



The Sirius Group

Cellarhead, Staffordshire

ECOLOGICAL APPRAISAL

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1.0 NON-TECHNICAL SUMMARY

- 1.1 FPCR were commissioned by The Sirius Group to undertake an Ecological Appraisal of Land at Cellarhead, Staffordshire to identify any potential constraints or opportunities for battery storage proposals.
- 1.2 An extended phase 1 habitat survey and desktop study were completed by FPCR to inform this assessment. The survey included a walkover of the site on 11th November 2021 mapping all habitats present on site along with their potential to offer suitable habitat for protected and notable species.
- 1.3 One statutory designated site, Wetley Moor SSSI, was located ~1400m from the site. This is not considered likely to provide any constraints on development.
- 1.4 The site is dominated improved grassland which is considered to be of low nature conservation value. This is a common and widespread habitat supporting limited botanical diversity.
- 1.5 Hedgerows formed the boundary of the site with a single hedgerow through the centre. All hedgerows comprised of at least 80% native species were therefore considered habitats of principal importance (NERC, S41).
- 1.6 It is anticipated hedgerows will be retained in development proposals. These should be appropriately protected during works. Any loss of hedgerow sections, such as to facilitate access, should be compensated for through appropriate planting, ensuring habitat corridors are maintained and enhanced.
- 1.7 Ten mature trees within the hedgerows provided features that may have the potential to support roosting bats. Trees should be subject to further bat surveys where removal is required as part of the proposals.
- 1.8 Any woody vegetation removal should be undertaken outside of the breeding bird season (March to August inclusive).
- 1.9 The proposals should seek to provide a net gain in biodiversity demonstrated through an appropriate biodiversity impact assessment calculator. In addition, a range of additional enhancement should be introduced including bat and bird boxes and native species planting within landscape proposals.

2.0 INTRODUCTION

- 2.1 The following report has been prepared by FPCR Environment & Design Ltd. on behalf of The Sirius Group and provides an Ecological Appraisal of a site in Cellarhead, near Werrington, Staffordshire (Central OS Grid Ref: SJ 94780 49302) herein referred to as 'the site'. This report details the findings of an extended Phase 1 Habitat Survey including initial observations of any suitable habitats for, or evidence of, protected species.
- 2.2 This Ecological Appraisal is based on the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance¹. The scope and objectives of this report are to:
- Present the findings of the extended phase 1 habitat survey and preliminary protected species assessment;
 - Identify the likely ecological constraints associated with the proposed development;
 - Identify any habitat retention, mitigation and/or compensation measures likely to be required;
 - Identify any additional surveys that may be required to further inform the development proposals; and to,
 - Identify the opportunities available within the proposals to deliver ecological enhancement.

Site Location and Context

- 2.3 The site is located to the north of Werrington, near Stoke-on-Trent in Staffordshire (Figure 1). It comprises two improved grassland fields bound and divided by native hedgerows and trees. Electricity pylons exist in the north-west of the site.
- 2.4 The surrounding landscape is predominantly arable and pastureland, with a narrow band of woodland on the western boundary which separates the site from an electricity substation.

Site Proposals

- 2.5 The site is proposed as a battery storage site with associated infrastructure and landscaping.

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

3.0 LEGISLATION AND POLICY

3.1 Detail on the relevant national policy and legislation for ecology in relation to development sites are provided in Appendix A. The national policy and legislation most relevant here are:

- The Conservation of Habitats and Species Regulations (“The Habitats Regulations”) 2017 (as amended) in relation to the European Protected Species (EPS) great crested newt, (GCN), bats (all species) and dormouse; and European protected sites i.e. Special Areas of Conservation (SAC), Special Protection Areas (SPAs) and Internationally protected “Ramsar Sites” (collectively known as “Natura 2000 sites”). Annex II bat species of particular relevance in relation to SACs designated for bats.
- The Wildlife and Countryside Act 1981 (WCA) (as amended) in relation to all wild birds (including Schedule 1 species), other animals (notably Schedule 5 species), flora (those listed in Schedules 8 and 9) and Sites of Special Scientific Interest (SSSI);
- Protection of Badgers Act 1992;
- Natural Environmental and Rural Communities (NERC) Act 2006 in relation to various priority species and habitats;
- Hedgerow Regulations 1997 made under Section 97 of the Environment Act 1995;
- National Planning Policy Framework (NPPF) (2019);
- Local Nature Reserves (LNR) as designated most recently by the NERC Act 2006;
- Non-statutory protected local sites including County Wildlife Sites (CWS), Sites of Importance for Nature Conservation (SINC), Local Wildlife Sites (LWS) and Ancient Woodland Inventory (AWI) sites;
- Local Biodiversity Action Plans (LBAP); and
- Birds of Conservation Concern (BoCC).

4.0 METHODOLOGY

- 4.1 In order to compile existing baseline information, relevant ecological information was requested from both statutory and non-statutory nature conservation organisations including:
- Multi Agency Geographic Information for the Countryside (MAGIC)²;
 - Staffordshire Ecological Record (SER)
- 4.2 Further inspection of colour 1:25,000 OS base maps (www.ordnancesurvey.co.uk) and aerial photographs from Google Earth (www.maps.google.co.uk) was also undertaken in order to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.
- 4.3 The search area for biodiversity information was related to the significance of sites and species and potential zones of influence, as follows:
- 10km around the application area for sites of International Importance (e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites).
 - 2km around the application area for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSIs)) and species records (e.g. protected, Local Biodiversity Action Plan (LBAP) or notable species).
 - 1km around the application site for sites of County Importance (e.g. Biological Heritage Sites Local Wildlife Sites).
- 4.4 When reporting consultation data, records were filtered to include only those from the previous ten years (since 2011), however, professional judgement has also been used and older records included where deemed appropriate to the overall assessment.

Extended Phase 1 Habitat Survey

- 4.5 A field survey was conducted on 11th November 2021. Survey methods followed the extended Phase 1 Survey (JNCC, 2010³) technique. This involved a systematic walk over of the site to classify the broad habitat types and identify any Habitats of Principal Importance (HPI) for the conservation of biodiversity as listed within Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006. Habitats were broadly mapped in the field using an OS base map.
- 4.6 Where feasible, target notes and species lists were compiled for individual areas and assessments of abundance were made using the DAFOR scale. Vascular plant nomenclature follows Stace (2010)⁴. Additional notes regarding the current 'condition' of the habitat was completed in accordance with the Natural England's The Biodiversity Metric 3.0 Technical Supplement.
- 4.7 Phase 1 habitats were classified using the UKHab classification system in order to allow use the DEFRA Biodiversity Metric 3.0 to inform offsetting calculations (detailed in BIA report, FPCR, 2021).
- 4.8 In addition, hedgerows were surveyed using the Hedgerow Evaluation and Grading System (HEGS)⁵. This method of assessment includes noting down canopy species composition,

² magic.defra.gov.uk/

³ JNCC (2010). Handbook for Phase 1 habitat survey – a technique for environmental audit. Peterborough: JNCC

⁴ Stace, C.A. (2010). New Flora of the British Isles. (3rd Ed.). Cambridge: Cambridge University Press

⁵ Clements, D. & Toft, R. (1992). Hedgerow Evaluation and Grading System (HEGS) – a methodology for the ecological survey, evaluation and grading of hedgerows. Countryside Planning and Management

associated ground flora and climbers, structure of the hedgerow including height, width and gaps, along with associated features such as; the number and species of mature trees, banks, ditches and grass verges.

- 4.9 Each hedgerow was given a grade using HEGS with the suffixes '+' and '-', representing the upper and lower limits of each grade respectively. These grades represent a continuum on a scale from 1+ (the highest score and denoting hedges of the greatest nature conservation priority) to 4- (representing the lowest score and hedges of the least nature conservation priority) as follows:

Grade 1 – High to very high value;

Grade 2 – Moderately high to high value;

Grade 3 – Moderate value;

Grade 4 – Low value.

Hedgerows graded 1 or 2 are considered to be a priority for nature conservation.

- 4.10 Also, where appropriate, hedgerows were broadly assessed against the Wildlife and Landscape criteria contained within The Hedgerow Regulations 1997 to determine whether they qualified as 'Important Hedgerows'. This was achieved using a methodology in accordance with both the Regulations and DEFRA guidance. It should be noted that hedgerows may also qualify as Important under the Archaeology and History criteria of the Hedgerow Regulations 1997 Act, which is beyond the scope of this assessment.

Invasive Plants, Notifiable Weed Species and Other Notable Flora

- 4.11 Consideration was given as to the presence of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA 1981)⁶ and the presence of any notable weeds including those covered under the Weed Act 1959⁷ (where population is significant enough to be considered injurious).

Preliminary Protected Species Assessment

- 4.12 During the extended Phase 1 Habitat survey, observations, identification and signs of any species protected under the following list of Acts and Regulations (collectively referred to herein as 'Protected Species') were recorded. Details of survey methodologies are provided in Appendix B.
- Schedule 1 of the Wildlife and Countryside Act 1981 (as amended);
 - The Protection of Badgers Act 1992; and
 - The Conservation of Habitats and Species Regulations 2017 (as amended).
- 4.13 Consideration was also given to the existence and use of the site by other fauna listed as one or more of the following (collectively referred to herein as 'Notable Species'):
- Species of Principal Importance (SPI) for the conservation of biodiversity in England on the Natural Environment and Rural Communities (NERC) Act, Section 41 (S41)
 - Species listed on any Local Biodiversity Action Plan (LBAP) initiatives

⁶ Act of Parliament, (1981). The Wildlife and Countryside Act 1981 (as amended), London: HMSO.

⁷ Act of Parliament. (1959). The Weed Act 1959. London: HMSO.

- Red Data Book (RDB) species.

- 4.14 The likely presence or absence of protected and notable species has been assessed by a number of factors including the availability or suitable habitat, connectivity, known species distribution, local records and an understanding of the ecology and habitats requirement of the individual species assessed. Examples of the types of criteria for likely presence/absence used as part of this assessment are provided in Table 1.

Table 1: Criteria Used for Assessing Likely Presence/Absence of Protected/Notable Species

Likelihood of Presence	Example criteria
Negligible	Where one or more of the following is true for the site: it offers no suitable habitat; it is isolated from known areas of suitable habitats/species presence; displays no evidence of use by the species in question; it is outside of the known local/regional/national distribution for the species; and there are no desk study records are present during the data search.
Low	Where one or more of the following is true for the site: the habitats present are of poor to moderate suitability; it is limited or restricted connectivity to areas of suitable offsite habitat or areas with known presence; it is in a location where the species distribution is known to be sparse at a local or regional scale; the desk study indicates the presence of the species in the locality in small to moderate numbers.
Moderate	Where one or more of the following is true for the site: the habitats present are of moderate to high suitability; it is clearly connected to suitable offsite habitat offsite habitat or areas with known presence; it is in a location where the species is known to be well distributed; the desk study indicates the presence of the species in the locality in moderate to good numbers.
High	Where one or more of the following is true for the site: the habitats present are of optimal suitability; it is adjacent to areas of suitable offsite habitat offsite habitat or areas with known presence; it is in a location where the species is known to be well distributed; there are field signs evidencing that a species has been present on the site; the desk study indicates the presence of the species has been historically present on or within the immediate vicinity of the site.
Present	The species was observed using the site during the extended phase 1 habitat survey or, where appropriate for certain species, field signs indicate the regular use of the site i.e. the presence of a badger sett.

Limitations

- 4.15 The habitat survey was undertaken in November which is a sub-optimal time for habitat surveying as many plant species will not be present. Sufficient information was gathered to determine broad habitat types, however, species lists should not be regarded as exhaustive. Given the simplicity and species-poor nature of habitats present on-site, it is not considered the outcome of UKHab classifications and condition scores will have been affected by the timing of the survey.
- 4.16 This assessment aims to provide baseline ecological data for the site and as such presents an overview of the habitats and features present. Due to the transient and complex nature of ecosystems, no investigation can provide a complete representation or prediction of the natural environment present, however every effort has been made to ensure an accurate description of the site in presented following best practice guidance, experience and professional judgement.

- 4.17 The phase 1 habitat map has been reproduced from detailed field notes and informed by aerial imagery, OS mapping and site maps provided by the client. The accuracy of this figure is therefore ultimately guided by the accuracy of these sources and can only be relied upon to a certain degree of resolution.
- 4.18 Data provided by third party sources collated during the desktop study is generally made up from a wide range of sources including (but not limited to) those submitted by ecological consultancies, wildlife conservation organisations and volunteers. As such, this data is typically focused on areas of known nature conservation, is reliant upon formal surveys having been undertaken within an area or the presence of an expert within the locality (particularly for invertebrate records) and as such this data can never be fully relied upon as a complete ecological dataset for any given area. Rather, this data is used as a guide to likely presence of notable ecological features and can never be relied upon for likely absence.
- 4.19 Given the transient nature of natural processes, the findings of this report should not be relied upon for more than 18 months from completion of surveys.

5.0 RESULTS

Desk Study

Designated Sites

- 5.1 Results of the desk study are shown on Figure 2: Designated Sites and Protected Species Plan.

Statutory Designated Sites

- 5.2 There were no statutory designated sites of international importance sites recorded within 10km and of the site boundary.
- 5.3 One statutory designated site of national importance was recorded within the search area. Wetley Moor SSSI is located 1400m to the west of the site and is designated as one of the largest areas of lowland heathland remaining in Staffordshire.

Non-Statutory Designated Sites

- 5.4 No non-statutory designated sites are located within 1km of the site.

Protected/Notable Species

- 5.5 A small number of protected or notable species records from the previous 10 years were highlighted within the surrounding area by Staffordshire Ecological Record.
- 5.6 A single record of a badger *Meles meles* exists approximately 200m from the site. The exact location of this cannot be provided for confidentiality reasons.
- 5.7 Eight protected species of bird have been returned, comprising redwing *Turdus iliacus*, fieldfare *Turdus pilaris*, barn owl *Tyto alba*, red kite *Milvus milvus*, crossbill *Loxia curvirostra*, brambling *Fringilla montifringilla*, hobby *Falco subbuteo* and short-eared owl *Asio flammeus*. Additional BAP species including meadow pipit *Anthus pratensis*, skylark *Alauda arvensis* and kestrel *Falco tinnunculus* have also been highlighted. The majority of these records are located on Wetley Moor SSSI over 1km from the site. Bird records were provided as four figure grid references and are not shown on the consultation plan.
- 5.8 More historic records (over 10 years) of Daubenton's bat *Myotis daubentonii* and water vole *Arvicola amphibius* were shown to exist over 500m from the site boundary, with a single common pipistrelle bat *Pipistrellus pipistrellus* record from the adjacent substation (2004).

Extended Phase 1 Habitat Survey

- 5.9 The locations of the habitats described below are illustrated in Figure 3: Phase 1 Habitat Plan. A botanical species list is provided in Appendix C.

Improved/Modified Grassland

- 5.10 The core of the site was formed by two improved grassland fields, grazed by sheep at the time of survey, but with evidence of cattle grazing also. The sward was dominated by perennial ryegrass *Lolium perenne*, with very limited herb diversity. Species included dandelion *Taraxacum officinale* agg., white clover *Trifolium repens* and creeping buttercup *Ranunculus repens* and were all recorded at low abundances. A small number of undesirable species including creeping thistle

Cirsium arvense, broad-leaved dock and common nettle were scattered occasionally throughout the grassland.

Hedgerows/lines of trees

- 5.11 Seven hedgerows were present within the site, dividing and forming the boundaries of the field compartments. Hedgerows were typically dominated by hawthorn *Crataegus monogyna* with other species present including elder *Sambucus nigra*, bramble *Rubus fruticosus* agg. and holly *Ilex aquifolium*. Five of the hedgerows were defunct and very gappy, however, the majority were managed offering a short and dense structure. H5 along the eastern boundary of the site was beyond the fence line just off-site. Very little of the hedgerow remained, but a number of standard trees formed the boundary. H6 along the far southern boundary where access is proposed, comprised a line of trees with scrub gorse on top of a hedge bank.
- 5.12 All hedgerows were considered to be habitats of principal importance as they comprised >80% native species. Table 3 provides a summary of the hedgerow survey results.

Table 2: Hedgerow Evaluation

Hedgerow ref.	Hedgerow composition	Notes	Average no. species per 30m section	HEGS Score	Habitat of Principal Importance under NERC Act (2006)	Important under wildlife and landscape criteria of Hedgerow REGS
H1	Cm, Fe, Rf, Ia, Ah	Defunct, three trees	3	-3	Yes	No
H2	Cm, Sn, Psp	Outgrown, gappy	1	3	Yes	No
H3	Cm, Ia	Gappy	1	-3	Yes	No
H4	Cm, Fs	Intact, five trees	1	3	Yes	No
H5	Cm, Ah, Fs, Ap	Old defunct hedgerow, line of trees.	2	-3	Yes	No
H6	Ue, Cm, Fe, Sa, Qr, Ps, Fs	Adjacent to PRow, line of trees and scrub, hedgebank.	3	3+	Yes	No
H7	Cm, Ap	Intact, one tree	1	3	Yes	No

Cm *Crataegus monogyna* Hawthorn, **Sn** *Sambucus nigra* Elder, **Fe** *Fraxinus excelsior* Ash, **Ap** *Acer pseudoplatanus* Sycamore, **Rf** *Rubus fruticosus* agg. Bramble, **Qr** *Quercus robur* Pedunculate oak, **Ia** *Ilex aquifolium* Holly, **Psp** *Prunus* sp. Cherry, **Fs** *Fagus sylvatica* Beech, **Ah** *Aesculus hippocastanum* Horse Chestnut, **Sa** *Sorbus aucuparia* Rowan, **Ps** *Pinus sylvestris* Scots Pines, **Ue** *Ulex europaeus* Gorse

Trees

- 5.13 A number of mature trees were recorded along the hedgerows on the boundary and through the centre of the site. These included horse-chestnut, beech, ash, sycamore and Scots pine. T7 was considered likely to be of veteran status given its size and features. Of these trees, ten were observed to have features that may have the potential to support roosting bats. These are detailed in Table 3.