Extended Phase 1 Habitat Survey & Baseline Ecological Impact Assessment

Swalcliffe Park Equestrian Grange Lane, Banbury, Oxfordshire

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Executive Summary

1. An ecological survey and impact assessment were carried out with respect to land at Swalcliffe Park, Grange Lane, Banbury, in respect of proposals to develop the site for equestrian purposes.

2. The wider site is used by a small number of relatively common breeding bird species and probably to a relatively small extent for foraging and commuting by bats, but the development footprint itself is of very limited ecological value.

3. During the site survey, there was no habitat found suitable for bat roosting and no habitat suitable for protected or otherwise important species such as great crested newts, water voles, or barn owl occurs within or closely adjacent to the proposed development footprint.

4. It is possible that, brown hare and deer may use the site and that badgers may forage from time to time, but no conclusive signs were found and no negative impact is considered likely.

5. There are no important habitats or vegetation communities occurring on site or close to the site boundaries *that will be adversely affected by proposals* and any impact upon semi-natural vegetation will be minimal.

6. It is reasonable to conclude that, with adequate mitigation to compensate for the modest loss of habitat and the implementation of a number of relatively minor precautions, there will be no negative ecological impact of any significance resulting from proposals to develop the site.

Contextual Statement

This report ***must be read in conjunction with the documentation and drawings prepared and submitted to the Local Planning Authority in respect of current development proposals (as shown in Figure of this report)***. The author of this report will accept no responsibility for any misunderstanding resulting from a failure to consult all relevant planning documentation or through any lack of information where responsibility for the provision of such is beyond the control of Cameron S Crook & Associates.

All survey works detailed within the methodology section below have been either carried out personally by the author or by appropriately qualified, licenced and/or experienced surveyors working under the supervision of the author. The author of this report takes full responsibility for the quality of data collected and any subsequent interpretation. Raw survey data and names of individual surveyors may be provided for *bone fide* reasons, upon request, but only where this is strictly necessary and does not otherwise conflict with client, landowner or surveyor confidentiality and privacy.

This report may not be used for any purpose other than in support of the current planning application (as per the proposals shown in *Figure 8* of the report) without the prior written permission of Cameron S Crook & Associates.

Cameron S Crook BSc(Hons) MPhil CBiol MSB MIEEM FLS
24th May 2013

Contents

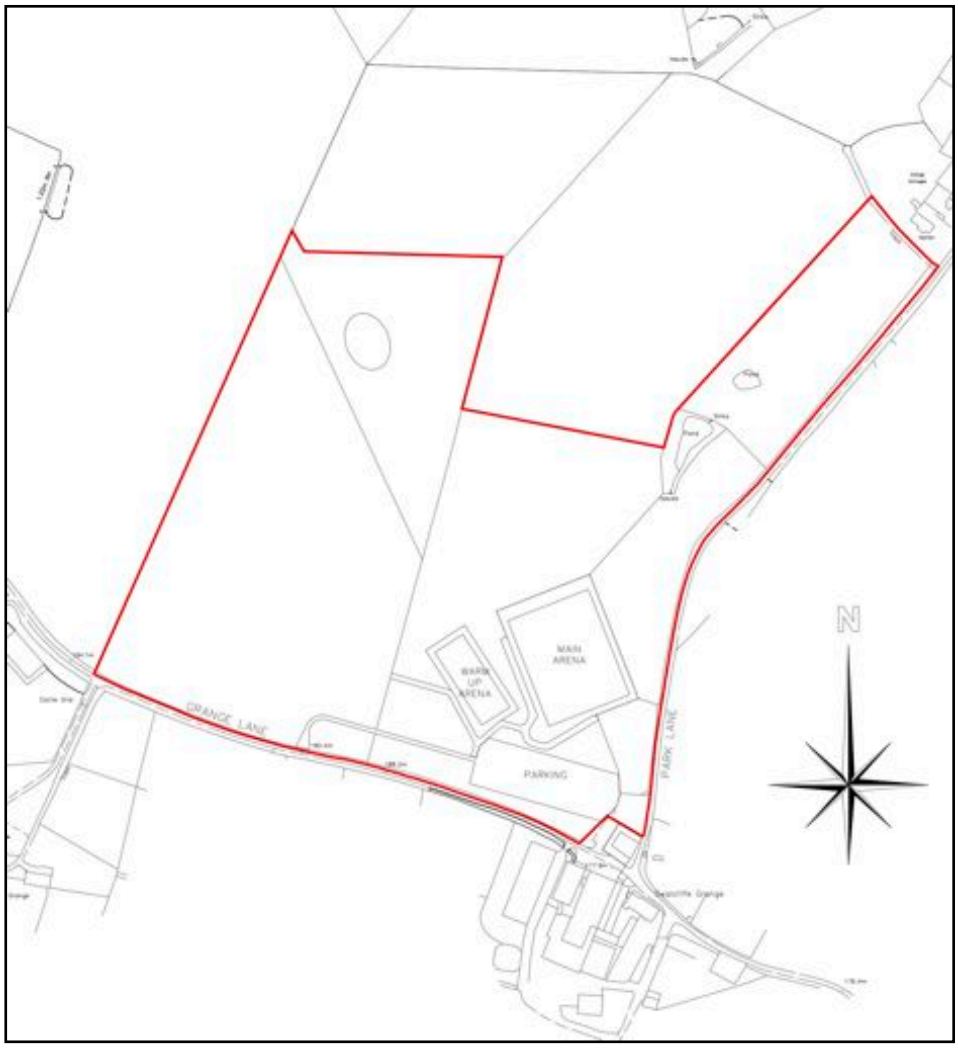
1.0 Introduction

1.1 An ecological survey, site appraisal and baseline ecological impact assessment were carried out in respect of the proposed development of land at Swalcliffe Park Equestrian, Grange Lane, Banbury, with the following aims:

1. To establish the presence or absence of protected species and evaluate the overall nature conservation status of the site
2. To assess the likely impact of proposed works to develop the site upon any protected species or habitats that may occur on or adjacent to the area of land concerned, and the integrity of nature conservation interest of any other sites of ecological or nature conservation importance within the vicinity
3. To provide outline mitigation and habitat aftercare proposals, as appropriate

1.2 The term *site* will be used in this report to refer to the area of land proposed for development as shown on the final version of site layout (Planning Application Red Line plan), unless otherwise indicated within the text. ***This report must be read in conjunction with the documentation and drawings prepared and submitted to the Local Planning Authority in respect of current development proposals***. The author of this report will accept no responsibility for any misunderstanding resulting from a failure to consult all relevant planning documentation, or through any lack of information where the provision of which is beyond the control of Cameron S Crook & Associates.

Figure 1 Site Location (within the red line boundary)



2.0 Methodology

Desktop Survey

2.1 Prior to undertaking any site survey works, a data search was carried out to check for any known protected or otherwise important species or habitats occurring within or closely adjacent to the site boundaries. Data sources include the following:

- NBN Gateway
- MAGIC
- Local knowledge

Any *significant* results are provided within the relevant sections below.

General Ecological and Botanical Survey

2.2 This comprised an Extended Phase 1 Habitat Survey carried out on the 17th May 2012 with any evidence of birds, amphibians, reptiles and mammals being noted during the survey. The survey methodology for the Extended Phase 1 Habitat Survey comprised a modified version of that described in NCC (1990) and IEA (1995) and where appropriate, with particular respect to the Phase 2 Habitat Survey, incorporating the methodology outlined in Rodwell (1991, 1992, 1995 & 2000) for determination of National Vegetation Classification plant communities.

2.3 The habitat survey was supplemented by a full vascular plant species survey using the 'walkabout method' as described in Kirkby (1988) and a generalized assessment of the site for suitability of habitat for animals, in particular protected species such as badger, bats, breeding birds and great crested newts. The results from the initial Phase 1 Habitat Survey were used to guide the requirement and level of detail of the more specific surveys outlined below.

Badgers

2.4 This part of the survey was carried out on the 17th May 2013, concurrently with the Phase 1 Habitat Survey, using an appropriately scaled-down version of the standard badger survey methodology as described in Harris et al (1989). In practice, this comprised a generalized search of the whole site where suitable habitat was found, to a distance of 30m from the development footprint boundary (where accessible) to check for feeding signs, habitual runs and footprints, hairs, droppings and latrines, scratching posts and actual setts.

Amphibians with particular reference to Great Crested Newts

2.5 From the results of the Phase 1 Habitat Survey, three bodies of standing water were noted to occur within 250m of the site boundaries. Due to the general lack of suitable connecting habitat and unsuitability of the terrestrial habitat within the site boundaries, no specific great crested newt survey was carried out. However an assessment of the ponds in question (see site location plan) was carried out using the Habitat Suitability Index (HSI) methodology. In addition, any suitable habitat within the site boundaries that might be affected by development proposals was closely inspected for suitability of use by terrestrial phase great crested newts.

2.6 To achieve this assessment, the following scoring system, taken from Habitat Suitability Index (HSI) criteria as devised by Oldham et al (2000), was used in respect of the ponds in question.

SI1 Location
A (optimal) 1
B (marginal) 0.5
C (unsuitable) 0.01

SI2 Pond area
Score based on the pond surface area (m^2) rounded to the nearest 50 m^2

SI3 Pond drying
Never 0.9 - Never dries
Rarely 1.0 - Dries no more than two years in ten or only in drought.
Sometimes 0.5 - Dries between three years in ten to most years
Annually 0.1 - Dries annually

SI4 Water quality
Good 1.0 - Abundant and diverse invertebrate community.
Moderate 0.67 - Moderate invertebrate diversity
Poor 0.33 - Low invertebrate diversity, few submerged plants
Bad 0.01 - Polluted, only pollution-tolerant invertebrates, no submerged plants

SI5 Shade
The estimated percentage perimeter of shaded to a least 1 m from shore.

SI6 Fowl
Absent 1 - No evidence of waterfowl (although moorhen may be present)
Minor 0.67 - Waterfowl present, but little sign of impacts
Major 0.01 - Severe impact of waterfowl

SI7 Fish
Absent 1 - No records of fish stocking and no fish revealed during survey.
Possible 0.67 - No evidence of fish, but local conditions suggest they may be present
Minor 0.33 - Small numbers of Crucian carp, goldfish or stickleback present.
Major 0.01 - Dense populations of fish known to be present

SI8 Ponds
Based on the number of ponds within 1 km of survey pond, not separated by major barriers, number divided by 3.14

SI9 Terrestrial habitat
Good 1
Moderate 0.67
Poor 0.33
None 0.01

SI10 Macrophytes
Score based on the estimated percentage cover of macrophytes excluding duckweed

2.7 The results of this assessment are provided within the relevant section below.

3.0 Existing Situation

General Site Description

3.1 The site comprises an extensive area of arable land that is managed and used primarily for equestrian purposes. The existing site is dominated by species-poor improved grassland with two main paddocks separated by hedgerows and post and wire fencing. There are few trees on site apart from the occasional hedgerow tree, a single field tree to the south of the site, a small clump of semi-mature trees along the southern boundary, and a clump of semi-mature trees around one of the ponds to the north. None of the trees on site are large, mature specimens. There are no rivers, streams or ditches that will be affected but there are three water bodies to the north of the site, both within the wider site boundaries. No buildings or other built structures occur on site.

3.2 Within the red line planning boundary, the only part of the site that will be directly affected by proposals is a section of improved grassland to the southeast of the wider site. There will be no direct or significant affects to any of the water bodies, the hedgerow, or any of the trees.

3.3 The existing layout is shown in *Figure 2* below, the proposed layout in *Figure 8*. Further details of site features are also provided within the respective photographs of *Figures 3-7*.

Figure 2. Existing site layout (within the red dashed line)

Habitats and Flora

3.4 No habitat map has been prepared in this instance as there is virtually no significant semi-natural vegetation to indicate *within the development footprint* or that will be otherwise affected, and any semi-natural habitat that does occur cannot be reliably shown on a habitat map due to limited abundance or extent. Otherwise, all major habitats within the wider site are self-evident from the aerial photograph of *Figure 2* above.

3.5 The vegetation that dominates the site and that will be mostly affected is an extensive area of improved grassland. This vegetation occurs within two main paddocks, each sub-divided by post and wire or temporary electrical fencing and was found to be species-poor dominated by perennial ryegrass with occasional common forbs such as bulbous buttercup, sticky and common mouse-ear, dandelion and other agricultural grass species such as smooth meadow grass, meadow foxtail and red fescue.

Figure 3. Extensive area of improved grassland – the site of the development footprint

3.6 A band of tall-ruderal vegetation has developed along the margins of the improved grassland, especially along fence-lines and at the base of hedgerows. This vegetation comprises mainly rank grass species such as cock's-foot and false oat-grass along with broadleaved species such as docks, thistles, willow-herbs and bramble, but is otherwise relatively species-poor and of low ecological value.

3.7 The hedgerows, which occur along the southern boundary and between the two main paddocks, are intact and relatively diverse in terms of woody plants, the dominant species being hawthorn, but probably do not qualify as Important Hedges in respect of the Hedgerow Regulations.

3.8 The vegetation of most significance in ecological terms is that around the large pond to the north (Pond 2), which is surrounded by dense scrub, comprising mainly willow, but with a diverse ground flora typical of semi-natural ancient woodland including a number of indicator species. However, this will not be affected by development proposals.

Figure 4. The hedgerow situated towards the centre of the site

3.9 Otherwise, apart from a sparse covering of short-perennial and ephemeral vegetation situated along the margins of the existing car park, tracks and footpaths, there is no semi-natural vegetation of any note that will be affected within the proposed development site boundaries.

3.10 The habitats and vegetation communities recorded during the Phase 1 Habitat Survey are summarized in Table 1 below. Only those that occur within or along the margins of the development footprint boundary and *that will be affected* by development proposals have been listed.

Table 1

NCC/RSNC[1] Habitat	NVC[2] Communities
Grassland: neutral, semi-improved	MG1 *Arrhenatherum elatius* grassland OV23 *Lolium perenne-Dactylis glomeratus* community
Improved Grassland	MG7 *Lolium perenne* leys and related grasslands
Tall herb and fern: tall ruderal	OV24 *Urtica dioica-Galium aparine* community OV25 *Urtica dioica-Cirsium arvense* community
Cultivated/disturbed land: ephemeral/short perennial	OV21 *Poa annua-Plantago major* community OV22 *Poa annua-Taraxacum officinale* community OV28 *Agrostis stolonifera-Ranunculus repens* community
[1] Nature Conservancy Council and Royal Society for Nature Conservation habitat classification (NCC, 1990) [2] National Vegetation Classification communities (Rodwell, 1991)	

3.11 As floral diversity within or adjacent to the development footprint was found to be very low with little or no semi-natural vegetation and no significant species recorded, no species list has been provided within this report.

Significance of Habitats and Flora

3.12 All habitats and vegetation communities recorded on site are relatively common and widespread throughout Oxfordshire and Great Britain. There are no historic records of any other important plant species or habitats occurring within or closely adjacent to the site boundaries and overall the site is considered to be of low ecological value in this respect.

3.13 Whilst some of the hedgerows, in particular those to the centre and west of the site are relatively diverse in woody species, they do not qualify as Important Hedges in respect of the Hedgerow Regulations, and will not be significantly affected by development proposals. Similarly, whilst there are some early-mature trees on site, none of these occur within the development footprint and none will be in any way affected. It is reasonable to assume therefore that the proposed development will have no adverse impact upon plants, vegetation communities and habitats.

Mammals (Badgers)

3.14 *Habitat Suitability*: The site provides an extensive area of habitat for badger foraging (the improved grassland, hedgerows and clumps of trees). Whilst there is no potential for the establishment of setts within the development footprint itself, there is potential within some of the adjacent hedgerows that occur within the wider site boundaries.

3.15 *Presence/Absence*: An inspection of all suitable habitat to a distance of at least 30m from the proposed development footprint (where accessible) revealed no conclusive signs of badger activity, although the high level of rabbit activity on site may have obscured some signs of badger presence. Badgers are known to occur frequently in the wider area, but, based on current evidence, did not appear to be using the site at the time of survey.

Mammals (Bats)

3.16 *Habitat Suitability*: There are no buildings on site and no mature trees suitable for bat roosting that will be affected by development proposals and little or no habitat suitable for foraging or commuting *within the development footprint*. The wider site has some suitable habitat such as hedgerows that is probably used for foraging and as commuting routes, but overall the open nature of the site and lack of shelter would suggest that the main part of the site, the extensive area of grassland, is of limited importance to bats.

Mammals (General)

3.17 It is likely that the site is used by a number of other wild mammal species such as deer, fox, and possibly brown hare, though none of these species were recorded. Small mammals such as bank and field voles, and shrews, are also likely to use the site. However, it is unlikely that any protected or otherwise important species occur within the development footprint, and it is expected that no such species will be adversely affected by proposals.

Birds

3.18 *Habitat Suitability*: The site provides a modest diversity of habitat for bird breeding. The hedgerows and trees provide some potential for a small number of species including blackbird, hedge sparrow, blue tit, great tit, chaffinch and robin as well as some of the more common rural species or summer migrants. There are no buildings or large trees with cavities suitable for use by barn owl although some of the longer grass at the site margins may be suitable for hunting by barn owl, kestrel and buzzard. The least important parts of the site in respect of bird breeding that will be affected by development proposals are the extensive area of improved grassland.

3.19 The bird species recorded on site or close to the site boundaries are listed in Table 2 below. Many of the species recorded were assumed to be transient, having only been recorded flying over the site or in adjacent sites, with few species being considered entirely resident within the site boundaries. Those considered to be actually breeding on the wider site are highlighted in bold type with a qualifier in the third column as to certainty, though none were found to be breeding within the development footprint.

Table 2

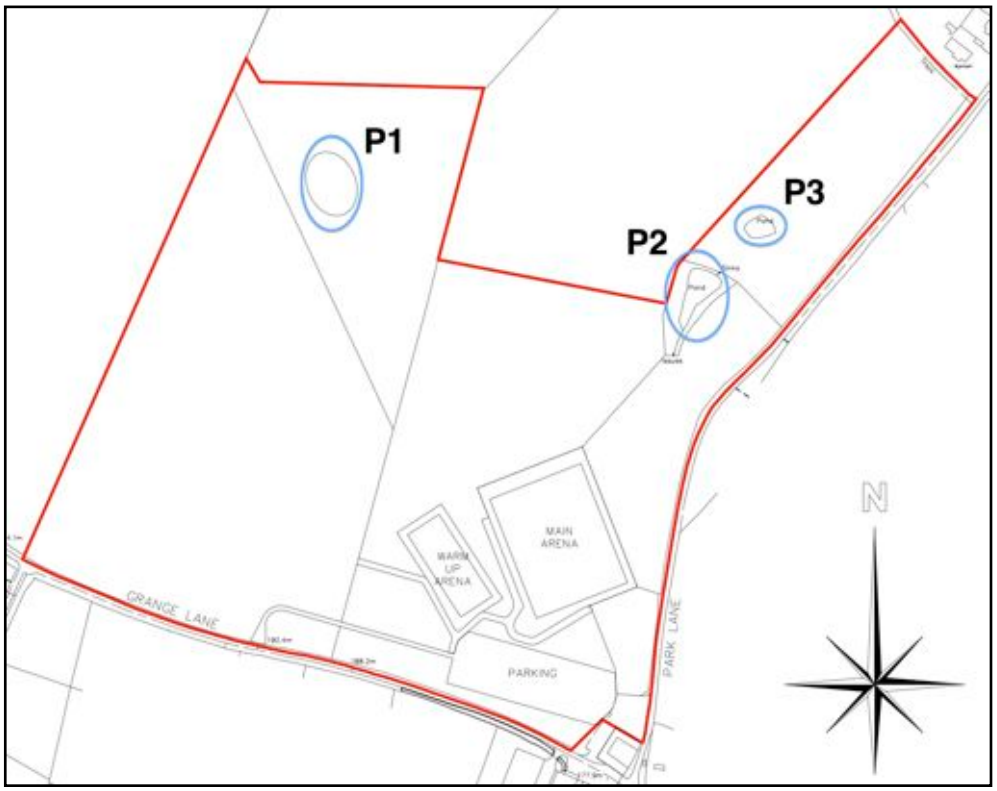
Species Name	Common Name	Breeding Status
Buteo buteo	Buzzard	NoBr
Carduelis carduelis	Goldfinch	PoBr
Carduelis chloris	Greenfinch	PoBr
Columba palumbus	**Wood Pigeon**	**PrBr**
Corvus corone	Carrion Crow	PoBr
Corvus monedula	Jackdaw	NoBr
Delichon urbica	House Martin	NoBr
Erithacus rubecula	**Robin**	**PrBr**
Fringilla coelebs	**Chaffinch**	**PrBr**
Hirundo rustica	Swallow	NoBr
Parus caeruleus	**Blue Tit**	**PrBr**
Parus domesticus	House Sparrow	PoBr
Parus major	**Great Tit**	**PrBr**
Pica pica	Magpie	NoBr
Prunella modularis	**Dunnock**	**PrBr**
Troglodytes troglodytes	**Wren**	**PrBr**
Turdus merula	**Blackbird**	**PrBr**
Key to Breeding Qualifiers: NoBr – Not Breeding; PoBr – Possibly Breeding; PrBr – Probably Breeding		

3.20 Most of the species recorded breeding on or close to the development site are species that are relatively common and widespread. It is likely that other species occur on site from time to time. However, no Schedule 1 species such as barn owl were recorded or are reasonably expected to occur on site. House sparrow is listed as UK Species of Conservation Concern and as such is both a local and UK Biodiversity Action Plan (BAP) species.

Amphibians - Great Crested Newts

3.21 No specific great crested newt survey was carried out due to the general lack of suitable habitat within the development site footprint. However, for the sake of completeness, three water bodies (a pond and two water-jumps) situated to the north of the proposed development were assessed for suitability of use by this protected species. The location of these '*ponds*' is shown in *Figure 5* below.

Figure 5. Location of ponds in relation to the proposed development site boundaries



3.22 The results of the data collected and analysed using the HSI criteria are summarized in the respective tables below. The actual HSI score for the ponds in question is shown in bold at the bottom of each table and this should be compared to the HSI scores shown below to evaluate overall habitat quality.

Figure 6. Pond 1 - a large, artificially created water jump located to the north west of the site

Table 3. HSI Pond 1

Suitability Index	Field Score	Score	Notes
SI1	A (optimal)	1	The pond is situated with Zone A where there is a high likelihood of great crested newts occurring within suitable habitat
SI2	854 m2	0.9	The pond covers approximately 854 square metres
SI3	Annually dries	0.1	The pond is presumed to dry annually
SI4	Poor water quality	0.33	Macro-invertebrate diversity is estimated to be very low due to the complete lack of aquatic vegetation.
SI5	Unshaded	1	None of the shoreline of the pond was found to be shaded by trees and/or dense scrub
SI6	Waterfowl impact low	0.67	Little impact noticeable
SI7	Fish absent	1	The pond does not appear to be currently stocked by fish
SI8	3 ponds	0.8	There are 3 other known ponds within 1km, where there are no material barriers such as built-up areas, roads and rivers
SI9	Quality terrestrial habitat - none	0.01	There is no quality habitat around the pond
SI10	Zero macrophyte cover	0.3	There is no macrophyte cover
Habitat Suitability Index: 0.37 (poor)			
*HSI Pond suitability: <0.5 = poor; 0.5 – 0.59 = below average; 0.6 – 0.69 = average; 0.7 – 0.79 = good; > 0.8 = excellent			

Figure 7. Pond 2 - a semi-natural pond, situated to the north of the site

Table 4. HSI Pond 2

Suitability Index	Field Score	Score	Notes
SI1	A (optimal)	1	The pond is situated with Zone A where there is a high likelihood of great crested newts occurring within suitable habitat
SI2	180 m2	0.2	The pond covers approximately 180 square metres
SI3	Rarely dries	1.0	Judging by the quality of habitat, depth of water and presence of aquatic vegetation, the pond is presumed to dry rarely (two in ten years at most)
SI4	Poor water quality	0.33	Macro-invertebrate diversity is estimated to be poor from the clarity of water, composition of substrate and the relative abundance of marginal and floating-leaved aquatic vegetation
SI5	>90% shading	0.3	Over 90% of the shoreline of the pond to a distance of at least 1m was found to be heavily shaded by trees and dense scrub
SI6	Major waterfowl impact	0.01	Waterfowl (ducks) appear to use the pond and these have had a significant negative impact
SI7	Fish possible	0.67	The pond does not appear to be currently stocked by fish but it is a reasonable possibility
SI8	3 ponds	0.8	There are 3 other known ponds within 1km, where there are no material barriers such as built-up areas, roads and rivers
SI9	Poor terrestrial Habitat	0.33	Beyond the immediate boundary, which is enclosed by a post and wire fence, the habitat surrounding the pond is of poor quality with very little suitability for foraging and refuge
SI10	<10% macrophyte cover	0.3	There is little or no macrophyte cover around the pond
Habitat Suitability Index*: 0.2 (poor) *HSI Pond suitability: <0.5 = poor; 0.5 – 0.59 = below average; 0.6 – 0.69 = average; 0.7 – 0.79 = good; > 0.8 = excellent			

Table 5. HSI Pond 3 A water-jump to the northeast of the site

Suitability Index	Field Score	Score	Notes
SI1	A (optimal)	1	The pond is situated with Zone A where there is a high likelihood of great crested newts occurring within suitable habitat
SI2	110 m2	0.2	The pond covers approximately 110 square metres
SI3	Annually dries	0.1	Judging by the quality of habitat and presence of both terrestrial and aquatic vegetation, the pond is presumed to dry annually
SI4	Poor water quality	0.33	Macro-invertebrate diversity is estimated to be very poor from the clarity of water, composition of substrate and the complete lack of marginal and floating-leaved aquatic vegetation
SI5	No shading	1	There is no shading of the pond
SI6	Waterfowl impact low	0.67	Little impact noticeable
SI7	No fish	0.67	The pond is not stocked with fish
SI8	3 ponds	0.8	There are 3 known ponds within 1km
SI9	Poor terrestrial Habitat	0.33	Habitat surrounding the pond is of poor quality with very little suitability for foraging and refuge
SI10	Zero macrophyte cover	0.5	There is no macrophyte cover around the pond
Habitat Suitability Index*: 0.46 (poor) *HSI Pond suitability: <0.5 = poor; 0.5 – 0.59 = below average; 0.6 – 0.69 = average; 0.7 – 0.79 = good; > 0.8 = excellent			

3.23 The Habitat Suitability Index when applied to the ponds within the site boundaries using known or estimated features or characteristics, results in a ***poor*** score (0.2-0.46) for all three, indicating relatively low quality habitat, including that surrounding the ponds. This in turn indicates that the likelihood of great crested newts being present within the ponds and suitable habitat is low to negligible. Therefore, considering the distance of the ponds from the development footprint (>150m), the quality of habitat within the development footprint site, the current land use and the poor quality of connective habitat between, the likelihood of great crested newts occurring on site is considered to be low to negligible.

Reptiles

3.24 *Habitat Suitability*: The habitat on site is only marginal suitability at most for reptiles.

3.25 *Presence/Absence:* An inspection of all suitable habitat within the site boundaries revealed no conclusive evidence of use by reptiles and the whole site, but in particular the development footprint, was found to be generally sub-optimal for this group of species.

Significance of Fauna

3.26 No protected or otherwise species were recorded on site or are considered likely to occur within the development footprint.

3.27 The wider site is expected to be used to some extent for foraging and commuting by bats but there is no potential for roosting, as there are no buildings on site and no trees large enough to support bat roosts.

3.28 There were no signs of badger setts or signs of activity within the development footprint although the site provides extensive habitat suitable for foraging and the later presence of badgers cannot be totally ruled out.

3.29 No great crested newts were recorded during the site survey or are considered likely to occur on site. It is reasonable to assume therefore that the proposed development will result in ***no likely adverse impact upon great crested newts***.

3.30 With respect to breeding birds, whilst no Schedule 1 species such as barn owl were recorded, all birds are protected in general terms during the breeding season so any site works which may affect potential breeding sites should avoid the breeding season (February to July inclusive) and any unavoidable loss of breeding habitat should be compensated for by provision of proprietary breeding boxes sited in appropriate locations on completion of site works.

4.0 Potential Impacts & Mitigation

4.1 Likely Impact

4.1.1 The likely impact of the proposed site works is evaluated against the criteria laid out in the table below which is based on NATA (New Approach to Appraisal) as described in Byron H. (2000). This evaluation is based on the assumption that no mitigation works will be implemented.

Impact Assessment Table

Impact Magnitude	**Nature Conservation Importance**				
	Negligible	***Local***	***County***	***National***	***European***
Beneficial Effect	Non Significant	Non Significant	Non Significant	Non Significant	Non Significant
Nil Effect	Non Significant	Non Significant	Non Significant	Non Significant	Non Significant
Minor (short term or reversible effects)	Non Significant	Non Significant	Slight	Moderate	Moderate
Moderate (deterioration of feature	Non Significant	Slight	Moderate	Severe	Severe
High (loss of feature)	Non Significant	Slight	Moderate	Severe	Severe

4.1.2 The evaluation criteria for nature conservation importance are as follows:

European

Habitats which are listed in Annexe 1 of the Habitats Directive and are included as candidate or proposed Special Areas of Conservation (cSAC, pSAC)

Species which are listed under Schedule 2 of the Habitats Directive and form a population which would qualify the site for consideration as a Special Protection Area (SPA) or Special Area of Conservation

National

Habitats that meet the criteria for designation of, or occur within, a Site of Special Scientific Interest (SSSI)

Species that are protected under national wildlife legislation such as the Wildlife & Countryside act, are listed in a national Red Data Book, or that are part of a population or assemblage of species that would meet the criteria for the site being designated a site of Special Scientific Interest (SSSI)

County

Habitats that are rare or uncommon in the County would meet the criteria for inclusion or are included within a second tier nature conservation site (SINC), or which form part of a local Biodiversity Action Plan (BAP) or Habitat Action Plan (HAP)

Species that are rare or uncommon within the County, form part of a population or assemblage of species which would meet the criteria for

inclusion or are included as part of a Site of Importance for Nature Conservation (SINC)

Local

Habitats that are uncommon or threatened within the Swalcliffe area

S*pecies* that are uncommon or threatened within the Swalcliffe area

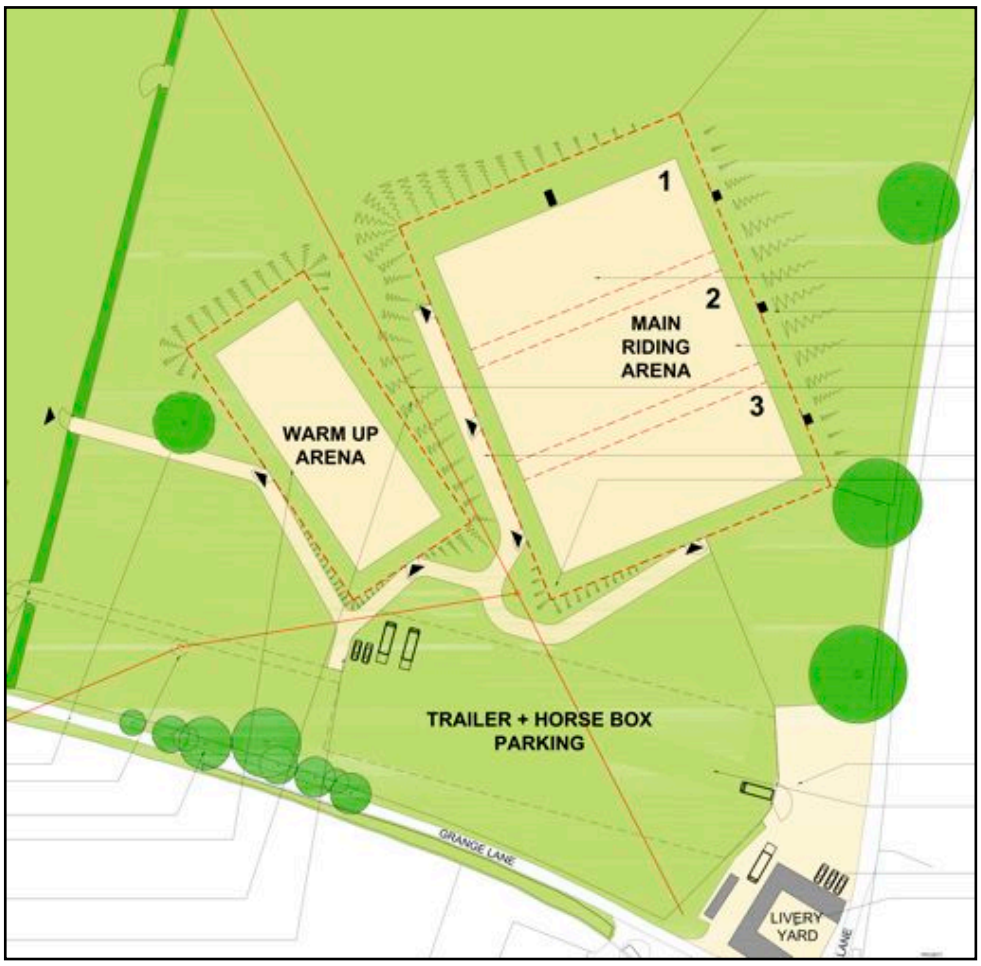
Negligible

Habitats or *Species* that fit into none of the above categories

4.2 Likely Impact of the Development and Outline Mitigation

The current ecological impacts resulting from the proposed site development works (see proposed layout, *Figure 8* below), based on the criteria outlined above and mitigation required to negate any impacts, are summarized within the following respective tables.

Figure 8. Proposed Site Layout (extract of drawing 32 rev A prepared by Karl Zadats, which should be consulted for full details)



4.2.1 Bats

Details	Likely Impacts	Required Mitigation and Residual Impact
There are no buildings or mature trees on site and very little habitat that is suitable for foraging or commuting will be affected.	No impact likely.	No specific mitigation is required.
Nature Conservation Importance: **European**	Impact Magnitude: **Nil Effect** Overall Impact: (Nil Effect: European) **Non Significant**	Residual Impact: **Nil Effect**

4.2.2 Badgers

Details	Likely Impacts	Required Mitigation and Residual Impact
No badger setts were found on site but badgers are known to occur in the wider area	No significant impact likely	No specific mitigation required. However, as a precautionary measure, a repeat badger survey should be carried out *within fourteen days of site works commencing* to ensure that no badger setts have been established within 30m of the site boundaries in the interim. Should badgers be subsequently found to have established any setts within 30m of the site, appropriate mitigation measures must be implemented following best practice ecological advice
Nature Conservation Importance: **National**	Impact Magnitude: **Nil Effect** Overall Impact: (Nil effect: National) **Non Significant**	Residual Impact: **Nil Effect**

4.2.3 Breeding Birds

Details	Likely Impacts	Required Mitigation and Residual Impact
There is moderate bird breeding potential within the hedgerows. There is little or no likelihood of ground nesting birds using the grassland for breeding purposes	Only a very small section of hedgerow will be removed to facilitate access. Removal of trees, shrubs, other dense vegetation during the breeding season (February-July) may result in disturbance to breeding birds and loss of breeding habitat	The majority of existing mature vegetation to be retained, especially trees and mature shrubs (including hedgerows). No vegetation to be removed during breeding season (February to July inclusive) until or unless this has been checked for breeding birds by an ecologist
Nature Conservation Importance: **National**	Impact Magnitude: **High** Overall Impact: (Severe: National) **Severe**	Residual Impact: **Nil Effect**

4.2.4 Great Crested Newts

Details	Likely Impacts	Required Mitigation and Residual Impact
Whilst three water bodies (one semi-natural pond and two water jumps) occur on site, the habitat between these and the proposed development footprint is unsuitable for use by great crested newts	Despite there being three ponds within 250m of the site boundaries, these are suboptimal with an HSI score of Low. There are no historic records of great crested newts occurring in the vicinity, and there will be no impact upon any optimal great crested newt habitat	No specific mitigation required. However, as a precautionary measure, grassland within the development footprint should be maintained at less than 8mm for at least eight weeks prior to development works taking place and no sheet materials such as plastic or wood, or loose material such as stone or rubble should be stored on site within that period. Prior to site works taking place, the development footprint should be searched for terrestrial phase great crested newts. In the unlikely event that any are found, no site works should commence until appropriate action has been taken under the guidance of a qualified and appropriately licenced ecologist
Nature Conservation Importance: **European**	Impact Magnitude: **Nil Effect** Overall Impact: (Nil Effect: European) **Non Significant**	Residual Impact: **Nil Effect**

4.2.5 Botany/Vegetation Communities/Habitats

Details	Likely Impacts	Required Mitigation and Residual Impact
There is no semi-natural vegetation of any importance on site or adjacent to the site boundaries that will be affected by development proposals	Virtually all vegetation within the development footprint will be lost. However, there will be little or no impact upon any significant semi-natural vegetation	No specific mitigation required
Nature Conservation Importance: **Negligible**	Impact Magnitude: **High** Overall Impact: (High: Negligible) **Non Significant**	Residual Impact: **Nil Effect**

5.0 Conclusion

5.1 There was no conclusive evidence of any specifically protected species occurring on site or closely adjacent to the site boundaries *that are likely to be adversely affected by development proposals*. Similarly, no important habitats were identified that will be adversely affected. A small number of breeding birds, which are protected in general terms during the breeding season, do occur on site and there will be an initial but relatively minor loss of breeding habitat. However, with adequate mitigation and the implementation of a number of relatively minor precautions as outlined above it is considered that the proposed development will result in negligible overall ecological impact.

6.0 References

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