PHASE 1 HABITAT SURVEY REPORT
at
Land off Old Lane
Scapegoat Hill
Huddersfield
West Yorkshire
HD7 4ND

Client:
Brierstone Ltd

Client Address:
351 Whalley Road
Clayton Le Moors
Accrington
BB5 5QZ

JCA Ref:
12769/JoC

Date:
30/08/2016

Quality Assurance

Version	**Desktop Survey Completed:**		**Site Surveyed:**		**Report Completed:**		**Checked:**	
	Date	Name	Date	Name	Date	Name	Date	Name
Pre-application draft	1st April 2016	Josie Collier	6th April 2016	Josie Collier	22nd April 2016	Josie Collier	22nd April 2016	Simeon Haigh
Revision 1					18th July 2016	Josie Collier	18th July 2016	David Bodenham
Revision 2					30th August 2016	Josie Collier	30th August 2016	Freya Olsson

This report has been prepared and provided in accordance with the *British Standard 42020: Biodiversity – Code of practice for planning and development* and the *CIEEM's Code of Professional Conduct.*

Contents

1 Summary

1.1 Purpose of the Report

1.1.1 A report is required for **the Land off Old Lane, Scapegoat Hill** to assess the ecological value of the site by documenting the habitat types present and the site's potential for supporting rare and protected species.

1.2 Methodology

1.2.1 A desktop study was carried out to obtain all records of protected and notable species, as well as designated wildlife sites, within a 2km radius of the site.

1.2.2 A Phase 1 Habitat Survey was undertaken in which the ecologist visited the site mapped and described each habitat type that was present. The dominant floral species of each habitat was noted as well as any faunal species that were encountered. Any features that showed potential to support protected species were noted.

1.3 Key Issues

1.3.1 The desktop study did not reveal any protected species within the site. There are records of linnet and adder within 500m of the site.

1.3.2 The site visit revealed habitats of low ecological value at the site. There is a small area of lowland heath towards the centre of the site, which is listed as a priority habitat in the Kirklees Biodiversity Action Plan (BAP). An objective of the plan is to 'protect existing lowland heath from development'.

1.4 Recommendations

1.4.1 As the development intends to occupy a large proportion of the site, it is unlikely that all impacts upon biodiversity can be avoided. Steps should be taken to minimise these impacts and where possible, restoration and offsetting should occur, aiming for net biodiversity gain within the site.

1.4.2 The development should aim to avoid affecting the heathland habitat as this is listed as a priority habitat in the local BAP and has some potential to support reptiles. However, as the area of heathland is small in size and has poor connectivity to other areas of the same habitat, its value is relatively low and the removal of this habitat could be mitigated by replacing it with habitats of greater ecological value.

1.4.3 A method statement for reptiles has been produced (**JCA ref: 12769a/FO**) to ensure that the proposed development does not impact upon any reptile species that may enter this site.

1.5 Conclusions

1.5.1 After conducting a thorough site investigation and a detailed desktop study, we consider the **land off Old Lane** to contain habitats of low ecological value. Those areas that are likely to be impacted can be appropriately mitigated and enhancement measures can be put in place to aid a net biodiversity gain.

2 Introduction and Terms of Reference

2.1 Purpose of the Report

2.1.1 A report is required for the **Land off Old Lane, Scapegoat Hill** to assess the ecological value of the site by documenting the habitat types present and the site's potential for supporting rare and protected species.

2.1.2 The purpose of the report is to identify all potentially significant ecological effects associated with the proposed development and to outline appropriate mitigation and enhancement measures.

2.2 Terms of Reference

2.2.1 I am instructed by **Brierstone Ltd** to visit the site and prepare my findings in a report.

2.2.2 For this purpose I have been supplied with a site map (drawing: **SGH02/0715/04**), and brief details of the proposal.

2.3 Scope of the Report

2.3.1 This survey was carried out in accordance with the Joint Nature Conservation Committee's (JNCC's) *Handbook for Phase 1 habitat survey - A technique for environmental audit* (Revised reprint 2010).

2.3.2 This report is compiled in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM's) *Guidelines for Ecological Report Writing* (2015) and to the British Standard Institution's *Biodiversity – Code of Practice for Planning and Development* (2013).

2.4 Details of Proposed Development

2.4.1 The development proposed on this site is the erection of four dwellings.

2.5 Site Description

2.5.1 **Land off Old Lane, Scapegoat Hill** is situated approximately 5km west of Huddersfield town centre at grid reference: SE090163.

2.5.2 The site is directly surrounded by residential properties, with agricultural fields immediately beyond this.

3 Methodology

3.1 Desktop Study Methodology

3.1.1 A desktop study has been undertaken on 1st April 2016 by Josie Collier, *BSc (Hons), GradCIEEM*, in order to obtain any relevant ecological records that may be present within a 2km radius of the site. This includes protected and notable species records, as well as nature conservation designations. For this site, West Yorkshire Ecology was contacted.

3.1.2 The Multi-Agency Geographic Information for the Countryside (MAGIC) website was used to locate any designated sites that may be present within 2km of the survey site, such as; Local Nature Reserves (LNR), Special Areas of Conservation (SAC) or Sites of Special Scientific Interest (SSSI).

3.2 Site Assessment Methodology

3.2.1 A thorough site assessment was undertaken on 6th April 2016 by Josie Collier, *BSc (Hons), GradCIEEM*, following the guidelines set out in the JNCC's *Handbook for Phase 1 habitat surveys*.

3.2.2 The entire site was walked over by an experienced consultant who mapped and described each habitat type that was present. The dominant floral species of each habitat was noted as well as any faunal species that were encountered.

3.2.3 Whilst conducting the site walk-over, any features that may be of value to or have the potential to support protected species were noted and photographic evidence taken (please refer to **Appendix 2**). Such protected species include, but are not limited to; Badgers, Bats, Dormice, Great Crested Newts, Nesting Birds, Otter, Reptiles, Water Vole, White-Clawed Crayfish (please see **Appendix 5**).

3.2.4 The following limitations to this survey are stated below:

3.2.5 The survey was conducted during the sub-optimal time for botanical surveys. Therefore, many of the plant species encountered were either not in flower/leaf, dead or with their structure damaged by frost. Plant species that may be present in the summer months are often not visible in the winter. If a more accurate and comprehensive floral record is required, the optimum time to conduct botanical surveys would be between the months of April and September. This limitation made floral identification difficult, meaning this report will not represent a comprehensive indication of the site's biodiversity. However, this constraint will not affect the overall conclusion of the report, as habitat types can still be classified and the potential for protected species can still be accurately assessed.

3.2.6 Some areas of the site were inaccessible due to dense scrub vegetation to the south and closed fencing around a garden area to the north. These areas were surveyed from a distance and their potential to support protected species could still be assessed.

4 Results

4.1 Desktop Study Results

4.1.1 Local Data Centre Records: The records of protected species obtained from West Yorkshire Ecology have been summarised in **Table 1** below.

Table 1: West Yorkshire Ecology's records of protected and notable species within a 2km radius of the site. An asterisk * denotes records that are within 500m of the site.

Group	Common Name	Scientific Name	No. of Records	Most Recent Record
Amphibian	Common Toad	*Bufo bufo*	28	2008
	Common Frog	*Rana temporaria*	18	2009
	Palmate Newt	*Triturus helveticus*	2	2010
Bird	Common Sandpiper	*Actitis hypoleucos*	1	<1988
	Skylark	*Alauda arvensis*	7	2000
	Kingfisher	*Alcedo atthis*	3	1991
	Mallard	*Anas platyrhynchos*	11	2015
	Meadow Pipit	*Anthus pratensis*	4	2010
	Swift	*Apus apus*	1	<1988
	Linnet	*Carduelis cannabina*	5*	2000
	Goldfinch	*Carduelis carduelis*	4	2008
	Stock Dove	*Columba oenas*	2	1991
	Cuckoo	*Cuculus canorus*	2	1991
	House Martin	*Delichon urbica*	5	2008
	Yellowhammer	*Emberiza citrinella*	2	1991
	Reed Bunting	*Emberiza schoeniclus*	1	<1988
	Kestrel	*Falco tinnunculus*	7	2008
	Snipe	*Gallinago gallinago*	3	1991
	Swallow	*Hirundo rustica*	11	2010
	Black-headed Gull	*Larus ridibundus*	1	<1988
	Grey Wagtail	*Motacilla cinerea*	3	1991
	Spotted Flycatcher	*Muscicapa striata*	2	1991
	House Sparrow	*Passer domesticus*	3	<1988
	Tree Sparrow	*Passer montanus*	2	1991
	Willow Warbler	*Phylloscopus trochilus*	2	1991
	Green Woodpecker	*Picus viridis*	2	1991
	Golden Plover	*Pluvialis apricaria*	37	2012
	Dunnock	*Prunella modularis*	3	1991
	Bullfinch	*Pyrrhula pyrrhula*	3	1991
	Water Rail	*Rallus aquaticus*	1	<1988
	Sand Martin	*Riparia riparia*	1	<1988
	Starling	*Sturnus vulgaris*	1	<1988
	Redwing	*Turdus iliacus*	2	1991
	Song Thrush	*Turdus philomelos*	4	2000
	Fieldfare	*Turdus pilaris*	2	1991
	Mistle Thrush	*Turdus viscivorus*	3	1991
	Barn Owl	*Tyto alba*	1	<1988

Bird	Lapwing	*Vanellus vanellus*	3	1991
Flowering Plant	Canadian Waterweed	*Elodea canadensis*	12	2001
	Japanese Knotweed	*Fallopia japonica*	14	2015
	Bluebell	*Hyacinthoides non-scripta*	1	2008
	Himalayan Balsam	*Impatiens glandulifera*	14	2015
	Floating Water-plantain	*Luronium natans*	4	2001
	Rhododendron	*Rhododendron ponticum*	1	2008
Insect - Beetle	Helophorus griseus	*Helophorus griseus*	1	Unknown
	Rhizophagus nitidulus	*Rhizophagus nitidulus*	1	Unknown
	Xylostiba monilicornis	*Xylostiba monilicornis*	1	Unknown
Reptile	Adder	*Vipera berus*	2*	2008
Terrestrial Mammal	Brown Hare	*Lepus europaeus*	3	1999
	American Mink	*Mustela vison*	1	2005
	Daubenton's Bat	*Myotis daubentonii*	1	2010
	Whiskered Bat	*Myotis mystacinus*	1	2008
	Pipistrelle Bat Species	*Pipistrellus sp.*	4	2007
	Common Pipistrelle	*Pipistrellus pipistrellus*	19	2014
	Soprano Pipistrelle	*Pipistrellus pygmaeus*	1	2008
	Brown Long-eared Bat	*Plecotus auritus*	2	2014
	Unknown Bat	*Vespertilionidae*	12	2012

4.1.2 Nature Conservation Designations: This search did not reveal any records of any designated nature conservation sites within 2km of the site, therefore designated site's will not be considered further in this assessment.

4.1.3 Local Biodiversity Enhancement Plan: The local Biodiversity Enhancement Plan (BAP) that applies tot his site is the Kirklees BAP. The following habitats and species are listed under this BAP:

Table 2: Summary of habitats and species listed under the Kirklees BAP.

Kirklees BAP Habitats	Kirklees BAP Species
Arable Field Margins	Atlantic Salmon (*Salmo salar*)
Blanket Bog	Brown Hare (*Lepus europaeus*)
Hay Meadows	Brown Long-eared Bat (*Plecotus auritus*)
Hedgerows	Brown/Sea Trout (*Salmo trutta*)
Inland Rock Outcrop and Scree Habitats	Common Bullfinch (*Pyrrhula pyrrhula*)
Lowland Dry Acid Grassland	Common Grasshopper Warbler (*Locustella naevia*)
Lowland Heathland	Common Linnet (*Carduelis cannabina*)
Lowland Mixed Deciduous Woodland	Common Lizard (*Lacerta vivipara*)
Open Mosaic Habitats on Previously	Common Starling (*Sturnus vulgaris*)
Developed Land	Common Toad (*Bufo bufo*)
Other Semi-natural Grassland	Corn Bunting (*Miliaria calandra*)
Ponds	Curlew (*Numenius arquata*)

Reedbeds	European Eel (*Anguilla anguilla*)
Riverine	Great-crested Newt (*Triturus cristatus*)
Rivers	Grey Partridge (*Perdix perdix*)
Scrub	Hawfinch (*Coccothraustes coccothraustes*)
Traditional Orchards	Hedge Accentor (*Prunella modularis*)
Upland Flushes, Fens and Swamps	Hedgehog (*Erinaceus europaeus*)
Upland Heathland	House Sparrow (*Passer domesticus*)
Upland Mixed Ashwoods	Mountain Hare (*Lepus timidus*)
Upland Oakwoodland	Noctule (*Nyctalus noctula*)
Wet Woodland	Northern Lapwing (*Vanellus vanellus*)
Wood – Pasture and Parkland	Northern Wood Ant (*Formica lugubris*)
	Otter (*Lutra lutra*)
	Red Grouse (*Lagopus lagopus*)
	Reed Bunting (*Emberiza schoeniclus*)
	Ring Ouzel (*Turdus torquatus*)
	River Lamprey (*Lampetra fluviatilis*)
	Sky Lark (*Alauda arvensis*)
	Song Thrush (*Turdus philomelos*)
	Soprano Pipistrelle (*Pipistrellus pygmaeus*)
	Spotted Flycatcher (*Muscicapa striata*)
	Tree Pipit (*Anthus trivialis*)
	Tree Sparrow (*Passer montanus*)
	Turtle Dove (*Streptopelia turtur*)
	Twite (*Carduelis flavirostris*)
	Wall Brown (*Lasiommata megera*)
	Water Vole (*Arvicola terrestris*)
	White-letter Hairstreak (*Satyrium w-album*)
	Willow Tit (*Parus montanus*)
	Wood Warbler (*Phylloscopus sibilatrix*)
	Yellow Wagtail (*Motacilla flava*)
	Yellowhammer (*Emberiza citrinella*)

4.2 Habitats

4.2.1 The following habitat types are present at Land off Old Lane Scapegoat Hill (in alphabetical order):

- Amenity grassland
- Buildings
- Dry dwarf shrub heath

- Improved grassland
- Introduced shrub
- Scattered broad-leaved trees
- Scrub
- Semi-improved grassland

4.2.2 Amenity grassland: To the north of the site is an area of amenity grassland, used as a garden area for the adjacent dwelling. A wall and fence prevented a full inspection of this area and the grass has been mown. This meant that a comprehensive list of floral species present can not be provided, although species common on this type of land include Perennial Ryegrass (*Lolium perenne*), Fescues (*Festuca sp.*) and Bent Grasses (*Agrostis sp.*). The frequent management will have decreased the biodiversity and ecological value of the area.

4.2.3 Buildings: There is a small garage towards the south of the site, constructed of concrete with a steel roof. There are no gaps within the external structure of the building that would allow access by bats or birds.

4.2.4 Dry dwarf shrub heath: Within the site there is a small area of heathland, characterised by the presence of Purple Moor-grass (*Molina caerulea*), Common Gorse (*Ulex europaeus*) and Heather (*Calluna vulgaris*). These species are also indicative of acidic soils. Heathland is named as a priority habitat in the Kirklees Biodiversity Action Plan, although the area of heathland within this site is small in relation to other areas in the local vicinity.

4.2.5 Improved grassland: The north of the site contains areas of improved grassland. One of these is situated to the far north, adjacent to the amenity grassland area. The second is a strip of grassland used as a walkway between the east and west of the site. Species here include Perennial Ryegrass (*Lolium perenne*), Red Clover (*Trifolium pratense*), White Clover (*Trifolium repens*), Creeping Buttercup (*Ranunculus repens*) and Dandelion (*Taraxacum officinale*).

4.2.6 Introduced shrub: To the south of the amenity grassland is a line of introduced shrub, acting as a screen for the garden area.

4.2.7 Scattered broad-leaved trees: There are a small number of trees scattered within the site. The trees did not exhibit any cavities suitable to be used as roosting sites by bats and there was no evidence of birds nesting within any of the trees, although there is potential for birds to nest here in the future. Species here include Holly (*Ilex aquifolium*) and Hazel (*Corylus avellana*).

4.2.8 Scrub: A large portion of the site is made up of scrub vegetation. This is predominantly Bramble (*Rubus fruticosus*) with some stands of dead vegetation interspersed within. The density of this scrub vegetation prevented a detailed

inspection in the centre of the area.

4.2.9 Semi-improved grassland: The majority of the southern half of the site is made up of semi-improved grassland. Species present here include Perennial Ryegrass (*Lolium perenne*) and Cocksfoot (*Dactylis glomerata*).

4.3 Target Notes

4.3.1 **Target Note 1**: A fallen tree, creating an area of deadwood.

4.3.2 **Target Note 2**: Several topped trees.

4.4 Fauna Species Encountered

4.4.1 A single wood pigeon (*Columba palumbus*) was seen during the site visit.

4.4.2 No other faunal species were seen or heard during the survey.

4.5 Potential for Protected Species

4.5.1 Amphibians: The site does not contain the necessary bodies of water needed to support amphibians in the juvenile and breeding stages of their life-cycles. The site is either adjacent or very close to roads in all directions, making it unlikely that amphibians will commute to this area from more suitable habitat. There are no records of amphibians within 500m of the site. Therefore, these species will not be considered further in this assessment.

4.5.2 Badgers: The site does not contain the appropriate vegetative habitat to support badgers and close proximity to humans would deter them from entering this site. There was no evidence of badger activity within the site and there are no records of badgers within 2km of the site. Therefore, this species will not be considered further in this assessment.

4.5.3 Barn Owls: The site does not contain the appropriate roosting habitats to support barn owls and close proximity to humans would deter them from entering this site. There are no records of barn owls within 500m of the site. Therefore, this species will not be considered further in this assessment.

4.5.4 Bats: The buildings and trees within the site do not exhibit any gaps, crevices or cavities that could be utilised by roosting bats. There are no records of bats within 500m of the site. Therefore, these species will not be considered further in this assessment.

4.5.5 Dormice: The site does not contain the appropriate level of vegetative cover to support dormice and their distribution in the UK is largely limited to the south of England. There are no records of dormice within 2km of the site. Therefore, this species will not be considered further in this assessment.

4.5.6 Nesting Birds: The site contains a small number of trees and shrubs that could

provide suitable nesting opportunities for birds, although no evidence of nesting was seen at the time of the survey.

4.5.7 Otters: The site does not contain the required aquatic habitat to support otters and there are no records of otters within 2km of the site. Therefore, this species will not be considered further in this assessment.

4.5.8 Reptiles: The site does contain a variety of habitats which may be suitable for inhabitation by reptiles; however the close proximity to humans and small size of the site may deter them from entering this area. The site is also bordered by roads, which create some level of a barrier between the site and surrounding areas, although this is not an impermeable barrier. There are records of adder within 500m of the site; however, these records were obtained from an area of woodland close to Clay Wood beck, approximately 450m northeast of the site. This area provides favourable habitat for reptiles and it is unlikely that any reptiles species will move between the two areas as the habitats between are open agricultural grassland and urban areas.

4.5.9 Water Voles: The site does not contain the required aquatic habitat to support water voles and there are no records of water voles within 2km of the site. Therefore, this species will not be considered further in this assessment.

4.5.10 White-clawed Crayfish: The site does not contain the required aquatic habitat to support white-clawed crayfish and there are no records of white-clawed crayfish within 500m of the site. Therefore, this species will not be considered further in this assessment.

*The absence of any signs of or features considered valuable for supporting protected species, can **not** be considered evidence that these species are absent from a site, or that these species will not occupy the site in the future. It must therefore always be recommended that work be conducted with care and vigilance. Should any protected species be encountered during work (please see **Appendix 5**), work should stop immediately and JCA or Natural England contacted.*

4.6 Invasive Plant Species

4.6.1 No invasive plant species were found at this site whilst conducting the site investigation.

5 Assessment of Effects and Mitigation Measures

5.1 Desktop Study Results

5.1.1 Nature Conservation Designations: This search did not reveal any records of any designated nature conservation sites within 2km of the site.

5.1.2 Kirklees BAP Priority Habitats: Of the habitats listed in the Kirklees BAP, scrub and upland heathland are located within the site; however, these habitats are relatively small and have poor connectivity to similar habitats of better quality within the wider landscape. The full removal of these habitats is likely to be required to facilitate the development; however, due to their low ecological value, the overall biodiversity of the site can still be increased.

5.1.3 Kirklees BAP Priority Species: Of the species listed in the Kirklees BAP, no faunal species or evidence of their activity was encountered during the site survey and the desktop study did not reveal records of any of these species within the site. At present, the ecological value of the site to these species is poor but the development provides opportunities to enhance the site's potential to support these species, particularly bird species, hedgehogs and butterfly species.

5.2 Habitats

5.2.1 Amenity grassland: The amenity grassland on site is of low ecological value and will be partially retained. Additional amenity grassland will also be introduced into the site in the form of garden areas. The impact on this habitat will have negligible impact on the biodiversity of the site.

5.2.2 Buildings: The small garage building on site has negligible ecological value and will be removed to facilitate development.

5.2.3 Dry dwarf shrub heath: The upland heath habitat found on site is listed in the Kirklees BAP and heathland habitats such as these have potential to support a range of species including birds, reptiles and insects. The development proposes to occupy a large percentage of the site in which this habitat is currently situated and it is unlikely that the removal of part of this habitat can be avoided. The removal of all or part of this habitat will have little significance on the overall biodiversity of the site as the habitat is relatively small and has poor connectivity to areas of similar habitat in the widespread environment. Therefore, the removal of this habitat can be mitigated by the incorporation of new habitats which are also capable of supporting similar faunal species. Locally native trees and shrubs should be planted to attract bird and butterfly species to the site and hibernacula should be constructed on site for reptile species.

5.2.4 Improved grassland: The improved grassland to the north of the site is likely to be removed to facilitate the new development, but can be easily replaced within the garden areas. The garden areas should contain areas of species-rich grassland as well

as flower beds or native shrubs.

5.2.5 Introduced shrub: The introduced shrub on site is located to the north of a dry stone wall on site that will be retained by the proposed development, and therefore the removal of this shrub area can likely be avoided. This area can also be enhanced through the planting of more native shrubs in this area, as well as in other areas through the site. Buddleia (*Buddleja davidii*) could be considered as this species is known to attract butterflies.

5.2.6 Scattered broad-leaved trees: The small number of trees within the site will likely need to be removed to facilitate the development. If possible, the trees should be removed and relocated elsewhere within the site. If this is not possible, they should be replaced by trees of the same species. There are opportunities to plant a more diverse variety of trees within the development.

5.2.7 Scrub: Scrub is listed in the Kirklees BAP and this habitat has potential to support a host of species including birds, invertebrates and small mammals. The development proposes to occupy a large percentage of the site in which this habitat is currently situated and it is unlikely that the removal of part of this habitat can be avoided. The removal of all or part of this habitat will have little significance on the overall biodiversity of the site as the habitat is relatively small and has low species diversity. Therefore, the removal of this habitat can be mitigated by the incorporation of new habitats which are also capable of supporting similar faunal species. Locally native trees and shrubs should be planted to attract bird species and areas of deadwood and log piles will provide habitat for insects and hibernation sites for small mammals, such as hedgehogs.

5.2.8 Semi-improved grassland: The semi-improved grassland currently found on site has low ecological value but is in close proximity to the heath, often overlapping in areas. Because of this, this habitat should be mitigated in the same was as the dry dwarf shrub heath through the incorporation of new habitats which are also capable of supporting similar faunal species. Locally native trees and shrubs should be planted to attract bird and butterfly species to the site and hibernacula should be constructed on site for reptile species.

5.3 Protected Species

5.3.1 Nesting Birds: There are a small number of trees and shrubs within the site that could support nesting birds and there is a possibility that the development may have an effect on bird species. To mitigate this, the removal of vegetation, particularly trees and shrubs, should be avoided where possible. If the removal of a tree or shrub is deemed necessary, steps should be taken to have the existing tree or shrub relocated to elsewhere within the site. A planting scheme should be implemented in which locally native tree and shrub species are incorporated into the development. Bird boxes can also be erected on trees or houses and should contain a range of hole sizes to attract a variety of species.

5.3.2 Reptiles: The heath habitat on site has some potential to support reptiles, although the area of the habitat is relatively small and fragmented from the wider landscape. As there are records of adder (*Vipera berus*) within 500m of the site, a full Reptile Mitigation Plan (**JCA Ref: 12769a/FO**) has been prepared for this particular site.

5.4 Enhancement

5.4.1 Planting of native plants and trees: Along boundaries and within the development an effort should be made to include native trees, hedgerows and shrubs. This will enhance the site for fauna especially nesting birds and small mammals using hedgerows.

5.4.2 Addition of faunal boxes: The development should aim to include a number of faunal boxes which will enhance the ecological value of the site. These can include the inclusion of boxes for bats, birds and insects.

5.4.3 Construction of hibernacula: Many species, including reptiles, amphibians and hedgehogs, require hibernacula refuge for over winter. These can be constructed in gardens and rough land from the deadwood already found on site.

6 Conclusions

6.1 After conducting a thorough site investigation and a detailed Desktop Study, we consider **the land off Old Lane** to have low ecological value, with some small areas of habitat with moderate ecological value.

6.2 The desktop study did not reveal any protected species within the site. There are records of linnet and adder within 500m of the site.

6.3 Lowland heath is described as a priority habitat in the Kirklees Biodiversity Action Plan (BAP). An objective of the plan is to 'protect existing lowland heath from development'. Scrub is also listed as a priority habitat in the BAP. The loss of heath and scrub vegetation on site should be mitigated through the incorporation of new habitats that have potential to support similar faunal species. This should include trees and shrubs for birds and butterflies as well as areas of deadwood for invertebrates and small mammals, such as hedgehogs.

6.4 A full Reptile Mitigation Plan has been prepared to ensure that the development causes as little destruction to reptile habitat as possible (**JCA Ref: 12769a/FO**).

6.5 Where possible, the removal of any vegetation should be avoided or minimised. If this is not possible, efforts should be made to relocate the trees and shrubs to elsewhere on the site. A full landscaping scheme should also be incorporated into the development including species-rich areas of grassland, shrubs and trees.

6.6 The removal of any vegetation on site should be carried out outside of the nesting bird season. If work within this period (March – August) is unavoidable, a nesting bird survey should be carried out to ensure that no birds are currently nesting in vegetation and that any young have fledged. The site should be enhanced for bird species through the inclusion of trees, shrubs and bird boxes with varying hole sizes.

JCA Ltd. can provide these and other ecological surveys if required, please do not hesitate to contact us for further information.

7 References

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Natural England. < http://www.naturalengland.org.uk/>

Nature on the Map. Natural England. <www.natureonthemap.org.uk>

Royal Society for the Protection of Birds (RSPB). <http://www.rspb.org.uk/>

Relevant Legislation:

Wildlife and Countryside Act 1981 <http://jncc.defra.gov.uk/page-3614>

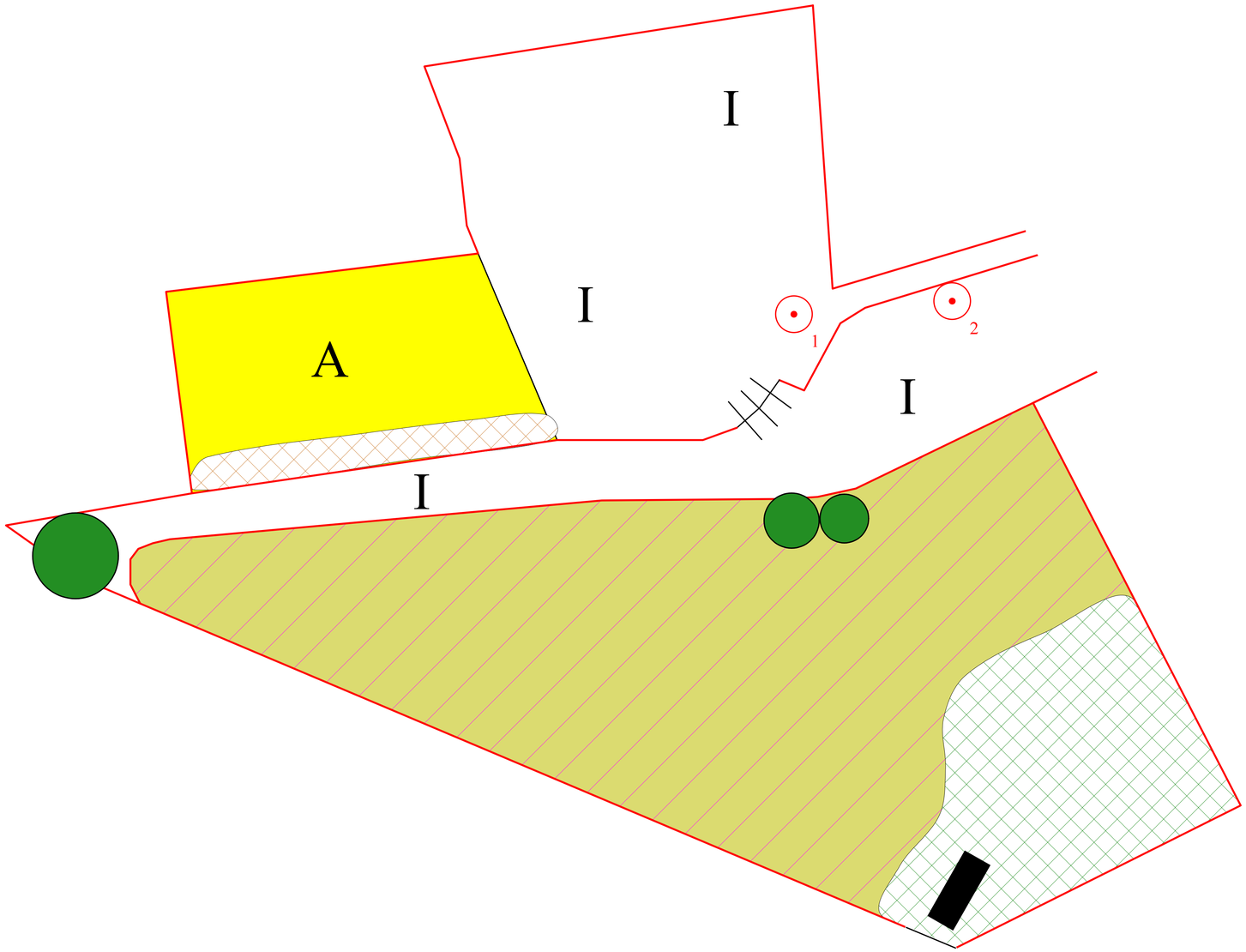
Conservation (Natural Habitats, &c.) Regulations 1994 (The Habitats Directive) (Amended 2010) <http://www.legislation.gov.uk/uksi/2010/490/contents/made>

Countryside and Rights of Way Act 2000 <http://www.legislation.gov.uk/ukpga/2000/37/pdfs/ukpga_20000037_en.pdf?view=interweave>

Hedgerow Regulations 1997 < http://www.legislation.gov.uk/uksi/1997/1160/contents/made>

Protection of Badgers Act 1992 <http://www.legislation.gov.uk/ukpga/1992/51/contents>

Appendices



Appendix 1: Phase 1 Habitat Map

Land off Old Lane, Scapegoat Hill
Golcar, Huddersfield, HD7 4ND
JCA ref: 12769/JoC

SCALE : 1:200	PAPER SIZE : A1

KEY

A	Amenity grassland
	Buildings
	Dense/continuous scrub
	Dry heath/ acid grassland mosaic
	Fence
I	Improved grassland
	Introduced shrub
	Scattered broad-leaved trees
	Target note
	Wall

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Appendix 2: Photographic Evidence

Photo 1: Garage to the south of the site.

Photo 2: Improved grassland to the north of the site.

Photo 3: Group of topped trees.

Photo 4: Area of deadwood in the north of the site.

Photo 5: Scrub and grassland to the south of the site.

Appendix 3: Site Map

Figure 1: Google Maps image of the land off Old Lane, showing the survey site in relation to the surrounding landscape and habitats.

Appendix 4: Protected Species Information

The following species are protected under EU law, such as the Conservation (Natural Habitats, &c.) Regulations (2010):

- All UK bat species
- Dormouse
- Great Crested Newt
- Large Blue Butterfly
- Natterjack Toad
- Otter
- Scottish Wild Cat
- Smooth Snake and Sand Lizard
- Various aquatic and plant species

These species are afforded the highest protection in the UK. Under this protection it is an offence to; deliberately capture, injure or kill any wild animal of a European protected species; deliberately disturb wild animal of any such species; deliberately take or destroy the eggs of such an animal, or damage or destroy a breeding site or resting place of such an animal.
In addition to this it is an offence to be in possession of, or to control, transport, sell or exchange, or to offer for sale or exchange, a European Protected species.

The following species are protected under UK law, such as the Wildlife and Countryside Act 1981:

- Badger
- Nesting birds
- Red Squirrel
- Reptiles (Adder, Common lizard, Grass snake, Slow worm)
- Water Vole
- Pine Marten
- White Clawed Crayfish
- Various bird species i.e. Barn Owl
- Various plant species

Therefore under this protection it is an offence to; kill, injure or take any of the above species.

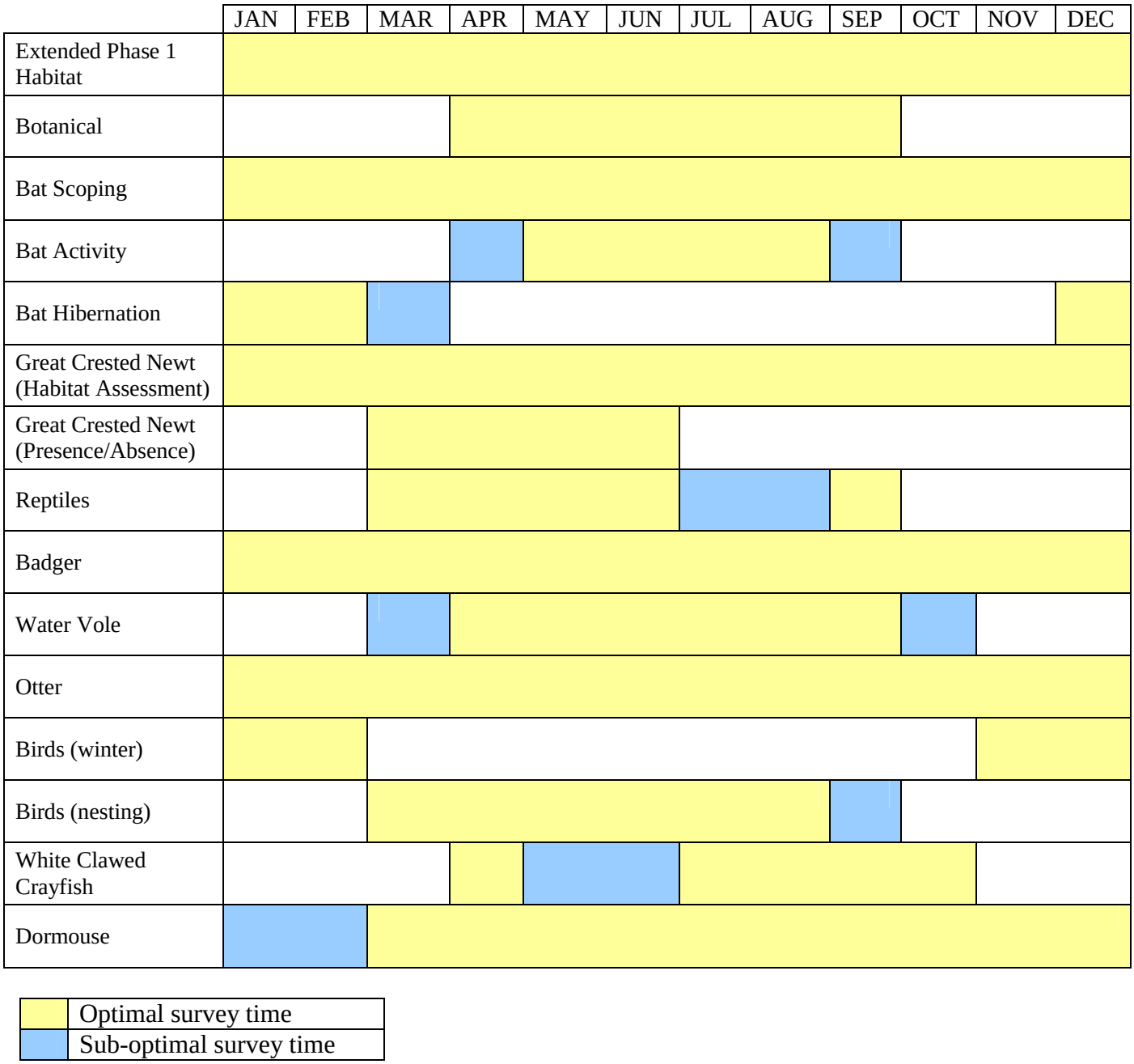
Nesting birds are only protected during the breeding season whilst on their nest. In addition to the adults being protected, the eggs, young and nest itself whilst in use are protected.

Badgers are protected under The Protection of Badgers Act 1992. Under this legislation it is an offence to; take, injure, kill, or cruelly ill-treat a badger; interfere with a badger sett; sell or possess a live badger; or mark or ring a badger.

The following habitat types are protected under UK Law:

- Habitats that are used by protected species
- Habitats that fall within designated sites
- Hedgerows
- Individual trees/woods can be protected under Tree Preservation Orders

Appendix 5: Survey Calendar



Appendix 6: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Coordinator

Toby Thwaites *BSc (Hons), HND (Arboriculture).* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Coordinator and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

Toby Parsons *Cert. Arb. (RFS), Tech. Cert. (Arbor.A).* Toby joined JCA after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He has gained the Level 2 Certificate in Arboriculture (RFS) and an Arboricultural Technicians Certificate. Toby is LANTRA certified in Professional Tree Inspection.

Scott Reid ***ND*** *(Arboriculture and Forestry).* Scott joined JCA after working with other consultancy companies in the south of England. He specialises in trees in relation to development and holds a National Diploma, various NPTC qualifications and is currently studying for his Level 4 Diploma in Arboriculture.

Andrew Bussey. Andrew joined JCA having spent 12 years working as a tree surgeon for various private companies and a Local Authority. He has various NPTC qualifications, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

Phil Humeniuk *FdSc (Arboriculture).* Phil joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He also has several years experience working as a consultant both for JCA and for another consultancy. Phil obtained his foundation degree in Arboriculture at the University of Central Lancashire and has various NPTC's and is LANTRA certified in Professional Tree Inspection.

Emily Wilde *FdSc (Arboriculture).* Emily joined JCA having previously worked for various private tree surgery and consultancy companies over the past 8 years. She initially obtained a ND in Forestry & Arboriculture, followed by a FdSc in Arboriculture at Askham Bryan College, York. Emily has various NPTC certificates and is QTRA qualified.

Mick Eltringham *ND (Forestry).* Mick joined JCA after spending 12 years working in the industry for various private companies in the north and south of England. He has also spent the last five years working as a consultant for two canopy research projects in the Amazon Rainforest, working with Oxford University and the University of Arizona. He has various NPTC Qualifications.

Charles Cocking. Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. In between his roles at JCA, Charles will be studying at Askham Bryan College, York, undertaking a two year course in order to obtain a Foundation Degree in Arboriculture (FdSc Arboriculture).

Consulting Staff: Ecology

David Ryder David joined JCA as our in-house ecologist. He brings with him over 8 years experience in the field of ecological consultancy. David holds a Natural England Licence to disturb and handle bats and is currently undergoing assessment for Chartered Institute of Ecology & Environmental Management (CIEEM) membership.

Josie Collier *BSc (Hons) Ecology.* Josie joined JCA's ecology department and brings with her a degree in Ecology and Environmental Biology from the University of Leeds. Josie has gained experience from working with a local authority and is a Graduate member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

David Bodenham *BSc Ind (Hons) Zoology, MSc Biodiversity and Conservation.* David joined JCA as an addition to the expanding ecology department. An advocate of evidence based conservation, he studied Zoology (Ind) at University and moved onto an MSc in Biodiversity and Conservation where he gained the myriad of skills needed as an ecologist. With over 7 years of experience, David specialises in bat and amphibian ecology.

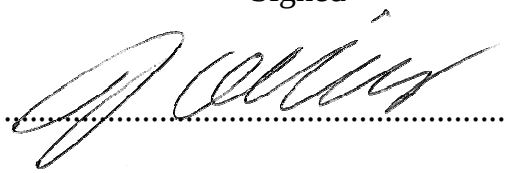
Freya Olsson *BSc (Hons) Biology and Geography (within Natural Sciences).* Freya joined the Ecology department in July 2016 following a 6 week placement in the summer of 2015. Freya studied at Durham University gaining a degree in Biology and Geography (Joint Honours within Natural Sciences). She has extensive field and analytical experience, giving her the core skills required as an ecologist.

Administrative Staff

Sue Guest Administrative Team Leader.
Simeon Haigh *BSc (Hons).* IT Officer.
Lorraine Spink Administrative Assistant.
Yasmin Shahzad Administrative Assistant.
Catherine Cocking Accounts Manager.

The information which we have prepared and provided is true, and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and bona fide opinions.

Signed



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Josie Collier, *BSc (Hons), GradCIEEM*

30th August 2016

Proofread by

.....

Freya Olsson *BSc (Hons) Biology and Geography*

30th August 2016

For and on behalf of ***JCA Ltd***

Registered Office:

Unit 80
Bowers Mill
Branch Road
Barkisland
Halifax
HX4 OAD

Tel. 01422 376335
Fax. 01422 376232
Email: jon@jcaac.com

www.jcaac.com

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ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected Species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)

HEAD QUARTERS:

Unit 80 Bowers Mill,
Branch Road,
Barkisland,
Halifax, HX4 0AD.

Tel: 01422 376335
Mobile: 07778 391986
Email: jon@jcaac.com
Website: www.jcaac.com

Company Reg No. 05005041
VAT No. 686 4674 78