Stuart Avenue,

Mansfield

Preliminary Ecological Appraisal Report (PEAR)

Client:

Gleeds Cost Management Limited/Arc Partnership

Report Reference:

RSE_6481_R1_V1_PEAR

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RammSanderson

ECOLOGY
FLOOD RISK
ARBORICULTURE
HABITATS
TRAINING

CIEEM REGISTERED PRACTICE 2022-2023

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Project:	Stuart Avenue, Mansfield			
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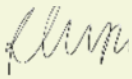
Originated:	**Rachel Cooper** BSc (Hons) GradCIWEM	Assistant Enviornmental Consultant		06/01/2023
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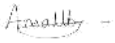
Issued:	**Aleah Maltby** MSc GradCIEEM	Ecologist		26/04/2023
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DISCLOSURE:

1 EXECUTIVE SUMMARY

i RammSanderson Ecology Ltd were commissioned by Gleeds Cost Management Limited/Arc Partnership to undertake a Preliminary Ecological Appraisal to assess the potential ecological constraints to the proposed outline planning consent for a residential development (hereafter referred to as the Scheme), located off Stuart Avenue, Mansfield.

ii The land within the Scheme Boundary (hereafter referred to as the Site) is 3.2 ha in size and comprised of grassland, scattered trees, hard standing, tall ruderal, ephemeral short perennial, a building, and dense scrub.

Ecological Feature	Potential to be affected by the Scheme	Further Surveys, Assessment or Mitigation Recommended?
Designated Sites	Site could have indirect impacts onto Ravensdale LNR and Valeclose Plantation LWS via increased footfall of residents. Site falls with IRZ for multiple SSSI sites and Site falls within buffer of ppSPA Sherwood Forest.	Mitigation in form of signposts and footpaths to reduce trampling pressures. Further consultation with Natural England will be required to assess need for Environmental Impact Assessment (EIA). Shadow HRA will be required to assess impacts to ecological features of Sherwood Forest ppSPA (nightjar, woodlark, honey buzzard).
Habitats	The habitats on Site are largely of limited botanical interest and poor species diversity. Cotoneaster, Japanese Knotweed and Canadian goldenrod identified on Site. Potential to impact HPI deciduous woodland adjacent to southern boundary.	Yes – Treatment of the Japanese knotweed and Canadian goldenrod by licenced contractor. Cotoneaster survey to identify if the species is listed under Schedule 9. Precautionary measures to protect woodland during construction to be detailed in a CEMP e.g. dust suppression techniques, 10m standoff/buffer adhered to forestry commission standards.
Badger	No badger evidence was identified during the surveys, however, there are records of badger within 2km of the Site.	Yes – Precautionary Method of Work during dense scrub removal to be detailed in CEMP / PMW document. Updated badger survey within 6 months prior to works commencing.
Bats	Tree on Site with suitability for roosting bats. Site boundaries providing commuting and foraging habitat and potential to be impacted through an increase in ambient lighting levels.	Yes – Three endoscope or nocturnal surveys of T1. Bat sensitive lighting strategy to be detailed in a CEMP.
Otter and Water Vole	Water vole records within zone of influence, however no suitable habitat on Site	No

Ecological Feature	Potential to be affected by the Scheme	Further Surveys, Assessment or Mitigation Recommended?
Great Crested Newt	No records of GCN within 2km of the Site and no suitable habitat within the Zone of Influence.	No
Reptiles	Records of reptiles within the Study Area, however, previous surveys have not recorded any reptiles.	Yes – Precautionary Method of Work
Birds	46 records of notable bird species within the Study Area however, the species on Site are likely to be limited to common species.	Yes – Ecological Clerk of Works should vegetation be removed between March and September, inclusive.
Terrestrial Invertebrates	Records of and suitable habitats for dingy skipper and small heath skipper	No
Other Notable Species	Records of hedgehog and polecat within the Study Area	Yes – Follow Precautionary Method of Work for badger.

iii Possible enhancements for the proposals could include hedgerow planting and enhancing, wildflower meadows, tree planting, and the addition of nesting boxes and herpetofauna hibernacula and refugia.

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2 INTRODUCTION

2.1 Terms of Reference

i RammSanderson Ecology Ltd (RS) were commissioned by Gleeds Cost Management Limited/Arc Partnership to undertake an update Preliminary Ecological Appraisal (PEA) to assess the potential ecological constraints to the proposed outline planning consent for a residential development (hereafter referred to as the Scheme), located off Stuart Avenue, Mansfield. All land situated within the red line of the Scheme is hereafter referred to as the Site and is shown on Figure 5.

ii A preliminary ecological appraisal was undertaken in July 2019 by RammSanderson (RSE_3029_01_V1). The Site consisted of semi-improved grassland, hardstanding, tall ruderal, dense scrub, scattered trees and stands of Japanese knotweed. Further reptile surveys were conducted on Site, resulting in no reptiles recorded. No other further surveys were recommended. However, it was recommended that removal/treatment of the Japanese knotweed on site be conducted prior to works to prevent further spread and an offense being committed.

iii The PEA also noted that the Site is within the potential proposed special protection area (ppSPA) for Sherwood Forest. A shadow Habitat Regulations Assessment (HRA) was recommended to assess impacts of the development in particular to functional links between the Site and nightjar, woodlark and honey buzzard.

iv The PEA has been undertaken with reference to current good practice[1] and forms part of the technical information commissioned by Gleeds Cost Management Limited/Arc Partnership in connection with the Scheme. The results of the PEA are presented in this PEA report (PEAR), which addresses relevant wildlife legislation and planning policy as summarised in Appendix 1. The PEAR is consistent with the requirements of British Standard 42020:2013 *Biodiversity. Code of Practice for Planning and Development*.

v This PEAR is intended for advice in respect of Scheme design, Site layout and / or Site investigation. Further ecological surveys and / or ecological impact assessment (including detailed mitigation measures) may be required in connection with a planning application or to contribute to an Environmental Impact Assessment once the Scheme proposals have been finalised and any required surveys have been completed.

2.2 The Scheme

i The Scheme for the Site is for an outline planning application for 52 residential dwellings. The proposed plan shows the creation of greenspace to the south of the Site with the addition of a sustainable drainage pond.

2.3 The Site

i The Site is located off Stuart Avenue at Ordnance Survey national grid reference SK 55955 61497 and is approximately 3.2 ha in size. The Site is 2km east of Mansfield, Nottinghamshire, within the suburbs and 22km north of Nottingham.

2.4 Scope of the Preliminary Ecological Appraisal

i This PEAR presents ecological information obtained during the following:

[1] CIEEM (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

- A desk-study undertaken on 02/02/2023 to obtain records of designated Sites, notable habitats[2] and protected and notable species[3] up to 2km of the Site (the area covered by the desk study is hereafter referred to as the Study Area); and,
- An update walkover survey of accessible land within the Site (the area covered by the survey is hereafter referred to as the Survey Area) on 18/01/2023, to provide an update to the 2019 survey.

ii The Study Area and Survey Area are shown on Figure 3.

iii The purpose of the PEAR is to provide a high-level ecological appraisal of the Site, specifically to:

- establish baseline conditions and determine the presence of Important Ecological Features (IEF)[4] (or those that could be present), as far as is possible;
- to identify potential ecological constraints to the Scheme and make initial recommendations to avoid impacts on IEFs, where possible;
- to identify requirements for mitigation, where possible, including mitigation measures that will be required and those that may be required (depending on results of further surveys or final scheme design);
- to establish any requirements for more detailed surveys; and,
- to identify any opportunities offered by the Scheme to deliver biodiversity enhancements.

iv The methodology followed for undertaking the desk study and field surveys is detailed in Appendix 2.

[2] Notable habitats are taken as principal habitats for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; habitats listed under the Nottinghamshire Biodiversity Action Plan (BAP); hedgerows identified as being 'important' under the wildlife criteria of the Hedgerow Regulations 1997, ancient woodlands and veteran trees.
[3] Notable species are taken as principal species for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; any species listed in an IUCN Red Data Book; and any other species listed under the Nottinghamshire BAP.
[4] Important Ecological Features are habitats, species, ecosystems and their functions and processes that are of conservation importance and could potentially be affected by the Scheme.

3 BASELINE CONDITIONS, CONSTRAINTS AND RECOMMENDATIONS

3.1 Surveyor Competence

The walkover survey was led by Abbie Marshall BSc (Hons), whom has been a professional ecologist for five years and has the required competencies (Chartered Institute of Ecology and Environmental Management) to undertake this type of survey.

3.2 Limitations to the Assessment

General limitations to undertaking desk and field-based assessments are provided in Appendix 2. Specific limitations to the assessment are detailed below:

- The updated survey was undertaken outside of the peak floristic season (April – September, inclusive), and as such there is a risk that some plant species may have been missed. However, the original 2019 survey was undertaken within the peak floristic season and the habitats and their botanical value on Site were common and widespread. Therefore, it is not considered to pose a constraint.

3.3 Designated Sites

3.3.1 Desk Study

Table 1 summarises the designated Sites situated within the Study Area.

Table 1. Designated Sites within Study Area

Site Name	Designation	Location[5]	Brief Description
Doe Lea	LNR[6]	0.6km NW	The mix of woodland, scrub and reed bed make this a great place for watching wildlife, especially birds.
Doe Lea Stream Section	SSSI[7]	0.6km NW	Geological designation
Ravensdale	LNR[8]	0.6km NW	Oak coppice woodland, scrub and acid grassland habitats plus recent heathland creation. Many common bird species are present.
Oak Tree Heath	LNR	1.2km SSE	One of the best and largest dry acid heaths in Nottinghamshire. It is part of the Strawberry Hill Heath Site of Special Scientific Interest. The wildlife includes; bats birds and insects. There are also fungi.
Maun Valley Park	LNR	1.5km NNW	Ancient Oak woodland, grassland, water meadows and wetland habitats.
Strawberry Hill Heaths	SSSI[9]	1.9km SE	These two areas of heath, situated on the eastern outskirts of Mansfield, comprise an important remaining part of the formerly extensive dry acid lowland heathland of Central Nottinghamshire.

[5] Where designated Sites are situated outside of the Site boundary, the distance and direction is given at the closest point of the designated Site from the Site
[6] LNR – Local Nature Reserve
[7] SSSI – Site of Special Scientific Interest
[8] LNR – Local Nature Reserve
[9] SSSI - Sites of Special Scientific Interest

Site Name	Designation	Location[5]	Brief Description
Vicar Water Nature Reserve	LNR	2.2km NE	N/A
Sherwood Forest Golf Course	SSSI	2.4km E	The Site contains one of the largest blocks of lowland heathland in the County. As such it represents a substantial example of a nationally rare habitat type which was formerly extensive in this part of Nottinghamshire and supports a number of uncommon plants and animals. The Site is especially notable for the occurrence of the scarce stag's-horn clubmoss *Lycopodium clavatum* and western gorse *Ulex gallii*. The area provides suitable breeding habitat for whinchat *Saxicola rubetra* and nightjar *Caprimulgus europaeus*, both of which are known to occur.
Quarry Lane	LNR	2.5km SW	Deciduous woodland and riparian habitats along the River Maun with mill pond and rock exposures. Small limestone exposure which creates a new habitat.
Oakham	LNR	3.3km SW	Good grassland, wetland and scrub habitats plus recent habitat enhancements
Rainworth Lakes	SSSI	3.5km SSE	The Site contains some of the best examples of base-poor marsh and open water plant communities remaining in Nottinghamshire and is of Regional importance.
Clipstone Heath	SSSI	3.8km NE	The Site comprises an important area of the once much more extensive dry acid lowland heathland of central Nottinghamshire.
Rainworth Heath	SSSI	3.8km SE	The Site contains some of the best remaining areas of wet and dry heath in Nottinghamshire, and is representative of heathland in Central and Eastern England.
The Hermitage	LNR	4.1km SW	Mill pond, from the old Hermitage Mill, with reedbeds surrounded by deciduous woodland with good ground flora. 46 bird species
Rainworth Water	LNR	4.3km SE	There are large areas of broadleaved and mixed woodland. Alongside the woodland several other habitats also exist. Rainworth Water itself is a valuable wetland habitat consisting of pools, shallows and meanders to create a natural appearance. Beside the watercourse marshy areas have developed since restoration. Open grassland and dense scrub have also developed naturally since restoration. The variety of habitats present at Rainworth Water means that a broad range of species is supported. In particular, the wetland habitat is characterised by dragonflies and damselflies.
Pleasley Vale (Meden Trail)	LNR	4.6km NNW	Calcareous woodland, scrub, limestone crags and some of the best calcareous grassland in Nottinghamshire. The Site is a disused railway.
Pleasley Vale Railway	SSSI	4.6km NW	The Site contains some of the best remaining calcareous grassland developed on soils derived from the Magnesian Limestone in Nottinghamshire and is representative of grassland developed on soft limestones in Central and Eastern England. Also

Site Name	Designation	Location[5]	Brief Description
			represented are examples of calcareous woodland and scrub, and limestone crags and fissures.

3.4 Constraints and Recommendations

3.4.1 Statutorily and non-statutorily designed sites

i The nearest statutorily and non-statutorily designated sites were Ravensdale LNR/ Valeclose Plantation LWS which were 480m west of the site. This site was designated as a result of the habitats present on site including oak coppice woodland, scrub, grassland and heathland. There are no direct connecting bridlepaths or Public Rights of Way (PRoW) between the proposed development site and the LNR/LWS site, however given the proximity it is considered likely that there will be an increased footfall to this designated site as a result of a residential development. An aerial review of the site indicated hardstanding pathways which can be utilised by walkers.

ii As a precaution, any public footpaths that lead away from the development site towards the LWS/LNR should be signposted detailing the location of the LWS and detailing important information pertaining to the site (e.g. appropriate disposal of litter, proper utilisation of footpaths, keeping dogs on leads) to try and reduce trampling pressures.

iii The Site also lies within 5km of Strawberry Hill Heaths, Sherwood Forest Golf Course, Rainworth Lakes, Clipstone Heath, Rainworth Heath, and Pleasley Vale Railway SSSI's. The proposals are of a type that is included within the Impact Risk Zones (ORZ) for these National designated Sites:

- **Infrastructure**: Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
- **Wind & Solar Energy**: Solar schemes with footprint > 0.5ha, all wind turbines.
- **Minerals, Oil & Gas**: Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
- **Rural Non-Residential:** Large non-residential developments outside existing settlements/urban areas where footprint exceeds 1ha.
- **Residential**: Residential development of 50 units or more.
- **Rural Residential**: Any residential development of 50 or more houses outside existing settlements/urban areas.
- **Air Pollution**: Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m^2, slurry lagoons & digestate stores > 200m^2, manure stores > 250t).
- **Combustion**: General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
- **Waste**: Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.
- **Composting**: Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.

The Site falls within the residential IRZ category for the above Sites as current proposals are for 52 units. As such, it is recommended that Natural England be consulted to ascertain the requirement for a Environmental Impact Assessment (EIA) to support the Scheme.

3.4.2 Sherwood Forest Potential Proposed SPA

iv The Site lies within the 5km buffer of the possible potential Sherwood Forest SPA with the closest fragment located c.3.9 km to the south-east. The Sherwood Forest ppSPA is not yet designated, nor being formally considered for designation (and therefore is not covered by Article 6(3) of the Habitats Directive) and has no actual legal status as an international protected site. However, it is being potentially considered due to breeding woodlark and nightjar whereby the site forms 1-2% of the UK population (rspb.org.uk).

v The proximity of the Scheme to the ppSPA triggers the requirement for an appropriate assessment under Natural England Guidance using the precautionary approach for Local Authorities to satisfy themselves that current planning applications contain 'sufficient objective information to ensure that all potential impacts on the breeding nightjar and woodlark populations have been adequately avoided or minimised'. In doing so, Natural England advises that this should be done 'using appropriate measures and safeguards', in order to 'ensure that any future need to review outstanding permissions under the 2019 Regulations is met with a robust set of measures in place' (Natural England, 2014).

vi As a precaution and in accordance with current Natural England standing Advice released in 2014 it is recommended that in order to determine whether a development at this site will pose any major impacts an assessment should be undertaken in the form of a Shadow Habitat Regulations Assessment (HRA). This is required as the existing HRAs for the local plan housing allocation are not in place currently,

3.5 Habitats

3.5.1 Desk Study

i Table 2 summarises the records of notable habitats and protected or notable flora[10] (including veteran trees[11]) within the Study Area.

Table 2. Notable Habitats and Protected, Notable, and Invasive Flora within Study Area

Habitat/ Flora Feature	Reason for Interest	Location[12]
Deciduous Woodland	Habitats of Principal Importance under Section 41 of the NERC Act, 2006	9 records; closest record southern Site boundary
Broadleaved woodland	Habitats of Principal Importance under Section 41 of the NERC Act, 2006	11 records; closest record southern Site boundary
Japanese knotweed (*Reynoutria japonic*)	Wildlife and Countryside Act 1981 Schedule 9	25 records; closest record 9m SE
Himalayan balsam (Impatiens glandulifera)	Wildlife and Countryside Act 1981 Schedule 9	29 records; closest record 0.88km NW
Woodland- Young Trees	Habitats of Principal Importance under Section 41 of the NERC Act, 2006	1 record; closest record 0.9km north northwest

[10] For this assessment 'flora' includes vascular and non-vascular plants, fungi and lichens.
[11] For this assessment the definition of a veteran tree is taken from Annex 2 of the National Planning Policy Framework (glossary): "A tree which, because of its great age, size or condition is of exceptional value for wildlife, in the landscape, or culturally."
[12] Where features are situated outside of the Site boundary, the distance and direction is given at the closest point of the designated Site from the Site

Giant hogweed (*Heracleum mantegazzianum*)	Wildlife and Countryside Act 1981 Schedule 9	1 record, 1.48km NW

3.5.2 Field Survey

i Japanese knotweed, Canadian goldenrod and cotoneaster species were identified during the field survey. Japanese knotweed and some species of cotoneaster are listed under Schedule 9 of the Wildlife and Countryside Act 1981, whilst Canadian Goldenrod is considered a non-native invasive species.

ii Summary descriptions of the habitats within the Survey Area are provided below in Table 3 and shown on Figure 4, with specific features highlighted by Target Notes (TN).

iii Habitat types detailed are listed in order of the Phase 1 Habitat Survey Handbook (Joint Nature Conservation Committee, 2010). The species list provided in this report reflect only those taxa observed during the survey and are not an exhaustive list of all species that may be present, as the survey only provides a snapshot of the Site.

Table 3: Habitats within Survey Area

Habitat	Description	Area (m^2)	Proportion of Site (%)	Ecological Importance & Outcome of Proposal	Photograph
A2.1 Dense Scrub	The northeast of the Site was dominated by dense scrub, dominated by bramble (*Rubus fruticosus*). The central area of dense scrub was dominated by bracken (*Pteridium aquilinum*) in the centre whilst around the edge was dominated by bramble. Around the outside, gorse (*Ulex gallii*), holly (*Ilex aquifolium*), cow parsley (*Anthriscus sylvestris*), cleavers (*Galium aparine*) and *cotoneaster* (TN3) were also present. The southern area was dominated by bramble, with willow (*salix*) species, broadleaved dock (*Rumex obtusifolius*), nettle (*Urtica dioica*), holly, gorse, cow parsley, and rose (*Rosa* spp also present. Dense scrub was also present around the peripheries of the disused tennis court were dominated by saplings of butterfly bush (*Buddleja*), goats willow (*Salix caprea*), silver birch (*Betula pendula*), ash (*Fraxinus excelsior*) and Norway maple (*Acer platanoides*).	3405.62	11.40	The dense scrub across the Site was of limited botanical diversity. However had ecological value for protected species such as badgers, nesting birds and foraging bats. To be lost as part of the proposals.	
A2.2 Scattered Scrub	Areas of scattered scrub within tall ruderal vegetation and semi-improved grassland were located around the boundaries of the Site. Within the tall ruderal at the south of the Site the scattered scrub was dominated by bramble, hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*), with abundant holly, frequent bracken, occasional guelder rose (*Viburnum opulus*) and sycamore (*Acer pseudoplatanus*) saplings. Canadian goldenrod (*Solidago canadensis*; TN2) was present around the peripheries.	N/A – within other habitats	N/A – within other habitats	The dense scrub across the Site was of limited botanical diversity and ecological value for protected species such as badgers and nesting birds. To be	

Habitat	Description	Area (m^2)	Proportion of Site (%)	Ecological Importance & Outcome of Proposal	Photograph
				lost as part of the proposals. Canadian goldenrod considered invasive non-native species. Recommended this be removed.	
A3.1 Broad-leaved scattered trees	A line of scattered broad-leaved trees was located at the north and south of the Site, with some trees scattered across the Site. These comprised sycamore, rowan (*Sorbus aucuparia*), silver birch , common lime (*Tilia* x *europaea*), cherry (*Prunus avium*) and goat willow and were young to semi-mature. Within Line of Trees 1, a rubble pile was present (TN4).	112.49 157m (line of scattered trees)	0.38	The scattered trees were of moderate botanical value and of ecological importance for protected species such as birds and foraging bats. These are to be lost as part of the proposals.	

Habitat	Description	Area (m^2)	Proportion of Site (%)	Ecological Importance & Outcome of Proposal	Photograph
B2.2 Semi-improved neutral grassland	Semi-improved neutral grassland habitat dominated the Site, with an approximate sward height of 5 to 10cm. Yorkshire fog (*Holcus lanatus*) and false oat-grass (*Arrhenatherum elatius*) was dominant within the grassland, with abundant common bent (*Agrostis capillaris*) and cock's foot (*Dactylis glomerata*), frequent yellow oat-grass (*Trisetum flavescens*) and dandelion (*Taraxacum* spp.) occasional patches of smaller cats' tail (*Phleum bertolonii*) and fescue (*Festuca* spp.) and rare field bindweed (*Convolvulus arvensis*), mouse eared chickweed (*Cerastium vulgatum*) and couch grass (*Elymus repens*).	16767.29	56.13	The semi improved neutral grassland on Site was of limited botanical diversity and low ecological importance for protected species. To be lost as part of the proposals.	
C3.1 Tall ruderal	Tall ruderal vegetation patches were present throughout the Site and spanned the majority of the southern boundary of the Site. The species composition in the northern end of the Site was dominated by creeping thistle (*Cirsium arvense*) and broad-leaved dock (*Rumex obtusifolius*), with an abundance of broadleaved everlasting pea (*Lathyrus latifolius*) and rosebay willowherb (*Chamaenerion angustifolium*), frequent common nettle (*Urtica dioica*), with occasional purple toadflax (*Lythrum salicaria*) and Yorkshire fog. Nipplewort (*Lapsana communis*) and mugwort (*Artemisia vulgaris*) were rarely occurring. In the southern-most section of the Site nettle and creeping thistle (*Cirsium arvense*) were dominant, with abundant rosebay willowherb and field bindweed (*Convolvulus arvensis*), frequent yellow loosestrife (*Lysimachia punctate*) and occasional ribwort plantain (*Plantago lanceolate*) and rare hedge mustard (*Sisymbrium officinale*) and wood avens (*Geum urbanum*). Three stands of Japanese	6227.52	20.84	Tall ruderal vegetation was of low botanical value but had some ecological importance to support fauna. To be lost as part of the proposals.	

Habitat	Description	Area (m^2)	Proportion of Site (%)	Ecological Importance & Outcome of Proposal	Photograph
	knotweed (TN1) were located within the southernmost section of the Site.				
J2.4 Fence	Metal fencing was present at the boundaries of the Site, spanning all aspects. A small gap was present at the north-eastern corner, western, southern and lower eastern sections of the Site boundary.	-	-	To be lost as part of the proposals.	
J3.6 Ephemeral short perennial	A small patch of ephemeral short perennial was located within the northern section of the Site, close to the existing entrance. There was no dominant species, the emergent flora included occasional red fescue (*Festuca rubra*), creeping bent (*Agrostis stolonifera*), frequent mouse ear hawkweed (*Pilosella officinarum*), common ragwort (*Jacobaea vulgaris*), scentless mayweed (*Tripleurospermum inodorum*) and rare herb robert (*Geranium robertianum*).	7.05	0.02	The ephemeral short perennial vegetation was of limited botanical diversity, however it did have some ecological value. This is to be lost as part of the proposals.	

Habitat	Description	Area (m^2)	Proportion of Site (%)	Ecological Importance & Outcome of Proposal	Photograph
J6 Hard Standing	Hardstanding was present on Site in the form of a former tennis court, which is now disused. Emergent species were present throughout with mosses forming cover in areas. Ash (*Fraxinous excelsior*) saplings, butterfly bush and goat willow saplings were frequent with occasional birdsfoot trefoil (*Lotus corniculatus*) and yarrow (*Achillea millefolium*). Across the surface of the hard standing, *cotoneaster* species (TN3) were present	3270.55	10.95	The hard standing was of low ecological value, this is to be lost as part of the proposals.	

3.5.1 Constraints and Recommendations

i The majority of habitats on Site were generally of limited botanical interest and poor species diversity. The value of habitats such as semi-improved grassland, scrub and scattered trees were largely noted in their potential to support a range of protected / Priority faunal species rather than for their botanical value. The scattered trees offered some value as ecological corridors for the dispersal of fauna and flora into the wider countryside, particularly those located adjacent to the southern boundary bordering the off-Site woodland. There were no discernible differences when compared with the walkover in 2019.

ii The deciduous woodland along the southern boundary of the Site was categorised as a HPI according to MAGIC. Mitigation during construction is recommended to minimise impacts to this habitat during construction e.g. utilising dust suppression techniques, no additional lighting (unless required for health and safety). A minimum 10m standoff/buffer zone should be utilised, preventing accidental encroachment of machinery / storage materials into root protection areas (RPAs).

iii No protected or Priority plant species were observed, and all plant species encountered were common, widespread, and characteristic of the common habitat types they represent.

iv Japanese knotweed (TN1), cotoneaster species (TN3) and Canadian Goldenrod (TN2) were identified during the Field Survey. The desk study also recorded Japanese knotweed within 0.2km of the Site. This is a Schedule 9 (Wildlife and Countryside Act, 1981 as amended), under which it is an offence to cause them to spread in the wild. It is recommended that a cotoneaster survey is undertaken to assess whether it is of a species identified within Schedule 9 of Wildlife and Countryside Act 1981. It is also recommended that the Japanese knotweed on the Site should be remediated by a qualified contactor. Although Canadian Goldenrod is not Schedule 9, it is recommended that this is treated and removed from the Site prior to works commencing as it is considered a non-native invasive species. Excavated material of all three species should be disposed of at a licenced landfill.

3.6 Badger

3.6.1 Desk Study

i There are two recent records of badger (*Meles meles*) within 2km of the Site. The closest and most recent record was of a dead badger on the road.

3.6.2 Field Survey

i No evidence of badgers was identified during the survey. The woodland to the south of the Site boundary provided suitable habitat for sett building. Whilst the grassland provided suitable habitat for foraging and commuting badger. It is likely that transitory badgers are entering the Site to forage.

3.6.3 Constraints and Recommendations

i An updated badger survey no more than six months prior to works commencing is recommended to the suitability of the Site for the species.

ii Where dense scrub is to be cleared, it is recommended that this is removed under ecological clerk of works to ensure no badger setts are present within these areas. Additionally, precautionary measures are also recommended to reduce the risk of impacting badgers, or any other mammals during the works. These precautions are:

- Mammal ladders (such as a plank) or earth ramps to be placed in any open excavations at the end of each day;
- Cap off any open pipes at the end of each day;
- Cover any open holes, or install mammal ladders or earth ramps in any open excavations at the end of each day to prevent animals from becoming trapped;

- Keep all fuel and other harmful substances in a locked area;
- Ensure any spillages are treated with spill kits;
- Night work should be avoided where possible, and any flood lighting should face away from the Site boundaries; and
- If any fresh sett digging is observed notify an ecologist immediately and leave a 20m buffer around the area until an assessment can be made.

3.7 Bats

3.7.1 Desk Study

i There are 88 recent records of bats and two records of bat roosts within the Study Area. The closest of these records is associated with pipistrelle species which is approximately 267m southeast from the Site boundary. The closest roost was a pipistrelle spp. roost located 324m from the Site boundary.

3.7.2 Field Survey

ii The trees on Site provided suitable habitat for roosting bats. A ground level tree assessment of this tree was undertaken to assess the potential for this tree to support roosting bats. Table 5 summarises the potential for features and habitats within the Survey Area to support roosting bats.

Table 4: Summary of features with potential to support Bats

Feature	Description	Location[13]	Grading	Photographs
Tree 1	Beech tree with large cavity within main trunk approximately 1m from ground level on the southwest aspect.	Southeast boundary of the Site	High	

[13] Where features are situated outside of the Site boundary, the distance and direction are given at the closest point of the feature from the Site

iii The Site provides moderate habitat for foraging bats, with good connectivity by the woodland along the southern boundary which provides additional connectivity to woodlands, grasslands and heathlands to the wider environment for foraging.

3.7.3 Constraints and Recommendations

i. If T1 is to be removed or impacted (including, but not exhaustive of pruning, changes in lighting, removal of other surrounding habitats) it is recommended that further assessment be required. This should comprise an endoscope assessment of the feature within T1. If it is not possible to fully endoscope the feature, nocturnal surveys would be required. It is recommended that three surveys are undertaken between May and September when bats are active.

ii. To reduce risk of impacts to foraging/commuting bats care should be taken during the construction phases of the development to ensure minimal impact to nocturnal fauna. As such, it is recommended that there are no night works on this Site. Additionally, any on Site newly installed lighting should follow the guidance set out in Bats and Lighting in the UK (BCT and ILP, 2018) and must consider the following:

- Avoid lighting where possible, notably along the southern boundary adjacent to the offsite woodland;
- Install lamps and the lowest permissible density;
- Lamps should be positioned to direct light to avoid upward spill onto any green corridors that could be used by commuting bats or features with bat roost potential such as the woodland, mature scattered trees, grassland;
- LED lighting – with no/low UV component is recommended;
- Lights with a warm colour temperature – 3000K or 2700K have significantly less impact on bats;
- Light sources that peak higher than 550nm also reduce impacts to bats; and
- The use of timers and dimmers to avoid lighting areas of the Site all night is recommended.

3.8 Great Crested Newt

3.8.1 Desk Study

i There were no records of great crested newts (*Triturus cristatus*) (GCN) within 2km of the Site. Additionally, there were no water bodies are present within 500m of the Site.

3.8.2 Field Survey

ii There were no suitable aquatic habitats on Site, although the scrub and tall ruderal provided some opportunities for terrestrial phase for GCN.

3.8.3 Constraints and Recommendations

i Due to the lack of suitable aquatic habitat onsite or in the Zone of Influence, it is highly unlikely that great crested newts are present on or using the Site.

3.9 Common Species of Reptile

i 'Common species of reptile' refers to common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*), adder (*Vipera berus*) and grass snake (*Natrix helvetica*). The Site is located outside of the known range of smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) and these species are not considered in this report.

3.9.2 Desk Study

i There are 90 recent records of common lizard and adder within the Study Area. The closest / most relevant of these records is associated with common lizard which is approximately 1.1km from the Site boundary.

3.9.3 Field Survey

i A suite of reptile surveys of the Site were undertaken in 2019 by RammSanderson (RSE_3029_01_V1), during which no reptiles were identified. The habitats on Site were largely suboptimal for common reptiles, however the grassland, scrub and tall ruderal vegetation did provide suitability for foraging, commuting and refuge seeking reptiles. A rubble pile was along the southern boundary of the Site, which would provide suitable habitat for hibernating reptiles.

ii To the south of the Site provides connectivity to larger areas of heathland and woodland blocks to the east of the Site. To the west of the Site, the woodland thins and splits connecting the Site to urban parks and woodland blocks. However, the connectivity for reptiles is limited due to roads and residential areas intersecting the woodland strip. The persistence of reptiles on Site is therefore considered unlikely and this Site is not considered to form a core area for reptiles locally.

3.9.4 Constraints and Recommendations

i There remains a low residual risk of transient common reptiles being present within suitable areas of vegetation on the Site. When scrub/ tall ruderal at the peripheries are to be removed, it will be necessary to undertake the removal works following precautionary measures:

- Temperatures over 11^{o}C
- Under the supervision of suitably qualified ecologist
- The habitats should first be cut to a height of 15-20cm by a tractor progressing at walking pace only. The area should be left for 24-48hrs and then cut to 5cm using the same method, working in the same direction as the previous cut.
- In the event a reptile is observed during these works, works should cease and the reptile should be allowed to escape unharmed, only a trained ecologist should attempt to remove reptiles by hand. If multiple reptiles are encountered, then works should stop and an ecologist contacted.
- The measures outlined within the badger and other fauna sections above should be implemented to prevent reptiles from becoming trapped in any excavations or harmed by any chemicals should they pass through the area.

3.10 Birds (including barn owl)

3.10.1 Desk Study

i There are recent records for 46 notable[14] bird species within the Study Area. These include one species listed on Annex I of the EC Birds Directive 1994, three species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), 12 Species of Principal Importance (SPI), 13 species on the Conservation Concern 5 (BoCC5) Red list (Stanbury, 2021) and 12 species on the BoCC5 Amber list. The records also include 16 species of bird that are priority species in Nottinghamshire listed on the local biodiversity action plan.

[14] Notable bird species are taken as those listed: on Annex I of the EC Birds Directive (2009/147/EC); on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); as Species of Principal Importance (SPI) for the Conservation of Biodiversity in England listed in Section 41 of the Natural Environment and Rural Communities Act 2006; as Red or Amber in the Birds of Conservation Concern (BoCC) 4 (Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708-746); bird species or groups listed under the Nottinghamshire BAP.

3.10.2 Field Survey

i The trees and scrub on the Site provided suitable habitat for nesting birds, however, due to the urban location, it is likely that these are limited to common species. The features on Site are not considered suitable to support any Schedule 1 bird species.

3.10.3 Constraints and Recommendations

i Due to the size of the Site and urban location, it is likely that only common bird species will be found utilising the Site. To minimise impacts upon common nesting birds, any tree management works or vegetation clearance should take place outside the bird nesting season (March to September, inclusive) to ensure compliance with the general protection afforded to wild birds under the Wildlife and Countryside Act 1981 (as amended). If this is unavoidable, the trees, hedgerows, scrub and buildings should be carefully checked, by a suitably qualified ecologist, prior to removal. Where active nests are found, working restrictions would be put in place until follow up survey can demonstrate that all chicks have fledged.

3.11 Terrestrial Invertebrates

3.11.1 Desk Study

i There are two recent records of notable[15] terrestrial invertebrates within the Study Area. The closest / most relevant of these records is associated with both small heath (*Coenonympha pamphilus*) and dingy skipper (*Erynnis* tages) which are approximately 1.4km from the Site boundary.

3.11.2 Field Survey

i No terrestrial invertebrates were identified during the field survey. However, fescues (*Festuca* spp.), and bents (*Agrostis* spp.) are identified as habitats that could support small heath caterpillar food plants whilst common bird's-foot trefoil is the food plant for dingy skipper. All of these plant species were identified during the field survey.

3.11.3 Constraints and Recommendations

i As habitats are to be cleared to facilitate works, it is recommended that the larval foods for these species are included within plant of the Site post works to enhance the habitats for these species. Therefore, impacts are deemed to be negligible.

3.12 Otter and Water Vole

3.12.1 Desk Study

i There are no recent records of otter (*Lutra lutra*) within the Study Area. However, there are three recent records of water vole (*Arvicola amphibius*) within the Study Area. The closest / most relevant of these records is associated which is approximately 1km west of the Site boundary.

[15] Notable terrestrial invertebrates are taken as principal species for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; any invertebrate listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); any invertebrate listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended); any invertebrate listed in the IUCN Invertebrate Red Data Book (1991); and any invertebrate listed under a Nottinghamshire BAP.

3.12.2 Field Survey

i There were no aquatic habitats on the Site or within the zone of influence.

3.12.3 Constraints and Recommendations

i There were no aquatic habitats on the Site or within the zone of influence it is unlike that these species are to be impacted.

3.13 Aquatic Invertebrates (including White-clawed Crayfish) and Fish

i There are no recent records of notable[16] aquatic invertebrates (including white-clawed crayfish (*Austropotamobius pallipes*)) within the Study Area.

3.13.2 Field Survey

ii There were no aquatic habitats on the Site or within the zone of influence.

3.13.3 Constraints and Recommendations

iii There were no aquatic habitats on the Site or within the zone of influence it is unlike that these species are to be impacted.

3.14 Other Notable Species

3.14.1 Desk Study

i There are 30 recent records of other notable species[17] within the Study Area. The closest / most relevant of these records is associated with European Hedgehog (*Erinaceus europaeus*) which is approximately 0.6km from the Site boundary.

3.14.2 Field Survey

i No evidence of other notable species was identified during the field survey. The grassland on Site could support foraging hedgehog with the woodland along the southern boundary providing suitable habitat polecats (*Mustela putorius*), therefore there is a potential for these species to be present on Site.

3.14.3 Constraints and Recommendations

i It is recommended that the precautionary working methods for badger are implemented to prevent impacting on other notable species during construction.

[16] Notable aquatic invertebrates are taken as principal species for the conservation of biodiversity under Section 41 of the Natural Environment and Rural Communities Act 2006; any invertebrate listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); any invertebrate listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended); any invertebrate listed in the IUCN Invertebrate Red Data Book (1991); and any invertebrate listed under a Nottinghamshire BAP.

[17] Notable species are taken as principal species for the conservation of biodiversity listed under Section 41 of the Natural Environment and Rural Communities Act 2006; any species listed in an IUCN Red Data Book; and any other species listed under the Nottinghamshire BAP that are not referred to in previous sections of the report.

4 OPPORTUNITIES FOR ENHANCEMENTS

i This section highlights opportunities for providing ecological enhancements, based on the current Scheme details. These are high level opportunities and would need to be developed in greater detail once further surveys have been completed and the Scheme proposals, such as detailed areas of habitat loss are confirmed.

ii The following enhancements could be delivered for biodiversity as part of the Scheme, that don't contribute towards the calculation of biodiversity net gain but can still deliver significant improvements for biodiversity:

4.1.1 Hedgerows

i A minimum of six species should be planted, which may include blackthorn (*Prunus spinosa*), field maple (*Acer campestre*), alder (*Alnus glutinosa*), common dogwood (*Cornus sanguinea*), hazel (*Corylus avellane*) and guelder rose (*Viburnum opulus*), Standard trees such as English oak (*Quercus robur*) and wild cherry (*Prunus avium*) can also be planted at 50m intervals.

ii Planting should be undertaken during early winter, providing the ground is not frozen. Planting up gaps can be done in conjunction with coppicing existing plants, to give new plants minimum competition. To further reduce competition and aid establishment of the planted-up sections, the bases of the plants would be kept weed free through spot treatment of herbicide for the first three years.

4.1.2 Wildflower meadows

i Enhancing the grassland areas by creating wildflower meadows will provide a broad variety of food sources for a diverse range of invertebrates, including lepidopterans and pollinators. This will, in turn provide an ample food source for insectivores such as bats and hedgehogs.

ii The ground could be prepared for supplementary planting with minimal effort, using a chain harrow. Any existing vegetation should be removed, and the soil should be raked to break it up, producing a fine, firm later of soil. It is recommended that Long Season Meadow Mix (available from Naturescape or similar) is used to allow for a long growing season, producing an aesthetically pleasing meadow of flowers, thus negating the requirement for an extensive mowing regime. Seeds should be sowed during autumn or spring, and if there is a dry period, the soil being sowed should be watered.

iii Once established, the grassland will only require mowing in September (with the arisings being left for 48hrs prior to removal to allow the seeds to disperse for the following year). Any cutting should be removed from the ground, so that a low level of fertility is maintained, and any unwanted weeds such as nettles or thistles should be removed during the first year of management.

iv The retained areas of woodland could also be enhanced through the sowing of a shade tolerant wildflower mix to enhance the ground flora. A mix such as Naturescape N10 Woodland Meadow Mixture is recommended.

4.1.3 Tree Planting

i It is recommended that tree removal is replaced on a 2:1 basis, using a mix of native species that offer a range of food resources for fauna throughout the year. Recommended species include English oak (*Quercus robur*), hawthorn (*Crataegus monogyna*), rowan (*Sorbus aucuparia*), beech (*Fagus sylvatica*) and hazel (*Corylus avellana*).

4.2 Protected/Principal Species

4.2.1 Nesting Boxes

i Additional enhancements that could easily be met include the incorporation of bat and bird nest boxes, as well as invertebrate and hedgehog boxes. Boxes could be placed on any new buildings or on mature retained trees within the Site boundaries. The boxes should be sited close to connective features such as hedgerows,

woodland edges and tree lines. Hedgehog boxes could also be placed along the edges of the boundary woodland and within hedgerows, away from the main roads. Invertebrate houses could also be placed within the woodland edge, close to parcels of wildflower meadow or other good quality grassland, or waterbodies.

ii The tree mounted bat boxes should face between southeast to southwest (for additional warmth), and be positioned at least 4m from the ground, with the entrances being free of overhanging branches. It is also recommended that bird nest boxes be placed 1.5m below each bat box, to ensure that the birds have somewhere to nest and do not inhabit the bat boxes. Suitable bat box dimensions are 430mm high X 270mm wide X 140mm deep. The boxes are designed to mimic natural roost sites and to provide a stable environment.

iii In-cavity bat boxes located on buildings could be incorporated into the structure of any new buildings as they are built. These boxes would consist of Ibstock Enclosed Bat Box 'C' which is positioned at least 3 metres from the ground, facing either south, south-west or south-east (for additional warmth) and close to good foraging habitat. Theses bat box dimensions are 215mm high x 215mm wide x 105mm deep (small) or 290mm high x 215mm wide x 105mm deep (large) and are made from brick. In addition, 'bee bricks' could also be incorporated into the structure of new buildings as they are built, providing nesting sites for solitary bees.

Figure 1: Protected/Principal Species Boxes

Ibstock Bat Box Enclosed 'C'

Large Insect House

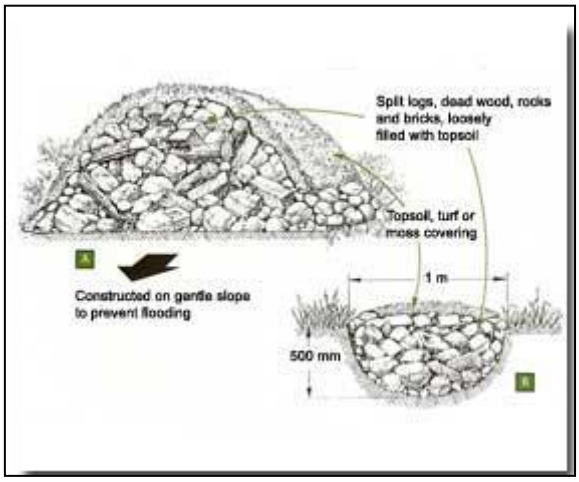
Hedgehog Box

'Bee Brick'

4.2.2 Herpetofauna Hibernacula and Refugia

i Herpetofauna (reptile and amphibian) hibernacula could also be created close to the proposed attenuation pong by utilising any debris created from excavation. This will provide important places for herpetofauna to rest during the day, or during cold/dry weather. Hibernacula should be 2m^2 and 1m in height. This should then be capped with topsoil and a turf covering. Log piles can also easily create areas of refuge for commuting and refuge seeking herpetofauna.

Figure 2: Herpetofauna Hibernacula



5 CONCLUSION

i This PEAR is based on a previous preliminary ecological appraisal (2019), desk study and ecological surveys undertaken on the 02/02/2023 and 18/01/2023, respectively to assess the ecological constraints to the Scheme and to provide advice in respect of Scheme design, Site layout and / or Site investigation.

ii The following further surveys, summarised in Table 5, are recommended to support an outline planning application for a residential development within Mansfield.

Table 5: Summary of Recommendations

Ecological Feature	Recommendation	Timing
Designated Sites	Mitigation to limit increased footfall, litter, trampling of Ravensdale LNR and Valeclose Plantation LWS.	During construction
	Consultation with Natural England in regard to IRZ and proposals.	Pre-planning
	Shadow HRA recommended to determine development impacts on ppSPA Sherwood Forest.	Pre-planning
Habitats	Japanese knotweed and Canadian Goldenrod on the Site, should be treated and removed in an appropriate scheme.	Before works start
	Cotoneaster survey to identify if the species is non-native invasive.	The cotoneaster survey should be undertaken within the botanical season.
	10m standoff/buffer zone to be maintained from the HPI woodland edge meeting national forestry standards. To be detailed in CEMP.	
Bats	Tree on Site to support roosting bats, if this is to be removed or impacted, three inspections by endoscope, or three nocturnal surveys will be required.	May to September
	Follow guidance set out in Bats and Lighting in the UK (BCT and ILP, 2018).	
Badger	Precautionary Method of Works for scrub removal	During works
	Updated badger survey of the Site	No more than six months prior to works commencing
Common Reptiles	Precautionary Method of Works for scrub and tall ruderal removal	During works
Common Nesting Birds	Precautionary Method of Works for removal of vegetation and trees during the bird nesting season	March to September inclusive
Other Notable Species	Follow Precautionary Method of Works for badger	During works

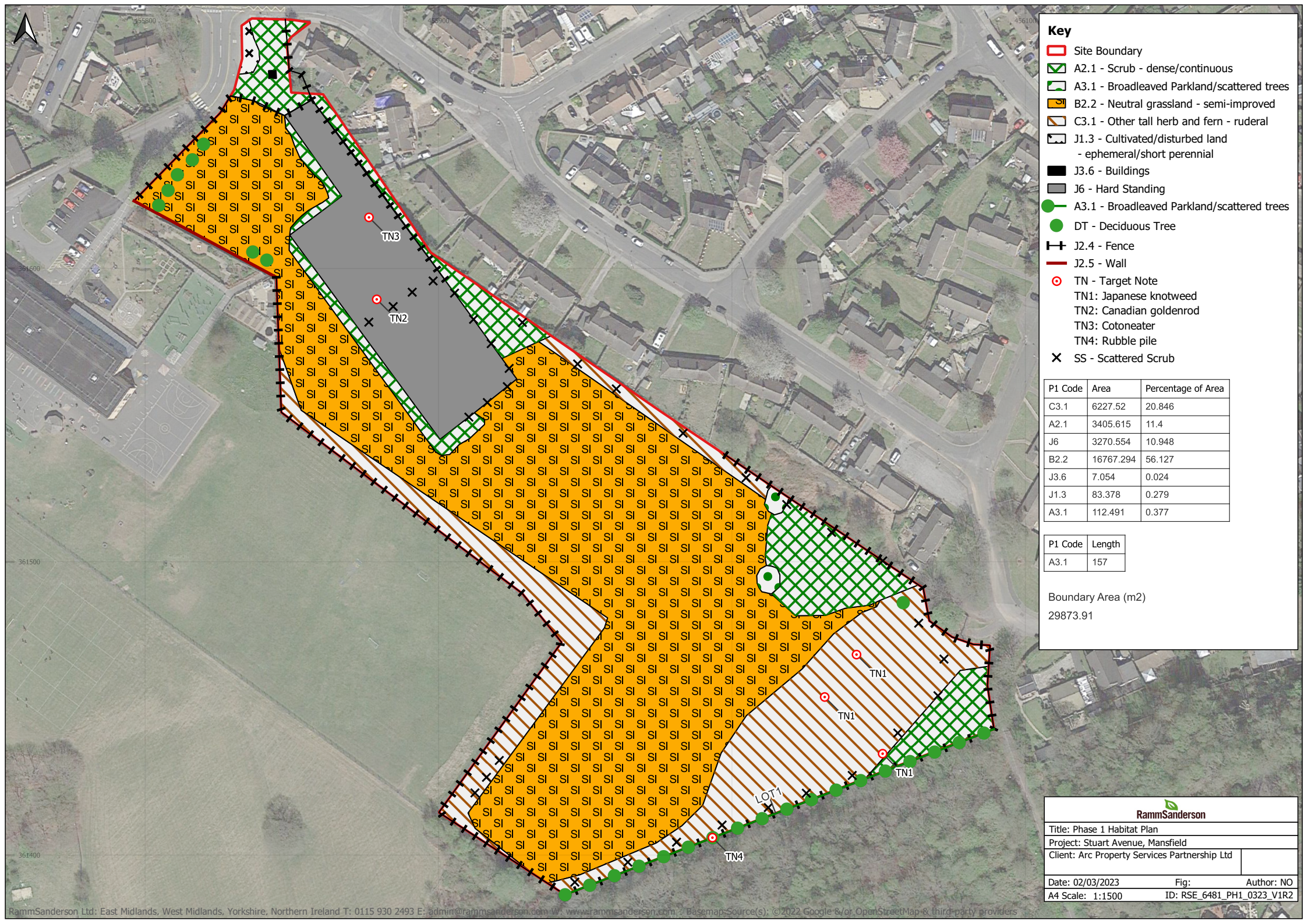
5.2 Re-Survey of Site

i Due to the mobility of animals and the potential for colonisation of the Site, it is recommended that an updated ecological survey be undertaken prior to the redevelopment of this Site should this not occur within 12 months of the date of the field survey.

RammSanderson

Title: Site Context Plan	
Project: Stuart Avenue, Mansfield	
Client: Arc Property Services Partnership Ltd	
Date: 07/02/2023	Fig: Author: NO
A4 Scale: 1:2000	ID: RSE_6481_STC_0123_V1R1

EPSG:27700 OSGB36 / British National Grid



P1 Code	Area	Percentage of Area
C3.1	6227.52	20.846
A2.1	3405.615	11.4
J6	3270.554	10.948
B2.2	16767.294	56.127
J3.6	7.054	0.024
J1.3	83.378	0.279
A3.1	112.491	0.377

P1 Code	Length
A3.1	157

Boundary Area (m2)

29873.91

RammSanderson

Title: Phase 1 Habitat Plan

Project: Stuart Avenue, Mansfield

Client: Arc Property Services Partnership Ltd

Date: 02/03/2023 Fig: Author: NO

A4 Scale: 1:1500 ID: RSE_6481_PH1_0323_V1R2

Schedule of Accomodation

3 Bed Detached with Garage	8
3 Bed Semi-Detached with Garage	36
2 Bed Semi-Detached	8
Total	52

Proposed Site Plan - Pump Hollow Lane Access

1 : 1000

Scale 1:1000

0 10 100 m

NB site layout shown indicatively only and is subject to consultation with and approval from relevant authorities, as well as results of all site surveys and investigations.

Rev:	Date:	Description:	Drn:	Chk:
P02	13.03.23	Annotation revisions	BAY	PGM
P01	24.02.23	First Issue	BAY	PGM

Client: Nottinghamshire County Council

Project Name: Land At Stuart Avenue, Mansfield

Site Address: Stuart Avenue, Mansfield, NG19 0AE

Project No: 230383

Prop Ref:

Drawing Title: Proposed Sketch Site Plan - Pump Hollow Lane Access Option

Project - Originator - Functional - Spatial - Form - Discipline - Number: 230383-ARC-A01-XX-D-A-010006

Status Code: S0 : Initial Status

Revision: P02

Sheet Size: A2

Scale: 1 : 1000

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xxv

APPENDIX 1: RELEVANT LEGISLATION AND PLANNING POLICY

The UK is no longer a member of the European Union (EU). EU legislation as it applied to the UK on 31 December 2020 is now a part of UK domestic legislation. EU legislation which applied directly or indirectly to the UK before 11.00 p.m. on 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'.

The Secretary of State for the Environment, Food and Rural Affairs and Welsh Ministers have made changes to parts of the Conservation of Habitats and Species Regulations 2017 (referred to as the 2017 Regulations) so that they operate effectively. Most of these changes involve transferring functions from the European Commission to the appropriate authorities in England. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant and are now referred to as The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (the 2019 Regulations).

Designated Sites

Sites of Special Scientific Interest

Under the Wildlife and Countryside Act 1981 (as amended), it is an offence to carry out or permit to be carried out any operations likely to damage the Site of Special Scientific Interest (SSSI). These operations are listed in the SSSI notification.

Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under S.28 of the Wildlife and Countryside Act 1981 (as amended), before undertaking operations likely to damage a SSSI.

Local Nature Reserve

A Local Nature Reserve (LNR) is a statutory designation made under the National Parks and Access to the Countryside Act, 1949, by principal local authorities (district, borough or unitary councils).

The local authority must control the LNR land - either through ownership, a lease or an agreement with the owner.

LNRs are given protection through policies in local development plans.

Protected Species

Bats / Great Crested Newt

These species, known as European Protected Species, are protected under Regulation 43 of the 2017 Regulations as amended by the 2019 Regulations. This makes it an offence to deliberately capture, injure or kill an animal; deliberately disturb an animal; or damage or destroy a breeding site or resting place used by an animal.

Deliberate capture or killing is taken to include "accepting the possibility" of such capture or killing. Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.

Where development works are at risk of causing one or more of the offences listed above, a mitigation licence from Natural England can be obtained to facilitate the works that would otherwise be illegal.

These species are also protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb an animal in such a place.

Lower levels of disturbance not covered by the Conservation of Habitats and Species Regulations 2017 remain an offence under the Wildlife and Countryside Act 1981 although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.

Nesting Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended), with some species afforded greater protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the protection from killing or taking that all birds receive, Schedule 1 birds and their young must not be disturbed at the nest.

There are no licensing purposes that explicitly cover development activities affecting wild birds.

Common Species of Reptile (common lizard, slow worm, grass snake and adder)

Common species of reptile are protected against intentional killing and injury under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). There is no requirement for a licence where development works affect common species of reptiles. Instead, Natural England (English Nature, 2004) advise that where reptiles are present, they should be protected from any harm that might arise during the development works through appropriate mitigation.

Badger

Badgers and their setts are protected under the Protection of Badgers Act 1992 (as amended). This makes it an offence to wilfully kill, injure or take a badger; or intentionally or recklessly damage, destroy or obstruct access to a badger sett or disturb a badger in its sett.

It is not illegal to carry out disturbance activities near setts that are not occupied, i.e. those that do not show signs of current use.

Where required, licences for development activities involving disturbance or sett interference or closure are issued by Natural England. Licences for activities involving watercourse maintenance, drainage works or flood defences are issued under a separate process.

When assessing the requirement for a licence in respect of development, Natural England (Natural England, 2009) state that badgers are relatively tolerant of moderate levels of noise and activity around their setts, and that a low or moderate level of apparent disturbing activity at or near to badger setts does not necessarily disturb the badgers occupying those setts.

Licences are normally not granted from December to June inclusive (the badger breeding season) because dependent cubs may be present within setts.

Species and Habitats of Principal Importance for the Conservation of Biodiversity

Section 40 of the Natural Environment & Rural Communities Act (NERC) 2006 sets out the duty for public authorities to conserve biodiversity in England.

Habitats and species of principal importance for the conservation of biodiversity are identified by the Secretary of State for England, in consultation with Natural England, are referred to in Section 41 of the NERC Act for England. The list, known as the 'England Biodiversity List', of habitats and species can be found on the Natural England website.

The 'England Biodiversity List' is used as a guide for decision makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act 2006 to have regard to the conservation of biodiversity in England when carrying out their normal functions. The habitats and species on the List, are material considerations of planning, where present on an application Site.

Non-native Invasive Plant Species

Under the Wildlife and Countryside Act, 1981 (as amended), it is an offence to plant or otherwise cause these species to grow in the wild.

Any contaminated soil or plant material is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with section 34 of the Environmental Protection Act 1990.

Planning Policy

National Planning Policy Framework, 2021

The National Planning Policy Framework (NPPF) (Department of Communities & Local Goverment, 2021) sets out the Governments planning policies for England and how these are expected to be applied by Local Authorities within their Local Development Frameworks (LDF).

Regarding the NPPF, the most pertinent paragraphs are:

8.c) "to protect and enhance our natural, built and historic environment, including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy"

174.d) "minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures"

179.b) "promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."

180.a) "if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative Site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused."

180.c) "development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons63 and a suitable compensation strategy exists."

7.2 Local Planning Policy (Mansfield District Council Local Plan 2013 - 2033)

Relevant planning policy within Policy NE2 of the Mansfield District Council Local Plan (2013 – 2033) states:

Development proposals will be supported where, commensurate with their scale, location and type, they:

a. protect, enhance and contribute to the management of the ecological network of habitats and Sites of European, national and local importance (statutory and non-statutory);

b. avoid and/or minimise adverse individual and or cumulatively impacts, on biodiversity, geodiversity and ecosystem services;

c. seek to deliver a net gain in biodiversity across local and landscape scales; and

d. prioritise the de-fragmentation, restoration, retention and sensitive management of habitats and landscape features, to allow for the movement of wildlife.

7.3 Local Biodiversity Action Plans

The ultimate goal of the Nottinghamshire Local Biodiversity Action Plan is to conserve and enhance the County's unique variety of wild species and natural habitats, and hence to contribute to the conservation of both UK and global biodiversity. Species and habitats targeted by the plan which are relevant to this Site include common lizard, hedgehog, garden and farmland bird species and bat species.

APPENDIX 2: METHODOLOGY

Desk Study

Background Records Search

The preliminary ecological assessment includes a desk study to obtain background records relevant to a Site and the Scheme. The data obtained provides contextual information for the scope of field surveys, to aid the evaluation of field survey results, and to provide supplementary information where complete field survey coverage is not possible.

The Study Area is dependent upon the nature, timing and scale of the Scheme, as well as the location of the Site and the surrounding landscape. These variables all contribute to what is referred to as the Zone of Influence (ZoI) of the Scheme, which is the area over which ecological features may be affected by biophysical changes because of the works and associated activities.

On 31st January 2023 the Nottinghamshire Biological and Geological Record Centre was contacted to obtain the following ecological data:

- Records of non-statutory designated sites (Local Wildlife sites (LWS)) within 2 km of the site boundary;
- Records of legally protected and notable species (fauna and flora) within 2 km of the site boundary, including Species of Principal Importance for the Conservation of Biodiversity listed under Section 41 of the Natural Environment & Rural Communities Act 2006 in the England Biodiversity List[18].

The Multi-Agency Geographic Information for the Countryside (MAGIC) (www.magic.gov.uk) website was reviewed for the following information:

- Designated sites of nature conservation importance (statutory sites only) within 2 km of the site and internationally designated sites: Special Protection Areas (SPAs), Wetlands of International Importance (Ramsar sites) and Special Areas of Conservation (SACs); and,
- Notable habitats within 2 km of the site, these being areas of ancient woodland and 'Habitats of Principal Importance for the Conservation of Biodiversity' included in the England Biodiversity List.

Great Crested Newt Pond Search

Ordnance Survey maps and the Where's the Path website (https://wtp2.appspot.com/wheresthepath.htm) have been used to identify the presence of water bodies within 500 m of the Site boundary, in order to help establish if the land within and immediately surrounding the Site could be used by great crested newts. This species can use suitable terrestrial habitat up to 500 m from a breeding pond (English Nature, 2001), though there is a notable decrease in great crested newt abundance beyond 250 m from a breeding pond (Natural England, 2004).

Field Survey

The preliminary ecological assessment includes a walkover survey of the Survey Area (all land within the Site), broadly following the Phase 1 habitat survey methodology as set out in Joint Nature Conservation Committee guidance (Joint Nature Conservation Committee, 2010). This survey method records information on habitat types and is 'extended' to record any evidence of and potential for protected or notable species to be present. Plant names recorded during the survey follow (Stace, 2019).

[18] Section 40 of the Natural Environment & Rural Communities Act 2006 requires that very public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. The Secretary of State has drawn up, in accordance with Section 41 of the Act and in consultation with Natural England, a list of habitats and species of principal importance for the conservation of biodiversity in England that is known as the England Biodiversity List

During the walkover survey, the following protected or notable species are considered:

- **Badger**: the survey involves searching for signs of badger activity including setts, tracks, snuffle holes and latrines, following the methodology detailed in (Scottish Natural Heritage, 2018) and (Harris, 1989).
- **Bats**: the survey involves searching for potential roosting sites for bats within trees and structures (such as buildings, bridges or underground features such as mines) and categorising the potential of those trees or structures to support roosting bats (negligible to high, or confirmed roost), in accordance with Bat Conservation Trust (BCT) (Collins, J. (Eds.), 2016) guidance.
- **Birds**: the survey involves assessing the potential of habitats within the Survey Area to support breeding, wintering or migrating birds, either individually notable species or assemblages of both common and rarer species;
- **Reptiles**: the survey involves assessing the potential of habitats within the Survey Area to support reptiles (typically adder, grass snake, common lizard and slow worm only, though in some locations and habitat types (most notably heathland) may also include smooth snake and sand lizard), following Froglife (Froglife, 1999) and JNCC ((Joint Nature Conservation Committee, 2003) guidance;
- **Other notable species**: the survey involves assessing the potential of habitat within the Survey Area to support other Notable Species, such as hedgehog, brown hare, or common toad;
- **Non-native invasive plant species**: the survey involves recording evidence of the presence of invasive plants listed on (Wildlife and Countryside Act , 1981 (as amended)) and subject to strict legal control.

Tree and Building Bat Roost Suitability Assessment

Buildings, trees and other structures were graded as to their suitability for supporting roosting bats using (Collins, J. (Eds.), 2016), an extract of which is provided interpreted in the table below.

Table 6: Criteria for bat roost potential assessment of buildings and trees

Roost Potential	Description	Surveys Required (Buildings)	Surveys Required (Trees)
Confirmed roost	Evidence of roosting bats found during initial daytime inspection.	3 – including 1 dawn as a minimum	3 – including 1 dawn as a minimum
High *	Structures with one or more features suitable for bat roosting, with obvious suitability for larger numbers of bats.	3 – including 1 dawn as a minimum	3 – including 1 dawn as a minimum
Moderate	Structure with one or more potential roost Sites that could be used due to size, shelter and protection but unlikely to support a roost of high conservation status.	2– including 1 dawn as a minimum	2– including 1 dawn as a minimum
Low	Structure with one or more potential roosting Sites used by individual bats opportunistically. Insufficient space, shelter or protection to be used by large numbers of bats.	1 Survey	Precautionary Mitigation Approach, some instances may require further survey
Negligible	No or negligible features identified that are likely to be used by roosting bats	None	None

Limitations

The aim of a desk study is to help characterise the baseline context of a proposed development and provide valuable background information that would not be captured by a single site survey alone. Information obtained during the course of a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular habitats or species does not necessarily mean that the habitats or species do not occur in the study area. Likewise, the presence of records for particular habitats and species does not automatically mean that these still occur within the area of interest or are relevant in the context of the proposed development.

An ecological survey represents a 'snapshot' in time of the ecological condition of a Site. The ecological character of a Site can change substantially throughout both the course of a year, and from year to year impacting on the extent and quality of habitats potential to support protected species.