

ECE PLANNING

Land at The Spires, Springfield Close East Preston, West Sussex

- Preliminary Ecological Appraisal Survey Report
- Bat Roost Assessment Survey

Final Planning Issue

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Date	02 nd June 2017
Document Reference	LLD1180
Revision	01

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SUMMARY

Lizard Landscape Design and Ecology has been commissioned to undertake a preliminary ecological appraisal and protected species assessment of land at The Spires, Springfield Close, East Preston, West Sussex (*Grid Reference: TQ 062 020 – hereafter referred to as 'the site'*). A preliminary ecological appraisal (PEA) was undertaken of the site on 18th May 2017 to appraise the existing ecological resource within the site and surrounding area.

The site consists of the dwelling called 'The Spires' and its associated gardens, areas of hard landscape, swimming pool, pool house and garage. A large number of trees on the site are protected through a *Tree Preservation Order (Ref. TPO/R/1/14)*.

The construction zone and immediate surroundings are largely formed of introduced shrubs and amenity grassland, with no rare or unusual species noted. The site is generally considered to be of '*low ecological value*'.

The amenity grassland has become rank in places and is now overgrown with tall ruderal species. In small patches this vegetation, in conjunction with compost and brash piles may be suitable for reptiles and amphibians, as evidenced by the discovery of a common toad on the site; a phased vegetation clearance method through habitat manipulation is recommended to avoid harm to any reptiles and amphibians; given the small extent of the habitat no further reptile or amphibian surveys are recommended.

A small badger sett was found to the north-east corner of the site; the evidence present would suggest that the sett was an outlier sett, which may or may not be in current use. A badger monitoring survey is recommended to confirm whether the sett is still in use; secured by planning condition; and prior to the commencement of development.

The mature trees present to the site boundaries provide good nesting opportunities for common bird species. All birds, their nests, eggs and chicks are protected under *The Wildlife and Countryside Act 1981 (as amended)*. Clearance of vegetation should be undertaken outside the nesting season (*nesting season: March - August*) or following inspection by an ecologist to ensure no active nests are present.

The design of the proposed development should consider ecological enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and *Local Planning Policy*. Recommendations for ecological enhancements are provided in Section 7.0 below.

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned to undertake a preliminary ecological appraisal and protected species assessment of land at The Spires, Springfield Close, East Preston, West Sussex (*Grid Reference: TQ 062 020 – hereafter referred to as 'the site'*).
- 1.2 A preliminary ecological appraisal (*PEA*) was undertaken of the site on 18th May 2017 to appraise the existing ecological resource within the site and surrounding area. The *PEA* was comprised of a baseline survey conforming broadly to the *JNCC Phase 1 Habitat Survey* protocol to identify the existing habitats. In addition, a protected species assessment was undertaken to identify the potential for *European and nationally protected species* within and adjacent to the site.
- 1.3 The field survey data and analysis contained within this report were undertaken and prepared by George Sayer (*BSc(Hons) PgDip; Assistant Ecologist; Lizard Landscape Design and Ecology*). The report has been reviewed by Joe Jackson; (*Director; Landscape Architect BA (Hons) LA DipLA CMLI; Lizard Landscape Design and Ecology*).

Site Information

- 1.4 The site consists of the dwelling called 'The Spires' and its associated gardens, areas of hard landscape, swimming pool, pool house and garage. A large number of trees on the site are protected through a Tree Preservation Order (*Ref. TPO/R/1/14*). The site is approximately 8.50 metres above sea level and measures approximately 0.97 Ha. The site is bordered to all aspects by the gardens of residential properties. Soil on site is described as freely draining, slightly acid loamy soils.

- 1.5 1 no. water body exists within 500.0m of the site. This is a pond of approximately 150 m² situated 272.0 m north of the site, within a garden. The nearest area of woodland is immediately to the west of the site.

Surrounding Landscape

- 1.6 The site is located within the centre of the residential areas of Rustington and East Preston. The surrounding landscape is dominated by residential housing. Several parks provide green spaces within the local area. The high-tide mark of the south coast is located 580.0 m south of the site.
- 1.7 The local area is largely devoid of woodland; no woodland is listed within 500.0 m of the site. The nearest area listed on *The National Forest Inventory* is a 0.67-hectare plot of broadleaved woodland located 540.0m north-east of the site, while the nearest *Ancient Woodland* (3.15Ha) is located 2.9km north of the site.

Development Proposals

- 1.8 The development proposals consist of the demolition of the existing garage and swimming pool, and the construction of 2 no. new detached dwellings within the gardens – one to the west and one to the north of the existing house. The existing dwelling would be retained as would the existing main access. A new road access is proposed to the south of the site to provide access to the proposed new dwelling to the west of the site, and an existing unmade track to the north would be hard-surfaced to create another road access for the proposed dwelling at the north of the site. The dwellings would each be accompanied by hard landscape parking and turning areas and garages. A small number of trees and shrubs would require removal to accommodate these proposals.

2.0 SCOPE OF THE SURVEY

- 2.1 The aim of the preliminary ecological appraisal survey has been:
- *To identify and display the main habitat types and plant communities;*
 - *To provide a species list for the major habitats;*
 - *To identify habitats with potential for protected species;*
 - *To provide recommendations for surveys of protected species and / or ecological enhancement / compensation.*
- 2.2 The aims of the day-time bat roost assessment survey and protected species assessment were;
- *To identify the potential for roosting bats;*
 - *Identify areas where future detailed survey effort would be required and should be focused;*
 - *To establish whether other habitat features for different species groups exist to warrant further investigation.*

3.0 METHODOLOGY

- 3.1 A preliminary ecological appraisal survey was undertaken on 18th May 2017 and the site subjected to an ecology survey using guidelines set out in the *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit (JNCC, 2003)*. This has resulted in a Site Habitat Plan (*Figure No. 01*); Species Lists for Habitat Parcels (*Table No. 04*); and Target Notes (*Table No. 03*).
- 3.2 Habitats within the site were classified and the presence, or potential presence, of certain protected and / or notable species of flora and fauna were identified. A summary description of the habitat within the site following the ecology phase 1 habitat survey methodology is presented in *Section 4.0*.
- 3.3 Due to the field survey consisting of only one site visit, certain species particularly some of the flowering plants may not have been visible or may have been otherwise inconspicuous at the time of survey and hence overlooked. These are accepted constraints associated with the standard ecology phase 1 habitat survey methodology.

- 3.4 Habitats within and immediately adjacent to the site were assessed for their potential for uncommon and protected fauna including mammals, birds, reptiles and amphibians. This involved identifying features that may be used by protected species, potential foraging areas and other signs of use. Stones, dead wood and rubble were turned over and any dug holes studied for recent activity by mammals. Water bodies were recorded wherever possible within 500 metres of the proposed development site.
- 3.5 The results are summarised and accompanied in part by photographic evidence contained in *Appendix No. 01 – Site Photographs*. Recommendations for further investigation and survey are made in the following report.

Day-Time Bat Roost Assessment Survey

- 3.6 A day-time bat roost assessment survey was undertaken on 18th May 2017 by an experienced bat surveyor. Trees and buildings within and surrounding the site were assessed for their bat roost potential. The main dwelling on the site is proposed for retention as-is; therefore this building has not been assessed in detail. The bat surveyor assessed the remaining existing buildings visually and searched for evidence such as;
- *Staining beneath or around a hole caused by natural oils in bat fur;*
 - *Bat droppings beneath a hole, roost or resting area;*
 - *Bat droppings and / or insect remains beneath a feeding area;*
 - *Audible squeaking from within a hole;*
 - *Insects (especially flies) around a hole;*
 - *Dead bats.*
- 3.7 Trees were visually identified from the ground, using binoculars where necessary, for features that could be used by bats such as:
- *Woodpecker Holes;*
 - *Knot Holes;*
 - *Tear-outs;*
 - *Flush Cuts;*
 - *Double Leaders;*
 - *Dense Ivy Covering.*

- 3.8 Once features had been assessed, trees were then categorised in accordance with *Table 8.4* of the *Bat Conservation Trust's Good Survey Guidelines*:

'High': Trees with multiple highly suitable features capable of supporting large numbers of bats;

'Moderate': Trees with definite bat roost potential supporting fewer features than moderate trees;

'Low': Trees with no obvious features but of a size and age conducive to supporting a bat roost.

4.0 RESULTS

4.1 Desk Study – Background information

Designated Sites and Habitats

- 4.1.1 The following section outlines the ecological context of the development site, describing any designated nature conservation sites in the vicinity of the development site. The following designated sites and habitats are not necessarily representative of the existing site's ecology, but are indicative of the ecological context of the surrounding area; a factor that may be important when assessing the presence / absence potential of certain species groups.

Statutory Protected Sites

- 4.1.2 There are no statutory protected sites within 2.0 km of the development site; the nearest are *West Beach Local Nature Reserve* and *Climping Beach SSSI*, which are both situated 3.5 km to the west. Given that these sites are designated for their coastal habitats and separated from the development site by large residential areas, the proposals are not considered to have any negative impact upon the site.
- 4.1.3 The development does not fall into a category requiring consultation with Natural England. The site is situated within a *Groundwater Nitrate Vulnerable Zone*.

Non-Statutory Protected Sites

- 4.1.4 *Sites of Nature Conservation Importance (SNCI's)* are non-statutory designations given to areas of high, local conservation value.
- 4.1.5 There are no non-statutory protected sites within 2.0 km of the development site.
- 4.1.6 A large number of trees on the site are protected through a Tree Preservation Order (*Ref. TPO/R/1/14*). Permission must be sought from the Local Planning Authority prior to any works being undertaken on these trees.

UK Priority Habitats

- 4.1.7 UK Priority Habitats within 2.0 km of the site include *coastal vegetated shingle; coastal and floodplain grazing marsh; good quality semi-improved grassland; intertidal foreshore; deciduous woodland and traditional orchard*. None of these habitats are present within the site and the residential nature of the surroundings would suggest that there will be no impact upon UK Priority Habitats.

4.2 Field Survey

- 4.2.1 The following habitats and features were recorded within the development site and the extended survey area. The general site character has been described along with a brief description of the habitat's physical characteristics. These are shown on the Site Habitat Plan in *Figure No. 1*; Target Notes are listed in *Table No. 02*. Species List for Site Habitats Parcels have been listed within *Table No. 03*.

4.2.2 Habitats within and adjacent to the development site area include:

- *Hard / Bare Ground;*
- *Existing Building;*
- *Swimming Pool;*
- *Amenity Grassland;*
- *Tall Ruderal;*
- *Scattered Scrub;*
- *Introduced Shrub;*
- *Intact Ornamental Hedgerow;*
- *Scattered Trees and Tree Lines.*

Site Description - (Refer to Appendix No. 01 – Site Photographs)

- 4.2.3 The majority of the development site is formed of the amenity grassland of the existing property. This grassland appears to be well maintained, and currently stands at an average sward height of approximately 15.0 cm. The sward is dominated by common grasses such as perennial rye-grass (*Lolium perenne*); and cocksfoot (*Dactylis glomerata*). Common forbs including common daisy (*Bellis perennis*) and white clover (*Trifolium repens*) are abundant (Refer to Photographs Nos. 01 - 02 – Appendix No. 01).
- 4.2.4 The borders of the grassland contain broad planting beds filled with mature shrubs, such as spurges (*Euphorbia sp.*), hebes (*Hebe spp.*), fuscias (*Fuchsia spp.*) and french hydrangea (*Hydrangea macrophylla*). In places the shrubs are overgrown by native species such as pendulous sedge (*Carex pendula*), cleavers (*Galium aperine*) and wood avens (*Geum urbanum*).
- 4.2.5 Above the shrubs, and in planters among the grassland grow a number of mature trees; to the south of the site these are dominated by holm oak (*Quercus ilex*), whilst to the other boundaries the trees are a mixture of native species such as horse chestnut (*Aesculus hippocastanum*) and ornamental species such as cypresses (*Cupressus spp.*). The trees and shrubs provide potential bird nesting habitat; several birds' nests were noted within trees (Refer to Photographs Nos. 03 - 04 – Appendix No. 01).

- 4.2.6 The site is bordered almost entirely by ornamental hedgerows of varying species and sizes. The western border contains a large treeline of leylandii (*Cupressus leylandii*) under which is a large area of largely bare ground (*Refer to Photographs Nos. 05 - 06 – Appendix No. 01*).
- 4.2.7 Patches of tall ruderal vegetation has developed within corners of the site. The vegetation is formed partly of the amenity grassland, with taller forbs such as smooth sow-thistle (*Sonchus oleraceus*), cleavers (*Galium aperine*) and yarrow (*Achillea millefolium*). The vegetation is limited in extent, but may provide suitable habitat for reptiles (*Refer to Photograph No. 07 – Appendix No. 01*).
- 4.2.8 There are a number of compost heaps and brash piles within the site, in addition to small patches of scrub; these provide small areas of habitat suitable for amphibian terrestrial refugia. A common toad (*Bufo bufo*) was discovered under building debris to the edge of a patch of scrub (*Refer to Photographs Nos. 08 - 09 – Appendix No. 01*).
- 4.2.9 To the north-west corner of the site; 3 no. holes are present surrounding a large cypress tree and against the fence line. The size of the holes indicated these may be a small badger sett; a collapsed fence panel further to the south may provide a commuting route for badgers into and out of the site. A single piece of hair of coarseness and colour indicative of badger was found on the fence. Recent heavy rain prior to the survey prevented full appraisal of how recently the holes have been used. The spoil heaps outside are relatively small, and no bedding balls or latrines were found. No evidence of recent badger foraging was noted. The lack of recent evidence and number of badger holes would suggest this is a badger outlier sett, in sporadic use, and possibly no longer in such use; or now utilised by a fox or rabbit. The use of the holes should be assessed through a badger monitoring survey secured by planning condition and undertaken prior to the commencement of development (*Refer to Photographs Nos. 10 - 11 – Appendix No. 01*).

Bat Roost Assessment – Trees

4.2.10 A number of trees within and adjacent to the site have been identified as offering some bat roost potential. These are described and categorised in *Table No. 01*; and locations are shown on *Figure No. 01 – Site Habitat Plan*.

Table No. 01 – Bat Roost Tree Assessment

Tree No.	Description	Category
T01	Holm oak of suitable size to hold a bat roost, with a number of cracks and fissures to stem and limbs.	'Moderate'
T02	Holm oak displaying a number of cracks and scars to stem and limbs.	'Low'
T03	Holm oak displaying a number of cracks and scars to stem and limbs.	'Low'
T04	Holm oak displaying a large scar to the west at 3.5 m height which could provide bat roosting potential. Tree is of sufficient size to contain a roost.	'Moderate'
T05	Holm oak displaying deeply pitted bark and a number of failures within the crown which could host bats.	'Moderate'
T06	Willow tree displaying a cavity at 5.0 m height to the east which may provide habitat for a small roost.	'Low'
T07	Very large poplar tree displaying a major failure resulting in hanging deadwood.	'Low'
T08	Pair of mature cypress trees of significant stature displaying a number of fractured limbs.	'Low'
T09	Pair of mature cypress trees of significant stature displaying deeply fissured bark and several narrow unions which could hold small bat roosts.	'Low'
T10	Poplar tree displaying few features but of a significant size which could hold a small bat roost within higher features.	'Low'
T11	Large cypress tree displaying historic loss of a leader at 3.0 m height to the east, and several other major failures which could provide limited bat roost potential.	'Low'
T12	Large cypress tree displaying minor cracks and fissures which may provide potential for a small bat roost.	'Low'
T13	Group of holm oaks which, as a group provide low potential for a bat roost.	'Low'

Bat Roost Assessment – Building

4.2.11 There are a number of buildings on the site; a number of these buildings would be affected by the proposals. The buildings have been described as follows:

- **Building B1** – A single storey flat-roofed garage to the east of site;
- **Building B2** – A wooden shed, to the south of site;
- **Buildings B3** – 2 no. further wooden sheds to the west of site;
- **Building B4** – A small folly in the south-western section of the garden;
- **Building B5** – A single-storey pool house to the west of site;
- **Building B6** – The main dwelling known as ‘The Spires’.

4.2.12 **Building B1** is a single-storey garage of block construction, with a corrugated flat roof. Access holes created by the corrugations were generally cobweb-filled. Internal access was not available at the time however given the nature of the roof, the bat roost potential of the building is considered to be ‘negligible’ (Refer to Photograph No. 12 – Appendix No. 01).

4.2.13 **Building B2** is a wooden shed between introduced shrubs and mature trees. Internally the shed was damp, and a row of windows made the structure very bright. The ridge was coated in thick cobwebs and no evidence of bat use was found. The bat roost potential of the building is considered to be ‘negligible’ (Refer to Photograph No. 13 – Appendix No. 01).

4.2.14 **Buildings B3** are wooden sheds behind a wall, adjacent to the swimming pool. No internal inspection was undertaken however the sheds appear similar to the shed B2, with windows allowing light in and being of a generally lightweight construction. The bat roost potential of the buildings is considered to be ‘negligible’.

- 4.2.15 **Building B4** consists of a small brick folly, in the shape of a turret. The roof is a steeply pitched structure with timber sarking. The external covering is of wooden shingles and clay tiles. Several tiles and shingles have slipped, providing some access points. There is no cavity as such within the roof which open directly into the folly. No door is present and a number of holes allow light into the structure. A robin was noted flying within the folly and is presumed to be nesting within a pile of leaves within the roof. The folly presents some features suitable for bat roosting, however due to the small size, brightness and low thermal mass of the building would render it unlikely that bats would be roosting here. The bat roost potential of the building is considered to be 'negligible' (*Refer to Photograph No. 14 – Appendix No. 01*).
- 4.2.16 **Building B5** is of brick construction, with a timber roof covered in felt and interlocking double-roman tiles. The tiles are generally well-fitted; gaps beneath tiles do not appear to lead into the roof and were largely occupied by spiders. The roof appeared to be in good condition with no slipped or broken tiles. The soffits and fascias were intact with no gaps. Partial access to the roof void was made; the joists were covered in cobwebs and no evidence of bats (*such as droppings, insect wing cases, urine splashes or dead bats*) were found. The bat roost potential of the building is considered to be 'negligible' (*Refer to Photograph No. 15 – Appendix No. 01*).
- 4.2.17 **Building B6** is a large dwelling of largely brick construction. The roof is covered in clay tiles; these were generally close-fitting however several had slipped. There are a number of 'eyebrow' dormer windows and tile valleys where bats may be able to access the roof void. There are also several large feature chimneys with tiled flashings, which present small openings (*Refer to Photograph No. 16 – Appendix No. 01*).
- 4.2.18 From an external viewpoint **Building B6** holds 'moderate' bat roost potential, however the building is not proposed to be altered or disturbed through the proposals. No further assessment has been made of the dwelling and no further survey effort is recommended provided that the proposals are sensitive to any bats that may roost within the dwelling; such as by avoiding increased light-spill onto the dwelling.

5.0 EVALUATION

- 5.1 The construction zone and immediate surroundings are largely formed of introduced shrubs and amenity grassland, with no rare or unusual species noted. The site is generally considered to be of 'low ecological value'.
- 5.2 The amenity grassland has become rank in places and is now overgrown with tall ruderal species. In small patches this vegetation, in conjunction with compost and brash piles may be suitable for reptiles and amphibians, evidenced by the discovery of a common toad on the site. Given the lack of connectivity with suitable aquatic habitat, further amphibian surveys are not considered appropriate. Any potential harm to reptiles and amphibians could be avoided through a phased vegetation clearance method of habitat manipulation, with the retention of areas of compost heaps and tall ruderal vegetation to the site edges. Piles of brash and compost shall be removed during the reptile and amphibian active seasons, but after the bird nesting season (*in late summer*) to allow protected species to disperse if present.
- 5.3 A small badger sett was found to the north-east corner of the site; the evidence would suggest that this is an outlier badger sett; it is unknown whether this is in current use by badger. The sett lies approximately 17.5 m from the location of a proposed new dwelling. Should the badger sett be occupied, then disturbance to the sett through the proposals would be likely. A badger monitoring survey is recommended to confirm whether the outlier badger sett is in use prior to the commencement of development; should the badger sett be found to be in use, an appropriate avoidance and mitigation plan should be put in place to avoid disturbance to the sett. The badger monitoring survey should be secured by planning condition and carried out prior to the commencement of development.
- 5.4 The mature trees and introduced shrubs present to the site boundaries provide good nesting opportunities for common bird species. All birds, their nests, eggs and chicks are protected under *The Wildlife and Countryside Act 1981 (as amended)*. Clearance of vegetation should be undertaken outside the nesting season (*nesting season: March - August*) or following inspection by an ecologist to ensure no active nests are present.

- 5.5 Of the buildings present on the site, only the main dwelling presents significant bat roost potential. The building is proposed to be retained undisturbed. One tree with 'low' bat roost potential is proposed for removal; it is recommended that this tree is removed under ecological supervision. No further surveys are required with regards to bats.

6.0 PROTECTED SPECIES – CONCLUSIONS AND RECOMMENDATIONS

Reptiles

- 6.1 The bulk of vegetation on site is well managed and regularly mown to a short height. The areas of tall ruderal habitat are considered to offer some minor reptile habitat. No further survey with regards reptiles is required for this site. Vegetation clearance in the areas of tall ruderal vegetation should be phased to allow any reptiles on the site to avoid harm and relocate to other areas of the site.

Badgers

- 6.2 The site and adjoining land (*where possible*) were thoroughly searched for badger setts; 3 no. holes to the north-west of the site were found. The holes are thought to represent an outlier badger sett. A badger monitoring survey is recommended to confirm whether this outlier sett is in use; secured by planning condition; and prior to the commencement of development.

Bats

- 6.3 The buildings on site to be affected by the proposals are considered to offer 'negligible' bat roost potential. A number of trees within and immediately adjacent to the site were identified as having bat roost potential. 1 no. tree with 'low' bat roost potential is proposed for removal; this removal should be carried out under ecological supervision. No further survey work with regards bats is recommended for this site.

Birds

- 6.4 No rare or protected bird species were seen or heard during the site visit. Several common bird species were noted during the survey, and a number of birds' nests were visible within trees surrounding the site. A robin was noted nesting within the folly on the site. It is advised that any site clearance work of vegetation, and demolition of the folly should take place outside the bird nesting season (*1st March-31st July inclusive*) or after thorough inspection by an ecologist.

Great Crested Newts

- 6.5 There is some potential terrestrial habitat for amphibians within the site area; as displayed by the discovery of a common toad on the site. There is 1 no. pond within 500.0 m of the site. Given the suitable terrestrial habitat surrounding this pond, and the lack of connectivity with the site; the likelihood of encountering great crested newts on the proposal site is considered to be '*negligible*'. No further surveys, or assessment of the pond with regards to great crested newts is required.

Others

- 6.6 No habitat for other protected species was noted on site.

7.0 ECOLOGICAL ENHANCEMENTS

- 7.1 The design of the proposed development should consider ecological enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and *Local Planning Policy*. Recommendations for ecological enhancements that could be considered as part of development proposals could include:
- *The use of flowering shrubs as listed within the RHS 'Perfect for Pollinators' plant list to provide year-round interest for invertebrates;*
 - *The retention and provision of log piles and compost heaps on the site to provide a continued resource for hibernating reptiles and amphibians;*
 - *The provision of nesting boxes for a variety of bird species and the incorporation of open fronted areas / access holes to outbuildings to allow swallow access;*
 - *The incorporation of bat boxes within new buildings or mature trees;*
 - *Planting species-rich native hedges to the proposed boundaries of new dwellings, to provide connectivity and additional foraging habitat. Species could include hawthorn; blackthorn; field maple; hazel; wild privet; dogwood and spindle.*

8.0 REFERENCES

JNCC: Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit; (2003)

Mitchell-Jones and McLeish: Bat Workers Manual; JNCC, 3rd Edition (2004)

Streeter, D.: The Most Complete Guide to the Flowers of Britain and Ireland; Harper Collins, London (2010)

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The Spires, Springfield Close, East Preston

Table No. 02 – Target Notes (TN) for Ecology Phase 1 Habitat Survey and Protected Species Assessment

TN	Feature	Description	Protected Species	Potential
<i>TN 01</i>	Mammal Holes	Badly fire-damaged section of pavilion. There is some potential for birds to enter and nest within the building.	<i>Badgers</i>	<i>'Moderate'</i>
<i>TN 02</i>	Broken Fence	A collapsed fence panel which provides an access point into the site.	<i>Badgers</i>	<i>'Moderate'</i>
<i>TN 03</i>	Vegetation	Mature trees to the site boundaries provide opportunities for roosting bats. A number of birds' nests were noted within trees. Patches of dense scrub and introduced shrubs may also provide potential bird nesting habitat.	<i>Bats</i> <i>Nesting Birds</i>	<i>'Low'-</i> <i>Moderate'</i> <i>'High'</i>
<i>TN 04</i>	Compost Heaps/ Brash Piles	Piles of grass cuttings, brashwood, tree trimmings and old building materials which provide shelter for small mammals, and possibly hibernation habitat for reptiles and amphibians. A toad was found under the northernmost pile.	<i>Reptiles</i> <i>GCN</i>	<i>'Low'</i> <i>'Negligible'</i>
<i>TN 05</i>	Tall Ruderal Vegetation	Rank grassland and tall ruderal vegetation which would provide limited habitat for reptiles.	<i>Reptiles</i>	<i>'Moderate'</i>
<i>TN 06</i>	Birds' Nests	Birds' nests noted to trees.	<i>Nesting Birds</i>	<i>'Confirmed'</i>

The Spires, Springfield Close, East Preston

Table No. 03 – Species List - Preliminary Ecological Appraisal Survey

Amenity Grass

Common Name	Scientific Name	DAFOR
Perennial Rye-Grass	<i>Lolium perenne</i>	D
Common Bent	<i>Agrostis capillaris</i>	A
Cock's foot	<i>Dactylis glomerata</i>	A
Daisy	<i>Bellis perennis</i>	LA
White Clover	<i>Trifolium repens</i>	F
Field Chickweed	<i>Cerastium arvense</i>	O
Dandelion	<i>Taraxacum agg.</i>	R
Common Thistle	<i>Cirsium vulgare</i>	R
Yorkshire Fog	<i>Holcus lanatus</i>	O
Broad-Leaved Dock	<i>Rumex obtusifolius</i>	R
Creeping Buttercup	<i>Ranunculus repens</i>	LF
Hairy Willowherb	<i>Epilobium hirsutum</i>	R
Broad-leaved Plantain	<i>Plantago major</i>	R
Black Medick	<i>Medicago lupulina</i>	LF
Bristly Oxtongue	<i>Helminthotheca echioides</i>	R
Common Sow Thistle	<i>Sonchus oleraceus</i>	LR

Tall Ruderal

Common Name	Scientific Name	DAFOR
Yarrow	<i>Achillea millefolium</i>	LA
Common Sow Thistle	<i>Sonchus oleraceus</i>	LD
Cleavers	<i>Galium aparine</i>	LD
Red Dead Nettle	<i>Lamium purpureum</i>	F
Groundsel	<i>Senecio vulgaris</i>	F
Daffodil	<i>Narcissus pseudonarcissus</i>	F
Iris sp.	<i>Iris sp.</i>	R
Creeping Thistle	<i>Cirsium arvense</i>	O
Common Nettle	<i>Urtica dioica</i>	R
Welsh Poppy	<i>Meconopsis cambrica</i>	R
Bramble	<i>Rubus fruticosus</i>	R
Cabbage Palm	<i>Cordyline australis</i>	LO
Cock's foot	<i>Dactylis glomerata</i>	LA
Wood Avens	<i>Geum urbanum</i>	F
Meadow Buttercup	<i>Ranunculus acris</i>	O
Dandelion	<i>Taraxacum officinale</i>	R
Hairy Cat's-Ear	<i>Hypochoeris radicata</i>	R
Teasel	<i>Dipsacus fullonum</i>	R
Broad-Leaved Dock	<i>Rumex obtusifolius</i>	R
Spear Thistle	<i>Cirsium vulgare</i>	O

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

The Spires, Springfield Close, East Preston

Table No. 03 – Species List - Preliminary Ecological Appraisal Survey

Continued

Introduced Shrubs

Common Name	Scientific Name	DAFOR
Common Box	<i>Buxus sempervirens</i>	F
Spurse	<i>Euphorbia sp.</i>	LD
European Gorse	<i>Ulex europaea</i>	O
Butterfly Bush	<i>Buddleia davidii</i>	O
Cypress	<i>Cupressus sp.</i>	O
Pendulous Sedge	<i>Carex pendula</i>	LF
Common Juniper	<i>Juniperus communis</i>	R
Spirea	<i>Spirea japonica</i>	O
Alberta Spruce	<i>Picea glauca</i> var. <i>albertiana</i> 'Conica'	R
Fuchsia	<i>Fuchsia magellanica</i>	F
Rosemary	<i>Rosmarinus officinalis</i>	R
Myrtle	<i>Myrtus sp.</i>	R
Dogwood	<i>Cornus sanguinea</i>	LF
Escallonia	<i>Escallonia sp.</i>	O
New Zealand Broadleaf	<i>Griselina litoralis</i>	O
Holly	<i>Ilex aquifolium</i>	F
Barberry	<i>Berberis thunbergii</i>	O
Guelder-Rose	<i>Viburnum opulus</i>	R
Hebe	<i>Hebe sp.</i>	F
Wood Aven	<i>Geum urbanum</i>	O
Choisya	<i>Choisya ternata</i>	O
Camelia	<i>Camelia sp.</i>	O
Hydrangea	<i>Hydrangea sp.</i>	F
Mock-Orange	<i>Philadelphusn sp.</i>	O
Cleavers	<i>Galium aparine</i>	LA
Bamboo	<i>Bambusoideae</i>	O
Palms	<i>Palms sp.</i>	R
Wisteria	<i>Wisteria sinensis</i>	R
Japanese maple	<i>Acer palmatum</i>	O
Pine	<i>Pinus sp.</i>	R
Red Robin	<i>Photinia × fraseri</i> 'Red Robin'	R
Weigela	<i>Weigela florida</i>	R
Lilac	<i>Syringa vulgaris</i>	R
Rock-Rose	<i>Cistus × purpureus</i>	R

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The Spires, Springfield Close, East Preston

Table No. 03 – Species List - Preliminary Ecological Appraisal Survey

Continued

Scattered Scrub

<i>Common Name</i>	<i>Scientific Name</i>	<i>DAFOR</i>
Common Holly	<i>Ilex aquifolium</i>	LD
Bramble	<i>Rubus fruticosus</i>	A
Sycamore	<i>Acer pseudoplatanus</i>	O
Common Elder	<i>Sambucus nigra</i>	O
Ivy	<i>Hedera helix</i>	LF
Cherry	<i>Prunus sp.</i>	O
Tutsan	<i>Hypericum androsaemum</i>	O
Iris	<i>Iris sp.</i>	R

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Appendix No. 1 – Preliminary Ecological Appraisal – Site Photographs

ECE PLANNING
LAND AT THE SPIRES, SPRINGFIELD CLOSE, EAST PRESTON, WEST SUSSEX
LLD1180.TheSpires.PEA.Rev01.02.06.17

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 01 - Amenity grassland covering much of the site; looking south-west.



Photograph No. 02 - Amenity grassland sward.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 03 - Mature introduced shrubs with mature trees and ornamental hedges to the site boundaries.



Photograph No. 04 - Mature trees to the site boundaries which may provide bird nesting and bat roosting potential.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 05 - Ornamental hedge and mature trees to the southern site boundary, at the existing main entrance.



Photograph No. 06 - Mature leylandii hedge with bare ground beneath.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 07 - Tall ruderal and rank amenity grassland to the north of the site; scattered scrub is visible to the left.



Photograph No. 08 - Pile of grass cuttings and tree trimmings to north-west of the site which may provide potential for reptiles and amphibians.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 09 - Pile of grass cuttings and tree trimmings adjacent to the garage, which may provide potential for reptiles and amphibians.



Photograph No. 10 - Potential outlier badger sett (Hole No. 1 of 3). Note spoil heap dampened by recent rainfall.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 11 - Collapsed fence to the north-west of site. A single hair indicative of badger was found here.



Photograph No. 12 - Garage to the east of the site (Building B1).

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 13 - Southern shed to the south of the site (Building B2).



Photograph No. 14 - Folly within amenity grassland to the south of the site (Building B4).

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 15 - The pool house to the west of the site (Building B5).



Photograph No. 16 - 'The Spires' main dwelling to the centre of the site (Building B6).

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 17 - Common toad found to the north-east of the site, under debris and compost.



Photograph No. 18 - Section of ornamental hedge, and willow tree displaying low bat roost potential (*to right*) which would require removal to accommodate the proposed new southern access point.