Brooks Ecological
Grounded advice

Ecological Appraisal
Land off Broadway, Barnsley

Report reference: R-1941-01
June 2014

Report Title:	Ecological Appraisal Land off Broadway, Barnsley
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Written by	Sam Kitching BSc (Hons) GradCIEEM Ecologist
Technical review:	Peter Brooks BSc (Hons), MA, MCIEEM, CEnv Managing Director
QA review:	Joanna Cornfield BA (Hons) MSc MCIEEM CEnv Senior Ecologist
Approved for issue	Peter Brooks BSc (Hons), MA, MCIEEM, CEnv Managing Director
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Unit A, 1 Station Road, Guiseley, Leeds, LS20 8BX
Phone: **01943 884451**
01943 879129
Email:admin@brooks-ecological.co.uk
www.brooks-ecological.co.uk
Registered in England Number 5351418

Summary Statement

The site's development need not impact on protected or otherwise important habitats or designated sites.

Not-with-standing the potential for mature trees in the south of the site to potentially support roosting bats, protected or notable species are unlikely to have any reliance on habitat within the application site. Should mature trees be removed further bat survey should be carried out.

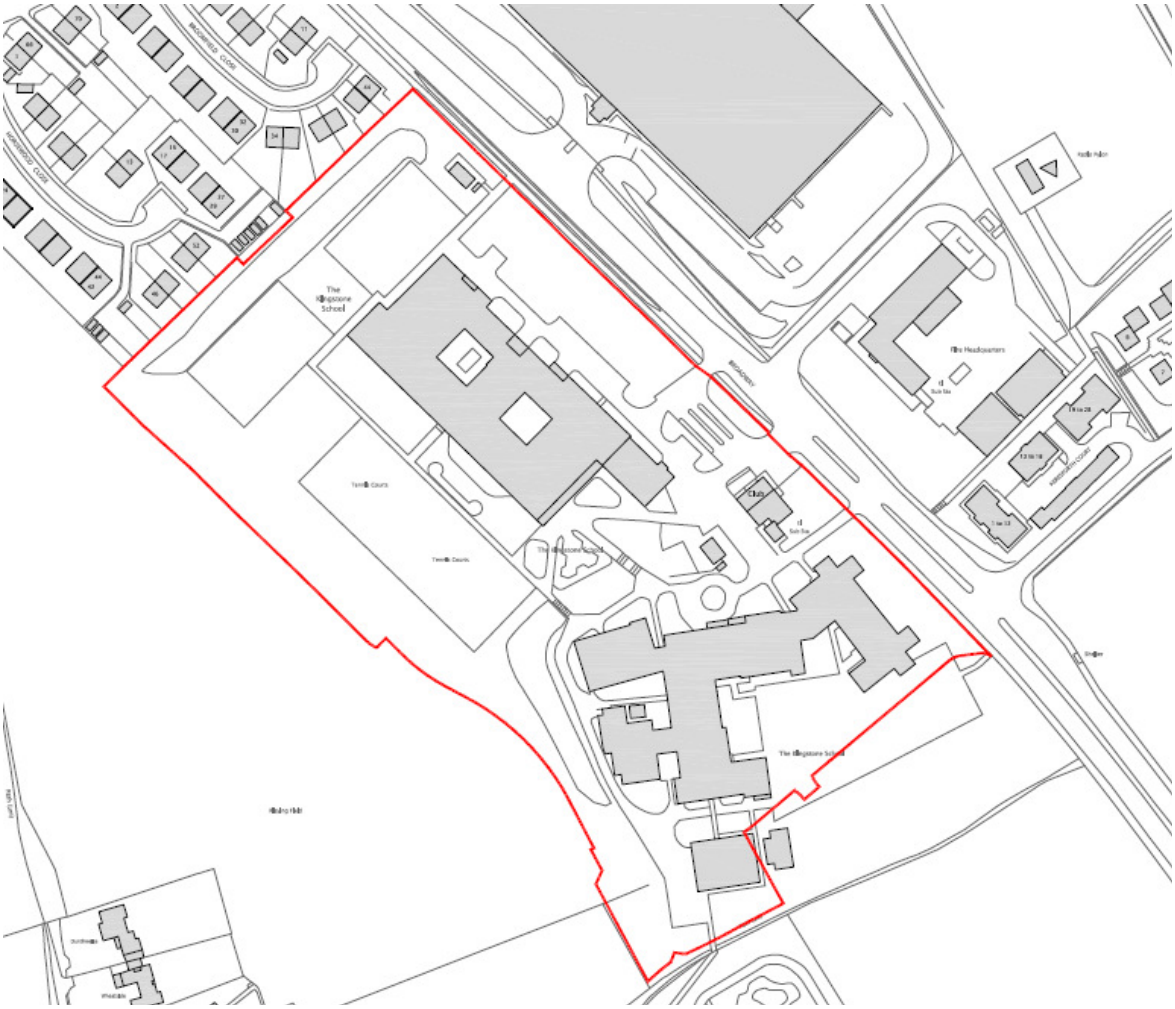
General recommendations are made for avoiding potential impacts on nesting birds and with regards to the enhancement of the site for wildlife as part of the new development.

Introduction

1. Brooks Ecological Ltd was commissioned by Taylor Wimpey Yorkshire to carry out an Ecological Appraisal of a site off Broadway, Barnsley, South Yorkshire (SE 330 055).

2. The application site 'the site' was previously occupied by a school and associated infrastructure; this has recently been cleared.

Figure 1 Site boundary - (Red Line showing the footprint of now cleared buildings)



Proposals

3. The proposals for the site inform an outline planning application for high density residential use and are shown in Figure 2 below.

Site context

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

Figure 2 Proposals for the site P and HS Architects Plan 2291-D-20-008

5. The site occupies a position on the western edge of Barnsley. As such it is found in an urban fringe environment. There is further development along the Broadway corridor marking the site's northern and southern boundaries and beyond the road to the

east. Beyond a strip of industrial development to the east is an area of urban green space consisting of sports pitches and allotments.

6. To the west the site is bound by pastures and small arable fields before the M1 is reached, approximately 460m west of the site boundary. Needle Eye Wood is the closest area of semi-natural habitat, a thin strip of woodland bordering the motorway c.530m from the application site boundary (shown on Figure 3 below).

Wildlife corridors

7. The site is not well linked to any significant wildlife corridors, the closest being a railway line c.780m north of the application site. This is separated from the site by continuous urban development. Areas of greater value habitat are found to the north west of the site though these are separated by the M1.

Figure 3 Local Habitat / connectivity features. Potential wildlife corridors are shown by dashed lines, areas of greater value habitat shown in orange.

Water bodies

8. There are no ponds within the site boundary or mapped within 500m of the application site, the closest being a small pond on the railway embankment c.700m north of the application site.

Statutory Designations

9. A search of the MAGIC website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Special Scientific Interest [SSSI's]) as well as many non-statutory listed habitats (e.g. ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats. In addition information from the local record holders (WYE and NEYEDC) has been requested on locally designated sites.

10. There are no statutory designated sites within 2km of the application site.

Non-Statutory Designations

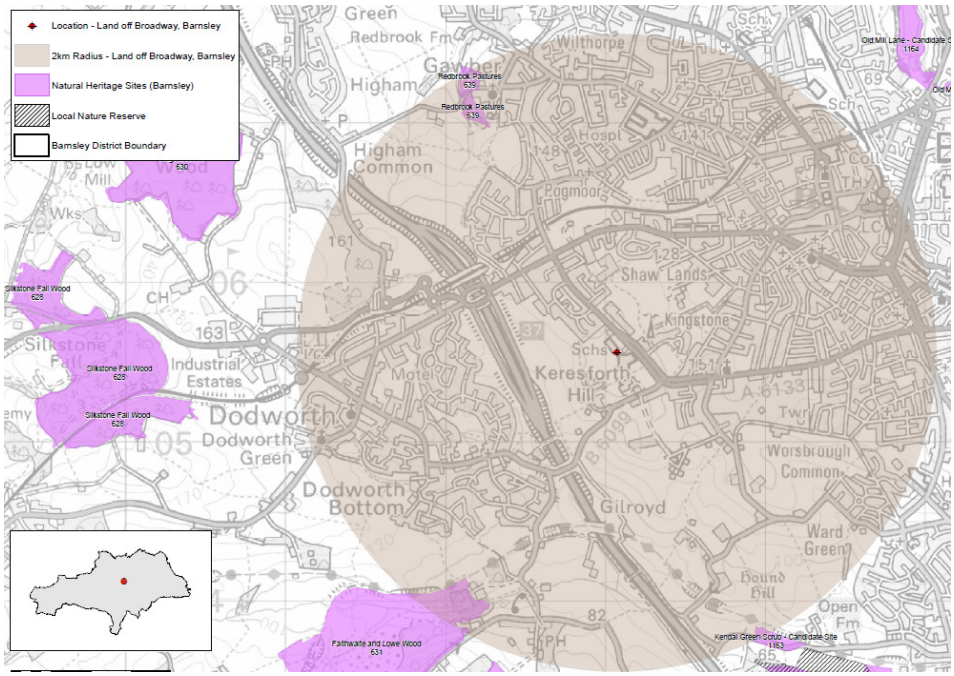
11. There are two Barnsley Natural Heritage Sites (NHS) and one candidate site within 2km of the application site. These are Redbrook Pastures, c.1.6km north and Faithwaite and Lowe Wood almost 2km south west of the application site. Kendal Green Scrub is a candidate NHS nearly 2km south of the application site.

12. All three of these sites are separated from the application site by some distance and they are not connected with strong habitat links. No impacts caused by development of the application site would be expected.

13. A single area of ancient replanted woodland, Lowe Wood, is found c.2km south west of the application site boundary.

Figure 4

Local designations



Extended Phase 1 Habitat Survey

Method

14. The survey was carried out on 30th May 2014 and followed Phase 1 habitat survey methodology (JNCC, 1993). This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). The survey method was "Extended" in that evidence of fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2012).

Results

15. The following habitats, arranged in order of area can be described within the application site and on its boundaries.

- Recently sown grassland;
- Trees;
- Ornamental planting;

- Scrub;
- Hard standing; and
- Buildings.

Recently sown grassland

16. This habitat occupies the majority of the site and reflects the fact that clearance has recently been carried out. Top soil has been spread over the cleared site prior to being sown with perennial rye grass (*Lolium perenne*). This is in patchy cover throughout much of the site with other species making up only a minor percentage of the sward. Other grasses are poorly represented with only yorkshire fog (*Holcus lanatus*) and common bent (*Agrostis capillaris*) being found in addition through the cleared site. Despite the low percentage cover a relatively wide range of forbs are found over the large area of recently sown ground. These include creeping thistle (*Cirsium arvense*), prickly sow thistle (*Sonchus asper*), scentless mayweed (*Tripleurospermum inodorum*), prickly lettuce (*Lactuca serriola*) groundsel (*Senecio vulgaris*), ox-eye daisy (*Leucanthemum vulgare*), red clover (*Trifolium pratense*), common birds foot trefoil (*Lotus corniculatus*), tufted vetch (*Vicia cracca*), black medick (*Medicago lupulina*), ribwort plantain (*Plantago lanceolata*), cow parsley (*Anthriscus sylvestris*), willowherb (*Epilobium sp.*) and broad leaved dock (*Rumex obtusifolius)*.

Figure 5

Typical view of site during survey shows recently sown grassland

Trees

17. The largest area of tree planting is found along the site's eastern boundary marking the site's road front. Bastard service trees (*Sorbus x thuringiaca*) make up a large

percentage of the planting with a line of this species also extending along the northern edge of the site. Other species found within the eastern planting include ash (*Fraxinus excelsior*), rowan (*Sorbus aucuparia*), silver birch (*Betula pendula*), scots pine (*Pinus sylvestris*), oak (*Quercus sp.*), hazel (*Corylus avellana*), beech (*Fagus sylvatica*), hawthorn (*Crataegus monogyna*) and sycamore (*Acer psuedoplatanus*). Dog rose (*Rosa canina*) and Japanese rose (*Rosa rugosa*) are present within the tree planting where it meets the site entrance.

18. A ground flora of established grassland is found in this area unlike that of the majority of the site. This includes perennial rye grass, yorkshire fog, cocksfoot (*Dactylis glomerata*) and red fescue (*Festuca rubra*), with a small range of common forbs including yarrow (*Achillea millefolium*), creeping buttercup (*Ranunculus repens*), ribwort plantain, daisy (*Bellis perennis*), spear thistle (*Cirsium vulgare*), common sorrel (*Rumex acetosa*) and broad leaved dock.

19. A line of poplar (*Populus sp.*) is found running along a bund in the south of the site. Again the ground flora below these trees is well established with the species listed above represented. This tree line terminates with a mature oak and ash in the site's southern corner. Ground flora beneath these trees is represented by a dense stand of nettle, creeping thistle and willowherb. A short section of mature hawthorn hedge with occasional elder runs west along this boundary from this point.

20. Scattered small groups or specimen trees around the site include cherry (*Prunus sp.*), laburnum (*Laburnum anagyroides*), ash (*Fraxinus excelsior*), silver birch, rowan and sycamore.

Figure 6

Line of poplar trees in the south of site.

Ornamental planting

21. Two small areas of planting have been retained close to the site entrance. These areas are planted with ornamental shrubs including snowberry (*Symphoricarpos albus),* variegated dogwood (*Cornus alba*), *Cotoneaster sp*. and *Ceanothus sp.*. Bramble (*Rubus fruticosus* agg.) forms a dense understorey within and around the shrubbery.

22. A short section of beech (*Fagus sylvatica*), hedge is also found in this area as are occasional young specimens of rowan, ash and cherry.

Figure 7

Ornamental planting in centre of site.

Scrub

23. Scrub habitat within the site is limited to a narrow band along the northern boundary where the site slopes down towards the fence. This area is colonised by a dense stand of bramble, creeping thistle, broad-leaved dock, hogweed and willowherb.

Hard standing

24. Following site clearance hard standing is limited to the curtilage at the site entrance joining Broadway. This is formed from a complete pad of bitmac with occasional sections of block paving, and found in good condition. Meadow grass (*Poa* sp.) and common forbs such as pineapple weed (*Matricaria discoidea*) and dandelion (*Taraxacum vulgare* agg.) are found colonising the edges of the bitmac.

25. Two small beds of amenity grassland are found within the hard standing. Left unmanaged these are being over run by competitive forbs. Species found include prickly sow thistle, daisy, dandelion, and ribwort plantain. Early mature ash and bastard service tree are found within the front section of amenity grassland along the roads edge.

Buildings

26. A single small building is retained on site, a brick electricity sub-station close to the site's entrance. This is found in sound repair with the brick walls in good condition and well sealed to the concrete panel roof. No features offering bat roost potential could be found.

Figure 8

The site's only building

Faunal appraisal

27. This section first looks at the types of habitat found on site or within the sphere of influence of potential development, then considers whether these could support protected , UKBAP or Local BAP (LBAP) priority species (referred to collectively as 'notable species'). A full list of LBAP priority species are provided as appendix 2.

28. Records of notable species supplied from a 2km area of search by The North and East Yorkshire Ecological Data Centre and West Yorkshire Ecology are used to inform this appraisal.

Bats

29. With the site having already been cleared of buildings the likelihood of the site possessing any bat roost potential has been drastically reduced with the only building remaining providing *No Bat Roost Potential* as discussed above.

30. Trees around the site were inspected for the presence of potential roost features. Where inspection was possible, from the ground using a high powered torch and binoculars where required, no such features could be seen. Dedicated inspection of the larger trees on site (poplar, ash and oak in the south corner as discussed above) would be required should they need to be removed as part of the master plan.

31. The surrounding landscape is only likely to support common bat species which thrive in an urban environment such as pipistrelle species. Habitat within the site area would contribute a minor constituent of the foraging resources of these bats. Its development will not lead to the loss of high value habitat nor will it cut off valuable commuting routes; as such impacts on bat species are highly unlikely.

32. Records from received from the data holder cover brown long-eared, noctule, common pipistrelle and a range of indeterminate species records. Records relate to two sites, 1.9km south east and 1.4km west. These records do not raise any further concern in relation to bats using the site.

Badgers

33. No evidence of badger setts or activity could be found anywhere within the site footprint, as such their current absence can be assumed. The likelihood of setts being established between now and the site's development is minimal.

34. No records of badgers are held within 2km of the application site. Development can proceed with minimal risk of affecting this species.

Amphibians

35. No potential breeding ponds are present within the site boundary or are shown on mapping within a 500m radius of the site, the closest pond being over 700m north or the application site and separated by urban development and busy roads.

36. A single record of the protected great crested newt is held within the 2km search area. This is located c.920m north of the application site beyond a densely built urban area and busy road. Smooth newt and common frog are also recorded in this area.

37. The presence of this single record does not alter the assessment that it is safe to conclude the absence of the protected great-crested newt.

Birds

38. The site will support a typical range of urban fringe birds, potentially nesting within the scrub, shrubs and trees within the site. A number of nest boxes have been installed around the site, at least one of which was noted to contain chicks at the time of survey.

39. Records show a small range of common species as well as a small number of species listed on Schedule 1 of the Wildlife and Countryside Act and BAP species, none of which would find suitable breeding habitat on the site.

Riparian mammals

40. Despite records of water vole within the 2km search radius the site does not contain, nor is it linked to habitat suitable for riparian species. As such the presence or risk of affecting otter or water vole can be ruled out.

Reptiles

41. Generally the site presents poor habitat for this group. They are not recorded in the area and their presence at the site can be reasonably ruled out.

42. No records of these species are held within 2km of the application site.

Other terrestrial mammals

43. The site is likely to provide habitat for hedgehogs in terms of foraging with small patches of cover. Hedgehog is listed on the UK Biodiversity Action Plan and is an LBAP species. Recommendations are made later in the report in regards to enhancing the site's value for hedgehogs.

Invasive Species

44. A small number of Japanese rose (*Rosa rugosa*) bushes were seen at the site's entrance. This species is listed on schedule 9 of the Wildlife and Countryside act meaning it is an offence to cause or allow its spread in the wild. Though not as destructive as species such as Japanese knotweed it should be dealt with appropriately during development.

Evaluation

45. In evaluating the site the ecologist will take into account a number of factors in combination, such as;

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

46. There are a number of tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP (Appendix 2) and UK BAP to determine if the site supports any Priority habitats or presents any opportunities in this respect.

47. The assessment of impacts considers residential development shown in figure 2 in light of:

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

On site habitats

48. The site contains only species poor, common habitats of low ecological value. Following site clearance the majority of the site is occupied by recently established grassland with a sparse sward.

49. Two mature trees in the southern corner of the site, the line of poplar and boundary planting along the road front are of intrinsic value in relation to habitat occupying the majority of the site. These should be retained through development where possible.

On site fauna

50. The site is not deemed to be of importance to local bat populations in terms of foraging or commuting. With the majority of the buildings cleared any potential roost features have been lost. Should the more mature trees on site including the oak and ash in the southern corner and the line of poplar be removed this should be preceded by a dedicated bat survey using roped access techniques where required to closely inspect any features of bat roost potential higher in the trees.

Off site

51. Impacts on the nearby wildlife sites would not be expected due to a lack of habitat connectivity and distance of the application site from them.

General precautions

Nesting birds

- To prevent the proposed works impacting on nesting birds any clearance of vegetation will need to be undertaken outside of the breeding bird season which is 1st March – 31st August inclusive. Any clearance that is required during the breeding bird season should be preceded by a nesting bird survey to ensure that the Wildlife and Countryside Act (1981) is not contravened through the destruction of nests and that any active nests are identified and adequately protected during the construction phase of the development.

Enhancement

52. In line with planning guidance outlined in the National Planning Policy Framework (NPPF) development should take account of the value of ecosystem services and enhance ecological networks.

53. In its current state there is no connectivity through the site or around the western boundary which borders open space. Opportunities should be realised to create connectivity through the site in the form of hedgerows with linear planting along the site's western boundary being a priority. Planting should utilise native species such as holly, hawthorn, blackthorn, crab apple and buckthorn. Boundary planting should also incorporate hedgerow standards such as oak and lime.

54. The provision of artificial habitat for local wildlife is vital in preventing the decline in habitat often associated with modern developments. Bats and hedgehogs are susceptible to this decline in habitat and both species are listed on the local biodiversity action plan. Hedgehog boxes can be discretely installed in any areas of communal planting. Similarly bat boxes can be cheaply and easily installed within the fabric of new builds without creating any conflict with homeowners.

55. Linked to the loss of habitat for urban wildlife is the local habitat action plan for *Open Mosaic Habitat On Previously Developed Land*. This action plan aims to stem the decline in habitat for wildlife within urban environments. Any public open space which is to be provided around the site should be subject to a suitable management regime steering away from conventional amenity grassland. Management of this type can lead to the creation of urban "bio banks" and be the focus of provision of artificial habitats such as those discussed above as well as features such as log pile's or insect houses.

References

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Appendix 2 Local BAP - Barnsley Biodiversity Action Plan

Table 1: Species Action Plans

Species/group	Potentially on site	Would development impact significantly on BAP objectives
Hedgehog	Yes	No
Bats	Yes	Only if trees lost and these support roosts
Water Vole	No	N/A
Otter	No	N/A
Grey Partridge	No	N/A
Bittern	No	N/A
Kestrel	No	N/A
Little Ringed Plover	No	N/A
Lapwing	No	N/A
Barn Owl	No	N/A
Skylark	No	N/A
Tree Sparrow	No	N/A
Twite	No	N/A
Great Crested Newt	No	N/A
Salmon	No	N/A
Bullhead	No	N/A
White-clawed Crayfish	No	N/A
Glow Worm	No	N/A
Dingy Skipper	No	N/A
Bluebell	No	N/A

Table 2 lists local Habitat Action Plans and assesses a) whether habitats on site could represent valuable examples of the habitat type within the spirit of the BAP and b) whether loss of the habitat would have a significant bearing on the objectives of the BAP.

Table 2: Habitat Action Plans

Habitat	Valuable examples present on site?	Would development impact significantly on BAP objectives
Upland Oakwood	No	N/A
Lowland Mixed Deciduous Woodland	No	N/A
Wet Woodland	No	N/A
Wood Pasture and Parkland	No	N/A
Hedgerows	No	N/A
Arable Field Margins	No	N/A
Floodplain Grazing Marsh	No	N/A
Lowland Meadows	No	N/A
Lowland Dry Acidic Grassland	No	N/A

Habitat	Valuable examples present on site?	Would development impact significantly on BAP objectives
Lowland Heathland	No	N/A
Upland Heathland	No	N/A
Blanket Bog	No	N/A
Purple Moor Grass and Rush Pasture	No	N/A
Reedbeds	No	N/A
Ponds	No	N/A
Rivers	No	N/A
Open Mosaic Habitats on Previously Developed Land	No	N/A