



Rainier Developments Limited

Land at Bromham, Bedfordshire

ECOLOGICAL TOPIC PAPER

March 2018

CONFIDENTIAL

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FPCR Environment and Design Ltd

Registered Office: Lockington Hall, Lockington, Derby DE74 2RH

Company No. 07128076. [T] 01509 672772 [F] 01509 674565 [E] mail@fpcr.co.uk [W] www.fpcr.co.uk

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CONTENTS

1.0	INTRODUCTION	1
2.0	BASELINE CONDITIONS.....	1
3.0	KEY OPPORTUNITIES AND CONSTRAINTS.....	4
4.0	NECESSARY MITIGATION AND ENHANCEMENTS.....	4
5.0	SUMMARY	5

1.0 INTRODUCTION

- 1.1 The following report has been prepared on behalf of Rainier Developments Limited and provides a summary of the nature conservation interest of a site located off Northampton Road, Bromham, Bedfordshire (Ordnance Survey central grid reference: SP 997 510).
- 1.2 This summary is based on the existing ecological appraisal report (FPCR, 2018) which determined habitats and species present within a defined boundary (hereafter referred to as the site) and to make an assessment of their ecological value and any potential ecological constraints to future development. Additional objectives were to identify the need for additional surveys, if required, and to consider opportunities for ecological mitigation / enhancement within any future development design.
- 1.3 The c.17.21ha site lies to the west of the built edge of Bromham (Figure 1). The site supports areas of poor semi-improved grassland, semi-natural and plantation woodland and hardstanding. The site is bordered by the A428 on the western side with residential housing to the north and east, and arable land to the south.

Development Proposals

- 1.4 There are currently two development options at the site, a 345 residential dwelling scheme with a community building and playing field, and a 345 dwelling scheme with a 1FE primary school. Both schemes have associated green space and infrastructure.

2.0 BASELINE CONDITIONS

Desk Study

- 2.1 In order to compile existing baseline information, relevant ecological information was requested from both statutory and non-statutory nature conservation organisations for the purposes of the Ecological Appraisal.
- 2.2 A search area for biodiversity information was related to the significance of sites and species and potential zones of influence, as follows:
- 15km around the application area for sites of International Importance (e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites).
 - 2km around the application area for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSIs), and for bat roost records).
 - 1km around the application site for sites of County Importance (e.g. Sites of Importance for Nature Conservation (SINC) / Local Wildlife Sites (LWS), and protected, or otherwise notable species records (including species of Principal Importance under S41 of the Natural Environment and Rural Communities (NERC) Act (2006).
- 2.3 No internationally important sites for nature conservation were identified within 15km of the site.
- 2.4 Table 1 summarises the designated sites of nature conservation value within the search criteria.

Table 1: Designated Sites of Nature Conservation Value

Name	Designation	Distance and aspect from boundary	Description
Hanger Wood	SSSI	c.800m to the south	One of the best remaining examples of wet ash <i>Fraxinus excelsior</i> and maple <i>Acer campestre</i> woodland in Bedfordshire.
Bromham Bypass	RNR	Adjacent to west boundary at closest point	Five substantial blocks of cutting slopes sown with various wildflower mixtures in 1987 and subsequently managed annually to realise their wildlife potential.
Salem Thrift	CWS	c.115 NW	Mostly semi-natural broadleaved woodland and with a large block of semi-natural mixed woodland. Salem Thrift is an ancient woodland site
Bowels Wood	CWS	c.240 E	Ancient semi-natural woodland
Molliver's Wood	CWS	c.700m NE	Ancient semi-natural woodland
Hanger Wood and Oxleys	CWS	c.800m S	Wet ash-maple woodland exhibiting a flora characteristic of the heavy, slightly basic clay soils. The wood is typical of ancient, semi-natural woodland, formerly managed as coppice-with-standards with a rich variety of shrubs and a diverse ground flora including species uncommon in the county.

Field Survey – Flora

- 2.5 Survey methods followed the standard Extended Phase 1 Habitat Survey Methodology¹, as recommended by Natural England to identify specific habitats and features of ecological interest. This comprised a systematic walkover of the site on 18th September 2017 to classify and map the principal habitat types present.

Site Overview

- 2.6 The habitat within the site was dominated by an arable field compartment that at the time of survey had been recently ploughed. The limited botanical interest was restricted to the field margins. A horse-grazed paddock comprising semi-improved grassland was present in the eastern extent of the site, and a small area of semi-natural broadleaved woodland was present in the north western corner. Two treelines were recorded on site, with one present along the north eastern site boundary and the other was located along the eastern boundary.
- 2.7 Eight hedgerows were recorded in total, comprising hedgerows of moderate to high nature conservation priority. Two of the hedgerows (H3 and H7) were considered to be 'Important' according to the wildlife and landscape criteria of the Hedgerow Regulations (1997). The canopy of all eight hedgerows comprised over 80% native species and therefore all qualified as habitat of principal importance as described in S41 of the NERC Act 2006.

Fauna

- 2.8 A single hole outlier badger sett was recorded along the northern site boundary.

¹ JNCC, 2010. Handbook for Phase 1 habitat survey - a technique for environmental audit. JNCC.

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- 2.9 The arable habitat recorded across the majority of the site and the grazed grassland field do not provide suitable conditions to support reptile species due to a lack of suitable vegetative cover and variability in habitat ecotones.
- 2.10 None of the trees on site were identified as having features that would be potentially suitable for use by roosting bats. A bat activity and automated survey carried out in October 2017 recorded low numbers of commonly occurring species and two barbastelle *Barbastella barbastellus* contacts. This species is recorded in low numbers throughout the county.
- 2.11 There were no ponds or other waterbodies present within the site, and on site habitats suitable to support foraging or sheltering GCN were limited in extent to the coarser areas of grassland, hedgerow and mature trees/woodland mostly towards the site perimeter. Two off-site ponds were identified present within 500m, the nearest of which was c.20m to the east of the site, within a residential garden.
- 2.12 Woodland and hedgerow habitat on site have potential to support a range of common nesting bird species including those typical of farmland and urban edge habitat.

3.0 KEY OPPORTUNITIES AND CONSTRAINTS

- 3.1 The proposed scheme aims to retain those existing habitats of greater conservation value such as woodland and hedgerow, and has potential to provide a net biodiversity gain by providing enhancement through the creation of new habitat including native scrub and tree planting, species-rich grassland and wetland habitat in the form of an attenuation feature.
- 3.2 There was an active outlier badger sett located on the northern site boundary that will need to be closed under a disturbance licence from Natural England prior to works taking place on site.
- 3.3 There are two ponds located within 500m of the site boundary that have potential to support GCN and have connecting habitat between the ponds and the site.
- 3.4 The majority of the site is unsuitable to support reptiles, however there are limited areas of habitat, mostly at the site perimeter, that provide some potential for use by reptiles.

4.0 NECESSARY MITIGATION AND ENHANCEMENTS

Flora

- 4.1 The provision of new species-rich grassland and areas of native species scrub / tree planting will provide appropriate mitigation for loss of existing habitats from the site. Further enhancement and mitigation for biodiversity will be provided through the creation of wetland habitat.
- 4.2 The majority of the existing hedgerow will be retained where feasible. Where retention of the hedgerow is not feasible, the loss can be mitigated via native species scrub and tree planting elsewhere in the site.

Fauna

- 4.3 A single hole active outlier badger sett was recorded along the northern site boundary. As the development will occur within a 30m radius of the sett, the sett will likely need to be temporarily closed during the construction phase under a disturbance licence from Natural England.
- 4.4 A precautionary approach to site clearance works in relation to reptiles will be undertaken within the limited areas of suitable habitat to ensure no reptiles or amphibians are harmed during the process. Reptiles and amphibians will be passively displaced prior to the start of site works (including site preparation works) by using directional strimming under ecological supervision.
- 4.5 Barbastelle bat (an Annex II species (Habitats Directive)) was only identified in very low numbers over the survey period during the activity and static detector surveys (single contact using each method). This species was identified commuting along the woodland on the northern site boundary and along hedgerow H1. Barbastelle bats forage over large territories of mixed habitats. From the results it is concluded that on-site features form a small and not significant proportion of the barbastelle foraging range, and do not provide a significant commuting route for this species. With the retention, enhancement and sensitive management of the majority of the hedgerow, tree lines and woodland within the site, the commuting and foraging potential for barbastelle and other bat species will be enhanced overall by the development.
- 4.6 In order to improve the site for bats in the future, bat boxes such as the Schwegler 2F design could be incorporated on to the new buildings, and native tree and scrub species will be planted within the site where feasible.

- 4.7 It is recommended that further survey work be carried out on ponds P1 and P2 to ascertain the presence or absence of GCN within these ponds, where access is provided. Given the poor suitability for both ponds for GCN, an Environmental DNA (eDNA) test following methodology approved by Natural England for the determination of GCN presence/ absence may negate the need for a full series of pond surveys.
- 4.8 The site is suitable to support a range of urban edge bird species, in particular the woodland, hedgerow and mature trees provide habitat suitable to support foraging and sheltering/nesting birds. The mature trees and woodland will be retained where feasible within the development design. With the retention, enhancement and sensitive management of the hedgerow, tree lines and woodland within the site and the provision of bird boxes, the development will provide an overall enhancement in terms of nesting and foraging resources for the local bird assemblage.
- 5.0 SUMMARY
- 5.1 The site comprises one arable field and a smaller grazed semi-improved grassland field, with the field boundaries formed by a number of hedgerows. The arable habitat and grassland were considered to be of low nature conservation value.
- 5.2 Development of the site is considered very unlikely to negatively impact on any statutory or non-statutory designated sites located in proximity to the site.
- 5.3 The majority of hedgerows are to be retained within the scheme and will be buffered from the effects of development by their incorporation within green corridors. The area of woodland on the north western corner of the site will be retained and buffered with native tree and shrub planting.
- 5.4 There are two ponds located within 500m of the site boundary that have potential to support GCN and have connecting habitat between the ponds and the site. These will be surveyed during the appropriate survey season to determine the presence/absence of GCN, where access is permissible.
- 5.5 On-site hedgerows currently provide suitable foraging and commuting habitats for local bat populations. With the retention of the majority of the hedgerow, tree lines and woodland within the site, proposed habitat enhancements and sensitive management, the development will result in an overall enhancement at the site level in terms of commuting and foraging potential for the local bat assemblage.
- 5.6 Precautionary measures are recommended to minimise the risk of harm to reptiles and breeding birds during vegetation clearance.
- 5.7 The report identifies a number of potential ecological enhancements including biodiversity enhancement throughout the site through native species tree, shrub/hedgerow and grassland throughout areas of new green space. Whilst new planting will provide inherent enhancement, this will also provide new foraging habitat, corridors of movement and places of rest or shelter for a wide range of faunal species. Further enhancements have also been recommended through the provision of a range of new bird and bat boxes.