

Project No: 312614

Carpenters Solar Farm: Botanical Report

Prepared for:

Centrica Business Solutions UK Ltd

Millstream
Maidenhead Road
Windsor
SL4 5GD

Contents Amendment Record

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Acknowledgement

This report has been prepared for the sole and exclusive use of Centrica Business Solutions UK LTD (Centrica) in accordance with the scope of work presented in Mabbett & Associates Ltd (Mabbett) Letter Agreement (312614/AC/210224/1.0), dated 21 February 2024. This report is based on information and data collected by Mabbett. Should any of the information be incorrect, incomplete, or subject to change, Mabbett may wish to revise the report accordingly.

This report has been prepared by the following Mabbett personnel:

MABBETT & ASSOCIATES LTD

Douglas Kilpatrick MSc MA BSc (Hons)
Senior Ecologist

This report has been reviewed by the following Mabbett personnel:

MABBETT & ASSOCIATES LTD

Andrew Taylor, MSc, MRBS
Manager Ecology (Scotland)

This report has been approved by the following Mabbett personnel:

MABBETT & ASSOCIATES LTD

Vince Smith, MSc, MCIEM
Director, Ecology

Executive Summary

Contents	Summary
Site Location	The site is located adjacent to the Dinting Lodge Industrial Estate in the town of Hadfield, Derbyshire, England and is approximately 1.5 km north-west of the town of Glossop. It is centred on Ordnance Survey (OS) Grid Reference: SK 01752 94839.
Proposals	It is understood that current proposals comprise the development of a solar array and associated infrastructure, including temporary access, construction compound and a proposed cable route.
Methodology	A desk study was conducted prior to the field survey, to include information on previous reports, local ecological records and online resources. The UK Habitat Classification Version 2.0 was used in identifying habitats, in conjunction with the DAFOR abundance scale. Invasive, Protected and Notable species listed in the JNCC UK BAP Priority Habitats, the Wildlife and Countryside Act 1981 Schedule 9 and Annex IV of the EU Habitats Directive were recorded where present.
Results	Non-statutory Designated Sites: The Dinting Lodge Grassland Local Wildlife Site (LWS) is within the site boundary. Habitats: Four habitats were recorded on site: ▪ <i>Holcus – Juncus</i> neutral grassland (g3c8) ▪ <i>Deschampsia</i> neutral grassland (g3c7) ▪ Other neutral grassland (g3c) ▪ Bramble scrub (h3h)
Discussion & Recommendations	Non-statutory Designated Sites: Dinting Lodge Grassland LWS overlaps approximately 0.355 ha (15%) of the total 2.4 ha site area. All other designated sites are considered unlikely to be affected by the proposals. Habitats: The botanical survey determined that the area suspected of fulfilling the criteria for lowland meadows (g3a) is instead more closely aligned to other neutral grassland (g3c), a similar but less diverse habitat. The associated Biodiversity Net Gain report should be re-calculated in accordance with the findings. Enhancements: Three enhancements are proposed: ▪ Native hedgerow and scrub planting; ▪ Native tree planting; and ▪ Enhancement of the grassland present.

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Section 1.0: Introduction

1.1 Introduction

Mabbett Ltd (Mabbett) was commissioned by Centrica Business Solutions UK Ltd (Centrica) to conduct a Botanical Survey of the site known as Carpenter's, centred on Ordnance Survey (OS) Grid Reference: SK 01752 94839 and is hereafter referred to as 'the site'. The Botanical Survey was conducted to comprehensively survey the areas suspected of being lowland meadow (g3a) during the April 2023 Preliminary Ecological Survey (PEA) conducted by Mabbett Ecologist Becca Campbell MSc BSc (Hons).

This report has been prepared by Mabbett Senior Ecological Consultant Douglas Kilpatrick MSc MA BSc (Hons).

1.2 Site Location

The site is located adjacent to the Dinting Lodge Industrial Estate, Glossop, in the town of Hadfield, Derbyshire, England SK13 6LE and is approximately 1.5 km north-west of the town of Glossop.

1.3 Site Description

The site comprises of approximately 2.4 ha of neutral grassland with scrub and broadleaved woodland around the perimeter. The site itself is currently unused but areas of woodland, scrub and grassland outside the site fence appear to be used recreationally by the public. The site location and survey buffers are shown in Figure 1.

Habitats adjacent to the site include areas of broadleaved woodland, scrub, poor semi-improved grassland and several ponds to the south-east. The Carpenters lorry carpark overlaps the south-west site boundary and Dinting Road lies to the north with residential properties beyond.

1.4 Development Proposals

It is understood that current proposals comprise the development of a solar array and associated infrastructure, including a temporary access, construction compound and proposed cable route (Figure 4).

1.5 Scope of the report

The objectives of this report are to:

- Present the results of a Botanical Survey of the site using the UK Habitat Classification Methodology (UKHab Ltd, 2023) to map and record habitat types and dominant vegetation, including any invasive species, and an assessment for evidence of protected fauna or habitats capable of supporting such species;
- Assess the potential ecological features present, any constraints they pose to development of the site and any recommendations for further surveys, avoidance, mitigation, compensation or enhancement measures that are needed (as appropriate); and
- Condense all relevant statutory and non-statutory sites of nature conservation interest and relevant records of protected/notable species within the site and its zone of influence from the associated PEA report (Mabbett, 2023).

Section 2.0: Methodology

2.1 Desk Study

Prior to the field survey a desk-based assessment was undertaken using information from the following sources.

2.1.1 Previous Reports

Mabbett finalised a PEA report of the site in June 2023.

In addition, Derbyshire City Council and High Peak Borough Council websites were used to search for submitted planning applications in the vicinity of the site, to determine whether previous ecological studies have been carried out locally.

2.1.2 Local Ecological Records Centre

Information was requested from Derbyshire Biological Records Centre (DerBRC) and Greater Manchester Local Record Centre (GMLRC) on the following:

- Non-statutory nature conservation sites i.e. Local Wildlife Sites (LWS);
- Legally protected plant and animal species;
- Notable species e.g. Species of Principal Importance (SPI); and
- Priority habitats and species as listed within the Peak District Local Biodiversity Action Plan (LBAP)

2.1.3 Online Resources

The following web-based databases were also accessed:

- Department for Environment Food and Rural Affairs (DEFRA) MAGIC, for information on statutory designated sites and Habitats of Principal Importance (HPI).
- National Biodiversity Network Atlas (NBN Atlas) for information on protected species, available for commercial use.

2.2 Field Survey

The Botanical Survey was undertaken on the 13th of June 2024 by Mabbett Senior Ecologist Douglas Kilpatrick MSc MA BSc (Hons). The weather conditions were 14 °C, cloudy, 6 oktas cloud cover, with light rain.

2.2.1 Habitats and Flora

UK Habitat Classification Version 2.0 (UKHab v2) is a comprehensive habitat classification system for the UK that has been developed to benefit from changes in habitat categorisation, recording and analysis in recent decades, and its principal aim is to provide a rapid system for recording and classifying habitats. Each of the main habitats within the survey area was described using version 2.0 of the guidance (Butcher, Carey, Edmonds, Norton, & Treweek, 2020), including details on component plant species abundances (recorded using the DAFOR¹ scale).

2.2.1.1 Invasive Plant Species

The site was searched for invasive plant species, primarily those included on Schedule 9 Wildlife and Countryside Act 1981 (as amended) (W&CA).

2.2.2 Protected and Notable Species

The site was assessed for the possible presence of, and the likely importance of its habitats and protected or notable floral species listed in Joint Nature Conservation Committee UK BAP Priority Habitats, the Wildlife and Countryside Act 1981 (schedule 8) and Annex IV (b) of the EU Habitats Directive.

¹D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

2.3 Report Expiration

This report is valid for two years from the date of issue in line with CIEEM guidelines.

Section 3.0: Results

3.1 Desk Study

All relevant ecological data provided by the consultees was reviewed and the results are summarised below. The original desk study data is available upon request. A summary of planning policy and legislation relating to the species highlighted by the desk study and field survey is presented in Appendix A. This botanical report has redacted the desk study from the associated PEA report (Mabbett, 2023).

3.1.1 Non-statutory Designated Sites

Dinting Lodge Grassland LWS overlaps with the site and is shown in Figure 3.

Table 1: Non-statutory designated sites identified during the desk study.

Site Name and Designation	Proximity & Direction to the Site	Designated Features
Dinting Lodge Grassland LWS	Within site boundary	Unmanaged rough, marshy grassland with tufted hair grass <i>Deschampsia cespitosa</i> , Yorkshire fog <i>Holcus lanatus</i> , marsh ragwort <i>Jacobaea aquatica</i> , common knapweed <i>Centaurea nigra</i> , betony <i>Betonica officinalis</i> , great burnet <i>Sanguisorba officinalis</i> , bitter vetchling <i>Lathyrus linifolius</i> , adder's-tongue fern <i>Ophioglossum vulgatum</i> and marsh pennywort <i>Hydrocotyle vulgaris</i> . Nearby pond with marginal and floating aquatic vegetation including white water-lily <i>Nymphaea alba</i> . Known for a variety of dragonfly species.

3.2 Habitats

The full results of the Botanical Survey and target notes are presented on the UKHab map in Figure 2. Habitats too small to be mapped have been target noted. The species list from the survey is presented in Appendix B (Table 5), while the species list from the original PEA are presented in Table 6. The main habitats noted during the field survey included:

- *Holcus* – *Juncus* neutral grassland (g3c8)
- *Deschampsia* neutral grassland (g3c7)
- Other neutral grassland (g3c)
- Bramble scrub (h3h)

3.2.1 *Holcus* – *Juncus* neutral grassland (g3c8)

The central area of the site was dominated by hard rush (*Juncus inflexus*), with birdsfoot trefoil (*Lotus corniculatus*) and red-stemmed feather moss (*leurozium schreberi*) as the field-layer between the rushes. This habitat has spread since the PEA was conducted by Mabbett in 2023. *Holcus* is absent in this area.



Image 1: *Holcus*-*Juncus* neutral grassland dominated the central area of the site.

3.2.2 *Deschampsia* Neutral Grassland (g3c7)

Yorkshire fog (*Holcus lanatus*) is prevalent in some areas of the site, mostly nearer the top and further to the north. Tufted hair-grass (*Deschampsia cespitosa*) is present, but only with occasional frequency. Hard rush can be found more sporadically in this habitat. Creeping buttercup (*Ranunculus repens*) and silver weed (*Potentilla anserina*) are frequently found.



Image 2: *Deschampsia* Neutral Grassland (g3c7) found more frequent at the top of the hill.

3.2.3 Other neutral grassland (g3c)

The *other neutral grassland* (g3c) sloped down towards the southwestern area of the site. This habitat had considerably less *juncus* than areas of the site, and a noticeable increase of flowering plants. Species include creeping buttercup, ox-eye daisy (*Leucanthemum vulgare*), cut-leaved cranesbill (*Geranium dissectum*), Yorkshire fog as well as curly dock (*Rumex crispus*) and broad dock (*Rumex obtusifolius*). Hard rush was still present, but far less dominant. Species density and indicator species did not pass the criteria for lowland meadows (g3a). Pendulous sedge (*Carex pendula*) was also recorded.



Image 3: Other neutral grassland (g3c) on the southwest end of site.

3.2.3.1 Bramble Scrub (h3h)

A small area of bramble scrub was recorded along the south-eastern site boundary. Ruderal/Ephemeral species were found in close proximity, including rosebay willowherb (*Chamaenerion angustifolium*) and creeping thistle (*Cirsium arvense*).



Image 4: Bramble scrub bordering the fence line to the southeast (taken 2023).

3.3 Invasive Plant Species

DerBRC provided 11 records of invasive plant species within 2 km of the site; these are summarised in Table 2. Large Portuguese laurel (*Prunus lusitanica*) bushes were recorded to the north-west of the site boundary during the field survey and botanical survey. Numerous rhododendron bushes were also noted within the woodland bordering Shaw Lane to the north-west of the site. Both laurels and rhododendrons are invasive species.

Table 2: Invasive plant species records from the past 10 years.

Species	No. of Records	Most Recent Record	Proximity of nearest record to Study Area
Himalayan balsam <i>Impatiens glandulifera</i>	3	2015	0.2 km south
Japanese knotweed <i>Reynoutria japonica</i>	4	2017	0.68 km north
Rhododendron <i>Rhododendron ponticum</i>	2	2016	1.5 km east
Variegated yellow archangel <i>Lamium galeobdolon subsp. Argentatum</i>	1	2016	0.7 km east

Rhododendron and Portuguese laurel were recorded during the field survey but outside of the site boundary and thus are not considered likely to be spread by the proposed works.

No invasive species were recorded during the botanical survey within the site boundary.

3.4 Protected and Notable Species

DerBRC provided one botanical record of one species within 2 km of the site and GMLRC provided no records within 2 km of the site.