3	None	



Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
8	Hawthorn, elder and rose. Bramble	Yorkshire fog, perennial rye-grass, common bent, annual meadow-grass, false oat-grass, spear thistle, creeping buttercup, meadow buttercup, broad-leaved dock, cleavers, garlic mustard, common vetch, wood avens and common nettle.	3	Gaps <10%; Ditch	
9	Hawthorn, hazel, pedunculate oak <i>Quercus robur</i> , blackthorn <i>Prunus spinosa</i> and rose Bramble and sycamore	Cock's-foot, common bent, Yorkshire fog, perennial rye-grass, false oat-grass, soft brome, cleavers, broad-leaved dock, common nettle, garlic mustard, hedge bindweed, hogweed, great willowherb, common comfrey, bracken <i>Pteridium aquilinum</i> , common bird's-foot trefoil <i>Lotus corniculatus</i> and pineappleweed.	2	Gaps <10%; Ditch	

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Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
10	Hawthorn, ash and rose Bramble.	False oat-grass, crested dog's-tail <i>Cynosurus cristatus</i> , annual meadow-grass, common bent, Timothy, cock's-foot, perennial rye-grass, cow parsley, spear thistle, broad-leaved dock, common vetch, garlic mustard, common ivy, bramble, meadow buttercup and groundsel <i>Senecio vulgaris</i> .	0	Ditch	
11	Hawthorn and rose	Common bent, cock's-foot, false oat-grass, perennial rye-grass, timothy, annual meadow-grass, spear thistle, broad-leaved dock, common nettle, common vetch and wood avens.	3	Gaps <10%; Ditch	



Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
12	Hawthorn and rose Bramble.	Common bent, cock's-foot, Yorkshire fog, perennial rye-grass, timothy, annual meadow-grass, cow parsley, spear thistle, cleavers, creeping buttercup, broad-leaved dock, common nettle, garlic mustard, common ivy, creeping thistle, dandelion and burdock	0	Gaps <10%	
13	Hawthorn, elder, rose, hazel, blackthorn, pedunculate oak and ash	Annual meadow-grass, perennial rye-grass, common bent, common nettle, broad-leaved dock, dandelion, spear thistle, common ivy, cleavers, white clover <i>Trifolium repens</i> , wood avens, creeping thistle, nipplewort <i>Lapsana communis</i> and feverfew <i>Tanacetum parthenium</i> .	0	At least one standard tree per 50 m	



Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
14	Hawthorn, elder, and rose. Bramble, ivy ¹⁴ and sycamore	False oat-grass, cock's-foot, Yorkshire fog, perennial rye-grass, timothy, annual meadow-grass, cow parsley, spear thistle, cleavers, common ivy, broad-leaved dock, common nettle, creeping bent, garlic mustard, American willowherb, great willowherb and wood avens.	4	Gaps <10%;	
15	Hawthorn, elder, pedunculate oak, and rose. Bramble, sycamore and ivy.	False oat-grass, cock's-foot, Yorkshire fog, creeping bent, perennial rye-grass, annual meadow-grass, cow parsley, spear thistle, bracken, bramble, broad-leaved dock, common nettle, cleavers and American willowherb.	4	Gaps <10%; Ditch; Parallel hedge; At least one standard tree per 50 m	

¹⁴ Please note, ivy is not classified as a woody species under Schedule 3 of the *Hedgerows Regulations 1997*

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Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
15a	Dog rose, elder, hawthorn, oak sp., gorse. Sycamore.	Cow parsley, garlic mustard, dandelion, hogweed, daffodil sp. <i>Narcissus sp.</i>	0	Gaps <10%; Parallel hedge; At least one standard tree per 50 m	
16	Hawthorn, and elder. Sycamore and bramble	False oat-grass, cock's-foot, perennial rye-grass, annual meadow-grass, Timothy, cow parsley, cleavers, bracken, broad-leaved dock, garlic mustard, common comfrey and common nettle.	2	Gaps <10%; Parallel hedge	
17	Hawthorn, elder, gorse and rose. Sycamore and bramble.	False oat-grass, cock's-foot, perennial rye-grass, annual meadow-grass, creeping bent, prickly sowthistle <i>Sonchus aspercow</i> , parsley, creeping thistle, spear thistle, garlic mustard, ivy, bracken, broad-leaved dock, dandelion, cleavers, wood avens and common nettle.	0	Gaps <10%; Parallel hedge	



Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
17a	Oak sp., ash, holly, hawthorn, dog rose, crab apple <i>Malus sp.</i> , field maple <i>Acer campestre</i> , hazel, elder, guelder rose <i>Viburnum opulus</i> . Ivy.	Broad-leaved dock, common nettle, bluebell <i>Hyacinthoides non-scripta</i> , and cow parsley.	2	Bank; Gaps <10%; At least one standard tree per 50 m; At least 3 woodland species; Parallel hedge.	
17b	Hawthorn, elder, pedunculate oak, hazel, crab apple, field maple, blackthorn, dog rose, ash. Sycamore.	Bluebell, ivy, bramble, dandelion, broad-leaved dock, common nettle and cow parsley.	0	Bank; Gaps <10%; At least one standard tree per 50 m; At least 3 woodland species; Parallel hedge.	
18	Hawthorn, elder and rose. Bramble	False oat-grass, creeping bent, cock's-foot, perennial rye-grass, annual meadow-grass, cow parsley, spear thistle, creeping buttercup, creeping thistle, common vetch, garlic mustard, rosebay willowherb <i>Chamaenerion angustifolium</i> , broad-leaved	1	Gaps <10%; Ditch	



Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
		dock, common nettle and great willowherb.			
19	Blackthorn <i>Prunus spinosa</i> , elder, hawthorn and rose.	Perennial rye-grass, cock's-foot, creeping bent, annual meadow-grass, dandelion, common bird's-foot trefoil, spear thistle, creeping thistle, cow parsley, common nettle, dove's-foot crane's-bill and bittersweet.	0	Gaps <10%	
20	Hawthorn and elder.	False oat-grass, perennial rye-grass, annual meadow-grass, creeping thistle, broad-leaved dock, spear thistle and common nettle.	3	Gaps <10%	

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Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
20a	Pedunculate oak, hawthorn and silver birch. Sycamore	False oat-grass, perennial rye-grass, annual meadow-grass, creeping thistle, broad-leaved dock, spear thistle and common nettle	2	Gaps <10%; At least one standard tree per 50 m.	
21	Hawthorn, elder and rose. Bramble	False oat-grass, Timothy, creeping bent, crested dog's-tail, perennial rye-grass, annual meadow-grass, spear thistle, meadow buttercup, creeping buttercup, creeping thistle, common bird's-foot trefoil, garlic mustard and common nettle.	3	Gaps <10%	

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Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
22	Hawthorn and elder.	Yorkshire fog, perennial rye-grass, annual meadow-grass, creeping thistle, spear thistle, garlic mustard, broad-leaved dock, meadow buttercup and common nettle.	3	Gaps <10%	
22a	Hawthorn, silver birch, alder, ash.	Yorkshire fog, perennial rye-grass, annual meadow-grass, creeping thistle, spear thistle, garlic mustard, broad-leaved dock, meadow buttercup and common nettle.	2	Gaps <10%; At least one standard tree per 50 m; Ditch.	
23	Hawthorn, elder, pedunculate oak and rose. Bramble	Yorkshire fog, cock's-foot, perennial rye-grass, annual meadow-grass, garlic mustard, creeping buttercup, meadow buttercup, broad-leaved dock and common nettle.	4	Gaps <10%; Bank	

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Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
24	Hawthorn, elder and rose.	Cock's-foot, Yorkshrie fog, perennial rye-grass, annual meadow-grass, cleavers, ivy, creeping buttercup, garlic mustard, wood avens, spear thistle, broad-leaved dock, common nettle and honeysuckle <i>Lonicera periclymenum</i> .	1	None	
25	Hawthorn, elder and rose. Bramble	False oat-grass, creeping bent, perennial rye-grass, annual meadow-grass, cock's-foot, wood avens, honeysuckle, cow parsley, cleavers, creeping thistle, ivy, broad-leaved dock, soft brome and white clover.	1	Gaps <10%	

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Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
26	Hawthorn and rose. Bramble	False oat-grass, perennial rye-grass, annual meadow-grass, cock's-foot, Yorkshire fog, creeping bent, cow parsley, creeping thistle, spear thistle, spear thistle, cleavers, common nettle, broad-leaved dock, American willowherb, wood avens, rosebay willowherb, prickly sowthistle, dove's-foot crane's-bill and ivy.	2	Gaps <10%	
27	Hawthorn, elder and rose. Bramble	False oat-grass, perennial rye-grass, annual meadow-grass, cock's-foot, Yorkshire fog, cow parsley, spear thistle, spear thistle, cleavers, creeping buttercup, common nettle, great willowherb and garlic mustard, ivy, broad-leaved dock, wood avens, rosebay willowherb, honeysuckle, red-dead nettle <i>Lamium purpureum</i> .	1	Gaps <10%; Ditch	



Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
28	Hawthorn, elder, blackthorn, ash and rose. Bramble	Annual meadow-grass, Yorkshire fog, cock's-foot, false oat-grass, perennial rye-grass, creeping bent, cow parsley, creeping thistle, spear thistle, cleavers, creeping buttercup, bramble, broad-leaved dock, greater plantain <i>Plantago major</i> , meadow buttercup, dandelion, prickly sowthistle, garlic mustard, ivy, wood avens, common bird's-foot trefoil, cinquefoil sp. <i>Potentilla sp.</i> , and common nettle.	6	Gaps <10%; Ditch	
29	Hawthorn and rose. Bramble	Cock's-foot, Yorkshire fog, crested dog's-tail, perennial rye-grass, annual meadow-grass, creeping thistle, spear thistle, cleavers, greater plantain, broad-leaved dock, ragwort, common nettle, cow parsley, creeping buttercup, prickly sowthistle, chickweed and white clover.	3	Gaps <10%; Ditch	



Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
30	Hawthorn, rose and elder. Bramble	Perennial rye-grass, crested dog's-tail, Yorkshrie fog, creeping bent, annual meadow-grass, creeping thistle, cleavers, creeping buttercup, white clover, soft brome, prickly sowthistle, daisy <i>Bellis perennis</i> , spear thistle, chickweed, dandelion and common nettle.	2	Gaps <10%; Ditch	
31	Hawthorn	Perennial rye-grass, annual meadow-grass, creeping thistle, broad-leaved dock, creeping buttercup, dandelion, common bird's-foot trefoil, spear thistle, chickweed and common nettle.	3	Gaps <10%	

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Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
32	Hawthorn	Perennial rye-grass, annual meadow-grass, common nettle, creeping thistle, dandelion, spear thistle, chickweed and white clover.	3	None	
33	Hawthorn, rose and elder.	Annual meadow-grass, perennial rye-grass, false oat-grass, Yorkshire fog, creeping bent, common nettle, broad-leaved dock, spear thistle, creeping thistle, cleavers, dove's-foot crane's-bill, soft brome, creeping buttercup, ragwort, chickweed.	3	Gaps <10%	



Hedgerow Number	Hedgerow Species Recorded	Ground Flora Species Recorded	Connection Score	Associated Features	Photograph
34	Hawthorn and rose. Bramble	False oat-grass, crested dog's-tail, creeping bent, soft rush <i>Juncus effusus</i> , cock's-foot, Yorkshire fog, annual meadow-grass, rough meadow-grass, spear thistle, creeping buttercup, garlic mustard, ribwort plantain <i>Plantago lanceolata</i> , common nettle and common vetch.	1	Gaps <10%; Ditch	
35	Hawthorn, elder, hazel, ash and pedunculate oak. Bramble	Yorkshire fog, false oat-grass, perennial rye-grass, prickly sowthistle, red-dead nettle, common nettle, spear thistle, creeping buttercup, cleavers, ragwort, wood avens, dove's-foot crane's-bill and bittersweet.	1	At least one standard tree per 50 m	



APPENDIX D – CONFIDENTIAL

Badger Appendix (Not for Public Distribution)



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WYG Environment Planning Transport Limited.

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