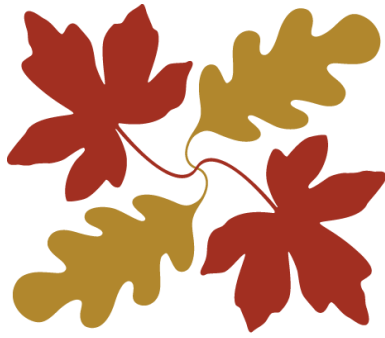




ELLENDALE
ENVIRONMENTAL

Buxton Road, Fairfield, Buxton
Preliminary Ecological Assessment (PEA)
For Greenergy

28th February 2025

South Office
41 Esmead
Chippenham, Wiltshire
SN15 3PR

North Office
292 Portobello High Street
Edinburgh
EH15 2AS

0131 563 9326
info@ellendale-environmental.co.uk



Version

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CIC v1.0	26/06/24	Emma Adair	Stewart Parsons	12/07/24
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The report, and the information contained in it, is intended to be valid for a maximum of 12 months from the date of the survey, providing no significant alterations to the site have occurred.



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1. Introduction

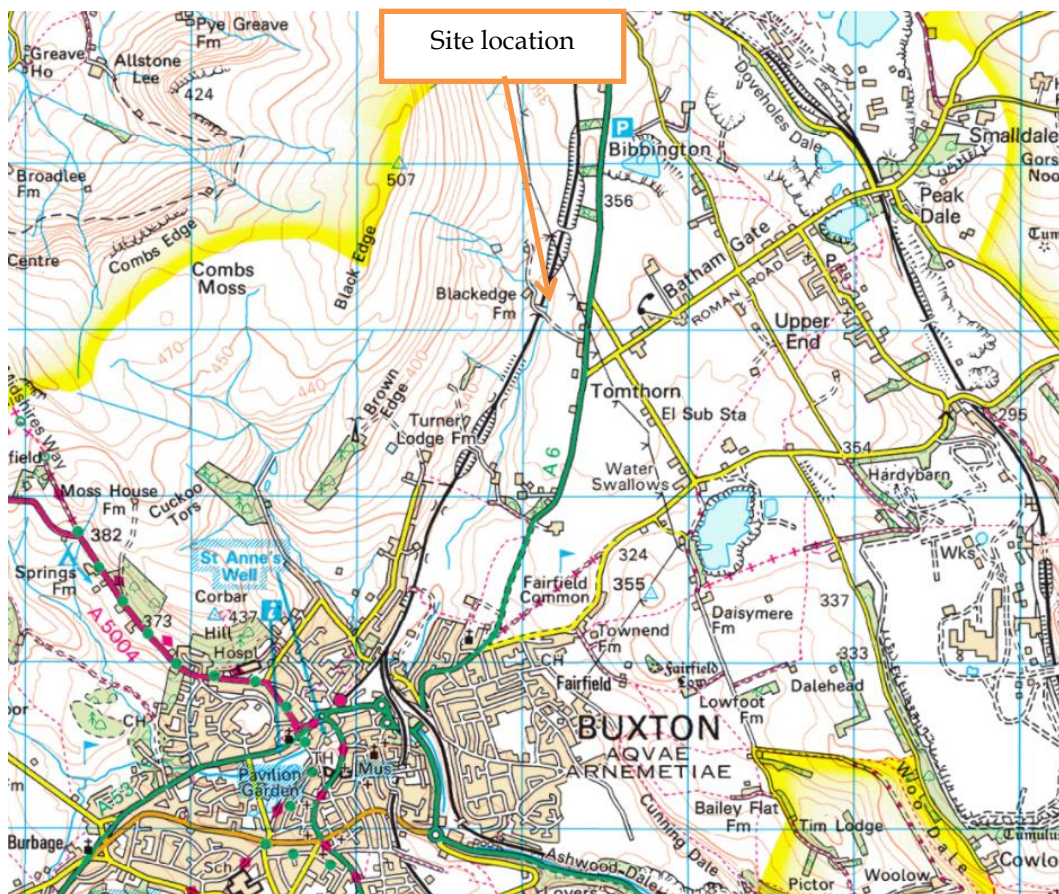
1.1 Commission

Ellendale Environmental Limited was commissioned by Grenergy to undertake a Preliminary Ecological Assessment (PEA) for land at Buxton Road, Wormhill, Dove Holes, High Peak, Derbyshire, SK17 7HR ('the site'). It is proposed to develop a BESS at the site which is approximately 1.5 hectares in size ('the proposed development').

1.2 Site Details

The site is located within a rural area, approximately 2.7km north-east of Buxton, a spa town in the Borough of High Peak, Derbyshire, in the East Midlands region at OS grid reference SK 07379 76624.

Figure 1: Site location



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1.3 Survey Objectives

On the basis of the brief provided by the client, Ellendale Environmental conducted an ecological survey of the site and a 50m buffer (where accessible and appropriate) to fulfil the following needs:

- Obtain baseline information on the current habitats and ecological features in and around the site;
- Identify any further specialist surveys that may be required;
- Identify the presence (or potential presence) of any protected species whose disturbance may require consent under The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) or the Wildlife and Countryside Act, 1981 (as amended); and
- Identify any species or habitats which may require special mitigation during the development of the site.



2. Methodology

2.1 Data Search

Publicly available databases, including MAGIC and the NBN Atlas, were consulted for historical evidence of:

- Statutory land-based designations;
- Non-statutory land-based designations; and
- Protected and notable species.

The data search was conducted within a 2km (5km for bats) radius of the site boundaries. A local data search from the Derbyshire Biological Records Centre was also conducted alongside publicly available databases. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

2.2 Phase 1 Habitat Survey

A Phase 1 Habitat survey of the site area was undertaken, and the habitats present on the site were mapped following the Phase 1 survey methodology (JNCC, 2010), listing the plant species associated with each habitat. This methodology was a Phase 1 habitat survey, whereby all habitats were surveyed and recorded onto a base plan, and any habitats that were considered to be of potential interest to nature conservation were recorded through the use of target notes to annotate a Phase 1 habitat map.

2.3 Preliminary Protected Species Walkover

The site and surrounding areas were examined for signs of protected species. The presence/potential presence of protected or notable species of conservation concern was recorded using target notes, following the Chartered Institute of Ecological and Environmental Management guidance (CIEEM, 2012).

2.4 Survey Area

The survey covered the entire site and areas within 50m (where accessible and appropriate).



2.5 Survey Limitations

The aim of this survey was not to record every species present on the site, as one survey acts as a snapshot, recording only those species which are present at the time or whose presence can be indicated through the occurrence of field signs, such as feeding remains, droppings or places used for shelter or foraging.

Evidence collected has been used to draw conclusions about the flora and fauna within the boundary of the site and to provide an assessment of their ecological and nature conservation value.

Weather was not a limiting factor to the survey. The prevailing conditions at the time of the survey are summarised in Table 1.

Table 1: Survey weather conditions

SURVEY DATE	TEMPERATURE (°C)	WIND SPEED (MPH)	CLOUD COVER/ PRECIPITATION
24/06/24	21.0	Min. 0.0 Avg. 0.1 Max. 1.0	50% cloud cover and dry.

2.6 Surveyors

The survey was undertaken by Emma Adair, Ecologist of Ellendale Environmental. Emma has over a years' professional experience of undertaking a wide range of ecological surveys across the UK. The survey was assisted by Sarah Kelliher, Assistant Ecologist of Ellendale Environmental, who has experience of undertaking PEA surveys.



3. Results

3.1 Data Search

A 2km data search for existing designated sites, priority/notable habitats and biological records was undertaken from the Derbyshire Biological Record Centre ¹, MAGIC² and the NBN Atlas³.

Statutory designated sites

The following statutory designated sites were identified within 2km of the site boundary by a data search:

- Moorland Line (England) is located 1km west of the site; and
- Duchy Quarry Site of Special Scientific Interest (SSSI) is located 1.8km east of the site.

Non-statutory designated sites

The site is located within north the Drinking Water Safeguard Zone (surface water) (England).

Local Wildlife Sites

The following local wildlife sites are located within 2km of the site:

- Combs moss;
 - Victory Quarry;
 - Longridge Lane Fields;
 - Dove Holes Spoil Heaps;
 - Ridgeclose Rocks and Grassland;
 - Doveholes Dale;
 - Peak Dale Grassland;
-

¹ Derbyshire Biological Records Centre <https://emapper.lerc.online/?src=de&id=1358&key=rHZgCw01XYoQujO1>. Accessed on 17/02/25

² Magic database. <http://www.magic.gov.uk/MagicMap.aspx> Accessed on 17/02/25.

³ NBN atlas database. [NBN Atlas - UK's largest collection of biodiversity information](#) Accessed on 17/02/25.



- Peak Dale/Smalldale Quarries;
- Longridge Lane Pond; and
- Longsidings Quarry

Priority and notable habitats

The following protected and notable habitats are located within 2km of the site:

- Moorland– multiple parcels, the closest of which is located 1km west of the site;
- Lowland dry acid grassland – one parcel, located 800 meters southeast of the site;
- Lowland Meadows –two parcels, the closest of which is located 300 meters north of the site;
- Good quality semi-improved grassland – one parcel, located 700m north of the site;
- Lowland calcareous grassland – one parcel, located 1.4km north of the site; and
- Blanket bog – one parcel, located 1km west of the site.

Protected and notable species

The following European protected species licence application was identified within 5km of the site boundaries (for bats):

- One bat licence covering common pipistrelle *Pipistrellus pipistrellus* and brown long-eared bat *Plecotus auritus*. The closest licence application is for approximately 780m south-east of the site, which was valid to 01/11/20.

The following terrestrial protected species was identified within 2km of the site boundaries by the local records data search:

- Great crested newt *Triturus cristatus*⁴ (24 records, the closest of which is located 1.3km east of the site, most recently recorded in 2016);

⁴ NBN Trust (2024). *Triturus cristatus* on the NBN Atlas: [Triturus cristatus](https://ror.org/00mcxye41) on The National Biodiversity Network (NBN) Atlas. <https://ror.org/00mcxye41> [Page visited 2024-06-26].



- Brown Hare *Lepus europaeus*⁶ (7 records, the closest of which is located 1.1km south of the site, most recently recorded in 2021); and
- West European hedgehog *Erinaceus europaeus*⁷ (9 records, the closest of which is located 0.9km north-east of the site, most recently recorded in 2023)

The following bat species was identified within 5km of the site boundaries by the data search:

- Daubenton's bat *Myotis daubentonii*⁸ (six records, the closest of which is located 2.8km south-west, most recently recorded in 2019);
- Natterer's bat *Myotis nattereri*⁹ (20 records, the closest of which is located 3.1km west of the site, the most recent record in 2020);
- Whiskered bat *Myotis mystacinus*¹⁰ (two records, the closest of which is located 4.2km north-east of the site, the most recent record in 1980);
- Common pipistrelle¹¹ *Pipistrellus pipistrellus* (one record, located 0.8km east of the site, recorded in 2017);
- Brown long-eared bat¹² *Plecotus auritus* (once record, located 1.3km east of the site, recorded in 2015);

Noctule bat *Nyctalus noctula* were found within 2km of the site; however, due to licensing laws on public data, the location and date cannot be disclosed.

⁵ Derbyshire Biological Records Centre <https://emapper.lerc.online/?src=de&id=1358&key=rHZgCw01XYoQujO1>. Accessed on 17/02/25

⁶ Derbyshire Biological Records Centre <https://emapper.lerc.online/?src=de&id=1358&key=rHZgCw01XYoQujO1>. Accessed on 17/02/25

⁷ Derbyshire Biological Records Centre <https://emapper.lerc.online/?src=de&id=1358&key=rHZgCw01XYoQujO1>. Accessed on 17/02/25

⁸ NBN Trust (2024). *Myotis daubentonii* on the NBN Atlas: [Myotis daubentonii](https://ror.org/00mcxye41) on The National Biodiversity Network (NBN) Atlas. <https://ror.org/00mcxye41> [Page visited 2024-06-26].

⁹ NBN Trust (2024). *Myotis nattereri* on the NBN Atlas: [Myotis nattereri](https://ror.org/00mcxye41) on The National Biodiversity Network (NBN) Atlas. <https://ror.org/00mcxye41> [Page visited 2024-06-26].

¹⁰ NBN Trust (2024). *Myotis mystacinus* the NBN Atlas: [Myotis mystacinus](https://ror.org/00mcxye41) on The National Biodiversity Network (NBN) Atlas. <https://ror.org/00mcxye41> [Page visited 2024-06-26].

¹¹ Derbyshire Biological Records Centre <https://emapper.lerc.online/?src=de&id=1358&key=rHZgCw01XYoQujO1>. Accessed on 17/02/25

¹² Derbyshire Biological Records Centre <https://emapper.lerc.online/?src=de&id=1358&key=rHZgCw01XYoQujO1>. Accessed on 17/02/25



Bird species

Approximately 94 bird species have been recorded within 2km of the site and are shown on the NBN Atlas. None of these have been recorded within the site boundary.

3.2 Phase 1 Habitat Survey

The site is approximately 1.5ha in size and is located to the north-east of the town of Buxton. It is bounded to the east by a railway line and to the west by Buxton Road. To the north there is a small broad-leaved woodland, beyond which are further agricultural fields to the north. The wider landscape is comprised of primarily agricultural land.

There are five Phase 1 habitat types on the site, including boundary features, namely:

- B.2.2 Semi-improved neutral grassland;
- B.5 Marsh/marshy grassland;
- J.2.1 Species-poor intact hedge;
- J.2.5 Wall; and
- J.2.4 Fence.

B.2.2 Semi-improved neutral grassland

Semi-improved neutral grassland was noted within the field and field entrance. The site has a high sward height due to a lack of management. Species present included crested dog's-tail *Cynosurus cristatus*, perennial rye-grass *Lolium perenne*, cock's-foot *Dactylis glomerata*, creeping buttercup *Ranunculus repens*, Yorkshire fog *Holcus lanatus*, meadow foxtail *Alopecurus pratensis*, spear thistle *Cirsium vulgare*, common vetch *Vicia sativa*, rosebay willow herb *Chamerion angustifolium*, tufted hair grass *Deschampsia cespitosa*, common bird's-foot-trefoil *Lotus corniculatus*, herb Robert *Geranium robertianum*, white clover *Trifolium repens*, common nettle *Urtica dioica*, broad-leaved dock *Rumex obtusifolius* and pignut *Conopodium majus*.

Cattle and sheep were noted to be present within the field at the time of the survey.

Photograph 1: view of the semi-improved neutral grassland present (looking west)



B.5 Marsh/marshy grassland

There is a small area of marshy grassland at the eastern end of the site, adjacent to the entrance. Dominant species included soft rush *Juncus effusus*, rosebay willowherb, common chick weed *Stellaria media*, red fescue *Festuca rubra* and marsh thistle *Cirsium palustre*. Patches of broad-leaved dock were also present.

Photograph 2: area of marshy grassland at the eastern end of the site (looking south-east)



I.2.1 Species-poor intact hedge

A hornbeam *Carpinus betulus* hedge runs the length of the southern boundary of the site. The hedge was approximately 3m high, 2m wide and 1.2km in length. The hedge lacked recent management and this was noted at the time of the survey.

Photograph 3: view of hornbeam hedge (looking south-west)



J.2.5 Wall

A stone wall is present along the southern and western border of the field and was noted to be in good condition at the time of the survey. A metal water trough was integrated into the wall for the cattle and sheep within the field.

J.2.4 Fence

Stock-proof post and wire fencing surrounded the perimeter of the site and this was noted to be in good condition with no gaps present.



3.3 Preliminary Protected Species Walkover

The site and surrounding area were inspected for signs of protected species during the walkover and the results are outlined below.

3.3.1 Protected Species

Birds

The grassland within the site provides possible habitat for protected species, namely nesting birds, due to the high sward height providing protection from predation. However, due to the livestock present, which may disturb the nests, it is unlikely that ground nesting birds would utilise this habitat. The hornbeam hedge on the southern boundary of the site provides nesting and foraging opportunities for birds also, with passerine species observed at the time of the survey; however, no evidence of nesting activity was noted.

Great crested newts

The data search shows records for great crested newt (GCN) present within the surrounding area of the site. No suitable waterbodies were present within the site boundary; however, the marshy grassland and tussocky grass areas within the site are considered likely to be of foraging and commuting value for GCN.

Terrestrial surveys for GCN are therefore recommended and should also include a search for reptile species.



Eurasian otter

No habitat within or adjacent to the site was found to be suitable for Eurasian otter *Lutra lutra* as no waterbodies are present. Therefore, this species is not considered to be present.

Brown hare

No evidence of brown hare was noted at the time of the survey; however, the grassland with its high sward height provides predation cover, and the surrounding farmland provides suitable habitat for this species. No field signs such as footprints or droppings were found at the time of the survey and this species is not considered to be present.

Bats

The woodland habitats adjacent to the site hold some species diversity; however, they mainly consist of young trees that did not have roosting features such as split limbs, hollows or cavities which could be used by roosting bats. No evidence of roosting bats, such as droppings or feeding remains, were found during the survey.

The woodlands, hedgerows and grasslands will provide some suitability for foraging and commuting bats.

3.3.2 Notable Species

Common reptiles and amphibians

The marshy grassland and tussocky grass areas within the site are considered likely to be of foraging and commuting value for a range of amphibian species. Furthermore, multiple records for common frog were identified via the data search; therefore, it is considered likely that such species utilise the site for foraging and commuting purposes.

The hedgerow and verge along the edge of the site offer better habitat for a range of reptile species which could include slow worm *Anguis fragilis*, and potentially grass snake *Natrix helvetica* and common lizard *Zootoca vivipara*. Disposed corrugated steel present at the western end of the site provides structures for reptiles and amphibians; however, further investigation beneath the corrugated steel sheet found no signs of amphibians or reptiles.



Terrestrial surveys for amphibian and reptile species are therefore recommended.

Photograph 4: view of disposed corrugated steel providing structure for reptiles & amphibians



West European hedgehog

The site provides some suitable foraging and commuting habitat for hedgehog given the grassland present within the site and the adjacent woodland; however, no evidence was found during the survey. Notwithstanding this, multiple records of the species exist within the locality of the site; therefore, it is considered likely that hedgehog is present.



4. Conclusions

4.1 Conclusion

The grassland within the site provides suitable habitat for protected species, namely nesting birds, due to the high sward height providing protection from predation. The hornbeam hedge on the southern boundary of the site provides nesting and foraging opportunities birds also, with passerine species observed at the time of the survey; however, no evidence of nesting activity was noted.

No suitable waterbodies were present within the site boundary; however, the marshy grassland and tussocky grass areas within the site are considered likely to be of foraging and commuting value for GCN. GCN are known to be present within the surrounding area of the site; terrestrial surveys for GCN are therefore recommended and should also include a search for reptile species

No evidence of brown hare was noted at the time of the survey; however, the grassland with its high sward height provides predation cover, and the surrounding farmland provides suitable habitat for this species. No field signs such as footprints or droppings were found at the time of the survey and this species is not considered to be present.

The woodland habitats adjacent to the site hold some species diversity; however, they mainly consist of young trees that did not have roosting features such as split limbs, hollows or cavities which could be used by roosting bats. No evidence of roosting bats, such as droppings or feeding remains, were found during the survey. The woodlands, grasslands and will provide some suitability for foraging and commuting bats.



The marshy grassland and tussocky grass areas are considered likely to be of foraging and commuting value for a range of amphibian species. Furthermore, multiple records for common frog were identified via the data search; therefore, it is considered likely that such species use the site for foraging and commuting purposes.

The hedgerow and verge along the edge of the site offer better habitat for a range of reptile species which could include slow worm, and potentially grass snake and common lizard. Disposed corrugated steel at the western end of the site provides structures for reptiles and amphibians; however, further investigation found no signs of amphibians or reptiles.

The site provides some suitable foraging and commuting habitat for hedgehog given the grassland present and the adjacent woodland; however, no evidence was found. Notwithstanding this, multiple records of this species exist within the locality of the site; therefore, it is considered likely that hedgehog is present.

Overall, the site itself is assessed as providing low suitability to support protected species, namely nesting birds, reptiles and amphibians.

4.2 Mitigation

Site personnel should be made aware of protected species and if any are recorded on site, all works should stop, and a suitably qualified ecologist contacted.

Nesting birds

Should any vegetation of the site require removing, this should be undertaken outside of the breeding bird season (March – August, inclusive), as all nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended).

If works are undertaken within this period, a nesting bird survey would be required no more than 24 hours prior to the works. If nesting birds were found, these areas of the site would need to be protected from disturbance until the young have fledged naturally.

Reptiles and amphibians

To minimise the risk of killing or injuring reptiles and amphibians during the development of the site, the legislation effectively requires the displacement of



individual animals from the site. These species will use dense vegetation for predator avoidance, foraging and for regulation of their own body temperature; areas of short vegetation with no cover are therefore likely to be avoided. Any areas of tall vegetation should be cleared slowly to encourage any fauna to move out of the area of their own accord prior to works starting in these areas.

4.3 Further Surveys

Reptiles and amphibians

Further terrestrial surveys for reptiles and amphibian species are recommended as the site has been assessed as providing suitable foraging and commuting habitat for these species. In addition, GCN are known to be present within 1.3km of the site, although there are no water features nearby that are suitable to support breeding amphibians, including GCN.

Reptiles are active between March and October. Reptile surveys are best undertaken between April, May and September, periods when reptiles are most visible. Surveys should be undertaken using artificial reptile refuge, such as sections of tin, roofing felt, and/or carpet tiles, that mirror some of the natural conditions used by reptiles in the area to take shelter, or bask in, under or on.

Eight visits to the site will be required to complete the surveys including one visit to set up the refugia and then a subsequent seven to check for reptiles and amphibians.

4.4 Suggested Biodiversity Enhancements

The following measures would benefit the proposed development by introducing ecological enhancements and should be encouraged:

- Sowing wildflower or species-rich grassland seed within the site following completion of the development should be undertaken to encourage a species-rich habitat to establish providing a range of habitats for a number of species such as invertebrates (including early pollinators), small mammals and birds. Annual mowing/grazing in the autumn should be undertaken to remove the vegetation and help generate and manage the species-rich habitat to ensure it does not become rank and to prevent further successional changes such as scrub establishing;
- Planting of native shrubs in appropriate areas of the site, such as around the boundaries, will bolster the existing habitat and provide connectivity between



existing habitats. Species beneficial to wildlife include hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, holly *Ilex aquifolium* and cherry *Prunus avium*.

- The plantation of native local trees, i.e., oak *Quercus robur* and beech *Fagus sylvatica*, will increase the site suitability to support a range of species, such as bats and birds. Trees can be incorporated in a variety of forms, including individual trees or within hedgerows as standard trees. Fruit trees can also be considered as they provide important resources to early season pollinators and other invertebrates, but also to birds and mammal species;
- Bird nesting boxes (both small-hole and open-fronted) should be placed within the site to create nesting opportunities for small bird species; and
- Bat boxes should be placed on or around the site boundaries, if possible, to create roosting opportunities for bat species. In addition, pole-mounted bat boxes could be used in suitable areas of the site and are an ideal solution when no suitable building or tree is available to mount a bat box.
- A sensitive lighting scheme has been proposed for the site to avoid post-development nocturnal lighting which may adversely impact on wildlife.

It is recommended that an ecologist contributes to any detailed landscape designs, planting lists and post-construction management to ensure a biodiversity net gain for the site.



5. Target Notes

5.1 Botanical Target Notes (TN)

TN1 – Entrance to the site through stock-proof gate.

TN2 – Hornbeam hedge.

TN3 – Water trough for cattle and sheep within the wall.

TN4 – Stone wall.

TN5 – Pile of construction waste within the field.

TN6 – Area of broad-leaved woodland out with the site boundary.

TN7 – Electricity pylon within the field.

5.2 Animal Target Notes (AN)

AN1 – Grassland with a high sward height offering protection from predation for ground nesting birds.

AN2 – Corrugated steel roofing providing shelter for reptiles and amphibians.

AN3 – The majority of the site is dominated by grassland which could provide suitable habitat for foraging bats and badgers.



6. Extended Phase 1 Habitat Map