# SUNNICA ENERGY FARM

## Appendix 8B: Flora Surveys

Sunnica Ltd

August 2020

## Quality information

| Prepared by | Checked by | Verified by | Approved by |
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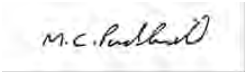
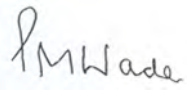
|  |  |  |  |
| Mike Padfield | Alan Bull | Max Wade | Neal Gates |
| Associate Ecologist | Principal Ecologist | Technical Director | Associate Ecologist |

## Revision History

| Revision | Revision date | Details | Authorized | Name | Position |
|---|---|---|---|---|---|
| 1 | August 2020 | For Issue | August 2020 | Max Wade | Technical Director |

Prepared for:

Sunnica Ltd.Sunnica Ltd

Prepared by:

AECOM Infrastructure & Environment UK Limited
Unit 1 Wellbrook Court
Girton
Cambridge CB3 0NA
United Kingdom

T: +44 1223 488 000
aecom.com

# Contents



# Tables

# 1. Introduction

1.1.1 In March 2019, AECOM undertook a Preliminary Ecological Appraisal (PEA) of the Sunnica Energy Farm site on behalf of Sunnica Ltd. This PEA identified the need for follow-up ecological surveys and assessments to help determine a baseline and potential impacts of the proposed Sunnica Energy Farm (hereafter referred to as 'the Scheme' – see **Figure 8B-1** in **Sub-Appendix A**) on protected / notable species[1]. As part of this work AECOM undertook Phase 2 botanical surveys (including National Vegetation Classification (NVC) survey) and an arable flora survey in 2019 and 2020 within the Scheme boundary (the Development Consent Order (DCO) Site) (the Site).

## 1.2 The Scheme

1.2.1 Sunnica Energy Farm is a new solar farm scheme that would connect to the national electricity transmission network. Sunnica will use ground mounted solar photovoltaic (PV) panel arrays to generate electricity energy from the sun and combine these with a Battery Energy Storage System (BESS). The Scheme will be connected to the national electricity transmission network by an underground cable.

1.2.2 The BESSs will consist of a compound and battery array to allow for the storage, importation and exportation of energy to the National Grid. Details of the design of the BESS elements, including their power and energy ratings, and their dimensions and appearance, are currently in development.

1.2.3 Supporting electrical infrastructure will include an on-site substation and on-site cabling between the different electrical elements of the Scheme. The generating equipment of the Scheme will be fenced and be protected via security measures such as CCTV and lighting. Inside the fenced areas, in addition to the generating equipment will be, internal access tracks, landscaping and habitat management and drainage.

1.2.4 The Scheme will be connected to the existing Burwell National Grid Substation, most likely using 132kV cables buried underground. The cables will run between Sunnica West and Sunnica East (Grid Connection Route A), and then on from Sunnica West to the Burwell National Grid Substation (Grid Connection Route B). Details of the cable route, dimensions of the cables, the depth and method of burial, and numbers of joints required are currently in development.

1.2.5 The Scheme qualifies as a Nationally Significant Infrastructure Project (NSIP) and will require a Development Consent Order (DCO) from national government, due to its generating capacity. It is expected to be an Environmental Impact Assessment (EIA) development.

1.2.6 The Scheme therefore comprises the following key areas:

- Solar Farm Sites:

[1] A notable species is a species with a conservation designation, but no legal protection.

  - Sunnica East Site A;
  - Sunnica East Site B;
  - Sunnica West Site A; and
  - Sunnica West Site B.

- associated electrical infrastructure for connection to the national transmission system comprise:
  - Grid Connection Route A (connecting the Sunnica East Site A with the Sunnica East Site B and then connecting to the Sunnica West Site A);
  - Grid Connection Route B (connecting the Sunnica West Site A and Sunnica West Site B and the Burwell National Grid Substation); and
  - Burwell National Grid Substation Extension.

1.2.7 **Figure 8B-1** shows the locations of these key areas.

## 1.3 Site Description

1.3.1 A summary description of the habitats within the Scheme boundary (made up of the three Sites) is provided below and a more detailed description of the habitats is provided in the Preliminary Ecological Appraisal (Ref 8B-1). The extent of the Scheme is shown in **Figure 8B-1** in **Sub-Appendix A**.

### *Sunnica East Site*

1.3.2 The Sunnica East Site is split into two sub-sites, one to the north of Freckenham (referred to as Sunnica East Site A) and the other to the south of Worlington (referred to as Sunnica East Site B). These two sites are approximately 1 km apart and are separated by agricultural fields. The Sunnica East Site A encompasses an area of approximately 231.7 ha and includes land within the county of Suffolk and Cambridgeshire. Sunnica East Site B lies within Suffolk and encompasses an area of approximately 323.1 ha (**Figure 8B-1** in **Sub-Appendix A**).

1.3.3 The landscape features within the Sunnica East Site A and Sunnica East Site B consist of arable agricultural fields interspersed with individual trees, hedgerows, linear tree belts, small woodland blocks, farm access tracks and local roads.

1.3.4 The landscape features immediately surrounding the Sunnica East Site A and Sunnica East Site B comprise small rural villages, including Worlington to the north, Barton Mills to the north-east, Red Lodge and Freckenham to the south and Isleham to the west. Industrial land uses adjoin the A11 to the south of the Sunnica East Site with an industrial installation of a 7.5 MW solar farm situated adjacent to the south-eastern extent of the Sunnica East Site and an anaerobic digestion (AD) plant located to the south of the Sunnica East Site.

### *Sunnica West Site*

1.3.5 The Sunnica West Site is located within the East Cambridgeshire District Council administrative area, approximately 3 km north east of Newmarket and 6.5 km east of Burwell.

1.3.6 Sunnica West is split into two sub-sites, one to the south-east (referred to as Sunnica West Site A) and the other to the north-west of Snailwell (referred to as Sunnica West Site B). These two sites are approximately 1 km apart, separated by agricultural fields and Chippenham Road. The Sunnica West Site A encompasses an area of approximately 485.5 ha and includes land to the east and west of the A11, consisting of agricultural fields bounded by trees, managed hedgerows, linear tree shelter belts, small woodland and copses and farm access tracks. Sunnica West Site B encompasses an area of approximately 68.8 ha and comprise of agricultural fields, grassland, small woodland and copses, farm access tracks and irrigation ditches fed by the River Snail which runs along the western and northern boundaries of the Site (**Figure 8B-1**).

1.3.7 The surrounding landscape comprises regularly shaped arable fields interspersed with managed hedgerows, tall shelter belts of trees and in the Chippenham Hall area, a parkland landscape with mature individual trees. Much of the area is also characterised by grazed paddocks, horse gallops and exercise tracks.

### *Cable Route Corridors*

1.3.8 The Scheme will connect to the existing Burwell National Grid Substation via a cable route corridor. The cable route corridors under consideration are Grid Connection Route A, which connects the Sunnica East Site A with the Sunnica East Site B and then runs between the Sunnica West Site A and the Sunnica East Site B; and Grid Connection Route B, between the Sunnica West Site A and Sunnica West Site B and the Burwell National Grid Substation.

#### Grid Connection Route A

1.3.9 Grid Connection Route A connects the Sunnica East Site A with Sunnica East Site B and crosses two minor roads and arable farmland (**Figure 8B-1**).

1.3.10 Heading south from the Sunnica East Site B, the cable route corridor for Grid Connection Route A crosses the River Kennett, pastoral farmland, the Chippenham footpath 49/7 (a Public Right of Way (PRoW)) and B1085 (**Figure 8B-1**).

#### Grid Connection Route B

1.3.11 Heading east from the Burwell National Grid Substation, the cable route corridor for Grid Connection Route B crosses agricultural fields and a number of roads including the B1102 and A142. Grid Connection Route B also crosses a number of watercourses, including the Burwell Lode, New River, and the River Snail, as well as a number of drainage ditches associated with Burwell Fen, Little Fen, the Broads, and agricultural drains (**Figure 8B-1**).

1.3.12 The cable route corridor for Grid Connection Route B crosses a PRoW (footpath 92/19) before crossing the railway line and the A142 Newmarket / Fordham Road. The Route then runs alongside Snailwell Road and across the River Snail into Sunnica West Site B.

### *Burwell National Grid Substation Extension*

1.3.13 The habitat within the Burwell National Grid Substation Extension (surrounding the existing substation) comprises small grassland fields to the east of the existing substation (bordered by hedgerows and mature trees) and arable land to the south and west of the existing substation (**Figure 8B-1**).

## 1.4 Scope of Report

1.4.1 The Preliminary Ecological Appraisal (PEA) Report (AECOM, 2019) identified habitats of principal importance (listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) which could be potential constraints to the works or influence the design and implementation of the Scheme. The habitats comprise:

- Lowland dry acid grassland;
- Lowland calcareous grassland;
- Arable field margins; and
- Flood-plain and grazing marsh.

1.4.2 Other potentially important habitats, such as hedgerows and woodland are not covered as they are either currently scoped out due to no likely potential impacts or are currently inaccessible (see limitations in 3.4 of this report).

1.4.3 This report includes the following information:

- relevant legislation and policy;
- methods for desk and field-based assessments undertaken in 2019 and 2020 respectively;
- limitations to the surveys undertaken and any assumptions made as a result of any incomplete data;
- survey results including habitat location, size, floristic and structural composition;
- biodiversity importance of the habitats; and
- recommendations, including outline avoidance, mitigation and. compensation), any further surveys and enhancement.

1.4.4 Sites designated for their biodiversity value are described and appraised in the main PEI report.

1.4.5 This report is a technical appendix to accompany the Preliminary Environmental Information report, reporting on and evaluating the baseline data collected as of August 2020.

# 2. Legislative and Policy Framework

## 2.1 Relevant Legislative Context

2.1.1 Part 1 of the Wildlife and Countryside Act 1981 (as amended) (**Ref 8B-2**) affords specific protection to flora listed on Schedule 8 (flora, fungi and lichens).

2.1.2 Section 13 of this act protects plants from picking and sale of plants or parts of plants listed in Schedule 8, as follows:

- intentional picking, uprooting or destruction (Section 13 1a);
- selling, offering for sale, possessing or transporting for the purpose of sale (live or dead, part or derivative) (Section 13 2a); and
- advertising (any of these) for buying or selling (Section 13 2b).

2.1.3 In certain circumstances, licences can be granted to permit some actions prohibited under the Act.

2.1.4 Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (Ref 8B-3) includes a list of habitats and plant species of principal importance for nature conservation in England which is to be used by decision-makers to guide the implementation of their duties under Section 40 of the Act. This Section 41 list includes arable field margins, dry acid grassland and calcareous grassland priority habitat. Decision-makers are required to have regard to the conservation of biodiversity in England when carrying out their normal functions; consideration of the Section 41 list is integral to this. In addition, with regard to those species and habitats on the list of Species of Principal Importance listed under Section 41, the Secretary of State must:

1. *"take such steps as appear to the Secretary of State to be reasonably practicable to further the conservation of the living organisms and types of habitat included in any list published under this section, or*
2. *promote the taking by others of such steps."*

## 2.2 National and Local Planning Policy

2.2.1 National and local planning policy relevant to nature conservation is provided in detail in the Preliminary Ecological Appraisal for the Scheme (Ref 8B-1).

## 2.3 Priority Species

2.3.1 The UK Biodiversity Action Plan (UKBAP) was launched in 1994 and established a framework and criteria for identifying species and habitat types of conservation concern. From this list, action plans for priority habitats and species of conservation concern were published and have subsequently been succeeded by the UK Post-2010 Biodiversity Framework (July 2012) (Ref 8B-4). The UK Post 2010 Development Framework is relevant in the context of Section 40 of the Natural Environment and Rural Communities (NERC Act) 2006, meaning that Priority Species and Habitats are material considerations in planning. These habitats and species are identified as

those of conservation concern due to their rarity or a declining population trend.

## 2.4 Local Biodiversity Action Plan

2.4.1 The Scheme is located within two counties, Cambridgeshire and Suffolk. The Cambridgeshire and Peterborough Biodiversity Action Plan (Ref 8B-5) and Suffolk Biodiversity Action Plan (Ref 8B-6) provides the local nature conservation strategy for identifying threats to species within these counties and sets out the actions necessary to conserve them. These Biodiversity Action Plans provides context to inform identification of threatened / uncommon species within the district / county. The plans also identify priorities for conservation and enhancement but confers no particular legislative or policy protection to the species identified, however in some cases this is provided through related legislation and local planning policy.

# 3. Methods

## 3.1 Desk Study

3.1.1 A desk study was undertaken in December 2018 through Cambridgeshire & Peterborough Environmental Records Centre (CPERC) and Suffolk Biodiversity Information Service (SBIS), to obtain relevant flora and habitat records within the last ten years and within a 2 km radius of the DCO Site. This included:

- Protected Plants under Schedule 8 Wildlife and Countryside Act 1981;
- Priority Species (*i.e*. LBAP / NERC Act Section 41 species);
- GB Red List species (IUCN);
- Notable species (*i.e*. Nationally Rare and Scarce species);
- Cambridgeshire and Peterborough Additional Species of Interest (CPASI); and
- Suffolk Rare Plants.

3.1.2 Only records up to ten years old were considered within the assessment, as any records older than ten years are unlikely to be still representative of plant communities in the local area.

## 3.2 Field Survey

### *Survey Area*

3.2.1 The survey area comprised areas of unimproved/semi-improved grassland, floodplain and grazing marsh and arable margins, within the Site boundary. These are shown on **Figure 8B-2**, **Sub-Appendix A** and referenced in Table 8B-1.

**Table 8B-1 Survey Areas within the Scheme boundary**

| *Scheme Area* | *Survey Area (see Figure 2)* | *Habitat type* |
|---|---|---|
| Sunnica East Site A | AF 14, 19, 20, 21 | Arable Flora/Arable Field Margins*# |
| | T10a and T10b | Drain and marginal / emergent vegetation |
| | T10c | Semi-improved neutral grassland |
| Sunnica East Site B | T6 (including Worlington Heath County Wildlife Site (CWS)) | Lowland dry acid grassland*# |
| | T8, T9, T13, T16 | Inland dune vegetation / Lowland dry acid grassland*# |
| | T7 (includes part of Badlingham Lane CWS) | Lowland calcareous grassland*# |
| | T14 | Drain and marginal / emergent vegetation |

| | | |
|---|---|---|
| | AF2, 3, 7, 16 to 18, 22 to 25. | Arable Flora/Arable Field Margins*# |
| | T12 | Semi-improved neutral grassland |
| Sunnica West Site A | T1, T2, T15 | Scattered grasses, tall ruderal herbs and ephemeral/short perennial vegetation, semi-improved grassland |
| Sunnica West Site B | T1 and T2 | Floodplain and grazing marsh*/marshy grassland |
| | T3, T4, T5 | Semi-improved neutral grassland |
| | AF 8, 9, 10, 11, 13 | Arable field margins* |
| Burwell National Grid Substation Extension | AF27 | Arable field margins* |
| | T17 | Floodplain and grazing marsh*/marshy grassland |
| | T18 | Drain and marginal / emergent vegetation |

Notes on Table 8-1 = * indicates a priority habitat type; # indicates a Local Biodiversity Action Plan habitat (in Suffolk only)

### *Grassland survey*

3.2.2 The survey of grassland focused on lowland acid and lowland calcareous priority habitat within the Proposed Scheme. A few discrete areas of these habitat types had been identified in the PEA report (Ref 8B-1) at Sunnica East Site A and B as meeting these criteria. In addition, an area of floodplain grassland/semi-improved grazing land at Sunnica West Site B was surveyed. Notes were also made of notable species present along tracks, set-aside grassland and other potential interesting habitats on the Site.

3.2.3 The survey was undertaken by two experienced botanists on 9th, 10th and 16th July 2019. Notes on additional species were also made earlier in the year in some of the acid and calcareous grassland habitats on the 29th May and 6th June 2019. An early season visit to some of these areas and new areas within the scheme was undertaken on 14th, 27th and 28th May 2020. The National Vegetation Classification (NVC) survey was carried out (where applicable) in accordance with the standard methodology as detailed for grasslands in Rodwell (1992) (Ref 8B-7).

3.2.4 The NVC survey involved recording plant species present within a 2 m x 2 m quadrat (for short herbaceous vegetation) or a 4 m x 4m quadrat (for tall and more open herb communities). In each discrete grassland type, up to five randomly selected quadrats were recorded, depending on the extent and variability of the grassland. Each plant species in a quadrat was given a by eye estimate of cover using the Domin scale and bare ground was recorded where present.

3.2.5 Other typical and/or noteworthy plant species in the wider grassland woodland, but not picked up in the quadrats was also recorded. Such species, even if rare within the ground flora, could be relevant for the

classification of the associated NVC community. Each discrete grassland type was assigned, where applicable, to its relative NVC community using the keys and descriptions given in Rodwell (1992) (Ref 8B-7). Botanical nomenclature in this report follows that of Stace (2019) (Ref 8B-8) for vascular plants and Atherton *et al.* (2010) (Ref 8B-9) for bryophytes. The scientific name is given only the first time the species is mentioned in the main text.

3.2.6 NVC survey is not appropriate where vegetation has a history of prior disturbance, as heavily-disturbed or recently-established habitats would be unlikely to align with any of the described NVC communities. Where this was the case based on professional judgement, notes were made on the species and abundance only, rather than an NVC survey.

3.2.7 The rarity of higher plants given is based on Stace (2019) (Ref 8B-8), where;

- Uncommon – a species found in not more than 250 different 10 x 10km grid squares in the British Isles since 1987
- Scarce - a species found in not more than 100 different 10 x 10km grid squares since 1987; and
- Rare – a species found in not than 15 different 10 x 10km grid squares since 1987.

3.2.8 Protected species (WCA Schedule 8), priority species (S41) and notable species as listed on the Suffolk Rare Plant register and Cambridgeshire and Peterborough Additional Species of Interest (CPASI) are listed in the results.

### *Arable flora survey*

3.2.9 All suitable, accessible arable fields in the study area were surveyed for scarce arable flora between the 5th, 6th and 29th May and 6th June 2019, and from AF16 onwards on the 14th, 27th and 28th May 2020 at an optimal time of year for recording such species. The distribution of scarce arable plant species in the modern agricultural landscape is largely confined to arable field margins and similar areas of less intensive management. As such, the survey involved walking field boundaries and comparable areas of marginal habitat only.

3.2.10 Lists of scarce arable plant species were recorded for each field surveyed. It was not the intention of the survey to record all arable plant species present, only those considered as scarce, that is listed in the Great Britain and England Red Data Lists (Stroh *et al*., 2015 (Ref 8B-10), Mcleod *et al.,* 2017 (Ref 8B-11) as Critically Endangered, Endangered, Vulnerable and Near Threatened, and those listed by Byfield & Wilson (2005) (Ref 8B-12) as locally, regionally or nationally scarce. As such, data were only collected for those fields where scarce flora was found (see **Figure 8B-2**, **Sub-Appendix A**).

3.2.11 The survey results were used to determine the relative notability and importance of the scarce arable plant assemblages present. Byfield and Wilson (2005) (Ref 8B-12) set thresholds to support this and subsequent nature conservation evaluation (see section 3.3). Thresholds have been defined based on the cumulative total of the weighted scores of species present at each discrete location (in this case, location = field). The threshold

scores proposed for sites of international (European), national and county importance is given in **Table 8B-2**.

3.2.12 The scoring system recognises that arable communities on a particular geological substrate may consistently score either more or less than equally valued communities on a different substrate. Data held in the Multi-Agency Geographic Information for the Countryside (MAGIC) website (MAGIC, 2019) identify that the soil classification of the study area comprises a mixture of free draining slightly acid but base-rich soils (Soilscape Type 7), free draining slightly acid soils (Soilscape Type 10), and free draining lime-rich loamy soils (Type 5). The most appropriate substrate type, as quoted in **Table 8B-2**, for the purposes of data analysis is therefore "*Sands and Freely Draining Acidic Soils*". A few fields comprised a heavier 'clay' soil. Whilst it is acknowledged there is some chalk or limestone influence these two categories used takes the precautionary approach as it has lower threshold value for nature conservation importance.

3.2.13 No criteria are available for the identification of assemblages of district or lower value/biodiversity importance. Professional judgement has been applied to this site, based on the nature of the species assemblage recorded. As such district importance assemblages have a species score between 10 and 19 or have the presence of a high scoring species (7+), and local importance assemblages have a score between 1 and 9.

**Table 8B-2 Threshold scores for assessing the nature conservation importance of arable plant assemblages with reference to prevailing soil type**

| *Geographic Scale of Nature Conservation Importance* | *Chalk and Limestone Derived Soils (excluding clays)* | *Clays* | *Sands and Freely Draining Acidic Soils* |
|---|---|---|---|
| **European** | 90+ | **70+** | **70+** |
| **National** | 45 – 89 | **30 – 69** | **35 – 69** |
| **County** | 30 – 44 | **20 – 29** | **20 – 34** |
| **District** | n/a | **10 - 19** (or the presence of higher (7+) scoring species) | **10 - 19** (or the presence of higher (7+) scoring species) |
| **Local** | n/a | **1 – 9** | **1 – 9** |

## 3.3 Biodiversity evaluation

3.3.1 An essential prerequisite step to allow ecological impact assessment of the Scheme is an evaluation of the relative biodiversity importance of the identified ecological features (encompassing nature conservation designations, ecosystems, habitat and species). This is necessary to set the terms of reference for the subsequent ecological impact assessment.

3.3.2 The method of evaluation that has been utilised has been developed with reference to the Chartered Institute of Ecology and Environmental

Management (CIEEM, 2018) (Ref 8B-13). This gives guidance on scoping and carrying out environmental assessments and places appraisal in the context of relevant policies. Data received through consultation, desk-based studies and field-based surveys are used to allow ecological features of biodiversity importance or potential importance to be identified, and the main factors contributing to their importance described and related to available guidance.

3.3.3 Habitats and their component plant species can be of biodiversity importance for a variety of reasons, and their relative importance should always be determined on a case-by-case basis. Importance may relate, for example, to the uniqueness of the assemblage, or to the extent to which species are threatened throughout their range, or to their rate of decline.

3.3.4 The importance of the habitats and plant species addressed in this report has been defined with reference to the geographical level at which the feature being assessed is considered to matter (**Table 8B-3**). Relevant published national and local guidance and criteria can be used, where available, to inform the assessment of biodiversity importance and to assist consistency in evaluation.

3.3.5 Guidance and criteria of potential relevance to the botanical features being assessed is summarised in **Table 8B-2**. The identified guidance and criteria are not definitive and other criteria have been applied when relevant and appropriate *e.g*. see the Byfield and Wilson (2005) (Ref 8B-12) method for scarce arable flora referenced above in section 3.2.9 to 3.2.13.

**Table 8B-3 Geographic scale used to qualify the relative biodiversity importance of features**

| *Geographic Scale of Importance* | *Definition* | *Example Supporting Guidance and Assessment Criteria* |
|---|---|---|
| International | Europe | McLeod *et al.(*2017) (Ref 8B-11), '*Guidelines for the selection of Special Areas of Conservation (SACs*)'; specific guidance for scarce arable flora is given in Byfield & Wilson (2005) (Ref 8B-12) |
| National | Great Britain/ England | Bainbridge (2013) (Ref 8B-14), '*Guidelines for the selection of biological Sites of Special Scientific Interest (SSSIs*)'; specific guidance for scarce arable flora in Byfield & Wilson (2005) (Ref 8B-12) |
| Regional | East of England | No specific guidance available for Cambridgeshire and Suffolk, professional judgement is to be used. It will encompass features clearly of greater than county value but not of sufficient merit to demonstrate national value. |
| County | Cambridgeshire or Suffolk | Cambridgeshire and Peterborough Panel (2014) (Ref 8B-15), '*County Wildlife Sites Selection Guidance'* and Suffolk County Wildlife Site Selection Criteria (Suffolkbis, 2010) (Ref 8B-16) provide details on the selection method for county wildlife sites and details of the habitat types found within the counties. |
| Local /District | The Scheme Boundary | No specific guidance available, professional judgement is to be used. |

## 3.4 Assumptions and Limitations

### *Desk Study*

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

### *Field Survey*

#### Survey areas and access

3.4.2 Survey areas were chosen to provide a representative sample of the Site, based on the best quality in terms of potential species diversity and potential for protected or notable flora species which could be impacted as a result of the Scheme. All designated sites and notable grassland habitats were included within the survey where they are likely to be impacted by the Scheme. All arable margins were considered and surveyed where rare/scarce arable flora were present or likely to be present. Note that since the surveys, the site boundary has changed slightly, resulting in arable flora survey results from 2019 that were undertaken in land just outside the Site.

3.4.3 These surveys concentrated on habitats likely to be directly impacted, and therefore, not all habitats were surveyed in detail. No access was granted for land within the Grid Connection Routes and therefore no detailed flora surveys have been carried out within these areas to date.

3.4.4 It should be noted that a specific survey of invasive Schedule 9 species within the Site, such as wetlands and woodland, has not been undertaken, but they were recorded where present within the grasslands and arable habitats surveyed.

#### NVC survey

3.4.5 The NVC surveys were undertaken at an appropriate time of year during May to July and under suitable weather conditions for grassland survey. However, it should be noted that grassland survey results, and the description of communities types (where applicable), represent a current community evaluation at the time of survey (as opposed to one seeking to describe what the community was before any human interference, or what it might become in the future). This is only a snapshot of the vegetation communities present and should not be interpreted as a static long-term reference.

#### Arable flora

3.4.6 There were some general limitations specific to surveys for scarce arable flora. These were:

- Timings: The surveys were undertaken between May and early June, which represents the optimum time for recording scarce arable flora. However, not all arable plant species and populations may be apparent or identifiable during this period. Some later checks were also undertaken in late July for additional species, therefore most of the scoring or more notable species were likely to have been apparent at these times.
- Use of selective herbicides on crops observed throughout the year will have restricted the occurrence of scarce arable flora to areas unaffected by spray, such as field entrances/turning areas.
- Not all crops are of equal value for scarce arable flora. Crops of the same type are not grown in the same fields year after year *i.e*. they are rotated on a regular cycle. Some crop types are more compatible than others with arable flora, depending upon the specific inputs required to maintain the crop (*e.g*. herbicides and fertilisers) and how closely the cultivation requirements of the crop matches the ecological requirements of the scarce flora present.

3.4.7 These limitations did not significantly limit this flora report and assessment.

3.4.8 Ecological data in relation to habitats and flora species are valid for 18 months based on best guidance (CIEEM, 2019) (Ref 8B-17).

# 4. Results

## 4.1 Desk Study

### *Priority Habitats*

4.1.1 Relevant NERC Act 2016 Section 41 priority and LBAP habitats and priority species identified in the PEA report (Ref 8B-1) are shown in **Table 8B-1**.

**Table 8B-1 NERC Act S41 priority habitats and LBAP habitats relevant to the Scheme**

| *Habitat* | *Scheme Area* | *NERC Act* | *LBAP* | *Supporting Comments* |
|---|---|---|---|---|
| Arable Field Margins/Arable Land | Sunnica East Sites A and B, Sunnica West Sites A and B, | ✓ | ✓ | Arable field margins present on the Sunnica East Sites A and B, Sunnica West Sites A and B may fulfil the criteria for this priority habitat type. |
| Fenland Drainage Ditches | Grid Connection Route B | - | ✓ | The Grid Connection Route B crosses a number of drainage ditches around Burwell. |
| Floodplain and grazing marsh | Sunnica West Site B, | ✓ | ✓ | Grazing marsh present in fields next to the River Snail on Sunnica West Site B |
| Hedgerows | Sunnica East Sites A and B, Sunnica West Sites A and B, Grid Connection Routes, | ✓ | ✓ | Hedgerows are present within the Site. |
| Lowland Mixed Deciduous Woodland | Sunnica East Sites A and B, Sunnica West Sites A and B, Grid Connection Routes | ✓ | ✓ | Broad-leaved woodland is present within the Site. Mostly plantation woodland. |
| Lowland Dry Acid Grassland | Sunnica East Site B | ✓ | ✓ | A small area of dry acid grassland is present in the northern section of the Sunnica East Site B and associated with the Worlington Heath CWS and Badlingham Lane CWS. |
| Lowland Calcareous Grassland | Sunnica East Site B | ✓ | ✓ | A small area of calcareous grassland is present in the eastern and southern section of the Sunnica East Site B. |
| Rivers | Sunnica West Site B, Grid Connection Routes | ✓ | ✓ | The River Kennett and River Snail are likely to fulfil the criteria of this priority habitat type. |
| Standing Open Waters / Ponds | Sunnica East Sites A and B, Sunnica West Sites A and B, Grid Connection Routes | ✓ | ✓ | There are a number of waterbodies within the Site, including irrigation reservoirs and ponds. |
| Wood pasture and parkland | Sunnica West Site A | ✓ | ✓ | Chippenham Park and tree lines to the south within the Site |

### *Protected, priority and notable flora species*

4.1.2 The data search identified six Schedule 8 plants of the Wildlife and Countryside Act 1981 (see section 2.1.1) relevant to the Scheme within 2 km of the Site. These are:

- Cambridge Milk-parsley *Selinum carvifolia*;
- Fingered Speedwell *Veronica triphyllos*;
- Small Alison *Alyssum alyssoides*;
- Bluebell *Hyacinthoides non-scripta* (in respect of section 13 2a/b only);
- Grass-poly *Lythrum hyssopifolium* (historic records from 2001, no recent records); and
- Military Orchid *Orchis militaris.*

4.1.3 Cambridge Milk-parsley is located in Chippenham Fen SSSI and SAC and Snailwell Meadows SSSI, both located immediately adjacent to the north of Sunnica West Site B.

4.1.4 There is an historic record from 2001 of Grass-poly within Chippenham Avenue Fields CWS, just outside the Site boundary of Sunnica West Site A (see **Figure 8B-3**, **Sub-Appendix A**). There are no recent records of this species (checked by AECOM in 2019 and 2020) and the habitat current present here is now unsuitable for this species (*i.e*. intensively managed arable).

4.1.5 Bluebell has been present within a 2 km x 2 km grid square around Freckenham. A further three species (Military Orchid, Fingered Speedwell and Small Alison) have been recorded over 1 km from the Site boundary.

4.1.6 NERC Act Section 41 species recorded on or within 2 km of the Site comprise:

- Annual Knawel *Scleranthus annuus**;
- Basil Thyme *Clinopodium acinos**;
- Broad-leaved Cudweed *Filago pyramidata*;
- Fine-leaved Sandwort *Sabulina tenuifolia*;
- Grape-hyacinth *Muscari neglectum*;
- Purple Milk-vetch *Astragalus danicus*; and
- Spanish Catchfly *Silene otitis*.

* = denotes a record within the Site.

4.1.7 An additional 85 other notable plant species; e.g. red list, nationally rare or scarce, those listed on the Suffolk Rare Plant register and CPASI, have been identified within 2 km of the Site boundary, many of which are only recorded to the monad scale (2 km x 2 km). There is an estimate (based on monad scale records provided by NBIS in **Sub-Appendix B**) of approximately 20 species potentially occurring in suitable habitat within the Site boundary, including Bur Medick *Medicago minima*, Cat-mint *Nepeta cataria*, Corn

Spurrey *Spergula arvensis* and Hound's-tongue *Cynoglossum officinale*. A full list of species and designations is provided in **Sub-Appendix B**.

## 4.2 Phase 2/NVC grassland flora survey

4.2.1 A summary of the results of the Phase 2 / NVC grassland flora survey is provided below in **Table 8B-2**. Locations are shown on **Figure 8B-2**, **Sub-Appendix A**. Full survey results are provided in **Sub-Appendix C**.

**Table 8B-2 Results of the Phase 2/NVC Grassland Flora Survey**

| *Scheme Area* | *Survey Area (see Figure 2)* | *Results* |
|---|---|---|
| Sunnica West Site A | T1 | A track with bare hardstanding, scattered grasses, tall ruderal herbs and ephemeral/short perennial vegetation. A diverse mix of 40 species is present including False Oat-grass *Arrhenatherum elatius*, Yarrow *Achillea millefolium*, Common Agrimony *Agrimonia eupatorium*, Field Madder *Sherardia arvensis*, Black Medick *Medicago lupulina*, Wild Carrot *Daucus carota* and Common Stork's-bill *Erodium cicutarium*. It is adjacent to arable crops and unmanaged, and likely to be subject to some spray drift and disturbance from farm machinery. |
| | T2 | A track similar to T1 with some additional species including Wild Basil *Clinopodium vulgare*, Scentless Mayweed *Tripleurospermum inodorum*, Red Fescue *Festuca rubra aggregate* and Nodding Thistle *Carduus nutans.* |
| Sunnica West Site B | T3 | A damp shallow ditch with marshy grassland/swamp vegetation transitioning to a species poor semi-improved grassland field. The area was cattle grazed later in the year and there are signs of previous cattle poaching. Species in the ditch include Yorkshire Fog *Holcus lanatus*, Lesser Pond Sedge *Carex acutiformis*, Hard Rush *Juncus inflexus*, Reed Canary Grass *Phalaris arundinacea* and Plicate Sweet-grass *Glyceria notata*. Occasional Hawthorn *Crataegus monogyna* scrub and scattered trees are present. |
| | T4 | Mainly tall semi-improved neutral grassland (cut for hay), with a small area of more open and diverse sward adjacent to the River Snail. 32 species were recorded including False Oat-grass, Cock's-foot *Dactylis glomerata*, Ribwort Plantain *Plantago lanceolata*, Creeping Cinquefoil *Potentilla reptans*, Tufted Vetch *Vicia cracca*, Meadow Vetchling *Lathyrus pratensis* and Yorkshire Fog. It has affinity to NVC community type MG1a *Arrhenatherum elatius* grassland, *Festuca rubra* subcommunity. |
| | T5 | Small areas of marshy grassland and swamp in a field, transitioning to semi-improved grassland in drier areas the south and east (including T4 grassland). Hard Rush, Common Couch *Elymus repens*, Yorkshire Fog, Hairy Sedge *Carex hirta* and Creeping Bent *Agrostis stolonifera* are frequent. This area has affinity to NVC community type MG10b *Holcus lanatus - Juncus effusus* rush pasture, *Juncus inflexus* subcommunity. Reed Canary Grass is locally more abundant or dominant in places. These areas have affinity to NVC community type S28 *Phalaris arundinacea* tall herb-fen. |
| Sunnica East Site B | T6 (including Worlington Heath County | One large field and part of another field to the east comprising short turf acid grassland, with the northern part (3.0 ha) of the larger field designated as Worlington Heath CWS. This larger field is fenced and grazed by a small number of horses. There are some damp depressions in the field (see |

| *Scheme Area* | *Survey Area (see Figure 2)* | *Results* |
|---|---|---|
| | Wildlife Site (CWS)) | notes below), taller patches of grassland and small areas of bare ground. Part of an adjacent field to the east also comprises short acid grassland and is cut occasionally with tractor mower.<br><br>The vegetation is species diverse in places, with 51 species recorded during the survey. Constant species include Common Bent *Agrostis capillaris*, Smooth Hawk's-beard *Crepis capillaris*, Thyme-leaved Sandwort *Arenaria serpyllifolia*, Soft Brome *Bromus hordeaceus*, Ribwort Plantain, Sheep's Sorrel *Rumex acetosella*, Hare's-foot Clover *Trifolium arvense*, Lady's Bedstraw *Galium verum* and Yarrow. It includes the Nationally Scarce, Bur Medick and the NERC Act S41 species, Annual Knawel. There is no gorse, scrub or Thyme (*Thymus spp*.) as stated on the CWS citation.<br><br>There are a few small depressions in the large field (from previous gravel extraction) with some marshy grassland vegetation (albeit dry in July 2019), including Yellow Marsh Cress *Rorippa palustris*, Purple Loosestrife *Lythrum salicaria*, Water Mint *Mentha aquatica*, Water Pepper *Persicaria hydropiper*, Tufted Forget-me-not *Myosotis laxa*, Toad Rush *Juncus bufonius*, Jointed Rush *Juncus articulatus*, Silverweed *Potentilla anserina*, Amphibious Bistort *Persicaria amphibia*, Common Spike-rush *Eleocharis palustris*, Reed Canary Grass *Phalaris arundinacea*, Yellow Loosestrife *Lysimachia vulgaris*, Gypsywort *Lycopus europaeus* and Yorkshire fog. These small areas don't match to an NVC community type but add to the floral diversity in this field. These small areas not valued separately in Section 5 and are included in the overall assessment of T6.<br><br>T6 has affinity to NVC community type U1 *Festuca ovina-Agrostis capillaris-Rumex acetosa* grassland. Sheep's Fescue *Festuca ovina* is not a component of the vegetation here as per the NVC community descriptions (Rodwell, 1992) (Ref 8B-7). This may be due to acidification and/or eutrophication experienced in these habitat types, *e.g.* agricultural intensification with fertilizer application (and nitrogen deposition) use of herbicides and pesticides, and potentially air pollution, which leads to a reduction in fine leaved grass species (such as sheep's fescue) and forb diversity (Stevens et al, 2010) (Ref 8B-18). |
| | T7 | A grassland strip approximately 20m wide between fields with Sand Sedge *Carex arenaria* abundant. It includes part of Badlingham Lane CWS designated for species rich flora. There is no obvious management, apart from some low intensity Deer browsing and there is potential for future shading from planted trees. Other species include Great Brome *Anisantha diandra*, Thyme-leaved Sandwort, Soft Brome, Ribwort Plantain, Lady's Bedstraw, Common Couch and White Campion *Silene latifolia*. Bare ground covers 10 to 30%. It has affinity to the NVC community type SD10 *Carex arenaria* dune community. |
| | T8 | A species rich acid grassland adjacent to T6 and with a similar species composition. Species include Common Bent, Common Stork's-bill, Ribwort Plantain, Sheep's Sorrel, Hare's-foot Clover, Viper's Bugloss, Squirrel-tail Fescue *Vulpia bromoides* and Yarrow. Three Nationally Scarce species recorded; Sand Catchfly *Silene conica*, Bur Medick and Purple Fescue *Vulpia ciliata* sub-species.*ambigua* and an 'uncommon' species recorded Smooth Cat's-ear *Hypochaeris glabra* (Stace, 2020) (Ref 8B-8). The grassland is cut by tractor mower (seen cutting in June and August) to |

| *Scheme Area* | *Survey Area (see Figure 2)* | *Results* |
|---|---|---|
| | | maintain a short sward. Similarly to T6, it has affinity to NVC community type U1 *Festuca ovina-Agrostis capillaris-Rumex acetosa* grassland. |
| | T9 | A grassland strip similar to T7 so not surveyed in detail, comprising a 30m wide strip adjacent to Worlington Heath CWS (T6) to the east. Sand Sedge is abundant, with Common Ragwort *Jacobaea vulgaris* frequent and occasional Kidney Vetch *Anthyllis vulneraria*, Hound's-tongue and Common Toad Flax *Linaria vulgaria*. Scattered planted trees including Scot's Pine *Pinus sylvestris*, Corsican Pine *Pinus nigra* sub-species *larico*, Hawthorn and a Gum *Eucalyptus* species. No management is apparent and in the future there will shading from trees. It has affinity to the NVC community type SD10 *Carex arenaria* dune community. |
| Sunnica East Site A | T10 a/b | A drain dominated by Common Reed *Phragmites australis*, with Soft Rush *Juncus effusus*, Meadowsweet *Filipendula ulmaria*, Hemp Agrimony *Eupatorium cannabinum* and Common Water Plantain *Alisma plantago-aquatica*. It has affinity to the NVC community type S4 *Phragmites australis* swamp and reed-beds. Margins with additional species including Bifid Hemp-nettle *Galeopsis bifida*, Weld *Reseda lutea*, Marsh Woundwort *Stachys palustris* and False Oat-grass. |
| | T10 c | A set-aside field with bare ground and scattered tall ruderal herbs and grasses, with Bristly Ox-tongue *Helminthotheca echioides*, Fat Hen *Chenopodium album*, Mugwort *Artemisia vulgaris*, Creeping Bent *Agrostis stolonifera* and Great Brome. The nationally scarce Annual Beard-grass *Polypogon monspeliensis* is present here. It is likely to be a temporary habitat, with a species composition representative of other similar uncultivated arable habitats in this area. |
| Sunnica East Site B | T12 | A semi-improved grassland strip 10-20m wide between a conifer woodland and arable fields. Light acidic sandy soil with some calcareous influence. Species include Yorkshire Fog, Creeping Bent, False Oat-grass, Hound's-tongue, Welted Thistle, Fat Hen, Hare's-foot Clover, Viper's Bugloss, Creeping Thistle, Common Poppy, Mugwort and Flixweed *Descurainia sophia*. No management is obvious and there is shading from a pine plantation to the south. One 'uncommon' species (Stace, 2020) (Ref 8B-8) Cat Mint *Nepeta cataria* is present along the access track. |
| | T13 | Short acid grassland similar to T6 and T8. A diverse range of species include Creeping Bent, Viper's Bugloss, Ribwort Plantain, Crested Hair-grass *Koeleria macrantha*, Lady's Bedstraw, Hare's-foot clover, Hound's-tongue, Yarrow, Biting Stonecrop *Sedum acre*, Mouse-ear Hawkweed *Pilosella officinarum*, Sheep's-sorrel, Thyme-leaved Sandwort, Spring Vetch *Vicia lathyroides*, Little Mouse-ear *Cerastium semidecandrum*, Field bindweed *Convolvulus arvensis*, Smooth Hawk's-beard and Whitish Feather-moss *Brachythecium albicans*. It includes the Nationally scarce Bur Medick and the uncommon Smooth Cat's-ear. It has affinity to NVC community type U1 *Festuca ovina-Agrostis capillaris-Rumex acetosa* grassland. |
| | T14 | Grassland around an irrigation reservoir, surrounded by arable fields. It comprises tall unmanaged grassland and ruderal herbs with calcareous influences (from chalk exposed through creation of the reservoir). The flora has frequent to abundant Wild Marjoram *Origanum vulgare*, Lady's Bedstraw, False-oat Grass, Mugwort, Common Nettle *Urtica dioica* and Bramble, with rare to occasional Clustered Bellflower *Campanula* |

| *Scheme Area* | *Survey Area (see Figure 2)* | *Results* |
|---|---|---|
| | | *glomerata*, Greater Knapweed *Centaurea scabiosa*, Dropwort *Filipendula vulgaris* and Small Scabious.<br><br>The highest species diversity is present on top of the reservoir banks, including two National Scarce species; Sickle Medick *Medicago sativa* sub-species *falcata* and Sand Lucerne *Medicago sativa notho* sub-species *varia* and an uncommon species Wild Basil *Clinopodium acinos* (Stace, 2020) (Ref 8B-8). There is evidence of low level Rabbit grazing in places. It does not match an NVC community type. |
| Sunnica West Site A | T15 | Short perennial/ephemeral and unmanaged semi-improved grassland along a largely disused access track. Species include Hedgerow Crane's-bill *Geranium pyrenaicum*, Yarrow, Common Cudweed *Filago vulgaris*, Lesser Trefoil *Trifolium dubium*, Viper's Bugloss, Cat's-ear, Dove's-foot Cranes-bill, Dark Mullein *Verbascum nigrum*, Great Brome and Cock's-foot. |
| Sunnica East Site B | T16 | A small area of unmanaged grassland and ephemeral/short perennial vegetation outside a corner of a livestock field. Species including Common Bent, Common Stork's-bill, Lesser Hawkbit *Leontodon saxatilis*, Little mouse-ear, Viper's-bugloss, Bur Chervil *Anthriscus caucalis*, Black Medick, Ivy-leaved Speedwell *Veronica hederifolia*, Slender Sandwort *Arenaria leptoclados* and the uncommon Smooth Cat's-ear. |

Notes on Table 8-5= T11 has been removed following Scheme boundary changes as it is outside of the Site

## 4.3 Arable flora

4.3.1 The margins of all accessible arable fields within the Site were searched for species of scarce arable flora. A total of 22 arable fields (AF2 to 26, see **Figure 8B-2, Sub-Appendix A**) were found to contain or had potential to contain scarce arable flora and were surveyed. The results are given in **Table 8B-3** with field locations shown on **Figure 8B-2**, **Sub-Appendix A.** Field AF15 was assessed based on the results of a Phase 1 Habitat Survey undertaken on site in 2018 (Ref 8B-1) as there was no arable flora present here in 2019 (due to a change in crop type). Other fields were either not in cultivation, *e.g*. pig fields with bare soil or had no potential or visible for arable flora, *e.g.* sown field margins, or sprayed margins.

4.3.2 One field (AF11) is rated to be of county importance, six fields are rated to be of district importance and 12 fields are of local importance for scarce arable flora. The remaining three fields did not contain any scarce arable flora. Fifteen species of scarce arable flora were recorded in the fields surveyed. These included four higher scoring species (7+):

- Corn Chamomile *Anthemis arvensis* classified as Endangered in the UK and England (Stroh *et al* 2015 (Ref 8B-10), Mcleod *et al* 2017 (Ref 8B-11));
- Corn Spurrey *Spergula arvensis* and Corn Marigold *Glebionis segetum* both classified as Vulnerable in the UK and England; and

- Fine-leaved Fumitory *Fumaria parviflora* classified as Vulnerable in the UK and Near Threatened in England and is a Nationally Scarce species (Stace, 2019) (Ref 8B-8).

4.3.3 There were two other scoring species classified as Near Threatened in the UK and England; Wild Pansy *Viola tricolour* sub-species *tricolor* and Common Cudweed. Other scoring species are listed as Least Concern in the Red Data Lists.

**Table 8B-3 Results of the survey for scarce arable flora**

| Scheme Area | Field | Crop | Score and Geographic Importance | Scarce Arable Flora Present with DAFOR and score |
|---|---|---|---|---|
| Sunnica East Site B | AF2 | Sugar beet | District (10) | *Anchusa arvensis* O (1)<br>*Descurainia sophia* O (3)<br>*Lamium amplexicaule* R (1)<br>*Papaver hybridum* R (3)<br>*Veronica polita* O (2) |
| | AF3 | Sweetcorn | Local (4) | *Anchusa arvensis* F (1)<br>*Descurainia sophia* O (3) |
| Sunnica East Site B | AF7 | Sweetcorn | District (13) | *Descurainia sophia* O (3)<br>*Fumaria parviflora* R (7) 1 plant at TL 70277 275<br>*Geranium columbinum* R (2)<br>*Lamium amplexicaule* O (1) |
| Sunnica West Site A | AF8 | Potato | n/a | None |
| | AF9 | Wheat | District (10) | *Anthemis arvensis* R (8) 1 plant at TL 6766 6811<br>*Veronica polita* R (2) |
| | AF10 | Barley/Rye | Local (1) | *Anchusa arvensis* O (1) |
| | AF11 | Wheat | County (23) | *Anchusa arvensis* O (1)<br>*Descurainia sophia* O (3)<br>*Filago vulgaris* R (6)<br>*Glebionis segetum* (O-LF) (7) approximately 100 plants along south and east margins at TL 6729 6689 & TL 6751 6701<br>*Viola tricolour* sub-species *tricolor** F-A (6) |
| Sunnica West Site B | AF12 | Onion | Local (6) | *Descurainia sophia* R (3)<br>*Geranium columbinum* O (2)<br>*Lamium amplexicaule* R (1) |
| Sunnica West Site A | AF13 | Sugar beet | Local (8) | *Anchusa arvensis* R (1)<br>*Fumaria parviflora* O (7) 4 plants at TL 6862 6833<br>*Lamium amplexicaule* R (1) |
| Sunnica East Site A | AF14 | Onion | n/a | None |

| Scheme Area | Field | Crop | Score and Geographic Importance | Scarce Arable Flora Present with DAFOR and score |
|---|---|---|---|---|
| Sunnica West Site A | AF15 (surveyed 2018, see notes) | Sugar beet | Local (5) | *Kickxia elatine*<br>*Kickxia spuria* |
| Sunnica East Site B | AF16 | Sugar beet | District (13) | *Anchusa arvensis* R (1)<br>*Anthriscus caucalis* F (3)<br>*Descurainia sophia* O (3)<br>*Viola tricolor* sub-species*tricolor* R (6) |
| Sunnica East Site B | AF17 | Onion | District (11) | *Anchusa arvensis* O (1)<br>*Anthriscus caucalis* O (3)<br>*Spergula arvensis* R (7) 8 plants TL69187178 |
| | AF18 | Wheat | District (12) | *Anthriscus caucalis* O (3)<br>*Spergula arvensis* R (7) 12 plants TL69197105<br>Veronica polita R (2) |
| Sunnica East Site A | AF19 | Sugar beet | Local (2) | *Geranium pusillum* F (2) |
| | AF20 | Onions | Local (3) | *Papaver hybridum* R (3) |
| | AF21 | Sugar beet | Local (2) | *Geranium pusillum* F (2) |
| Sunnica East Site B | AF22 | Onion | Local (6) | *Anchusa arvensis* O (1)<br>*Anthriscus caucalis* O to F (3)<br>*Geranium pusillum* R (2) |
| | AF23 | Wheat | Local (6) | *Anchusa arvensis* R (1)<br>*Anthriscus caucalis* F (3)<br>*Geranium pusillum* R (2) |
| | AF24 | Wheat | Local (5) | *Anthriscus caucalis* F (3)<br>*Geranium pusillum* R (2) |
| | AF25 | Onion | n/a | None |
| Sunnica West Site A | AF26 | Oil-seed rape | Local (1) | *Anchusa arvensis* O (1)<br>*Lamium amplexicaule* O (1)<br>*Geranium pusillum* R (2) |

* The hybrid *Viola* x *contempta* also present (not scoring)
AF1, AF4, AF5 and AF6 has been removed following Scheme boundary changes as they are outside of the Site

### *Other arable flora records*

4.3.4 During the Phase 1 Habitat Survey in 2018 (Ref 8B-1) a Sugar Beet field (shown as AF15 on **Figure 8B-2**, **Sub-Appendix A**) at Sunnica West Site A (OS Grid Ref. TL 660 670) was found to contain two threshold scoring species; Sharp-leaved Fluellen *Kickxia elatine* (2 points) and Round-leaved Fluellen *Kickxia spuria* (3 points) and is therefore assessed as local

importance. The crop in this field in 2019 was Wheat and no scoring species were seen.

4.3.5 A few arable flora 'scoring' species were also present along banks close to fields and in set-aside areas such which add to the value of the overall site. These included Flixweed *Descurainia sophia* and Bur-chervil *Anthriscus caucalis*.

## 4.4 Other flora species

4.4.1 A survey was undertaken in early July 2019 and late May 2020 for the WCA Schedule 8 and Endangered Grass-poly *Lythrum hyssopifolium* which has previously been recorded (in 2001) within Chippenham Avenue Fields CWS (see **Figure 3**, **Sub-Appendix A**). The fields in 2019 and 2020 comprised intensively managed Wheat and there was no sign of this species. There is potential for it to occur in future if the land use changes and conditions are favourable for germination as the seed is very long-lived (Plantlife, 2020) (Ref 8B-19).

4.4.2 There are nearby records of the Schedule 8 Cambridge Milk-parsley close to Sunnica West Site B (in designated sites), and as there is some potentially suitable habitat for this species within the Site, its presence in future is possible.

4.4.3 No invasive (WCA Schedule 9) or protected (WCA Schedule 8) plant species were noted during the surveys. Due to their inherent invasive nature the possibility in the future of Schedule 9 species within the Site cannot be ruled out. It should be noted that a detailed survey of all the habitats within the Site, such as wetlands and woodland, for Schedule 9 invasive non-native species has not been undertaken as they are retained (see limitations).

# 5. Discussion

## 5.1 Biodiversity importance

### *Grasslands*

5.1.1 Based on the evaluation of the grassland surveyed (including swamp vegetation) against the criteria provided (section 3.3 of this report), these grasslands range from local to county biodiversity importance (see summary in **Table 8B-1** and locations on **Figure 8B-2**, **Sub-Appendix A**). An evaluation is provided below, including an assessment against priority habitat criteria where relevant.

#### County importance

5.1.2 Each of the acid grassland habitats in Sunnica East Site B are rated as being of County importance. T6, T8 and T13 are categorised as U1 *Festuca ovina-Agrostis capillaris-Rumex acetosa* grassland and T7 and T9 are categorised as SD10 *Carex arenaria* dune community. All are examples of lowland dry acid grassland priority habitat (as defined under Section 41 of the NERC Act) (Maddock, 2011) (Ref 8B-20). Approximately 30% of T6 is already designated as a County Wildlife Site. There are three Nationally Scarce plant species recorded during the survey in these areas; Bearded Fescue, Sand Catchfly and Bur Medick as well as a NERC Act Section 41 species, Annual Knawel and an uncommon species, Smooth Cat's-ear (Stace, 2019) (Ref 8B-8). All these acid grassland habitats are located within the same local area and are mostly adjoined to each other within the Sunnica East Site B and cover a combined 11.1 hectares (ha).

5.1.3 To the south of Sunnica East Site B at T14, there is approximately 1 ha of tall unmanaged grassland and ruderal herbs with calcareous influences, with two Nationally Scarce species present. Whilst not matching an NVC community type, it contains characteristic species and is an example of lowland calcareous grassland priority habitat (as defined under Section 41 of the NERC Act) (Maddock, 2011) (Ref 8B-20). Based on this habitat type and size, along with the presence of two Nationally Scarce plant species, Sickle Medick and Sand Lucerne, it is classified as of County Importance.

#### District importance

5.1.4 In Sunnica West Site B are two sites of district importance, comprising a small area (0.1 ha) of marshy grassland/swamp at T3 and a 0.5 ha mosaic of semi-improved grassland/marshy grassland MG10b *Holcus lanatus-Juncus effusus* rush pasture, *Juncus inflexus* subcommunity and swamp S28 *Phalaris arundinacea* tall herb-fen. These are examples of floodplain and grazing marsh priority habitat (as defined under S41 of the NERC Act) (Maddock, 2011) (Ref 8B-20). Whilst their size and species composition does not raise these habitats to County importance, mainly because they would not qualify as a County Wildlife Site (Cambridgeshire & Peterborough Panel, 2014) (Ref 8B-15), they are higher than local importance for biodiversity.

5.1.5 Another site of district importance is nearby at Sunnica East B T12, which comprises a small area (0.7 ha) of semi-improved grassland acid to

calcareous grassland with a local species of interest, Cat Mint (classified as a CPASI).

5.1.6 In the north of Sunnica East Site A at T10 is a drain (approximately 0.1 ha) with S4 *Phragmites australis* swamp and reed-beds. This is an example of reedbed priority habitat (as defined under Section 41 of the NERC Act) (Maddock, 2011) (Ref 8B-20). Due to its small size, it would not meet Country Wildlife Site level criteria (Cambridgeshire & Peterborough Panel, 2014) (Ref 8B-15), but it is of higher than local importance due to the lack of this type of habitat on site.

### Local importance

5.1.7 All other habitats surveyed are of local importance (T1, T2, T4, T10c, T15 and T16). These comprise semi-improved grassland, tall ruderal herbs and ephemeral and, or short perennial vegetation. Whilst they have biodiversity value, they lack the size, species diversity or presence of rare and, or scarce species to be considered of district or higher biodiversity importance.

**Table 8B-1 Habitat biodiversity importance**

| *Scheme Area* | *Survey Area (see Figure 2)* | *Habitat type/s* | *Approximate area (ha)* | *Biodiversity Importance* |
|---|---|---|---|---|
| Sunnica West Site A (south-east) | T1, T2 | Scattered grasses, tall ruderal herbs and ephemeral/short perennial vegetation | 0.22 | Local |
| Sunnica West Site B (north-west) | T3 | Marshy grassland/swamp | 0.1 | District |
| Sunnica West Site B (north-west) | T4 | Semi-improved grassland MG1a Arrhenatherum elatius grassland, Festuca rubra subcommunity | 0.1 | Local |
| Sunnica West Site B (north-west) | T5 | Semi-improved grassland/marshy grassland and swamp comprising MG10b *Holcus lanatus-Juncus effusus* rush pasture, *Juncus inflexus* subcommunity and S28 *Phalaris arundinacea* tall herb-fen | 0.5 | District |
| Sunnica East B | T6, T8 and T13 | Acid grassland U1 *Festuca ovina-Agrostis capillaris-Rumex acetosa* grassland with up to three Nationally Scarce species. | 10.7 | County |
| Sunnica East B | T7, T9 | Acid grassland SD10 *Carex arenaria* dune community | 0.45[2] | County |
| Sunnica East B | T10a/b | Drain with S4 *Phragmites australis* swamp and reed-beds | 0.1 | District |
| Sunnica East A | T10c | Set-aside field with bare ground and scattered tall ruderal herbs and grasses | 2.9 | Local |
| Sunnica East B | T12 | Semi-improved grassland acid to calcareous grassland | 0.75 | District |
| Sunnica East B | T14 | Tall unmanaged grassland and ruderal herbs with calcareous influences, with two Nationally Scarce species. | 1 | County |

| *Scheme Area* | *Survey Area (see Figure 2)* | *Habitat type/s* | *Approximate area (ha)* | *Biodiversity Importance* |
|---|---|---|---|---|
| Sunnica West A (south-east) | T15 | Short perennial/ephemeral and unmanaged semi-improved grassland | 0.05 | Local |
| Sunnica East B | T16 | Short perennial/ephemeral and unmanaged semi-improved grassland | 0.1 | Local |

### *Arable flora*

5.1.8 The biodiversity importance of the arable field margins for their arable flora is classified in accordance with the assessment method and shown in the results (**Table 8B-3).** This is summarised below. See **Figure 8B-2**, **Sub-Appendix A** for locations.

5.1.9 The following field is of **county** importance:

- AF11 Sunnica West Site A.

5.1.10 The following fields are of **district** importance:

- AF2, AF7, AF16, AF17, AF18 Sunnica East Site B; and
- AF9 Sunnica West Site A.

5.1.11 The following fields are of **local** importance:

- AF19, AF20, AF21 Sunnica East Site A;
- AF3, AF22, AF23, AF24 Sunnica East Site B;
- AF10, AF13, AF15, AF26 Sunnica West Site A; and
- AF12 Sunnica West Site B.

5.1.12 The remaining fields present within accessible areas of the Site are not classified (*i.e.* less than local importance), but they do contribute to the overall arable flora interest of the Site and may contain rare/scarce arable flora in future as this depends on individual field management and crop type.

# 6. References

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Ref 8B-5 Cambridgeshire and Peterborough Biodiversity Group, 2015. Cambridgeshire_Peterborough_Priority Species.
Ref 8B-6 Suffolk Biodiversity Information Service, 2018. Priority Species List.
Ref 8B-7 RODWELL, J.S., (1992) British Plant Communities, Volume 3. Grasslands and montane communities. Cambridge University Press.
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Ref 8B-9 ATHERTON, I., BOSANQUET, S. & LAWLEY, M, (2010) Mosses and Liverworts of Britain and Ireland: a field guide. British Bryological Society.
Ref 8B-10 STROH, P.A, S.J. LEACH, T.A. AUGUST, K.J. WALKER, D.A. PEARMAN, F.J. RUMSEY, C.A. HARROWER, M.F. FAY, J.P. MARTIN, T. PANKHURST, C.D. PRESTON, I. TAYLOR (2014) A Vascular Plant Red List for England, Botanical Society of Britain and Ireland
Ref 8B-11 MCLEOD, C.R., YEO, M., BROWN, A.E., BURN, A.J., HOPKINS, J.J. & WAY, S.F. The Habitats Directive: selection of Special Areas of Conservation in the UK, available at http://jncc.defra.gov.uk/SACselection, accessed July 2020.
Ref 8B-12 BYFIELD, A.J. & WILSON, P.J. (2005) Important Arable Plant Areas: identifying priority sites for arable plant conservation in the United Kingdom.
Ref 8B-13 CHARTERED INSTITUTE OF ECOLOGY AND ENVIRONMENTAL MANAGEMENT (CIEEM) (2018), Guidelines for Ecological Impact Assessment in the United Kingdom: Terrestrial, Freshwater, Coastal and Marine.
Ref 8B-14 BAINBRIDGE, I., BROWN, A., BURNETT, N., CORBETT, P., CORK, C., FERRIS, R., HOWE, M., MADDOCK, A., MOUNTFORD, E. & PRITCHARD, S. (2013) Guidelines for the Selection of Biological SSSIs. Part 1: Rationale, Operational Approach and Criteria for Site Selection.
Ref 8B-15 CAMBRIDGESHIRE AND PETERBOROUGH PANEL (2014) Cambridgeshire and Peterborough County Wildlife Sites, Selection Guidelines.
Ref 8B-16 SUFFOLK BIODIVERSITY INFORMATION SERVICE (2010) Suffolk County Wildlife Site Selection Criteria, Suffolkbis, 2010.
Ref 8B-17 CIEEM: Advice Note on the lifespan of ecological surveys and reports https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf (Accessed July 2020)
Ref 8B-18 STEVENS, C.J.; THOMPSON, K. ; GRIME, J.P. ; LONG, C.J. ; GOWING, D.J.G. (2010) Contribution of acidification and eutrophication to declines in species richness of calcifuges grasslands along a gradient of atmospheric nitrogen deposition. Functional Ecology 24 478-484
Ref 8B-19 PLANTLIFE. https://www.plantlife.org.uk/uk/discover-wild-plants-nature/plant-fungi-species/grass-poly, accessed December 2019.
Ref 8B-20 http://data.jncc.gov.uk/data/2728792c-c8c6-4b8c-9ccd-a908cb0f1432/UKBAP-PriorityHabitatDescriptions-Rev-2011.pdf
Ref 8B-21 NATURAL ENGLAND (2019) The Biodiversity Metric 2.0 (JP029) July 2019. http://publications.naturalengland.org.uk/publication/5850908674228224
Ref 8B-22 NATURAL ENGLAND (1999) Introduction to lowland semi-natural grasslands. Natural England, Peterborough.

# Sub-Appendix A Figures & Photographs

## Figure 8B-1 DCO Site Boundary

560000 565000 570000

275000

270000

265000

Sunnica East Site A

Sunnica East Site B

Sunnica West Site B

Sunnica West Site A

0 1,000 2,000 3,000 4,000 5,000m

N

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**LEGEND**

- Scheme Boundary
- Not Included in the DCO Site
- Public Highway within Scheme

NOTE:
Public highways run through the Sunnica East Site, which are not part of the site boundary. These have been digitised based on the 1:1250 scale OS Mastermap.



Purpose of Issue
PEIR

Client
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Project Title
sunnica energy farm

Drawing Title
FIGURE 2-1
SCHEME BOUNDARY

| Drawn | Checked | Approved | Date |
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| AD | DW | NC | 02/09/2020 |

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File Name:C:\Users\Anna.Diliello\AECOM Directory\Sunnica Energy Farm - GIS - General\Layout\PEIR\Chapter_2_Site_Description_Surrounds\200902_SunnicaEnergyFarm_Figure2-1_SchemeBoundary.mxd

## Figure 8B-2. NVC and arable flora survey sites

565000 566000 567000 568000

275000 274000 273000

T10a T10b T10c 17 18 19 20

AF20 AF19 AF21 AF14

0 200 400 600m

N

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**LEGEND**

- Scheme Boundary
- Phase2/NVC flora survey sites (T#)
- Arable flora survey site, local importance (AF#)
- Arable flora survey site, site importance (AF#)
- Flora photograph location, with reference

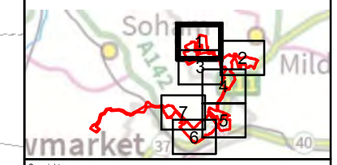



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**FIGURE 2.1**

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569000 570000 571000

274000 273000 272000

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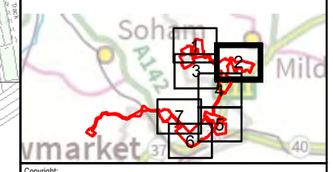
**LEGEND**

- Scheme Boundary
- Phase2/NVC flora survey sites (T#)
- Arable flora survey site, district importance (AF#)
- Arable flora survey site, local importance (AF#)
- Flora photograph location, with reference





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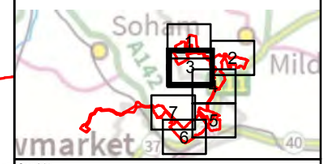
**LEGEND**

- Scheme Boundary
- Arable flora survey site, local importance (AF#)
- Arable flora survey site, site importance (AF#)
- Flora photograph location, with reference



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565000 566000 567000 568000

273000 272000 271000

AF19 AF21 AF14 AF22

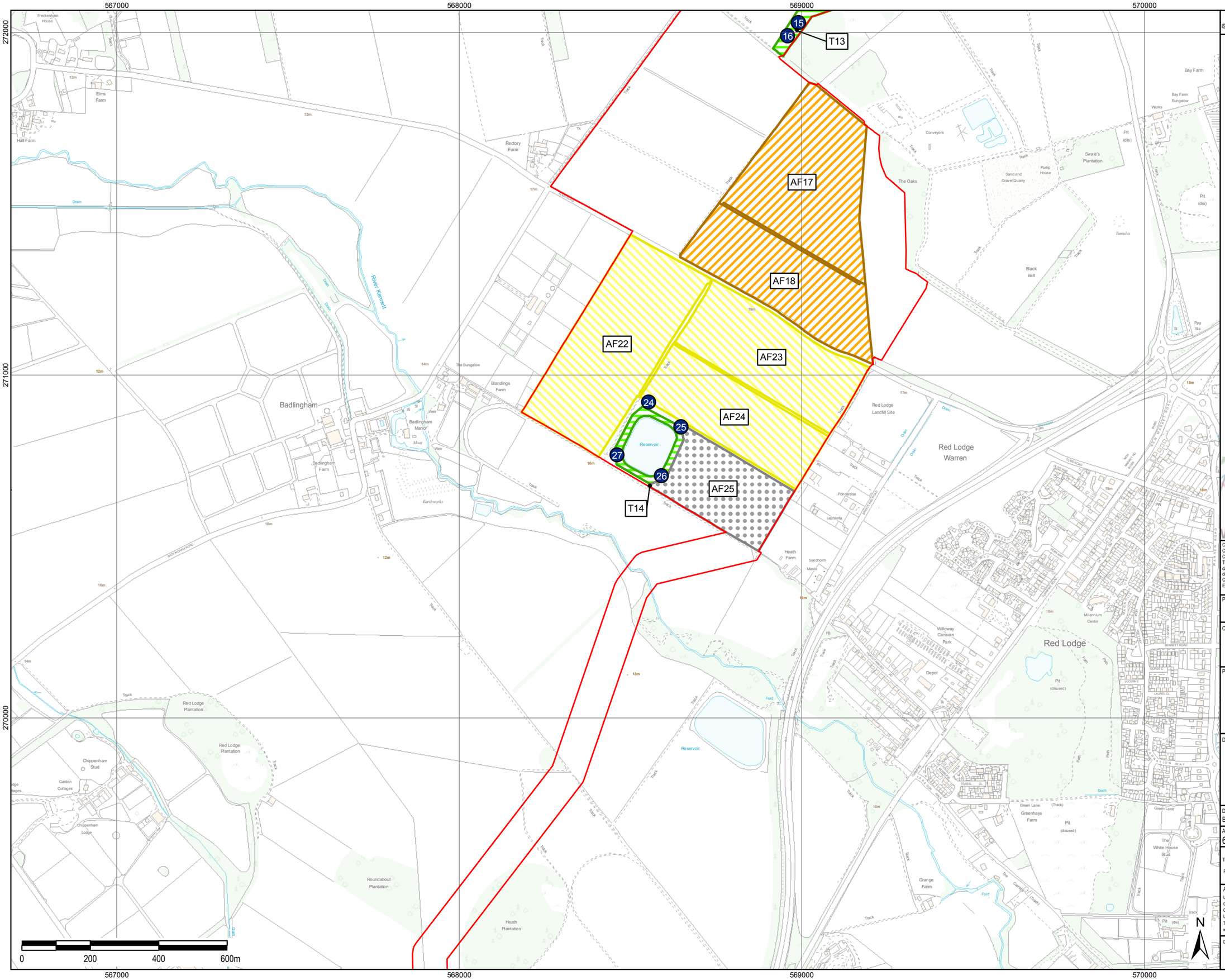
20

Isleham Field Freckenham Badlingham

Dismantled Railway Lee Brook Dismtd Rly Beck Bridge Fourways Farm Pen Villa Tel Ex Mast Fort William Willow Bottom Light Land Plantation Surprise Hill Dunsworth House Home Plantation Mortimer's Farm Holmes Farm Street Farm White House Farm Grange Farm Hall Allot Gdns Hillside Farm Playing Field PH Freckenham House Elms Farm Hall Farm Cemy PW Morte and Baileys Rectory Farm Rosewood Stud Larkwood Stud Fordham Moor Firdale Farm Mamre Farm Tumulus Isleham Plantation Leechmere Farm Drain River Kennett The Bungalow Blandings Farm Weir

0 200 400 600m

N

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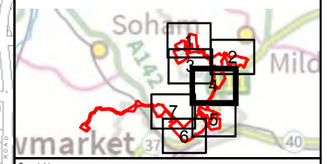
**LEGEND**

- Scheme Boundary
- Phase2/NVC flora survey sites (T#)
- Arable flora survey site, district importance (AF#)
- Arable flora survey site, local importance (AF#)
- Arable flora survey site, site importance (AF#)
- Flora photograph location, with reference





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| FIGURE 2.4 | 0 |

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AF26 AF8 AF9 AF10 AF13 T15 AF15 AF11

0 200 400 600m

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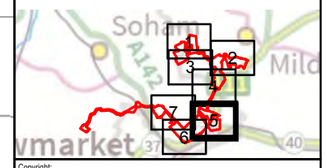
**LEGEND**

- Scheme Boundary
- Phase2/NVC flora survey sites (T#)
- Arable flora survey site, county importance (AF#)
- Arable flora survey site, district importance (AF#)
- Arable flora survey site, local importance (AF#)
- Arable flora survey site, site importance (AF#)



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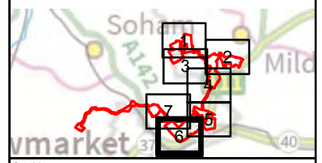
**LEGEND**

- Scheme Boundary
- Phase2/NVC flora survey sites (T#)
- Arable flora survey site, county importance (AF#)
- Arable flora survey site, district importance (AF#)
- Arable flora survey site, local importance (AF#)
- Flora photograph location, with reference



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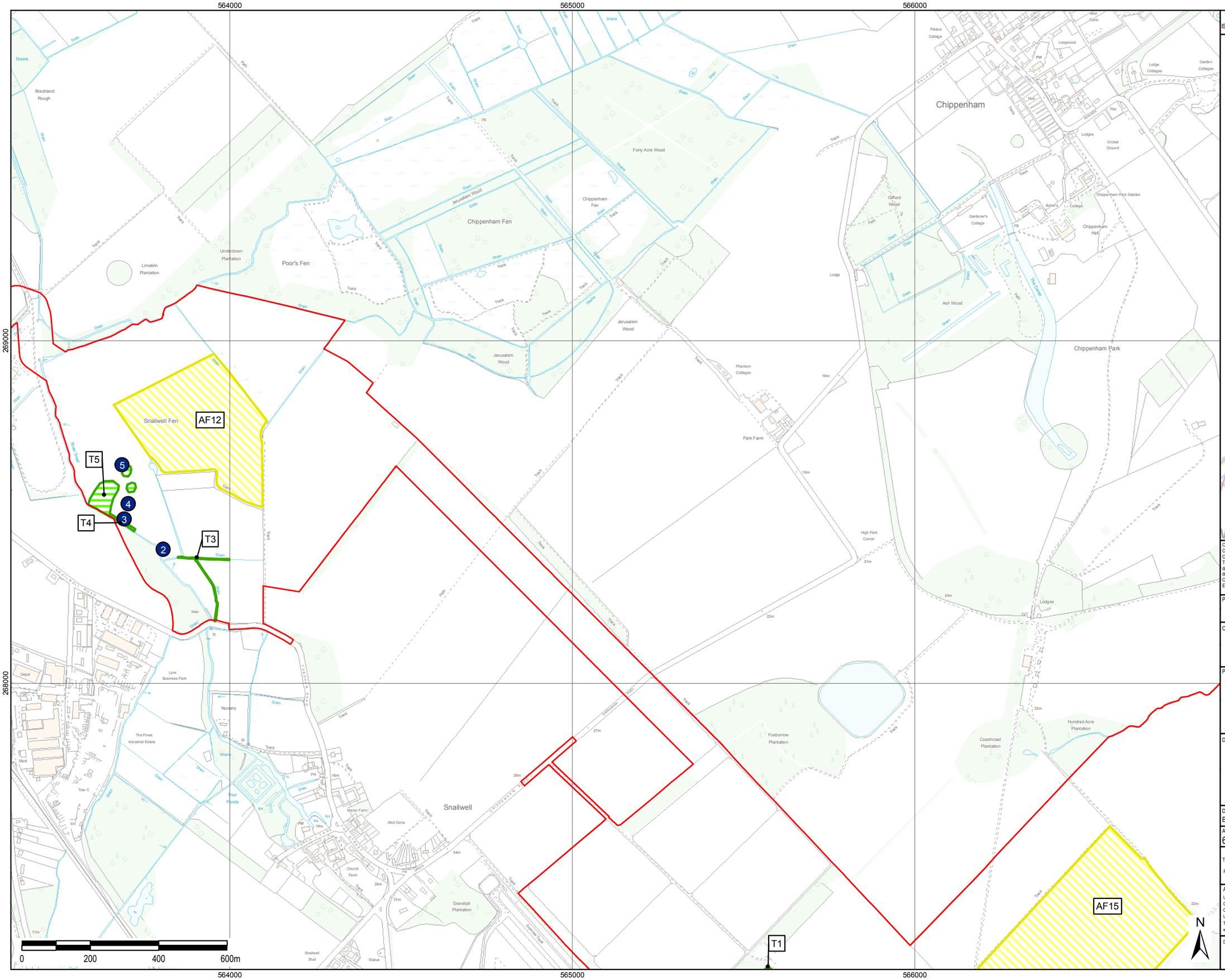


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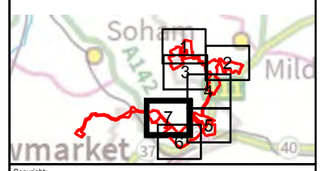
**LEGEND**

- Scheme Boundary
- Phase2/NVC flora survey sites (T#)
- Arable flora survey site, local importance (AF#)
- Flora photograph location, with reference





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## Photographs (see locations on Figure 8B-2)

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

Photo 12

Photo 13

Photo 14

Photo 15

Photo 16

Photo 17

Photo 18

Photo 19

Photo 20

Photo 21

Photo 22

Photo 23

Photo 24

Photo 25

Photo 26

Photo 27

Photo 28

Photo 29

Photo 30

## Figure 8B-3. Non-statutory designated sites

560000 565000 570000

275000

270000

265000

Sunnica East Site A

Sunnica East Site B

Sunnica West Site B

Sunnica West Site A

Mildenhall Woods (CWS)

Mildenhall Woods (CWS)

Mildenhall New Cemetery (CWS)

RNR 152 (CWS)

Norah Hanbury - Kelk Memorial Meadows (CWS)

Joan's Meadow (CWS)

Barton Mills Meadows (CWS)

Worlington Heath (CWS)

Worlington Golf Course and surrounding Habitat (CWS)

Badlingham Lane (CWS)

Barton Mills Chalk Pit (CWS)

RNR 96 (CWS)

RNR 96 (CWS)

Worlington Chalk Pit (CWS)

Criteria 1 - Cherry Hill & the Gallops SSSI (RNR)

Chippenham (PRV)

Freckenham Road RSV (CWS)

Red Lodge Warren (CWS)

Havacre Meadows and Deal Nook (CWS)

New River and Monk's Lode (CWS)

Burwell Brick Pit (CWS)

Chippenham Gravel Pit (CWS)

Chippenham Park (CWS)

Halfmoon Plantation Pit (CWS)

Kennett Churchyard (CWS)

Snailwell Grasslands and Woods (CWS)

Old Rectory Meadows (CWS)

Snailwell (S of the stud to the railway) (PRV)

Chippenham Avenue Fields (CWS)

Spring Close (CWS)

Burwell Disused Railway (CWS)

Pauline's Swamp (CWS)

The Limekilns and Adjacent Areas (CWS)

0 500 1,000 1,500m

N

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**LEGEND**

- Scheme Boundary
- 2km scheme buffer
- County Wildlife Site (CWS)
- Protected Road Verge (PRV)
- Roadside Nature Reserve (RNR)



Purpose of Issue
FOR INFORMATION

Client
SUNNICA LTD

Project Title
sunnica energy farm

Drawing Title
NON-STATUTORY SITES WITHIN 2KM OF THE DCO SITE

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|---|---|---|---|
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**FIGURE** 3

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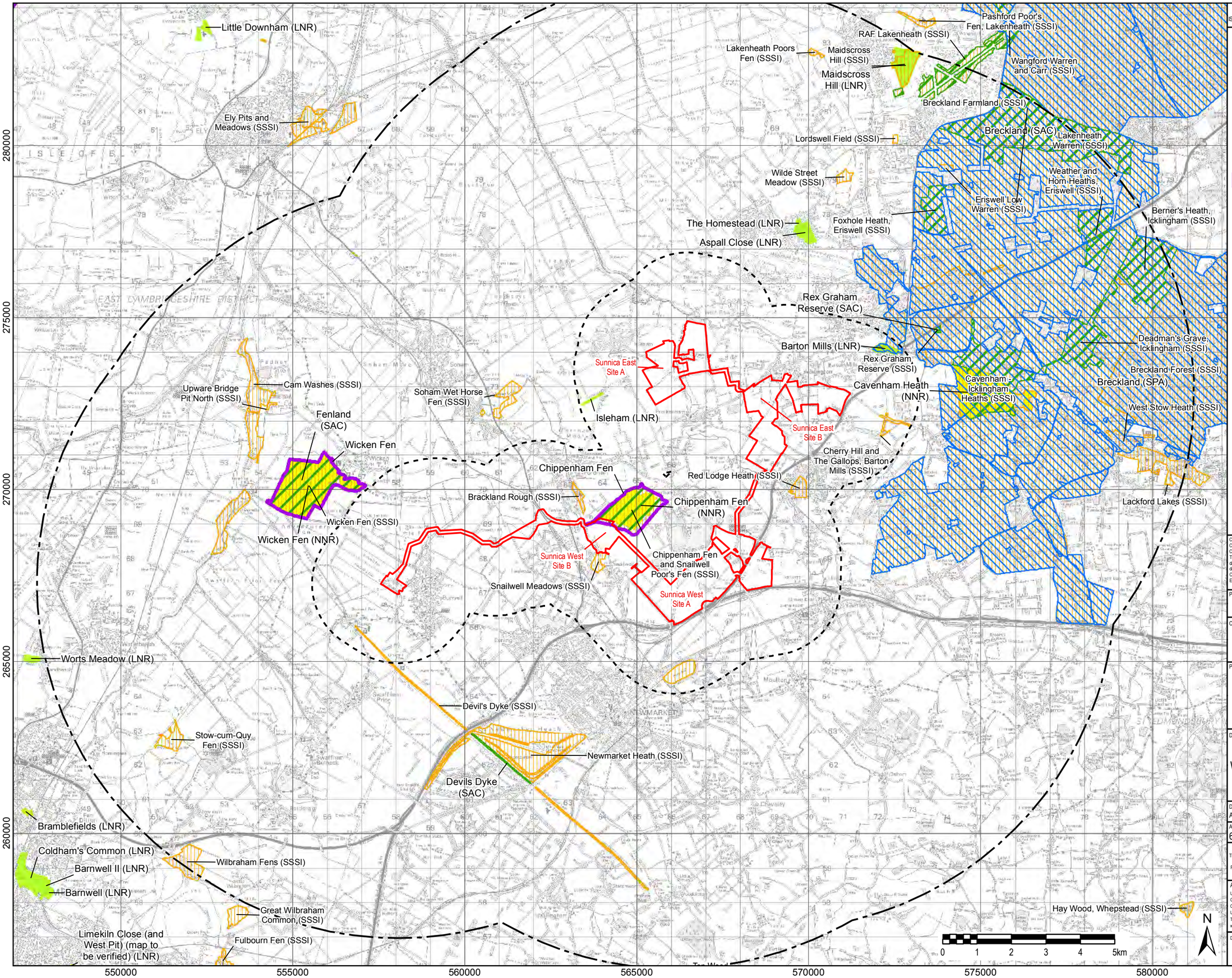
## Figure 8B-4. Statutory designated sites

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**LEGEND**

- Scheme Boundary
- 2km scheme buffer
- 10km scheme buffer
- Special Protection Areas (SPA)
- Special Areas of Conservation (SAC)
- Ramsar
- Sites of Special Scientific Interest (SSSI)
- National_Nature_Reserves (NNR)
- Local Nature Reserves (LNR)



Purpose of Issue
FOR INFORMATION

Client
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Project Title
sunnica energy farm

Drawing Title
STATUTORILY DESIGNATED SITES WITHIN 10KM (INTERNATIONAL) AND 2KM (NATIONAL) OF THE DCO SITE

| Drawn | Checked | Approved | Date |
|---|---|---|---|
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**FIGURE** 4

Rev
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# Sub-Appendix B Desk Study Results

## Protected (WCA Schedule 8) and notable flora species in East Cambridgeshire within 2km of the Site

WCA8 - WCA Schedule 8, NS - Nationally Scarce, NR - Nationally Rare and CPASI - Cambridgeshire and Peterborough Additional Species of Interest

| Common Name | Latin Name | Location | Grid Reference | Precision | Date | Comments | Selected Designations |
|---|---|---|---|---|---|---|---|
| Bur Medick | *Medicago minima* | Mamre Farm, Chippenham | TL66147134 | 10m | 09-05-09 | example grid ref | NS |
| Bur Medick | *Medicago minima* | Mamre Farm, Chippenham | TL66147136 | 10m | 09-05-09 | example grid ref | NS |
| Bur Medick | *Medicago minima* | Mamre Farm, Chippenham | TL66157132 | 10m | 09-05-09 | example grid ref | NS |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL645698 | 100m | 17-08-09 | 15 plants (11 flowering), Compt.2 | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL6469 | 1km | 20-07-11 | 5709 plants with 1568 (27.5%) flowering. 829 plants Compt. 1; 7 Compt. 8; 4329 Compt. 10; 524 Compt. 11. [no grid references provided by recorders, NPM, 13/1/2013] | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL64716968 | 10m | 03-09-16 | 1 plant | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL64726968 | 10m | 04-07-09 | compartment on northeast side of main SE-NW drove | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL64736921 | 10m | 03-09-16 | | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL64766923 | 10m | 03-09-16 | | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL64776912 | 10m | 03-09-16 | plentiful in this general area | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL64776923 | 10m | 03-09-16 | | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL64776986 | 10m | 10-07-10 | single plant at grassland/fen interface in compartment centred at TL64756988 | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL64826915 | 10m | 03-09-16 | plentiful in this general area | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL648692 | 100m | 17-08-09 | 18 plants (12 flowering), Baxter's W. Ride | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL649691 | 100m | 17-08-09 | TL649691-TL647691, 10458 plants (2958 flowering), Compt.10 (non-flowering numbers extrapolated from 5 2x2m quadrats) | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL649699 | 100m | 17-08-09 | 895 plants (616 flowering), Compt.1 | CPASI, NR, WCA8 |

| Common Name | Latin Name | Location | Grid Reference | Precision | Date | Comments | Selected Designations |
|---|---|---|---|---|---|---|---|
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL65106930 | 10m | 03-09-16 | 4-5 plants | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL65126928 | 10m | 03-09-16 | 1 plant | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Chippenham Fen | TL651693 | 100m | 17-08-09 | 83 plants (46 flowering), Compt.11 | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL63936781 | 10m | 16-08-08 | single flowering plant and a couple of non-flowering ones | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL63936782 | 10m | 2012 | 1 mature plant and 6 seedlings in S meadow (48 plants in 2011). No plants were seen in the NE meadow, TL64056813, which had been grazed and topped (there had been 81 flowering and 17 non-flowering plants here in 2011). | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL63946781 | 10m | 22-07-11 | 72 plants (7 flowering) in S meadow. S meadow unmown and ungrazed. | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL639678 | 100m | 08-08-09 | 50 plants (12 flowering) | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL64016813 | 10m | 16-08-08 | single flowering plant | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL64026813 | 10m | 16-08-08 | single non-flowering plant | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL64036815 | 10m | 22-07-11 | 17 non-flowering plants, NE meadow. NE meadow topped and grazed by 40 cattle. | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL64046809 | 10m | 16-08-08 | single flowering plant | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL64046811 | 10m | 16-08-08 | c.14 plants | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL64056812 | 10m | 08-08-09 | 35 plants (25 flowering) here and at TL64066811 | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL64066809 | 10m | 16-08-08 | 6 flowering plants and single non-flowering plant | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL64066810 | 10m | 16-08-08 | single flowering plant | CPASI, NR, WCA8 |
| Cambridge Milk-parsley | *Selinum carvifolia* | Snailwell Meadows SSSI | TL6468 | 1km | 16-08-08 | about 26 plants seen in Field 5, east of River Snail (see other records for precise grid refs of plants) | CPASI, NR, WCA8 |
| Cat-mint | *Nepeta cataria* | Chippenham | TL6869 | 1km | 09-05-09 | | CPASI |
| Cat-mint | *Nepeta cataria* | Wicken Fen: Hurdle Hall Farm | TL562669 | 100m | 27-07-12 | fishing pond (single flowering plant on disturbed soil of bankside footpath) | CPASI |

| Common Name | Latin Name | Location | Grid Reference | Precision | Date | Comments | Selected Designations |
|---|---|---|---|---|---|---|---|
| Common Twayblade | *Neottia ovata* | Fordham Woods | TL6369 | 1km | 2008 | Very scarce - e.g. beside path on eastern fringe of wet wood. Several more plants in this area in 2008, apparently responding well to brush clearing nearby. | CPASI |
| Common Twayblade | *Neottia ovata* | Fordham Woods | TL6369 | 1km | 2011 | After work on the new boardwalk, only 41 twayblades could be found this year, down from a peak of 72 in 2009. | CPASI |
| Common Twayblade | *Neottia ovata* | Fordham Woods | TL6369 | 1km | 2012 | 62 were counted in colony near the entrance. The colony was reduced due to the construction of the boardwalk in 2010, but is now recovering. | CPASI |
| Common Twayblade | *Neottia ovata* | Fordham Woods | TL6369 | 1km | Jun-10 | Found in 1/3 quadrats | CPASI |
| Dwarf Spurge | *Euphorbia exigua* | Fordham | TL634684 | 100m | 30-06-10 | | CPASI |
| Dwarf Spurge | *Euphorbia exigua* | Reach | TL569665 | 100m | 13-08-13 | | CPASI |
| Dwarf Spurge | *Euphorbia exigua* | Wicken Fen | TL5667 | 1km | 07-08-10 | | CPASI |
| Early Marsh-orchid | *Dactylorhiza incarnata* | Chippenham Fen | TL647698 | 100m | 10-07-10 | | CPASI |
| Fen Pondweed | *Potamogeton coloratus* | Chippenham Fen | TL6469 | 1km | 10-07-10 | | CPASI, NS |
| Fen Pondweed | *Potamogeton coloratus* | Chippenham Fen | TL651695 | 100m | 04-07-09 | also in many drains over the fen | CPASI, NS |
| Fen Pondweed | *Potamogeton coloratus* | Wicken Fen | TL562695 | 100m | 27-07-10 | locally abundant in many of the drains on Bakers Fen | CPASI, NS |
| Fen Pondweed | *Potamogeton coloratus* | Wicken Fen | TL565696 | 100m | 27-07-10 | locally abundant in many of the drains on Bakers Fen | CPASI, NS |
| Fine-leaved Fumitory | *Fumaria parviflora* | Isleham Allotments (Fordham Road) | TL64407378 | 10m | 17-07-10 | | NS |
| Lesser Water-plantain | *Baldellia ranunculoides* | Burwell | TL591689 | 100m | May-08 | In ditch cleared out last winter, water depth 10-20cm, TL587689 to TL594691. | CPASI |
| Lesser Water-plantain | *Baldellia ranunculoides* | Burwell | TL592690 | 100m | 05-07-08 | | CPASI |
| Marsh Dock | *Rumex palustris* | Burwell Fen | TL56426891 | 10m | 20-07-12 | R | CPASI |
| Marsh Dock | *Rumex palustris* | Wicken Fen | TL561698 | 100m | 27-07-10 | | CPASI |
| Marsh Dock | *Rumex palustris* | Wicken Fen | TL561699 | 100m | 14-08-09 | frequent in drawdown zones | CPASI |
| Marsh Dock | *Rumex palustris* | Wicken Fen | TL564697 | 100m | 27-07-10 | | CPASI |
| Marsh Dock | *Rumex palustris* | Wicken Fen | TL5669 | 1km | 24-07-10 | | CPASI |

| Common Name | Latin Name | Location | Grid Reference | Precision | Date | Comments | Selected Designations |
|---|---|---|---|---|---|---|---|
| Marsh Dock | *Rumex palustris* | Wicken Fen: Baker's Fen | TL563693 | 100m | 05-09-13 | | CPASI |
| Narrow-leaved Water-plantain | *Alisma lanceolatum* | Wicken Fen | TL565698 | 100m | 01-07-08 | Occasional | CPASI |
| Narrow-leaved Water-plantain | *Alisma lanceolatum* | Wicken Fen | TL568699 | 100m | 03-08-10 | | CPASI |
| Purple Fescue | *Vulpia ciliata subsp. ambigua* | Mamre Farm, Chippenham | TL66147137 | 10m | 09-05-09 | | NS |
| River Water-dropwort | *Oenanthe fluviatilis* | Wicken Fen | TL56 | 10km | 17-08-09 | | CPASI |
| River Water-dropwort | *Oenanthe fluviatilis* | Wicken Fen | TL568699 | 100m | 16-07-09 | In the Lode | CPASI |
| River Water-dropwort | *Oenanthe fluviatilis* | Wicken Fen: Monk's Lode | TL56926998 | 10m | 20-07-12 | R | CPASI |
| Shining Pondweed | *Potamogeton lucens* | Wicken Fen | TL568699 | 100m | 02-08-09 | | CPASI |
| Shining Pondweed | *Potamogeton lucens* | Wicken Fen | TL568699 | 100m | 17-08-09 | R. | CPASI |
| Shining Pondweed | *Potamogeton lucens* | Wicken Fen | TL568699 | 100m | 03-07-10 | In the River | CPASI |
| Shining Pondweed | *Potamogeton lucens* | Wicken Fen: Monk's Lode | TL56926998 | 10m | 20-07-12 | R | CPASI |
| Sickle Medick | *Medicago sativa subsp. falcata* | Freckenham Road RSV CWS | TL6671 | 1km | 27-06-12 | Medicago sativa aggregate was just coming to flower and it was not possible to confirm the relative abundance of different sub-species. On the basis of the material examined good subsp. falcata and subspecies varia were however considered to be present. | NS |
| Southern Marsh-orchid | *Dactylorhiza praetermissa* | Chippenham Fen | TL647698 | 100m | 10-07-10 | | CPASI |
| Southern Marsh-orchid | *Dactylorhiza praetermissa* | Chippenham Fen | TL64786953 | 10m | 04-07-09 | | CPASI |
| Water-violet | *Hottonia palustris* | Chippenham Fen | TL64916976 | 10m | 17-08-09 | abundant in ditch with clear water at edge of woodland, S of Compt.1 | CPASI |
| Water-violet | *Hottonia palustris* | New River and Monk's Lode CWS | TL571701 | 100m | 17-08-11 | In water | CPASI |
| Water-violet | *Hottonia palustris* | New River and Monk's Lode CWS | TL576698 | 100m | 17-08-11 | In water | CPASI |
| Water-violet | *Hottonia palustris* | Wicken Fen | TL562697 | 100m | 01-07-08 | Frequent | CPASI |
| Water-violet | *Hottonia palustris* | Wicken Fen | TL565696 | 100m | 01-07-08 | Frequent | CPASI |
| Water-violet | *Hottonia palustris* | Wicken Fen | TL568699 | 100m | 17-08-09 | R. | CPASI |
| Water-violet | *Hottonia palustris* | Wicken Fen: Monk's Lode | TL56926998 | 10m | 20-07-12 | R | CPASI |

| Common Name | Latin Name | Location | Grid Reference | Precision | Date | Comments | Selected Designations |
|---|---|---|---|---|---|---|---|
| Whorled Water-milfoil | *Myriophyllum verticillatum* | Wicken Fen | TL568699 | 100m | 17-08-09 | R. | CPASI |

## Protected (WCA Schedule 8) and notable flora species in Suffolk within 2km of the Site

WCA8 - WCA Schedule 8, NS - Nationally Scarce, NR - Nationally Rare, RLGB -Red List

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Small Alison | Alyssum alyssoides | Tuddenham Gallops | | TL721722 | 2005 | a few | WCA8 | |
| Small Alison | Alyssum alyssoides | Tuddenham Gallops | Tuddenham Gallops, Herringswell | TL723716 | 2004 | R | WCA8 | |
| Corn Chamomile | Anthemis arvensis | Red Lodge Heath | Warren Road, Red Lodge | TL703704 | 2011 | | RLGB.EN | 18 Count |
| Corn Chamomile | Anthemis arvensis | Worlington | near proposed Red Lodge primary school site | TL70247055 | 2011 | | RLGB.EN | 19 Count of present |
| Stinking Chamomile | Anthemis cotula | Red Lodge Heath | | TL7069 | 2007 | | RLGB.VU | 1 Count |
| Loose Silky-bent | Apera spica-venti | Herringswell | edge of beet field | TL718704 | 2012 | | RLGB.Lr(NT) | |
| Loose Silky-bent | Apera spica-venti | Cherry Hill and The Gallops | Headland | TL722722 | 2004 | | RLGB.Lr(NT) | |
| Loose Silky-bent | Apera spica-venti | Barton Mills | | TL705743 | 2004 | | RLGB.Lr(NT) | |
| Loose Silky-bent | Apera spica-venti | Tuddenham Gallops | | TL724717 | 2004 | | RLGB.Lr(NT) | |
| Loose Silky-bent | Apera spica-venti | West Row | Fen | TL67N | 2001 | | RLGB.Lr(NT) | 1 Count of Default |
| Loose Silky-bent | Apera spica-venti | Herringswell | | TL76E | 1999 | | RLGB.Lr(NT) | |
| Hairy Rock-cress | Arabis hirsuta | Mildenhall A1065/C616 Thetford Rd junction | | TL729750 | 2017 | | Suffolk Rare Plant | |
| Hairy Rock-cress | Arabis hirsuta | Mildenhall A1065/C616 Thetford Rd junction | 152 | TL728750 | 2017 | | Suffolk Rare Plant | |
| Hairy Rock-cress | Arabis hirsuta | Red Lodge Heath | Warren Road, Red Lodge | TL703704 | 2011 | | Suffolk Rare Plant | |
| Hairy Rock-cress | Arabis hirsuta | Beck Row | | TL67Y | 2005 | | Suffolk Rare Plant | 1 Count |
| Hairy Rock-cress | Arabis hirsuta | Rex Graham Reserve | Rex Graham Reserve Mildenhall Wood | TL7374 | 2004 | | Suffolk Rare Plant | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Hairy Rock-cress | Arabis hirsuta | Mildenhall | | TL77C | 2000 | | Suffolk Rare Plant | |
| Squinancywort | Asperula cynanchica | Moulton | | TL66S | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Purple Milk-vetch | Astragalus danicus | Worlington Golf Course and surrounding habitat | | TL702735 | 2010 | | RLGB.EN, ScotBL, Sect.41, UKBAP | |
| Purple Milk-vetch | Astragalus danicus | Newmarket | | TL66H | 2001 | | RLGB.EN, ScotBL, Sect.41, UKBAP | 1 Count of Default |
| Barberry | Berberis vulgaris | Red Lodge Heath | | TL77A | 2000 | | Suffolk Rare Plant | |
| Quaking-grass | Briza media | Norah Hanbury-Kelk Memorial Meadows | | TL714741 | 1999 | | Suffolk Rare Plant | |
| Heather | Calluna vulgaris | Rex Graham Reserve | Rex Graham Reserve Mildenhall Wood | TL7374 | 2004 | | Suffolk Rare Plant | |
| Harebell | Campanula rotundifolia | Mildenhall Woods | | TL7375 | 2011 | | Suffolk Rare Plant | |
| Harebell | Campanula rotundifolia | Beck Row | | TL67Y | 2005 | | Suffolk Rare Plant | 1 Count |
| Harebell | Campanula rotundifolia | West Row | | TL67T | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Harebell | Campanula rotundifolia | Norah Hanbury-Kelk Memorial Meadows | | TL714741 | 1999 | | Suffolk Rare Plant | |
| Slender Tufted-sedge | Carex acuta | Mildenhall | | TL77H | 2000 | | Suffolk Rare Plant | |
| Carline Thistle | Carlina vulgaris | Barton Mills | | TL71187268 | 2016 | Several plants on west side of Newmarket Road near A11 near junction | Suffolk Rare Plant | |
| Field Mouse-ear | Cerastium arvense | Mildenhall A1065/C616 Thetford Rd junction | 152 | TL728750 | 2017 | | Suffolk Rare Plant | |
| Field Mouse-ear | Cerastium arvense | Mildenhall A1065/C616 Thetford Rd junction | | TL729750 | 2017 | | Suffolk Rare Plant | |
| Field Mouse-ear | Cerastium arvense | Joans Meadow | | TL694734 | 2012 | | Suffolk Rare Plant | |
| Field Mouse-ear | Cerastium arvense | Mildenhall Woods | | TL7375 | 2011 | | Suffolk Rare Plant | |
| Field Mouse-ear | Cerastium arvense | Tuddenham Gallops | Tuddenham Gallops | TL7271 | 2004 | | Suffolk Rare Plant | |
| Field Mouse-ear | Cerastium arvense | Barton Mills (Cherry Hill) C623 | | TL72007221 | 2003 | | Suffolk Rare Plant | 1 Count |
| Field Mouse-ear | Cerastium arvense | Barton Mills (Cherry Hill) C623 | | TL72147175 | 2003 | | Suffolk Rare Plant | 1 Count |
| Field Mouse-ear | Cerastium arvense | Mildenhall | | TL77C | 2000 | | Suffolk Rare Plant | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Field Mouse-ear | Cerastium arvense | Mildenhall | | TL67X | 2000 | | Suffolk Rare Plant | |
| Field Mouse-ear | Cerastium arvense | Red Lodge Heath | | TL77A | 2000 | | Suffolk Rare Plant | |
| Field Mouse-ear | Cerastium arvense | Norah Hanbury-Kelk Memorial Meadows | | TL714741 | 1999 | | Suffolk Rare Plant | |
| Good-King-Henry | Chenopodium bonus-henricus | Mildenhall | | TL67X | 2000 | | RLGB.VU, ScotBL | |
| Oak-leaved Goosefoot | Chenopodium glaucum | Tuddenham | Herringswell PF | TL730708 | 2000 | | NS-excludes, RLGB.VU | |
| Great Fen-sedge | Cladium mariscus | Norah Hanbury-Kelk Memorial Meadows | | TL714741 | 1999 | | Suffolk Rare Plant | |
| Basil Thyme | Clinopodium acinos | Worlington Chalk Pit | | TL701715 | 2002 | | RLGB.VU, ScotBL, Sect.41, Sect.42, UKBAP | |
| Basil Thyme | Clinopodium acinos | Mildenhall | | TL77H | 2000 | | RLGB.VU, ScotBL, Sect.41, Sect.42, UKBAP | |
| Lesser Calamint | Clinopodium calamintha | Barton Mills (Cherry Hill) C623 | 1 South | TL721719 | 2017 | | NS-excludes, RLGB.VU | |
| Lesser Calamint | Clinopodium calamintha | Moulton | | TL66W | 2001 | | NS-excludes, RLGB.VU | 1 Count of Default |
| Lesser Calamint | Clinopodium calamintha | Freckenham | | TL67R | 2001 | | NS-excludes, RLGB.VU | 1 Count of Default |
| Lesser Calamint | Clinopodium calamintha | Exning | | TL66I | 2001 | | NS-excludes, RLGB.VU | 1 Count of Default |
| Lesser Calamint | Clinopodium calamintha | Exning | | TL66D | 2001 | | NS-excludes, RLGB.VU | 1 Count of Default |
| Lesser Calamint | Clinopodium calamintha | Freckenham | | TL67Q | 2001 | | NS-excludes, RLGB.VU | 1 Count of Default |
| Lily-of-the-valley | Convallaria majalis | Mildenhall | | TL71857461 | 2013 | | Suffolk Rare Plant | |
| Mossy Stonecrop | Crassula tillaea | Rex Graham Reserve | Rex Graham Reserve Mildenhall Wood | TL7374 | 2004 | | NS-excludes | |
| Crosswort | Cruciata laevipes | Moulton | | TL66W | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Hound's-tongue | Cynoglossum officinale | Red Lodge Warren | 1 | TL697706 | 2016 | 170 plants | RLGB.Lr(NT) | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Hound's-tongue | Cynoglossum officinale | Joans Meadow | | TL694734 | 2012 | | RLGB.Lr(NT) | |
| Hound's-tongue | Cynoglossum officinale | Red Lodge Heath | | TL7069 | 2007 | | RLGB.Lr(NT) | 1 Count |
| Hound's-tongue | Cynoglossum officinale | Beck Row | | TL67Y | 2005 | | RLGB.Lr(NT) | 1 Count |
| Hound's-tongue | Cynoglossum officinale | Tuddenham Gallops | Tuddenham Gallops | TL7271 | 2004 | | RLGB.Lr(NT) | |
| Hound's-tongue | Cynoglossum officinale | Barton Mills (Cherry Hill) C623 | | TL72007221 | 2003 | | RLGB.Lr(NT) | 1 Count |
| Hound's-tongue | Cynoglossum officinale | Worlington Chalk Pit | | TL701715 | 2002 | | RLGB.Lr(NT) | |
| Hound's-tongue | Cynoglossum officinale | Freckenham | | TL67R | 2001 | | RLGB.Lr(NT) | 1 Count of Default |
| Hound's-tongue | Cynoglossum officinale | Herringswell | | TL76J | 2001 | | RLGB.Lr(NT) | 1 Count of Default |
| Hound's-tongue | Cynoglossum officinale | Herringswell | | TL76E | 2001 | | RLGB.Lr(NT) | 1 Count of Default |
| Hound's-tongue | Cynoglossum officinale | Red Lodge | | TL66Z | 2001 | | RLGB.Lr(NT) | 1 Count of Default |
| Hound's-tongue | Cynoglossum officinale | Freckenham | | TL67Q | 2001 | | RLGB.Lr(NT) | 1 Count of Default |
| Hound's-tongue | Cynoglossum officinale | Mildenhall | | TL67X | 2000 | | RLGB.Lr(NT) | |
| Hound's-tongue | Cynoglossum officinale | Mildenhall | | TL77C | 2000 | | RLGB.Lr(NT) | |
| Hound's-tongue | Cynoglossum officinale | Red Lodge Heath | | TL77A | 2000 | | RLGB.Lr(NT) | |
| Hound's-tongue | Cynoglossum officinale | Tuddenham | | TL77F | 2000 | | RLGB.Lr(NT) | |
| Early Marsh-orchid | Dactylorhiza incarnata | Norah Hanbury-Kelk Memorial Meadows | | TL714741 | 2008 | | CITESB | 1200 Count of present |
| Early Marsh-orchid | Dactylorhiza incarnata | Mildenhall | | TL77C | 2000 | | CITESB | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Southern Marsh-orchid | Dactylorhiza praetermissa | Tuddenham | in garden adjacent to R. Lark | TL724739 | 2004 | | CITESB | 250 Count of present |
| Southern Marsh-orchid | Dactylorhiza praetermissa | Worlington Chalk Pit | | TL705715 | 2004 | | CITESB | 280 Count of present |
| Southern Marsh-orchid | Dactylorhiza praetermissa | Worlington Chalk Pit | | TL701715 | 2002 | | CITESB | |
| Mezereon | Daphne mezereum | Rex Graham Reserve | Rex Graham Reserve Mildenhall Wood | TL7374 | 2004 | | NS-excludes, RLGB.VU | |
| Maiden Pink | Dianthus deltoides | Mildenhall | Three Hills | TL7074 | 2005 | a few plants | NS-excludes, RLGB.Lr(NT) | |
| Treacle-mustard | Erysimum cheiranthoides | Mildenhall | | TL6974 | 2013 | | Suffolk Rare Plant | |
| Treacle-mustard | Erysimum cheiranthoides | Herringswell | | TL76J | 2006 | | Suffolk Rare Plant | 1 Count |
| Treacle-mustard | Erysimum cheiranthoides | West Row | Fen | TL67M | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Treacle-mustard | Erysimum cheiranthoides | Mildenhall | | TL77C | 2000 | | Suffolk Rare Plant | |
| Treacle-mustard | Erysimum cheiranthoides | Mildenhall | | TL67X | 2000 | | Suffolk Rare Plant | |
| Treacle-mustard | Erysimum cheiranthoides | Mildenhall | | TL77H | 2000 | | Suffolk Rare Plant | |
| Spurge | Euphorbia amygdaloides subsp. robbiae | Barton Mills | | TL7173 | 2016 | | CITESB | |
| Dwarf Spurge | Euphorbia exigua | Mildenhall | | TL6974 | 2013 | | CITESB, RLGB.Lr(NT) | |
| Dwarf Spurge | Euphorbia exigua | Exning | Northmore Farm, North End | TL66D | 2001 | | CITESB, RLGB.Lr(NT) | 1 Count of Default |
| Dwarf Spurge | Euphorbia exigua | Tuddenham | | TL77F | 2000 | | CITESB, RLGB.Lr(NT) | |
| Dwarf Spurge | Euphorbia exigua | Mildenhall | | TL67X | 2000 | | CITESB, RLGB.Lr(NT) | |
| Blue Fescue | Festuca longifolia | Cherry Hill and The Gallops | | TL722721 | 2005 | declining | NR-excludes | |
| Blue Fescue | Festuca longifolia | Cherry Hill and The Gallops | Barton Mills Cherry Hill | TL726720 | 2003 | R | NR-excludes | |
| Blue Fescue | Festuca longifolia | Cherry Hill and The Gallops | | TL724720 | 1998 | | NR-excludes | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Small Cudweed | Filago minima | Rex Graham Reserve | Rex Graham Reserve Mildenhall Wood | TL7374 | 2004 | | Suffolk Rare Plant | |
| Small Cudweed | Filago minima | Mildenhall | | TL77C | 2000 | | Suffolk Rare Plant | |
| Small Cudweed | Filago minima | Tuddenham | | TL77F | 2000 | | Suffolk Rare Plant | |
| Broad-leaved Cudweed | Filago pyramidata | Worlington Chalk Pit | | TL701715 | 2002 | | NS-excludes, RLGB.EN, Sect.41, UKBAP, WCA8 | |
| Common Cudweed | Filago vulgaris | Mildenhall | just S of Mildenhall | TL70877425 | 2016 | a few plants on disturbed surface of public footpath in one place (N bank of River Lark) | RLGB.Lr(NT), ScotBL | |
| Common Cudweed | Filago vulgaris | Mildenhall Woods | | TL7375 | 2011 | | RLGB.Lr(NT), ScotBL | |
| Common Cudweed | Filago vulgaris | Newmarket | | TL66G | 2001 | | RLGB.Lr(NT), ScotBL | 1 Count of Default |
| Common Cudweed | Filago vulgaris | Mildenhall | | TL77H | 2000 | | RLGB.Lr(NT), ScotBL | |
| Common Cudweed | Filago vulgaris | Red Lodge Heath | | TL77A | 2000 | | RLGB.Lr(NT), ScotBL | |
| Common Cudweed | Filago vulgaris | Herringswell | | TL76E | 1999 | | RLGB.Lr(NT), ScotBL | |
| Dropwort | Filipendula vulgaris | Barton Mills (Cherry Hill) C623 | 1 East | TL725720 | 2017 | | ScotBL | |
| Dropwort | Filipendula vulgaris | Barton Mills (Cherry Hill) C623 | Westernmost end of north verge (single specimen) | TL72007221 | 2017 | | ScotBL | |
| Dropwort | Filipendula vulgaris | Beck Row | | TL67Y | 2005 | | ScotBL | 1 Count |
| Dropwort | Filipendula vulgaris | Herringswell | | TL76E | 1999 | | ScotBL | |
| Dense-flowered Fumitory | Fumaria densiflora | Mildenhall | Mildenhall Hub | TL703746 | 2016 | At field margin | Suffolk Rare Plant | 1 Count of present |
| Dense-flowered Fumitory | Fumaria densiflora | Mildenhall | | TL69847444 | 2013 | One plant at edge of potato field on south side of track | Suffolk Rare Plant | |
| Dense-flowered Fumitory | Fumaria densiflora | Moulton | | TL66W | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Fine-leaved Fumitory | Fumaria parviflora | Mildenhall | Mildenhall Hub | TL703746 | 2016 | At field margin | NS-excludes, RLGB.VU | 1 Count of present |
| Fine-leaved Fumitory | Fumaria parviflora | Mildenhall | | TL69847444 | 2013 | Five plants at edge of potato field on south side of track | NS-excludes, RLGB.VU | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Fine-leaved Fumitory | Fumaria parviflora | Worlington Chalk Pit | | TL701715 | 2002 | | NS-excludes, RLGB.VU | |
| Fine-leaved Fumitory | Fumaria parviflora | Barton Mills | | TL77G | 2002 | | NS-excludes, RLGB.VU | |
| Fine-leaved Fumitory | Fumaria parviflora | Moulton | | TL66S | 2001 | | NS-excludes, RLGB.VU | 1 Count of Default |
| Fine-leaved Fumitory | Fumaria parviflora | Mildenhall | | TL67X | 2000 | | NS-excludes, RLGB.VU | |
| Wall Bedstraw | Galium parisiense | Mildenhall | | TL7074 | 2002 | | NS-excludes, RLGB.VU | 1 Count |
| Wall Bedstraw | Galium parisiense | Mildenhall | | TL725749 | 1998 | | NS-excludes, RLGB.VU | |
| Long-stalked Crane's-bill | Geranium columbinum | Rex Graham Reserve | Rex Graham Reserve Mildenhall Wood | TL7374 | 2004 | | ScotBL | |
| Opposite-leaved Pondweed | Groenlandia densa | Exning | | TL66C | 2001 | | RLGB.VU | 1 Count of Default |
| Common Rock-rose | Helianthemum nummularium | Barton Mills (Cherry Hill) C623 | Eastern end of north verge | TL72007221 | 2017 | | Suffolk Rare Plant | |
| Common Rock-rose | Helianthemum nummularium | Barton Mills (Cherry Hill) C623 | 1 East | TL725720 | 2017 | | Suffolk Rare Plant | |
| Common Rock-rose | Helianthemum nummularium | Worlington Golf Course and surrounding habitat | | TL702735 | 2010 | | Suffolk Rare Plant | |
| Common Rock-rose | Helianthemum nummularium | Beck Row | | TL67Y | 2005 | | Suffolk Rare Plant | 1 Count |
| Smooth Rupturewort | Herniaria glabra | Red Lodge Warren | Red Lodge Warren, Freckenham | TL698698 | 1998 | R(4) | NR-excludes | |
| Water-violet | Hottonia palustris | West Row | Fen | TL67N | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Water-violet | Hottonia palustris | Norah Hanbury-Kelk Memorial Meadows | | TL714741 | 1999 | | Suffolk Rare Plant | |
| Bluebell | Hyacinthoides non-scripta | Barton Mills (Cherry Hill) C623 | | TL72007221 | 2003 | | WCA8 | 1 Count |
| Bluebell | Hyacinthoides non-scripta | West Row | | TL67T | 2001 | | WCA8 | 1 Count of Default |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Bluebell | Hyacinthoides non-scripta | Newmarket | | TL66G | 2001 | | WCA8 | 1 Count of Default |
| Bluebell | Hyacinthoides non-scripta | Exning | | TL66D | 2001 | | WCA8 | 1 Count of Default |
| Bluebell | Hyacinthoides non-scripta | Moulton | | TL66W | 2001 | | WCA8 | 1 Count of Default |
| Bluebell | Hyacinthoides non-scripta | Exning | | TL66C | 2001 | | WCA8 | 1 Count of Default |
| Bluebell | Hyacinthoides non-scripta | Freckenham | | TL67R | 2001 | | WCA8 | 1 Count of Default |
| Bluebell | Hyacinthoides non-scripta | Newmarket | | TL66L | 2001 | | WCA8 | 1 Count of Default |
| Imperforate St. John's-Wort | Hypericum maculatum subsp. obtusiusculum | Red Lodge | | TL66Z | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Smooth Cat's-ear | Hypochaeris glabra | Rex Graham Reserve | Rex Graham Reserve Mildenhall Wood | TL7374 | 2004 | | RLGB.VU, ScotBL | |
| Smooth Cat's-ear | Hypochaeris glabra | Worlington | garden | TL689735 | 1998 | | RLGB.VU, ScotBL | |
| Smooth Cat's-ear | Hypochaeris glabra | Tuddenham Gallops | | TL724716 | 1998 | | RLGB.VU, ScotBL | |
| Field Scabious | Knautia arvensis | Barton Mills (Cherry Hill) C623 | 1 West | TL720721 | 2017 | | Suffolk Rare Plant | |
| Field Scabious | Knautia arvensis | Joans Meadow | | TL694734 | 2012 | | Suffolk Rare Plant | |
| Field Scabious | Knautia arvensis | Mildenhall Woods | | TL7375 | 2011 | | Suffolk Rare Plant | |
| Field Scabious | Knautia arvensis | Beck Row | | TL67Y | 2005 | | Suffolk Rare Plant | 1 Count |
| Field Scabious | Knautia arvensis | Barton Mills (Cherry Hill) C623 | | TL72147175 | 2003 | | Suffolk Rare Plant | 1 Count |
| Field Scabious | Knautia arvensis | Barton Mills (Cherry Hill) C623 | | TL72007221 | 2003 | | Suffolk Rare Plant | 1 Count |
| Field Scabious | Knautia arvensis | Exning | Heath Road | TL66C | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Field Scabious | Knautia arvensis | West Row | Fen | TL67N | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Field Scabious | Knautia arvensis | Herringswell | | TL76J | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Field Scabious | Knautia arvensis | Freckenham | | TL67R | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Field Scabious | Knautia arvensis | Freckenham | | TL67Q | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Field Scabious | Knautia arvensis | Newmarket | | TL66H | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Field Scabious | Knautia arvensis | Newmarket | Snailwell Road | TL66M | 2001 | | Suffolk Rare Plant | 1 Count of Default |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Field Scabious | Knautia arvensis | Moulton | | TL66W | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Field Scabious | Knautia arvensis | Herringswell | | TL76E | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Field Scabious | Knautia arvensis | Exning | | TL66I | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Field Scabious | Knautia arvensis | Newmarket | Moulton Rd | TL66R | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Field Scabious | Knautia arvensis | Mildenhall | | TL77H | 2000 | | Suffolk Rare Plant | |
| Field Scabious | Knautia arvensis | Mildenhall | | TL77C | 2000 | | Suffolk Rare Plant | |
| Field Scabious | Knautia arvensis | Mildenhall | | TL67X | 2000 | | Suffolk Rare Plant | |
| Field Scabious | Knautia arvensis | Worlington | | TL692727 | 1999 | | Suffolk Rare Plant | |
| Field Gromwell | Lithospermum arvense | Cherry Hill and The Gallops | | TL721722 | 1998 | | RLGB.EN | |
| Bur Medick | Medicago minima | Red Lodge Warren | 4 | TL697706 | 2016 | approx 30 plants at 4 locations | NS-excludes, RLGB.VU | |
| Bur Medick | Medicago minima | Joans Meadow | | TL694734 | 2012 | | NS-excludes, RLGB.VU | |
| Bur Medick | Medicago minima | Red Lodge Heath | | TL702706 | 2000 | | NS-excludes, RLGB.VU | |
| Bur Medick | Medicago minima | Tuddenham Gallops | SSSI | TL723716 | 2000 | | NS-excludes, RLGB.VU | |
| Bur Medick | Medicago minima | Worlington | | TL692725 | 1999 | | NS-excludes, RLGB.VU | |
| Sickle Medick | Medicago sativa subsp. falcata | Barton Mills (Cherry Hill) C623 | 1 East | TL725720 | 2017 | | NS-excludes | |
| Sickle Medick | Medicago sativa subsp. falcata | Joans Meadow | | TL694734 | 2012 | | NS-excludes | |
| Sickle Medick | Medicago sativa subsp. falcata | Herringswell | | TL76J | 2006 | | NS-excludes | 1 Count |
| Sickle Medick | Medicago sativa subsp. falcata | Mildenhall | | TL67X | 2000 | | NS-excludes | |
| Corn Mint | Mentha arvensis | Mildenhall | | TL67X | 2000 | | ScotBL | |
| Fine-leaved Sandwort | Minuartia hybrida | Barton Mills | | TL71697377 | 2016 | Flint wall on south side of the Street opposite the church | NS-excludes, RLGB.EN, Sect.41, UKBAP | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Fine-leaved Sandwort | Minuartia hybrida | Tuddenham Gallops | Tuddenham Gallops | TL7271 | 2004 | | NS-excludes, RLGB.EN, Sect.41, UKBAP | |
| Fine-leaved Sandwort | Minuartia hybrida | Cherry Hill and The Gallops | Headland | TL722722 | 2004 | | NS-excludes, RLGB.EN, Sect.41, UKBAP | |
| Fine-leaved Sandwort | Minuartia hybrida | Tuddenham Gallops | | TL724717 | 2004 | | NS-excludes, RLGB.EN, Sect.41, UKBAP | |
| Fine-leaved Sandwort | Minuartia hybrida | Barton Mills | | TL72087216 | 1999 | | NS-excludes, RLGB.EN, Sect.41, UKBAP | |
| Fine-leaved Sandwort | Minuartia hybrida | Barton Mills Churchyard | | TL717737 | 1998 | | NS-excludes, RLGB.EN, Sect.41, UKBAP | |
| Fine-leaved Sandwort | Minuartia hybrida | Cherry Hill and The Gallops | | TL723723 | 1998 | | NS-excludes, RLGB.EN, Sect.41, UKBAP | |
| Minuartia hybrida subsp. tenuifolia | Minuartia hybrida subsp. tenuifolia | Barton Mills Churchyard | | TL717738 | 2016 | | NS-excludes, RLGB.EN, Sect.41, UKBAP | |
| Grape-hyacinth | Muscari neglectum | Tuddenham C624 | 96 West | TL730719 | 2017 | | NR-excludes, RLGB.VU, Sect.41, UKBAP | |
| Grape-hyacinth | Muscari neglectum | Tuddenham Gallops | | TL7254171860 | 2016 | | NR-excludes, RLGB.VU, Sect.41, UKBAP | 2 Count of present |
| Grape-hyacinth | Muscari neglectum | Tuddenham Gallops | | TL7245071802 | 2016 | | NR-excludes, RLGB.VU, Sect.41, UKBAP | 12 Count of present |
| Grape-hyacinth | Muscari neglectum | Cherry Hill and The Gallops | 6 | TL722721 | 2016 | 68 | NR-excludes, RLGB.VU, Sect.41, UKBAP | |
| Grape-hyacinth | Muscari neglectum | Tuddenham Gallops | | TL7247871821 | 2016 | | NR-excludes, RLGB.VU, Sect.41, UKBAP | 7 Count of present |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Grape-hyacinth | Muscari neglectum | Tuddenham Gallops | | TL7228471688 | 2016 | | NR-excludes, RLGB.VU, Sect.41, UKBAP | 6 Count of present |
| Grape-hyacinth | Muscari neglectum | Tuddenham Gallops | | TL7252371850 | 2016 | | NR-excludes, RLGB.VU, Sect.41, UKBAP | 13 Count of present |
| Grape-hyacinth | Muscari neglectum | Tuddenham Gallops | | TL7225671675 | 2016 | | NR-excludes, RLGB.VU, Sect.41, UKBAP | 62 Count of present |
| Grape-hyacinth | Muscari neglectum | Tuddenham Gallops | | TL722715 | 2008 | R(70) | NR-excludes, RLGB.VU, Sect.41, UKBAP | |
| Grape-hyacinth | Muscari neglectum | Freckenham | Isleham Road | TL673735 | 2008 | R(2) | NR-excludes, RLGB.VU, Sect.41, UKBAP | |
| Grape-hyacinth | Muscari neglectum | Tuddenham | | TL7371 | 2005 | a few | NR-excludes, RLGB.VU, Sect.41, UKBAP | |
| Grape-hyacinth | Muscari neglectum | Barton Mills | | TL7273 | 2004 | much declined, hedge encroachment, wrong cutting for 3 years | NR-excludes, RLGB.VU, Sect.41, UKBAP | |
| Grape-hyacinth | Muscari neglectum | Cherry Hill and The Gallops | | TL720722 | 1998 | | NR-excludes, RLGB.VU, Sect.41, UKBAP | |
| Common Twayblade | Neottia ovata | Rex Graham Reserve | Rex Graham Reserve Mildenhall Wood | TL7374 | 2004 | | CITESB | |
| Cat-mint | Nepeta cataria | Worlington Chalk Pit | | TL701715 | 2002 | | RLGB.VU | |
| Cat-mint | Nepeta cataria | Newmarket | Snailwell Road | TL66M | 2001 | | RLGB.VU | 1 Count of Default |
| Cat-mint | Nepeta cataria | Barton Mills | | TL724722 | 2001 | | RLGB.VU | 1 Count of Default |
| Cat-mint | Nepeta cataria | Mildenhall | | TL67X | 2000 | | RLGB.VU | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Cat-mint | Nepeta cataria | Red Lodge Heath | | TL77A | 2000 | | RLGB.VU | |
| Sainfoin | Onobrychis viciifolia | Worlington | | TL692727 | 1999 | | RLGB.Lr(NT) | |
| Bee Orchid | Ophrys apifera | West Row Churchyard | West Row, church | TL674754 | 2016 | | CITESB | |
| Bee Orchid | Ophrys apifera | Barton Mills | | TL713727 | 2004 | | CITESB | |
| Bee Orchid | Ophrys apifera | Exning | | TL66C | 2001 | | CITESB | 1 Count of Default |
| Military Orchid | Orchis militaris | Rex Graham Reserve | Rex Graham Reserve Mildenhall Wood | TL7374 | 2004 | | CITESB, NR-excludes, RLGB.VU, WCA8 | |
| Prickly Poppy | Papaver argemone | Mildenhall | | TL69847444 | 2013 | Two plants at edge of potato field on south side of track | RLGB.VU, ScotBL | |
| Prickly Poppy | Papaver argemone | Tuddenham Gallops | | TL724717 | 2004 | | RLGB.VU, ScotBL | |
| Prickly Poppy | Papaver argemone | Tuddenham Gallops | Tuddenham Gallops | TL7271 | 2004 | | RLGB.VU, ScotBL | |
| Prickly Poppy | Papaver argemone | Mildenhall | | TL67X | 2000 | | RLGB.VU, ScotBL | |
| Rough Poppy | Papaver hybridum | Mildenhall | Mildenhall Hub | TL703746 | 2016 | At field margin | ScotBL | 1 Count of present |
| Rough Poppy | Papaver hybridum | Mildenhall | | TL698744 | 2013 | Locally frequent at edge of potato field on south side of track | ScotBL | |
| Rough Poppy | Papaver hybridum | Mildenhall | | TL70007440 | 2013 | A few plants at edge of potato field on south side of track | ScotBL | |
| Rough Poppy | Papaver hybridum | West Row | | TL682758 | 2005 | | ScotBL | |
| Rough Poppy | Papaver hybridum | Exning | Heath Road | TL66C | 2001 | | ScotBL | 1 Count of Default |
| Rough Poppy | Papaver hybridum | Mildenhall | | TL67X | 2000 | | ScotBL | |
| Rough Poppy | Papaver hybridum | Mildenhall | | TL77C | 2000 | | ScotBL | |
| Sand Cat's-tail | Phleum arenarium | Tuddenham Gallops | | TL724716 | 1999 | | Suffolk Rare Plant | Frequent Count of present |
| Purple-stem Cat's-tail | Phleum phleoides | Cherry Hill and The Gallops | | TL722721 | 2005 | plenty | NR-excludes | |
| Purple-stem Cat's-tail | Phleum phleoides | Cherry Hill and The Gallops | Barton Mills Cherry Hill | TL722717 | 2005 | R | NR-excludes | |
| Purple-stem Cat's-tail | Phleum phleoides | Cherry Hill and The Gallops | Barton Mills Cherry Hill | TL726720 | 2003 | R | NR-excludes | |
| Hoary Plantain | Plantago media | Barton Mills Churchyard | Barton Mills, church | TL716738 | 2016 | | ScotBL | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Hoary Plantain | Plantago media | Worlington Churchyard | Worlington, church | TL691738 | 2013 | | ScotBL | |
| Hoary Plantain | Plantago media | Joans Meadow | | TL694734 | 2012 | | ScotBL | |
| Hoary Plantain | Plantago media | Beck Row | | TL67Y | 2005 | | ScotBL | 1 Count |
| Hoary Plantain | Plantago media | Exning | | TL66C | 2001 | | ScotBL | 1 Count of Default |
| Hoary Plantain | Plantago media | Newmarket | | TL66M | 2001 | | ScotBL | 1 Count of Default |
| Hoary Plantain | Plantago media | Exning | | TL66I | 2001 | | ScotBL | 1 Count of Default |
| Hoary Plantain | Plantago media | Newmarket | | TL66L | 2001 | | ScotBL | 1 Count of Default |
| Hoary Plantain | Plantago media | Freckenham | | TL67R | 2001 | | ScotBL | 1 Count of Default |
| Hoary Plantain | Plantago media | Moulton | | TL66W | 2001 | | ScotBL | 1 Count of Default |
| Hoary Plantain | Plantago media | Red Lodge Heath | | TL77A | 2000 | | ScotBL | |
| Hoary Plantain | Plantago media | Mildenhall | | TL67X | 2000 | | ScotBL | |
| Hoary Plantain | Plantago media | Norah Hanbury-Kelk Memorial Meadows | | TL714741 | 1999 | | ScotBL | |
| Hoary Plantain | Plantago media | Herringswell | | TL76E | 1999 | | ScotBL | |
| Perfoliate Pondweed | Potamogeton perfoliatus | Mildenhall | | TL698741 | 2013 | One patch in River Lark | Suffolk Rare Plant | |
| Perfoliate Pondweed | Potamogeton perfoliatus | Worlington | U/S MILDENHALL MTR SITE | TL6890074300 | 2009 | LARK | Suffolk Rare Plant | |
| Perfoliate Pondweed | Potamogeton perfoliatus | Mildenhall | D/S MILDENHALL MTR SITE | TL6880074500 | 2005 | LARK | Suffolk Rare Plant | |
| Perfoliate Pondweed | Potamogeton perfoliatus | Mildenhall | JUDES FERRY | TL6777974797 | 2005 | LARK | Suffolk Rare Plant | |
| Hoary Cinquefoil | Potentilla argentea | Red Lodge Warren | 4 | TL697706 | 2016 | about 20 plants within 1.5m radius of grid | RLGB.Lr(NT), ScotBL | |
| Hoary Cinquefoil | Potentilla argentea | Rex Graham Reserve | Rex Graham Reserve Mildenhall Wood | TL7374 | 2004 | | RLGB.Lr(NT), ScotBL | |
| Hoary Cinquefoil | Potentilla argentea | Newmarket | | TL66H | 2001 | | RLGB.Lr(NT), ScotBL | 1 Count of Default |
| Hoary Cinquefoil | Potentilla argentea | Herringswell | | TL76E | 2001 | | RLGB.Lr(NT), ScotBL | 1 Count of Default |
| Dwarf Cherry | Prunus cerasus | Newmarket | | TL66H | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Lesser Spearwort | Ranunculus flammula | Norah Hanbury-Kelk Memorial Meadows | | TL714741 | 1999 | | Suffolk Rare Plant | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Stream Water-Crowfoot | Ranunculus penicillatus subsp. penicillatus | Worlington | U/S MILDENHALL MTR SITE | TL6890074300 | 1999 | LARK | NS-excludes | |
| Wild Clary | Salvia verbenaca | Mildenhall A1065/C616 Thetford Rd junction | | TL729750 | 2017 | | ScotBL | |
| Wild Clary | Salvia verbenaca | Mildenhall A1065/C616 Thetford Rd junction | 152 | TL728750 | 2017 | | ScotBL | |
| Wild Clary | Salvia verbenaca | West Row | | TL6775 | 2016 | | ScotBL | |
| Wild Clary | Salvia verbenaca | Moulton | bridge | TL6964 | 2012 | | ScotBL | |
| Wild Clary | Salvia verbenaca | Joans Meadow | | TL694734 | 2012 | | ScotBL | |
| Wild Clary | Salvia verbenaca | Moulton | | TL66W | 2001 | | ScotBL | 1 Count of Default |
| Wild Clary | Salvia verbenaca | West Row | | TL67T | 2001 | | ScotBL | 1 Count of Default |
| Wild Clary | Salvia verbenaca | Newmarket | Roadside | TL66I | 2001 | | ScotBL | 1 Count of Default |
| Wild Clary | Salvia verbenaca | Exning | | TL56Y | 2001 | | ScotBL | 1 Count of Default |
| Wild Clary | Salvia verbenaca | Newmarket | | TL66M | 2001 | | ScotBL | 1 Count of Default |
| Wild Clary | Salvia verbenaca | Newmarket | | TL66H | 2001 | | ScotBL | 1 Count of Default |
| Wild Clary | Salvia verbenaca | Exning | Burrell Road | TL66D | 2001 | | ScotBL | 1 Count of Default |
| Wild Clary | Salvia verbenaca | Mildenhall | | TL77H | 2000 | | ScotBL | |
| Small Scabious | Scabiosa columbaria | Barton Mills (Cherry Hill) C623 | 1 East | TL725720 | 2017 | | Suffolk Rare Plant | |
| Small Scabious | Scabiosa columbaria | Barton Mills (Cherry Hill) C623 | South branch, east side | TL72007221 | 2017 | | Suffolk Rare Plant | |
| Small Scabious | Scabiosa columbaria | Barton Mills (Cherry Hill) C623 | 1 South | TL721719 | 2017 | | Suffolk Rare Plant | |
| Small Scabious | Scabiosa columbaria | Joans Meadow | | TL694734 | 2012 | | Suffolk Rare Plant | |
| Small Scabious | Scabiosa columbaria | Mildenhall Woods | | TL7375 | 2011 | | Suffolk Rare Plant | |
| Small Scabious | Scabiosa columbaria | Freckenham | | TL67Q | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Small Scabious | Scabiosa columbaria | Newmarket | | TL66M | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Small Scabious | Scabiosa columbaria | Red Lodge Heath | | TL77A | 2000 | | Suffolk Rare Plant | |
| Small Scabious | Scabiosa columbaria | Worlington | | TL695733 | 1999 | | Suffolk Rare Plant | |
| Small Scabious | Scabiosa columbaria | Norah Hanbury-Kelk Memorial Meadows | | TL714741 | 1999 | | Suffolk Rare Plant | |
| Small Scabious | Scabiosa columbaria | Worlington | | TL681736 | 1998 | | Suffolk Rare Plant | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Annual Knawel | Scleranthus annuus | Barton Mills | | TL7234271724 | 2016 | | RLGB.EN, ScotBL, Sect.41, Sect.42, UKBAP | |
| Annual Knawel | Scleranthus annuus | Barton Mills | | TL7218871623 | 2016 | | RLGB.EN, ScotBL, Sect.41, Sect.42, UKBAP | |
| Annual Knawel | Scleranthus annuus | Beck Row | | TL67Y | 2005 | | RLGB.EN, ScotBL, Sect.41, Sect.42, UKBAP | 1 Count |
| Annual Knawel | Scleranthus annuus | Tuddenham Gallops | Tuddenham Gallops | TL7271 | 2004 | | RLGB.EN, ScotBL, Sect.41, Sect.42, UKBAP | |
| English Stonecrop | Sedum anglicum | Mildenhall | | TL77H | 2000 | | Suffolk Rare Plant | |
| Marsh Ragwort | Senecio aquaticus | Beck Row | | TL67Y | 2005 | | Suffolk Rare Plant | 1 Count |
| Sand Catchfly | Silene conica | R.A.F. Mildenhall | | TL6976 | 2005 | plenty | NS-excludes, RLGB.VU | |
| Sand Catchfly | Silene conica | Mildenhall | Leyton Avenue | TL7074 | 2005 | a few | NS-excludes, RLGB.VU | |
| Sand Catchfly | Silene conica | Tuddenham Gallops | | TL722715 | 2005 | scattered | NS-excludes, RLGB.VU | |
| Sand Catchfly | Silene conica | Cherry Hill and The Gallops | | TL722721 | 2005 | masses | NS-excludes, RLGB.VU | |
| Sand Catchfly | Silene conica | Worlington | | TL699725 | 1999 | | NS-excludes, RLGB.VU | |
| Sand Catchfly | Silene conica | Barton Mills | Cherry Hill | TL723723 | 1999 | | NS-excludes, RLGB.VU | several th Count of present |
| Sand Catchfly | Silene conica | Cherry Hill and The Gallops | | TL722717 | 1998 | | NS-excludes, RLGB.VU | |
| Sand Catchfly | Silene conica | Mildenhall | Quaker's Walk, A1065 junction, Mildenhall | TL728750 | 1998 | R(100) | NS-excludes, RLGB.VU | |
| Night-flowering Catchfly | Silene noctiflora | Herringswell | edge of beet field | TL718704 | 2012 | | RLGB.VU, ScotBL | |
| Night-flowering Catchfly | Silene noctiflora | Worlington Chalk Pit | | TL701715 | 2002 | | RLGB.VU, ScotBL | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Night-flowering Catchfly | Silene noctiflora | Freckenham | | TL67R | 2001 | | RLGB.VU, ScotBL | 1 Count of Default |
| Night-flowering Catchfly | Silene noctiflora | Mildenhall | | TL67X | 2000 | | RLGB.VU, ScotBL | |
| Night-flowering Catchfly | Silene noctiflora | Tuddenham | | TL77F | 2000 | | RLGB.VU, ScotBL | |
| Night-flowering Catchfly | Silene noctiflora | Herringswell | | TL76E | 1999 | | RLGB.VU, ScotBL | |
| Spanish Catchfly | Silene otites | Worlington Golf Course and surrounding habitat | | TL702735 | 2010 | | NR-excludes, RLGB.EN, Sect.41, UKBAP | |
| Spanish Catchfly | Silene otites | Cherry Hill and The Gallops | Barton Mills Cherry Hill sub site 6 | TL722721 | 2009 | R(3) | NR-excludes, RLGB.EN, Sect.41, UKBAP | |
| Spanish Catchfly | Silene otites | R.A.F. Mildenhall | | TL6976 | 2005 | Increasing! 3000+ counted | NR-excludes, RLGB.EN, Sect.41, UKBAP | |
| Spanish Catchfly | Silene otites | Cherry Hill and The Gallops | | TL722717 | 1998 | | NR-excludes, RLGB.EN, Sect.41, UKBAP | |
| Corn Spurrey | Spergula arvensis | Newmarket | | TL66H | 2001 | | RLGB.VU | 1 Count of Default |
| Corn Spurrey | Spergula arvensis | Herringswell | | TL76E | 2001 | | RLGB.VU | 1 Count of Default |
| Corn Spurrey | Spergula arvensis | Mildenhall | | TL77C | 2000 | | RLGB.VU | |
| Corn Spurrey | Spergula arvensis | Tuddenham | | TL77F | 2000 | | RLGB.VU | |
| Devil's-bit Scabious | Succisa pratensis | Norah Hanbury-Kelk Memorial Meadows | | TL714741 | 1999 | | Suffolk Rare Plant | |
| Lesser Meadow-rue | Thalictrum minus | Exning | | TL66I | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Breckland Thyme | Thymus serpyllum | Red Lodge Warren | | TL697706 | 2016 | | NR-excludes | |
| Breckland Thyme | Thymus serpyllum | Red Lodge Warren | | TL69836992 | 2007 | R | NR-excludes | |
| Breckland Thyme | Thymus serpyllum | Mildenhall | Quaker's Walk | TL7074 | 2005 | | NR-excludes | |
| Breckland Thyme | Thymus serpyllum | Worlington Chalk Pit | | TL701715 | 2002 | | NR-excludes | |
| Common Valerian | Valeriana officinalis | Exning | | TL604665 | 2002 | | Suffolk Rare Plant | 1 Count |
| Common Valerian | Valeriana officinalis | Mildenhall | | TL77C | 2000 | | Suffolk Rare Plant | |

| Common Name | Latin Name | Location | Site detail | Grid_Ref | Year | Obs Comment | Designation | Abundance |
|---|---|---|---|---|---|---|---|---|
| Heath Speedwell | Veronica officinalis | Newmarket | | TL66M | 2001 | | Suffolk Rare Plant | 1 Count of Default |
| Fingered Speedwell | Veronica triphyllos | Barton Mills | to TL7213571749 | TL7214871801 | 2016 | | NR-excludes, RLGB.EN, Sect.41, UKBAP, WCA8 | 1400 Count of present |
| Fingered Speedwell | Veronica triphyllos | Cherry Hill and The Gallops | | TL722721 | 2016 | 1400 plants - estimate | NR-excludes, RLGB.EN, Sect.41, UKBAP, WCA8 | |
| Fingered Speedwell | Veronica triphyllos | Cherry Hill and The Gallops | Cherry Hill, Barton Mills | TL722718 | 2009 | ? | NR-excludes, RLGB.EN, Sect.41, UKBAP, WCA8 | |
| Fingered Speedwell | Veronica triphyllos | Tuddenham Gallops | Tuddenham Gallops, Herringswell | TL722715 | 2009 | ? | NR-excludes, RLGB.EN, Sect.41, UKBAP, WCA8 | |
| Fingered Speedwell | Veronica triphyllos | Cherry Hill and The Gallops | | TL722717 | 1998 | Introduced | NR-excludes, RLGB.EN, Sect.41, UKBAP, WCA8 | |
| Spring Speedwell | Veronica verna | Tuddenham Gallops | | TL722715 | 1999 | R(176+) | NR-excludes, RLGB.EN, Sect.41, UKBAP | |
| Heath Dog-violet | Viola canina | Mildenhall | | TL77H | 2000 | | RLGB.Lr(NT) | |
| Wild Pansy | Viola tricolor | Beck Row | | TL67Y | 2005 | | RLGB.Lr(NT), ScotBL | 1 Count |
| Purple Fescue | Vulpia ciliata subsp. ambigua | Moulton | | TL66S | 2001 | | NS-excludes | 1 Count of Default |
| Purple Fescue | Vulpia ciliata subsp. ambigua | Herringswell | | TL76E | 1999 | | NS-excludes | |

## WCA Schedule 9 plants – East Cambridgeshire within 2km of the Site

| Common Name | Latin Name | Location | Grid Reference | Precision | Date | Comments | Selected Designations |
|---|---|---|---|---|---|---|---|
| Canadian Waterweed | *Elodea canadensis* | Isleham | TL67M | 2km | 29-05-10 | | WCA9ii |
| Canadian Waterweed | *Elodea canadensis* | New River and Monk's Lode CWS | TL571701 | 100m | 17-08-11 | In water | WCA9ii |
| Canadian Waterweed | *Elodea canadensis* | New River and Monk's Lode CWS | TL576698 | 100m | 17-08-11 | In water | WCA9ii |
| Canadian Waterweed | *Elodea canadensis* | New River and Monk's Lode CWS | TL581698 | 100m | 17-08-11 | In water | WCA9ii |
| Canadian Waterweed | *Elodea canadensis* | Wicken Fen | TL574699 | 100m | 03-07-10 | In the River | WCA9ii |
| False-acacia | *Robinia pseudoacacia* | Isleham | TL67M | 2km | 29-05-10 | planted | WCA9ii |
| New Zealand Pigmyweed | *Crassula helmsii* | Wicken Fen | TL560695 | 100m | 20-05-11 | Large patches/rafts in the large shallow pool | WCA9ii |
| New Zealand Pigmyweed | *Crassula helmsii* | Wicken Fen | TL561695 | 100m | 27-07-10 | | WCA9ii |
| New Zealand Pigmyweed | *Crassula helmsii* | Wicken Fen | TL561699 | 100m | 28-05-10 | Bakers Fen pool | WCA9ii |
| New Zealand Pigmyweed | *Crassula helmsii* | Wicken Fen | TL562695 | 100m | 20-05-11 | Fq clumps | WCA9ii |
| New Zealand Pigmyweed | *Crassula helmsii* | Wicken Fen | TL563694 | 100m | 27-07-10 | | WCA9ii |
| New Zealand Pigmyweed | *Crassula helmsii* | Wicken Fen: Baker's Fen | TL560695 | 100m | 30-07-13 | dominant, large areas | WCA9ii |
| New Zealand Pigmyweed | *Crassula helmsii* | Wicken Fen: Baker's Fen | TL561693 | 100m | 06-07-12 | F (LD at margins) | WCA9ii |
| New Zealand Pigmyweed | *Crassula helmsii* | Wicken Fen: Baker's Fen | TL561693 | 100m | 28-09-12 | occ-freq | WCA9ii |
| Nuttall's Waterweed | *Elodea nuttallii* | Burwell Lode | TL565690 | 100m | 03-07-12 | F | WCA9ii |
| Nuttall's Waterweed | *Elodea nuttallii* | Wicken Fen: Monk's Lode | TL56926998 | 10m | 20-07-12 | O | WCA9ii |
| Wall Cotoneaster | *Cotoneaster horizontalis* | Burwell | TL594669 | 100m | 27-02-14 | | WCA9ii |
| Wall Cotoneaster | *Cotoneaster horizontalis* | Isleham | TL67M | 2km | 29-05-10 | on wall | WCA9ii |
| Yellow Archangel | *Lamiastrum galeobdolon subsp. argentatum* | Isleham | TL67M | 2km | 29-05-10 | | WCA9ii |

## WCA Schedule 9 plants – Suffolk within 2km of the Site

| Common Name | Latin Name | Location | Site detail | Grid Ref | Year |
|---|---|---|---|---|---|
| Few-flowered Garlic | *Allium paradoxum* | Newmarket | | TL66M | 2001 |
| Wall Cotoneaster | *Cotoneaster horizontalis* | Worlington Chalk Pit | | TL701715 | 2002 |
| Himalayan Cotoneaster | *Cotoneaster simonsii* | Mildenhall | | TL77H | 2000 |
| Canadian Waterweed | *Elodea canadensis* | Mildenhall | D/S MILDENHALL MTR SITE | TL688745 | 2007 |
| Nuttall's Waterweed | *Elodea nuttallii* | Worlington | JUDES FERRY | TL677747 | 2012 |
| Nuttall's Waterweed | *Elodea nuttallii* | Mildenhall | D/S MILDENHALL MTR SITE | TL688745 | 2011 |
| Nuttall's Waterweed | *Elodea nuttallii* | Worlington | U/S MILDENHALL MTR SITE | TL689743 | 2011 |
| Japanese Knotweed | *Fallopia japonica* | Mildenhall | | TL77C | 2000 |
| Giant Hogweed | *Heracleum mantegazzianum* | Mildenhall | just S of Mildenhall | TL70877424 | 2016 |
| Giant Hogweed | *Heracleum mantegazzianum* | Barton Mills | Lark at Mildenhall | TL709742 | 2011 |
| Indian Balsam | *Impatiens glandulifera* | Kentford | R Kennett | TL7068 | 2017 |
| Indian Balsam | *Impatiens glandulifera* | Red Lodge | KENNET | TL691699 | 2004 |
| Yellow Archangel | *Lamiastrum galeobdolon subsp. argentatum* | Exning | | TL66C | 2001 |

# Sub-Appendix C Field Survey Results

| Project Name | Sunnica | Date: 9/7/19 | Recorders | MP, CL | Area | T1 and T2 | Photo ref. | 1, 2 | |
|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | | Substrate | | Condition | |
|---|---|---|---|---|---|
| Grassland | X | Acid | ☐ | Improved | ☐ |
| Tall-herb | ☐ | Calcareous | ☐ | Semi-improved | X |
| fen | ☐ | Neutral | X | Unimproved | ☐ |
| Swamp | | Not known | ☐ | Not relevant | ☐ |

| Hydrology | | Age/ origin | | Aspect | n/a | Slope | n/a | Water Depth | n/a |
|---|---|---|---|---|---|---|---|---|---|
| Wet | ☐ | Sown/recent origin | ☐ | | | | | | |
| Dry | X | Semi-natural | X | | | | | | |
| Transitional | ☐ | | | | | | | | |

| Layers Mean Height | 0.3 | m | | cm | | mm | Habitat Area | 2000m2 (approx.) |
|---|---|---|---|---|---|---|---|---|
| Layers Cover | 40 | % | | % | | % | Quadrat/sample size | n/a |

| Species List T1 and T2 | Domin | Species List T1 and T2 | Domin | Species List (additional species at T2 only) | Domin |
|---|---|---|---|---|---|
| *Achillea millefolium* | 3 | *Jacobaea vulgaris* | 1 | *Tripleurospermum inodorum* | 3 |
| *Potentilla reptans* | 3 | *Trifolium campestre* | 2 | *Prunella vulgaris* | 1 |
| *Arrhenatherum elatius* | 5 | *Geum urbanum* | 1 | *Potentilla anserina* | 2 |
| *Plantago lanceolata* | 2 | *Sedum acre* | 2 | *Carduus nutans* | 1 |
| *Urtica dioica* | 3 | *Campylopus introflexus* | 4 | *Festuca rubra* | 3 |
| *Artemisia vulgaris* | 2 | *Agrostis stolonifera* | 3 | *Clinopodium vulgare* | 2 |
| *Agrimonia eupatoria* | 2 | *Trifolium pratense* | 1 | | |
| *Trifolium repens* | 3 | *Ononis repens* | 1 | | |
| *Scorzoneroides autumnalis* | 3 | *Daucus carota* | 2 | | |
| *Sherardia arvensis* | 1 | *Heracleum sphondylium* | 1 | | |
| *Arenaria serpyllifolia* | 2 | *Centaurea debeauxii* | 1 | | |
| *Echium vulgare* | 1 | *Dactylis glomerata* | 2 | | |
| *Erodium cicutarium* | 2 | *Anisantha diandra* | 1 | | |
| *Sisymbrium officinale* | 1 | *Phleum bertolonii* | 3 | | |
| *Medicago lupulina* | 3 | *Ballota nigra* | 1 | | |
| *Linaria vulgaris* | 2 | *Hypericum perforatum* | 1 | | |
| *Silene dioica* | 2 | *Lolium perenne* | 1 | | |
| *Lotus corniculatus* | 1 | *Convolvulus arvensis* | 2 | | |
| *Tragopogon pratensis* | 1 | | | | |
| Bare rock/hardstanding | 60% | | | 60% | |
| Bare soil | 0 | | | 10% | |
| Leaf litter/ thatch | 0 | | | 0 | |
| Permanent open water | 0 | | | 0 | |

| | |
|---|---|
| Domin scale | 1: few individuals, 2: several individuals, 3: many individuals, 4: 4-10%, 5: 11-25%, 6: 26-33%, 7: 34-50%, 8: 51-75%, 9: 76-90%, 10: 91-100% |
| DAFOR | D= Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare |

| Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations |
|---|

Two hardstanding tracks (T1 and T2), adjacent to arable crops. Some ephemeral /short perennial vegetation and taller semi-improved grassland. Unmanaged.

Photo 1. T1 Hardstanding and semi-improved grassland entrance)

Photo 2. T2 (as T1 with some bare soil near field

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Project Name | Sunnica | Date: 9/7/19 | Recorders | MP, CL | Area | T3 | | Photo ref. | 3 | |
| Broad vegetation type | Grassland X<br>Tall-herb fen ☐<br>Swamp X | | Substrate | Acid ☐<br>Calcareous ☐<br>Neutral X<br>Not known ☐ | | Condition | | Improved ☐<br>Semi-improved X<br>Unimproved X<br>Not relevant ☐ | | |
| Hydrology | Wet ☐<br>Dry ☐<br>Transitional X | | Age/ origin | Sown/recent origin ☐<br>Semi-natural X | | Aspect | n/a | Slope | n/a | Water Depth: 0 (damp soil) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Layers Mean Height | 0.5 | m | 0.2 | cm | | mm | Habitat Area | 100m2 (approx.) |
| Layers Cover | 90 | % | 30 | % | | % | Quadrat/sample size | n/a |

| Species List | Domin | Species List | Domin |
|---|---|---|---|
| *Holcus lanatus* | 6 | *Rumex conglomeratus* | 1 |
| *Carex acutiformis* | 4 | *Lathyrus pratensis* | 1 |
| *Glyceria notata* | 4 | *Epilobium hirsutum* | 1 |
| *Persicaria amphibia* | 3 | *Filipendula ulmaria* | 2 |
| *Agrostis stolonifera* | 4 | *Phalaris arundinacea* | 4 |
| *Cardamine pratensis* | 1 | *Juncus articulatus* | 1 |
| *Alopecurus geniculatus* | 2 | *Hypericum tetrapterum* | 1 |
| *Equisetum palustris* | 1 | *Veronica catenata* | 1 |
| *Equisetum arvensis* | 3 | *Iris pseudacorus* | 2 |
| *Juncus inflexus* | 5 | *Pulicaria dysenterica* | 2 |
| Bare rock/hardstanding | 0 | | |
| Bare soil | 5% | | |
| Leaf litter/ thatch | 0 | | |
| Permanent open water | 0 | | |

| | |
|---|---|
| Domin scale | 1: few individuals, 2: several individuals, 3: many individuals, 4: 4-10%, 5: 11-25%, 6: 26-33%, 7: 34-50%, 8: 51-75%, 9: 76-90%, 10: 91-100% |

Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations

Damp shallow ditch in semi-improved grassland field (cattle grazed later in the year). Marshy grassland/swamp vegetation in ditch transitioning to species poor semi-improved grassland. Occasional hawthorn scrub and scattered trees.

Photo 3. Damp shallow ditch with marshy grassland/swamp vegetation

| Project Name | Sunnica | Date | 9/7/19 | Recorders | MP, CL | Area | T4 | Photo ref. | 4,5 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | Swamp ☐ Grassland X<br>Mire ☐ Tall-herb fen ☐<br>Heath ☐ Open habitat ☐<br>Maritime ☐ | Substrate | Acid ☐<br>Calcareous ☐<br>Neutral X<br>Not known ☐ | Condition | Improved ☐<br>Semi-improved X<br>Unimproved ☐<br>Not relevant ☐ |
|---|---|---|---|---|---|
| Hydrology | Wet ☐ Transitional ☐<br>Dry X | Age/ origin | Sown/recent origin ☐<br>Semi-natural X | Aspect n/a | Slope n/a Water Depth n/a |

| Layers Mean Height | 0.8 | m | 0.2 | m | | cm | | mm | Habitat Area | 10 | m x | 80 | m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | 20 | % | 95 | % | | % | | % | Quadrat/sample size | 4 | m x | 4 | m |

| Quadrat | 1 | | 2 | | 3 | | 4 | | 5 | | Frequency (I-V) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Quadrat Grid Reference | TL63806838 | | TL63796841 | | TL63776841 | | TL63736846 | | TL63696847 | | |
| Species List | % | Domin | % | Domin | % | Domin | % | Domin | % | Domin | |
| *Agrostis stolonifera* | | 4 | | 2 | | | | | | 3 | III |
| *Arrhenatherum elatius* | | 4 | | 5 | | 6 | | 5 | | 5 | V |
| *Dactylis glomerate* | | 3 | | 4 | | 4 | | 3 | | 2 | V |
| *Festuca rubra* | | 8 | | 6 | | 6 | | 6 | | 7 | V |
| *Plantago lanceolate* | | 4 | | 4 | | 3 | | 8 | | 5 | V |
| *Lathyrus pratensis* | | 3 | | 4 | | 4 | | 5 | | 2 | V |
| *Trifolium pratense* | | 3 | | 1 | | 1 | | | | 3 | IV |
| *Potentilla reptans* | | 5 | | 3 | | 4 | | 1 | | 2 | V |
| *Vicia cracca* | | 2 | | 3 | | 3 | | | | 3 | IV |
| *Medicago lupulina* | | 2 | | | | | | | | 1 | II |
| *Cirsium arvense* | | 3 | | 2 | | | | | | | II |
| *Prunus spinosa* | | 1 | | | | | | | | | I |
| *Holcus lanatus* | | | | 3 | | 3 | | 5 | | 2 | IV |
| *Galium verum* | | | | 2 | | 2 | | | | 4 | III |
| *Carex hirta* | | | | 1 | | 1 | | | | 1 | III |
| *Rumex acetosa* | | | | 1 | | | | | | | I |
| *Leucanthemum vulgare* | | | | | | | | 4 | | 3 | II |
| *Heracleum sphondylium* | | | | | | | | 1 | | 1 | II |
| *Crataegus monogyna (seedling)* | | | | | | | | 1 | | | I |
| *Trisetum flavescens* | | | | | | | | 1 | | | I |
| *Achillea millefolium* | | | | | | | | 1 | | | I |
| *Taraxacum officinale* aggregate | | | | | | | | 1 | | | I |
| *Equisetum arvense* | | | | | | | | 1 | | | I |
| *Senecio erucifolius* | | | | | | | | | | 2 | I |
| *Centaurea debeauxii* | | | | | | | | | | 4 | I |
| *Phleum bertolonii* | | | | | | | | | | 2 | I |
| *Pseudoscleropodium purum* | | | | | | | | | | 3 | I |
| *Festuca pratense* | | | | | | | | | | 2 | I |
| *Rubus fruticosa* aggregate. | | | | | | | | | | 1 | I |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bare rock/hardstanding | | | | | | | | | | | |
| Bare soil | | | | | | | | | | | |
| Leaf litter/ thatch | | | | | | | | | | | |
| Permanent open water | | | | | | | | | | | |

**Further information required, see back of sheet**

| | |
|---|---|
| Domin scale | 1: few individuals, 2: several individuals, 3: many individuals, 4: 4-10%, 5: 11-25%, 6: 26-33%, 7: 34-50%, 8: 51-75%, 9: 76-90%, 10: 91-100% |
| Quadrat sizes | Short herbaceous 2x2m; tall and more open herb communities 4x4m; species poor, very tall herbaceous 10x10m; linear features such as streams, ditches, verges can use strips e.g 1x4m, 2x8m. |
| Frequency | Number of quadrats which the species occurs in, use Roman numerals I to V, where I=20% of quadrats and V=100%. |

Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations

More diverse, open sward of semi-improved neutral grassland adjacent to the River Snail. Cattle grazed later in the year. Some scrub along the river, none in the grassland.

Photo 4. Semi-improved grassland next to the River Snail

Photo 5. Close up of grassland

Other flora in wider habitat area- accurate typing of vegetation may require information on other flora present but missed by the quadrats

Other species noted include *Pulicaria dysenterica* and *Galium mollugo*) Marshy grassland/swamp areas to the north-east (see T5). Larger area of species poor semi-improved grassland to east dominated by *Arrhenatherum elatius* and *Cirsium arvense* (cattle grazed later in the year).

| | |
|---|---|
| Domin scale | 1: few individuals, 2: several individuals, 3: many individuals, 4: 4-10%, 5: 11-25%, 6: 26-33%, 7: 34-50%, 8: 51-75%, 9: 76-90%, 10: 91-100% |
| Frequency | Number of quadrats which the species occurs in, use Roman numerals I to V. |

| Project Name | Sunnica | Date | 9/7/19 | Recorders | MP, CL | Area | T5 | Photo ref. | 6,7 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | Swamp | X | Grassland | X | Substrate | Acid | ☐ | Condition | Improved | ☐ |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mire | ☐ | Tall-herb fen | ☐ | | Calcareous | ☐ | | Semi-improved | X |
| | Heath | ☐ | Open habitat | ☐ | | Neutral | X | | Unimproved | ☐ |
| | Maritime | ☐ | | | | Not known | ☐ | | Not relevant | ☐ |

| Hydrology | Wet | ☐ | Transitional | X | Age/ origin | Sown/recent origin | ☐ | Aspect | n/a | Slope | n/a | Water Depth | n/a |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dry | ☐ | | | | Semi-natural | X | | | | | | |

| Layers Mean Height | 1.25 | m | 0.6 | m | | cm | | mm | Habitat Area | 50 | m x | 100 | m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | 100 | % | 10 | % | | % | | % | Quadrat/sample size | 10 | m x | 10 | m |

| Quadrat | 1 | | 2 | | 3 | | 4 | | 5 | | Frequency (I-V) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Quadrat Grid Reference | TL63706852 | | TL63686854 | | TL63726863 | | TL63706863 | | TL63686863 | | |
| Species List | % | Domin | % | Domin | % | Domin | % | Domin | % | Domin | |
| *Elytrigia repens* | | 7 | | 2 | | 7 | | 2 | | | IV |
| *Holcus lanatus* | | 5 | | 5 | | 4 | | 5 | | 3 | V |
| *Juncus inflexus* | | 5 | | | | 6 | | | | | II |
| *Carex hirta* | | 2 | | 5 | | 2 | | 4 | | 3 | V |
| *Agrostis stolonifera* | | 2 | | 7 | | | | 2 | | 3 | IV |
| *Phleum pratensis* | | 4 | | 3 | | | | | | | II |
| *Arrhenatherum elatius* | | 3 | | | | | | 2 | | | II |
| *Sonchus arvensis* | | 2 | | | | 3 | | | | | II |
| *Rumex obtusifolius* | | 1 | | | | 1 | | | | | II |
| *Rumex crispus* | | 1 | | 1 | | | | | | | II |
| *Ranunculus repens* | | 2 | | 5 | | | | | | | II |
| *Senecio erucifolius* | | | | 1 | | | | | | | I |
| *Sonchus asper* | | | | 1 | | | | | | | I |
| *Festuca arundinacea* | | | | 2 | | | | | | | I |
| *Plantago major* | | | | 1 | | | | | | | I |
| *Poa trivialis* | | | | | | 2 | | | | | I |
| *Dactylis glomerate* | | | | | | 4 | | | | | I |
| *Cirsium arvense* | | | | | | 2 | | | | | I |
| *Phalaris arundinacea* | | | | | | | | 6 | | 10 | II |
| *Equisetum arvense* | | | | | | | | | | 2 | I |
| | | | | | | | | | | | |
| Bare rock/hardstanding | | | | | | | | | | | |
| Bare soil | | | | | | | | | | | |
| Leaf litter/ thatch | | | 2 | | | | 5 | | 6 | | |
| Permanent open water | | | | | | | | | | | |

**Further information required, see back of sheet**

| Domin scale | 1: few individuals, 2: several individuals, 3: many individuals, 4: 4-10%, 5: 11-25%, 6: 26-33%, 7: 34-50%, 8: 51-75%, 9: 76-90%, 10: 91-100% |
|---|---|
| Quadrat sizes | Short herbaceous 2x2m; tall and more open herb communities 4x4m; species poor, very tall herbaceous 10x10m; linear features such as streams, ditches, verges can use strips e.g 1x4m, 2x8m. |

| | |
|---|---|
| Frequency | Number of quadrats which the species occurs in, use Roman numerals I to V, where I=20% of quadrats and V=100%. |

| Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations |
|---|
| Marshy grassland and swamp mosaic, dominated by Elytrigia repens, Holcus lanatus and Carex hirta, with locally dominant stands of Phalaris arundinacea. Cattle grazed later in the year. No standing water but damp soil (July 2019). |

Photo 6. Marshy grassland with swamp and S.I. grassland

Photo 7. *Phalaris arundinacea* swamp

| Other flora in wider habitat area- accurate typing of vegetation may require information on other flora present but missed by the quadrats |
|---|
| Species poor semi-improved grassland to the south dominated by *Arrhenatherum elatius* and *Cirsium arvense* (cattle grazed later in the year). Arable field to the north (onions). |

| | |
|---|---|
| Domin scale | 1: few individuals, 2: several individuals, 3: many individuals, 4: 4-10%, 5: 11-25%, 6: 26-33%, 7: 34-50%, 8: 51-75%, 9: 76-90%, 10: 91-100% |
| Frequency | Number of quadrats which the species occurs in, use Roman numerals I to V. |

| Project Name | Sunnica | Date | 9/7/19 | Recorders | MP, CL | Area | T6 | Photo ref. | 8,9 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | Swamp ☐ | Grassland X | Substrate | Acid X | Condition | Improved ☐ |
|---|---|---|---|---|---|---|
| | Mire ☐ | Tall-herb fen ☐ | | Calcareous ☐ | | Semi-improved ☐ |
| | Heath ☐ | Open habitat ☐ | | Neutral ☐ | | Unimproved X |
| | Maritime ☐ | | | Not known ☐ | | Not relevant ☐ |

| Hydrology | Wet ☐ | Transitional ☐ | Age/ origin | Sown/recent origin ☐ | Aspect | n/a | Slope | n/a | Water Depth | n/a |
|---|---|---|---|---|---|---|---|---|---|---|
| | Dry X | | | Semi-natural X | | | | | | |

| Layers Mean Height | 0.2 | M | | m | | cm | | mm | Habitat Area | 250 | m x | 400 | m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | 90 | % | | % | | % | | % | Quadrat/sample size | 2 | m x | 2 | m |

| Quadrat | 1 | | 2 | | 3 | | 4 | | 5 | | Frequency (I-V) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Quadrat Grid Reference | TL69217292 | | TL69197292 | | TL69097292 | | TL69047283 | | TL69057276 | | |
| Species List | % | Domin | % | Domin | % | Domin | % | Domin | % | Domin | |
| *Arenaria serpyllifolia* | | 2 | | 2 | | 3 | | 1 | | 1 | V |
| *Medicago minima (Nationally Scarce)* | | 4 | | | | | | | | | I |
| *Crepis capillaris* | | 4 | | 4 | | 2 | | 2 | | 2 | V |
| *Sedum acre* | | 1 | | | | | | | | | I |
| *Bromus hordeaceus* | | 4 | | 2 | | 2 | | 3 | | 5 | V |
| *Agrostis capillaris* | | 7 | | 5 | | 5 | | 5 | | 4 | V |
| *Plantago lanceolata* | | 3 | | 4 | | 5 | | 4 | | 4 | V |
| *Rumex acetosella* | | 3 | | 2 | | 3 | | 5 | | 3 | V |
| *Echium vulgare* | | 2 | | | | | | 4 | | 1 | III |
| *Erodium cicutarium* | | 3 | | | | | | 2 | | 2 | III |
| *Geranium molle* | | 2 | | 1 | | | | | | 1 | III |
| *Carex hirta* | | 2 | | | | | | | | | I |
| *Trifolium campestre* | | 2 | | | | | | | | | I |
| *Trifolium arvensis* | | 3 | | 3 | | 4 | | 5 | | 5 | V |
| *Hypochaeris radicata* | | 2 | | 2 | | | | | | | II |
| *Trisetum flavescens* | | 1 | | 1 | | 3 | | | | | III |
| *Phleum bertolonii* | | 3 | | 1 | | 1 | | 1 | | | IV |
| *Taraxacum officinale* aggregate | | 1 | | 1 | | | | | | 1 | III |
| *Quercus robur* | | 1 | | | | | | | | | I |
| *Holcus lanatus* | | | | 1 | | | | | | | I |
| *Galium verum* | | | | 3 | | 5 | | 4 | | 4 | IV |
| *Achillea millefolium* | | | | 3 | | 4 | | 2 | | 2 | IV |
| *Trifolium repens* | | | | 1 | | | | | | | I |
| *Dactylis glomerata* | | | | 3 | | | | | | | I |
| *Jacobaea vulgaris* | | | | 1 | | | | | | | I |
| *Convolvulus arvensis* | | | | 2 | | | | | | | I |
| *Scleranthus annuus* | | | | | | | | 1 | | | I |
| *Anthoxanthum odoratum* | | | | | | 3 | | | | | I |
| *Silene latifolia* | | | | 1 | | | | 1 | | | II |
| *Arrhenatherum elatius* | | 2 | | 2 | | | | | | | II |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Ononis repens* | | | | | | 1 | | | | | I |
| *Lotus corniculatus* | | | | | | 3 | | | | | I |
| *Rhytidiadelphus squarrosus* | | 3 | | 2 | | | | | | | II |
| *Koeleria macrantha* | | | | | | 4 | | | | | I |
| *Cerastium semidecandrum* | | | | | | 2 | | 1 | | | II |
| *Leontodon saxatile* | | | | | | 1 | | 1 | | | II |
| *Plantago coronopus* | | | | | | | | 2 | | | I |
| *Hypochaeris glabra* | | | | | | | | 1 | | 1 | II |
| *Aira caryophyllea* | | | | | | | | 1 | | | I |
| | | | | | | | | | | | |
| Bare rock/hardstanding | | | | | | | | | | | |
| Bare soil | 10% | | 8% | | 2% | | 5% | | 15% | | |
| Leaf litter/ thatch | 25% | | 10% | | 2% | | 5% | | 5% | | |
| Permanent open water | | | | | | | | | | | |

**Further information required, see back of sheet**

| | |
|---|---|
| Domin scale | 1: few individuals, 2: several individuals, 3: many individuals, 4: 4-10%, 5: 11-25%, 6: 26-33%, 7: 34-50%, 8: 51-75%, 9: 76-90%, 10: 91-100% |
| Quadrat sizes | Short herbaceous 2x2m; tall and more open herb communities 4x4m; species poor, very tall herbaceous 10x10m; linear features such as streams, ditches, verges can use strips e.g 1x4m, 2x8m. |
| Frequency | Number of quadrats which the species occurs in, use Roman numerals I to V, where I=20% of quadrats and V=100%. |

Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations

Short turf acid grassland, with part of the field designated as Worlington Heath Country Wildlife Site. Horse grazed (2 horses) some damp depressions in the field (see notes below). Some taller grassland. Also includes part of field to east with short acid grassland and cut occasionally with tractor mower.

Photo 8. Short acid grassland

Photo 9. Site overview

Other flora in wider habitat area- accurate typing of vegetation may require information on other flora present but missed by the quadrats

*Spergula arvensis* present outside quadrats at TL69019 72963. A few damp depressions (see photo 9) with marshy grassland with *Rorippa palustris, Lythrum salicaria, Mentha aquatica, Myosotis laxa, Juncus bufonis, Potentilla anserina, Persicaria amphibia, Eleocharis palustris, Lysimachia vulgaris, Lycopus europaeus* and *Holcus lanatus*.

| Project Name | Sunnica | Date | 10/7/19 | Recorders | MP, CL | Area | T7 | Photo ref. | 10 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | Swamp ☐ Grassland X<br>Mire ☐ Tall-herb fen ☐<br>Heath ☐ Open habitat ☐<br>Maritime ☐ | Substrate | Acid X<br>Calcareous ?<br>Neutral X<br>Not known ☐ | Condition | Improved ☐<br>Semi-improved X<br>Unimproved X<br>Not relevant ☐ |
|---|---|---|---|---|---|
| Hydrology | Wet ☐ Transitional ☐<br>Dry X | Age/ origin | Sown/recent origin ☐<br>Semi-natural X | Aspect S | Slope 5% Water Depth n/a |

| Layers Mean Height | 0.5 | M | | m | | cm | | mm | Habitat Area | 20 | m x | 100 | m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | 85 | % | | % | | % | | % | Quadrat/sample size | 4 | m x | 4 | m |

| Quadrat | 1 | | 2 | | 3 | | 4 | | 5 | | Frequency (I-V) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Quadrat Grid Reference | TL69087253 | | TL69127248 | | TL69147246 | | TL69157243 | | TL69177241 | | |
| Species List | % | Domin | % | Domin | % | Domin | % | Domin | % | Domin | |
| *Anisantha diandra* | | 5 | | 6 | | 5 | | 6 | | 4 | V |
| *Echium vulgare* | | 2 | | | | 1 | | 4 | | | III |
| *Plantago lanceolata* | | 4 | | 2 | | 1 | | 1 | | 2 | V |
| *Jacobaea vulgaris* | | 3 | | | | | | | | | I |
| *Galium verum* | | 5 | | 1 | | 4 | | 4 | | 1 | V |
| *Elytrigia repens* | | 3 | | 4 | | 4 | | 3 | | 3 | V |
| *Anchusa arvensis* | | 1 | | | | | | | | | I |
| *Carex arenaria* | | 4 | | 6 | | 6 | | 4 | | 8 | V |
| *Agrostis capillaris* | | 1 | | 1 | | | | 3 | | | III |
| *Vulpia myuros* | | 2 | | | | | | 2 | | 2 | III |
| *Agrostis stolonifera* | | 2 | | | | | | | | | I |
| *Bromus hordeaceus* | | 3 | | 3 | | 1 | | 1 | | 2 | V |
| *Quercus robur (seedling)* | | 1 | | | | | | | | | I |
| *Arenaria serpyllifolia* | | 2 | | 2 | | 2 | | | | | III |
| *Erodium cicutarium* | | 2 | | 2 | | | | 2 | | | III |
| *Chenopodium album* | | 1 | | 1 | | 1 | | | | 1 | IV |
| *Achillea millefolium* | | 3 | | 2 | | | | | | | II |
| *Silene latifolia* | | 3 | | 1 | | 3 | | 3 | | 3 | V |
| *Sedum acre* | | | | 1 | | | | | | | I |
| *Avena fatua* | | | | 1 | | | | | | | I |
| *Erigeron canadensis* | | | | 2 | | | | | | | I |
| *Urtica dioica* | | | | 3 | | | | 2 | | 1 | III |
| *Artemisia vulgaris* | | | | 3 | | | | 4 | | | II |
| *Lactuca virosa* | | | | | | 2 | | | | | I |
| *Arrhenatherum elatius* | | | | | | 2 | | | | | I |
| *Hypochaeris radicata* | | | | | | 1 | | | | | I |
| *Dactylis glomerate* | | | | | | 2 | | 3 | | 2 | III |
| *Taraxacum officinale* aggregate | | | | | | 1 | | | | 1 | II |
| *Senecio vulgaris* | | | | | | 1 | | 1 | | | II |
| *Lolium perenne* | | | | | | | | 2 | | | I |
| *Reseda luteola* | | | | | | | | | | 2 | I |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bare soil/sand | 15% | | 5% | | 15% | | 10% | | 5% | | |
| Leaf litter/ thatch | 20% | | 10% | | 30% | | 20% | | 30% | | |

**Further information required, see back of sheet**

| | |
|---|---|
| Domin scale | 1: few individuals, 2: several individuals, 3: many individuals, 4: 4-10%, 5: 11-25%, 6: 26-33%, 7: 34-50%, 8: 51-75%, 9: 76-90%, 10: 91-100% |
| Quadrat sizes | Short herbaceous 2x2m; tall and more open herb communities 4x4m; species poor, very tall herbaceous 10x10m; linear features such as streams, ditches, verges can use strips e.g 1x4m, 2x8m. |
| Frequency | Number of quadrats which the species occurs in, use Roman numerals I to V, where I=20% of quadrats and V=100%. |

Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations

Grassland strip c.20m wide between fields with *Carex arenaria* abundant. No obvious management, potential future shading from trees. Pig field to south.

Photo 10. Acid grassland vegetation dominated by *Carex arenaria*

Other flora in wider habitat area- accurate typing of vegetation may require information on other flora present but missed by the quadrats

*Cynoglossum officinale* also present outside of quadrats.

| Project Name | Sunnica | Date | 10/7/19 | Recorders | MP, CL | Area | T8 | Photo ref. | 11 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | Swamp ☐ Grassland X<br>Mire ☐ Tall-herb fen ☐<br>Heath ☐ Open habitat ☐<br>Maritime ☐ | Substrate | Acid X<br>Calcareous ☐<br>Neutral ☐<br>Not known ☐ | Condition | Improved ☐<br>Semi-improved X<br>Unimproved X<br>Not relevant ☐ |
|---|---|---|---|---|---|
| Hydrology | Wet ☐ Transitional ☐<br>Dry X | Age/ origin | Sown/recent origin ☐<br>Semi-natural X | Aspect n/a | Slope n/a Water Depth n/a |

| Layers Mean Height | 0.3 | M | | m | | cm | | mm | Habitat Area | 200 | m x | 70 | m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | 90 | % | | % | | % | | % | Quadrat/sample size | 2 | m x | 2 | m |

| Quadrat | 1 | | 2 | | 3 | | 4 | | 5 | | Frequency (I-V) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Quadrat Grid Reference | TL68987281 | | TL68957280 | | TL68947274 | | TL68937268 | | TL68977250 | | |
| Species List | % | Domin | % | Domin | % | Domin | % | Domin | % | Domin | |
| *Agrostis capillaris* | | 1 | | 2 | | 2 | | 3 | | 4 | V |
| *Cynoglossum officinale* | | | | 1 | | | | | | | I |
| *Erodium cicutarium* | | 2 | | 1 | | 2 | | 1 | | 2 | V |
| *Holcus lanatus* | | 1 | | 1 | | | | | | | II |
| *Cirsium arvense* | | 2 | | | | | | | | | I |
| *Trifolium arvense* | | 4 | | 6 | | 4 | | 5 | | 5 | V |
| *Echium vulgare* | | 4 | | 4 | | 4 | | 1 | | 4 | V |
| *Jacobaea vulgaris* | | 4 | | 3 | | 3 | | | | | III |
| *Silene conica (N.S)* | | 2 | | | | | | | | | I |
| *Medicago minima (N.S.)* | | 3 | | | | 1 | | 3 | | | III |
| *Vulpia ciliata* ssp.*ambigua (N.S.)* | | 1 | | | | | | | | | I |
| *Arenaria leptoclados* | | 5 | | 4 | | 2 | | | | | III |
| *Plantago lanceolata* | | 4 | | 2 | | 5 | | 5 | | 5 | V |
| *Rumex acetosella* | | 2 | | 4 | | 2 | | | | 3 | IV |
| *Anthoxanthum odoratum* | | 1 | | 5 | | | | | | | II |
| *Anisantha diandra* | | 3 | | 2 | | 3 | | | | | III |
| *Hypochaeris radicata* | | 1 | | | | | | | | | I |
| *Crepis capillaris* | | 2 | | 1 | | 1 | | | | | III |
| *Vulpia bromoides* | | 3 | | 4 | | 4 | | 7 | | 3 | V |
| *Linaria vulgaris* | | 1 | | | | | | 1 | | | II |
| *Anthyllis vulneraria* | | | | | | 2 | | | | | I |
| *Reseda luteola* | | | | | | 1 | | 1 | | | II |
| *Pilosella officinalis* | | | | | | 3 | | | | | I |
| *Taraxacum officinale* aggregate | | | | | | 2 | | | | 1 | II |
| *Dactylis glomerata* | | | | | | 1 | | | | | I |
| *Galium verum* | | | | | | 1 | | 4 | | | II |
| *Trifolium campestre* | | | | | | | | 2 | | | I |
| *Silene latifolia* | | | | | | | | 1 | | 1 | II |
| *Geranium molle* | | | | | | | | 1 | | | I |
| *Viola arvensis* | | | | | | 1 | | 1 | | | II |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Convolvulus arvensis* | | | | | | | | | | 2 | I |
| *Agrostis stolonifera* | | | | | | | | | | 1 | I |
| *Viola* x *contempta* | | | | | | | | | | 1 | I |
| *Tripleurospermum inordorum* | | | | | | | | | | 1 | I |
| *Hypochaeris glabra* (uncommon) | | | | | | | | | | 1 | I |
| Bare soil/sand | 20% | | 5% | | 20% | | 5% | | 15% | | |
| Leaf litter/ thatch | | | | | 2% | | 10% | | 5% | | |

**Further information required, see back of sheet**

| | |
|---|---|
| Domin scale | 1: few individuals, 2: several individuals, 3: many individuals, 4: 4-10%, 5: 11-25%, 6: 26-33%, 7: 34-50%, 8: 51-75%, 9: 76-90%, 10: 91-100% |
| Quadrat sizes | Short herbaceous 2x2m; tall and more open herb communities 4x4m; species poor, very tall herbaceous 10x10m; linear features such as streams, ditches, verges can use strips e.g 1x4m, 2x8m. |
| Frequency | Number of quadrats which the species occurs in, use Roman numerals I to V, where I=20% of quadrats and V=100%. |

Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations

Species rich acid grassland similar to T6 (County Wildlife Site area to the east). Occasionally cut by tractor mower (seen cutting in June and August). Arable field to west and north. Three Nationally Scarce (N.S) and an 'uncommon' species recorded (Stace, 2020).

Photo 11. Acid grassland vegetation

| Project Name | Sunnica | Date | 10/7/19 | Recorders | MP, CL | Area | T9 | Photo ref. | 12 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | | | | | Substrate | | | Condition | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Swamp | ☐ | Grassland | X | | Acid | X | | Improved | ☐ |
| | Mire | ☐ | Tall-herb fen | ☐ | | Calcareous | ☐ | | Semi-improved | X |
| | Heath | ☐ | Open habitat | ☐ | | Neutral | X | | Unimproved | X |
| | Maritime | ☐ | | | | Not known | ☐ | | Not relevant | ☐ |

| Hydrology | | | | | Age/ origin | | | Aspect | n/a | Slope | n/a | Water Depth | n/a |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wet | ☐ | Transitional | ☐ | | Sown/recent origin | ☐ | | | | | | |
| | Dry | X | | | | Semi-natural | X | | | | | | |

| Layers Mean Height | 0.5 | M | | m | | cm | | mm | Habitat Area | 2500m2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | 100 | % | | % | | % | | % | | | | | |

Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations

Acid/dune grassland strip similar to T7 so not surveyed in detail, comprising a c.30m wide strip adjacent to Country Wildlife Site (T6) (to the east). *Carex arenaria* abundant, *Jacobaea vulgaris* frequent and occasional *Anthyllis vulneraria, Cynoglossum officinale, Linaria vulgaria*. Scattered planted trees including *Pinus sylvestris*, *Pinus nigra* ssp. *larico*, *Crateagus monogyna* and *Eucalyptus* sp. Newly planted hedge. No management is obvious, potential future shading from trees. Arable field (carrots) to west and T8 to the south.

Photo 12. Unmanaged acid/dune grassland vegetation with scattered trees.

| Project Name | Sunnica | Date | 16/7/19 | Recorders | MP | Area | T10 (a,b,c) | Photo ref. | 12,13 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | | | | | Substrate | | | Condition | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Swamp | X | Grassland | X | | Acid | ☐ | | Improved | ☐ |
| | Mire | ☐ | Tall-herb fen | ☐ | | Calcareous | ☐ | | Semi-improved | X |
| | Heath | ☐ | Open habitat | ☐ | | Neutral | ☐ | | Unimproved | X |
| | Maritime | ☐ | | | | Not known | X | | Not relevant | ☐ |

| Hydrology | | | | | Age/ origin | | | Aspect | | Slope | | Water Depth | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wet | X | Transitional | X | | Sown/recent origin | X | | | | | | |
| | Dry | X | | | | Semi-natural | X | | | | | | |

| Layers Mean Height | | M | | m | | cm | | mm | Habitat Area | 2.9 ha set-aside field |
|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | | % | | % | | % | | % | | 800m ditch length |

| Species List T10a – Drain margins | DAFOR | Species List T10b – aquatic/emergent | DAFOR | Species List 10c – set-aside | DAFOR |
|---|---|---|---|---|---|
| *Phragmites australis* | D | *Alisma plantago-aquatica* | O | *Persicaria maculosa* | F |
| *Eupatorium cannabinum* | O | *Juncus effusus* | F | *Plantago lanceolata* | O |
| *Sonchus arvensis* | R | *Lemna trisulca* | F | *Tripleurospermum inodorum* | F |
| *Agrostis stolonifera* | O | *Filipendula ulmaria* | O | *Hypochaeris radicata* | O |
| *Arrhenatherum elatius* | O | *Eupatorium cannabinum* | F | *Elytrigia repens* | F |
| *Elytrigia repens* | O | *Phragmites australis* | A | *Capsella bursa-pastoris* | O |
| *Melilotus officinalis* | R | Open water | 50% | *Crepis capillaris* | R |
| *Calystegia sepium* | O | Species List 10c – set-aside | | *Trifolium dubium* | R |
| *Chenopodium album* | R | *Helminthotheca echioides* | F | *Scorzoneroides autumnalis* | R |
| *Galeopsis bifida* | R | *Chenopodium album* | F | *Sisymbrium officinalis* | O |
| *Papaver rhoeas* | R | *Sinapis arvensis* | O | *Anchusa arvensis* | R |
| *Reseda lutea* | R | *Agrostis stolonifera* | O | *Agrostis gigantea* | R |
| *Papaver somniferum* | R | *Tussilago farfara* | O | *Lepidium didymum* | O |
| *Stachys palustris* | O | *Polypogon monspeliensis (N.S)* | R | *Erigeron canadensis* | F |
| *Lythrum salicaria* | O | *Sisymbrium altissimum* | R | *Festuca rubra* | O |
| *Centaurea debeauxii* | R | *Anisantha diandra* | O | *Fallopia convolvulus* | R |
| | | *Hypochaeris glabra* | R | *Artemisia vulgaris* | F |
| | | *Barbarea vulgaris* | R | Bare ground | 40% |

| DAFOR | D= Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare |
|---|---|

| Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations |
|---|
| Notes made on selected habitats in a large open arable and pig rearing area to the north west of the site (Sunnica East). Habitats comprise a drain, with emergent and marginal vegetation and a set-aside field. Note that aquatic macrophytes not surveyed in detail (where present). |

Photo 12. Drain with Phragmites australis dominant

Photo 13. Set-aside field

| Project Name | Sunnica | Date | 16/7/19 | Recorders | MP | Area | T11 | Photo ref. | 14, 15 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | Swamp ☐ Mire ☐ Heath ☐ Maritime ☐ | Grassland X Tall-herb fen ☐ Open habitat ☐ | Substrate | Acid ☐ Calcareous X Neutral ☐ Not known ☐ | Condition | Improved ☐ Semi-improved X Unimproved X Not relevant ☐ |
|---|---|---|---|---|---|---|
| Hydrology | Wet ☐ Dry X | Transitional ☐ | Age/ origin | Sown/recent origin ☐ Semi-natural X | Aspect | Sout h/we st |

| Slope | 0-10% | Water Depth | n/a |
|---|---|---|---|

| Layers Mean Height | 0.8 | M | 0.3 | m | | cm | | mm | Habitat Area | 0.7 ha | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | 50 | % | 80 | % | | % | | % | Quadrat/sample size | 4 | m x | 4 | m |

| Quadrat | 1 | | 2 | | 3 | | 4 | | 5 | | Frequency (I-V) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Quadrat Grid Reference | TL7083672190 | | TL7083272184 | | TL7085672146 | | TL7088172140 | | TL7087672080 | | |
| Species List | % | Domin | % | Domin | % | Domin | % | Domin | % | Domin | |
| *Festuca rubra* | | 1 | | 3 | | 3 | | 3 | | 3 | V |
| *Scabiosa columbaria* | | 1 | | | | 2 | | | | 1 | III |
| *Crepis capillaris* | | 3 | | 2 | | 2 | | 1 | | 1 | V |
| *Arrhenatherum elatius* | | 5 | | 6 | | 5 | | 5 | | 5 | V |
| *Plantago lanceolata* | | 4 | | 4 | | 4 | | 4 | | 3 | V |
| *Daucus carota* | | 4 | | 2 | | 3 | | 2 | | 2 | V |
| *Linaria vulgaris* | | 3 | | 3 | | 1 | | | | 4 | IV |
| *Achillea millefolium* | | 2 | | 1 | | | | | | 2 | III |
| *Dactylis glomerata* | | 4 | | 3 | | 3 | | 4 | | 5 | V |
| *Pilosella officinarum* | | 1 | | | | | | | | | I |
| *Glechoma hederacea* | | | | | | | | | | 2 | I |
| *Bromus hordeaceus* | | 4 | | 2 | | 3 | | 1 | | 3 | V |
| *Trifolium campestre* | | 3 | | 2 | | 3 | | | | | III |
| *Phleum bertolonii* | | 4 | | 1 | | 2 | | | | 3 | IV |
| *Jacobaea vulgaris* | | 3 | | 1 | | 1 | | 1 | | | IV |
| *Vicia sativa* sub-species *nigra* | | 1 | | | | 1 | | | | | II |
| *Deschampsia cespitosa* | | 1 | | | | | | | | | I |
| *Pastinaca sativa* | | 2 | | 1 | | 2 | | 2 | | | IV |
| *Rubus fruticosa* aggregate | | 5 | | 1 | | | | | | 1 | III |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Cirsium arvense* | | | | 4 | | 1 | | 3 | | 1 | IV |
| *Cornus sp.* (seedling) | | | | 1 | | | | | | | I |
| *Carduus crispus* | | | | 1 | | | | 1 | | 1 | III |
| *Cynoglossum officinale* | | | | 1 | | | | 1 | | | II |
| *Rosa* species (seedling) | | | | 1 | | 1 | | | | 1 | III |
| *Torilis japonica* | | | | 1 | | 2 | | | | | II |
| *Hypochaeris radicata* | | | | 1 | | | | | | | I |
| *Aninsantha sterilis* | | | | 2 | | 3 | | | | | II |
| *Agrimonia eupatoria* | | | | | | 3 | | | | | I |
| *Helminthotheca echioides* | | | | | | 2 | | 1 | | | II |
| *Geranium columbinum* | | | | | | 2 | | 1 | | | II |
| *Erigeron canadensis* | | | | | | 1 | | | | | I |
| *Erigeron acer* | | | | | | 1 | | | | | I |
| *Centaurea scabiosa* | | | | | | | | 2 | | | I |
| *Galium verum* | | | | | | | | 2 | | | I |
| *Holcus lanatus* | | | | | | 1 | | 1 | | 2 | III |
| *Agrostis stolonifera* | | 3 | | 2 | | | | | | | II |
| *Trisetum flavescens* | | | | | | | | 1 | | | I |
| *Convolvulus arvensis* | | | | | | | | 1 | | | I |
| *Inula conyza* | | | | | | | | | | 1 | I |
| Bare soil/sand | 20% | | 5% | | 10% | | 7% | | 5% | | |
| Leaf litter/ thatch | 10% | | 20% | | 20% | | 40% | | 40% | | |

| | |
|---|---|
| Domin scale | 1: few individuals, 2: several individuals, 3: many individuals, 4: 4-10%, 5: 11-25%, 6: 26-33%, 7: 34-50%, 8: 51-75%, 9: 76-90%, 10: 91-100% |
| Quadrat sizes | Short herbaceous 2x2m; tall and more open herb communities 4x4m; species poor, very tall herbaceous 10x10m; linear features such as streams, ditches, verges can use strips e.g 1x4m, 2x8m. |
| Frequency | Number of quadrats which the species occurs in, use Roman numerals I to V, where I=20% of quadrats and V=100%. |

Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations

A small area of semi-improved to unimproved species calcareous grassland within a wider area of species poor semi-improved grassland and scrub. A diverse range of species (38 within the quadrats), including red fescue, smooth hawk's-beard, small scabious *Scabiosa columbaria*, false oat-grass, ribwort plantain, wild carrot, cock's-foot and soft brome. Other localised calcareous indicators in small numbers include welted thistle *Carduus crispus* and ploughman's-spikenard *Inula conyza*. No sign of recent management, with some vehicle access causing disturbance across the site and some spray drift along the edges. Bramble *Rubus fruticosa* aggregate scrub encroachment and frequent creeping thistle *Cirsium arvense* and common ragwort. Large arable field to west.

Photo 14. Site overview

Photo 15. Close-up of vegetation with *Scabiosa columbaria*

| Project Name | Sunnica | Date | 16/7/19 | Recorders | MP, CL | Area | T12 | Photo ref. | 16 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | Swamp ☐ | Grassland X | Substrate | Acid X | Condition | Improved ☐ |
|---|---|---|---|---|---|---|
| | Mire ☐ | Tall-herb fen ☐ | | Calcareous X | | Semi-improved X |
| | Heath ☐ | Open habitat ☐ | | Neutral ☐ | | Unimproved ☐ |
| | Maritime ☐ | | | Not known ☐ | | Not relevant ☐ |

| Hydrology | Wet ☐ | Transitional ☐ | Age/ origin | Sown/recent origin X | Aspect | N | Slope | 5% | Water Depth | n/a |
|---|---|---|---|---|---|---|---|---|---|---|
| | Dry X | | | Semi-natural X | | | | | | |

| Layers Mean Height | 0.6 | M | | m | | cm | | mm | Habitat Area | 15 | m x | 500 | m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | 100 | % | | % | | % | | % | | | | | |

| Species List | DAFOR | | | | |
|---|---|---|---|---|---|
| *Holcus lanatus* | F | | | | |
| *Agrostis stolonifera* | O | | | | |
| *Arrhenatherum elatius* | F | | | | |
| *Cynoglossum officinale* | R | | | | |
| *Carduus nutans* | R | | | | |
| *Chenopodium album* | F | | | | |
| *Cirsium arvense* | R | | | | |
| *Trifolium arvense* | R | | | | |
| *Papaver rhoeas* | R | | | | |
| *Achillea millefolium* | O | | | | |
| *Echium vulgare* | O | | | | |
| *Artemisia vulgaris* | F | | | | |
| *Descurainia sophia* | O | | | | |
| *Nepeta cataria* (an uncommon species) | R | | | | |
| *Agrostis capillaris* | O | | | | |
| | | | | | |

| DAFOR | D= Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare |
|---|---|

| Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations |
|---|
| Semi-improved field margin strip 10-20m wide between woodland and arable field. Light acidic sandy soil with some calcareous influence Light acidic sandy soil with some calcareous influence. No management is obvious. Shading from pine plantation to the south. Arable field (sweetcorn) to north. One 'uncommon' species (Stace, 2020) *Nepeta cataria* is present along access track. |

Photo 16. Set-aside grassland vegetation.

| Project Name | Sunnica | Date | 14/5/20 | Recorders | MP | Area | T13 | Photo ref. | 17,18 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | | | | | Substrate | | | Condition | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Swamp | ☐ | Grassland | X | | Acid | X | | Improved | ☐ |
| | Mire | ☐ | Tall-herb fen | ☐ | | Calcareous | ☐ | | Semi-improved | X |
| | Heath | ☐ | Open habitat | ☐ | | Neutral | ☐ | | Unimproved | X |
| | Maritime | ☐ | | | | Not known | ☐ | | Not relevant | ☐ |

| Hydrology | | | | | Age/ origin | | | Aspect | | Slope | | Water Depth | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wet | ☐ | Transitional | ☐ | | Sown/recent origin | X | | N | | N | | n/a |
| | Dry | X | | | | Semi-natural | X | | | | | | |

| Layers Mean Height | 0.1 | m | | m | | cm | | mm | Habitat Area | 25 | m x | 200 | m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | 70 | % | | % | | % | | % | Quadrat/sample size | 2 | m x | 2 | M |

| Quadrat | 1 | | 2 | | 3 | | 4 | | 5 | | Frequency (I-V) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Quadrat Grid Reference | TL68987281 | | TL68957280 | | TL68947274 | | TL68937268 | | TL68977250 | | |
| Species List | % | Domin | % | Domin | % | Domin | % | Domin | % | Domin | |
| *Agrostis capillaris* | | 5 | | 6 | | 6 | | 4 | | 4 | V |
| *Sedum acre* | | 3 | | 3 | | 3 | | 2 | | 2 | V |
| *Erodium cicutarium* | | 2 | | 1 | | 1 | | 2 | | 1 | V |
| *Holcus lanatus* | | 2 | | 1 | | 2 | | 2 | | 2 | V |
| *Poa pratense* | | 3 | | 2 | | | | | | | II |
| *Trifolium arvense* | | 2 | | | | 3 | | 2 | | 2 | IV |
| *Echium vulgare* | | 4 | | 4 | | 4 | | 2 | | 2 | V |
| *Cerastium semidecandrum* | | 4 | | 2 | | 2 | | | | | |
| *Medicago minima* | | | | 2 | | 1 | | 1 | | | |
| *Arenaria leptoclados* | | | | | | 1 | | | | 1 | II |
| *Plantago lanceolata* | | 4 | | 4 | | 4 | | 5 | | 5 | V |
| *Rumex acetosella* | | 2 | | 2 | | 3 | | 3 | | 2 | V |
| *Anisantha sterilis* | | 4 | | 4 | | | | 4 | | | III |
| *Pilosella officinalis* | | | | | | | | 4 | | | I |
| *Cerastium glomerata* | | | | | | 1 | | | | | I |
| *Reseda lutea* | | | | | | 2 | | | | | I |
| *Vulpia bromoides* | | | | | | | | | | 1 | I |
| *Vicia lathyroides* | | | | | | 2 | | | | | I |
| *Achillea millefolium* | | | | 1 | | 3 | | 3 | | 3 | IV |
| *Dactylis glomerata* | | | | | | | | 1 | | | I |
| *Bromus hordeaceus* | | | | | | | | 1 | | | I |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Hypnum cupressiforme* | | | | | | | | 2 | | 3 | II |
| *Anthoxanthum odoratum* | | | | | | | | | | 3 | I |
| *Anisantha diandra* | | | | | | | | | | 1 | I |
| *Silene latifolia* | | | | 1 | | | | | | | I |
| *Geranium molle* | | | | | | | | 1 | | | I |
| *Festuca rubra agg* | | | | 2 | | | | | | | I |
| *Convolvulus arvensis* | | | | 1 | | 2 | | 2 | | 1 | IV |
| *Brachythesium albicans* | | 4 | | 3 | | 3 | | 2 | | | IV |
| *Hypochaeris glabra* (uncommon) | | 1 | | | | | | | | | I |
| *Koeleria macrantha* | | | | | | | | 1 | | 2 | II |
| Bare soil/sand | 30% | | 30% | | 15% | | 40% | | 45% | | |
| Leaf litter/ thatch | 2% | | 2% | | 5% | | 4% | | 2% | | |

| | |
|---|---|
| Domin scale | 1: few individuals, 2: several individuals, 3: many individuals, 4: 4-10%, 5: 11-25%, 6: 26-33%, 7: 34-50%, 8: 51-75%, 9: 76-90%, 10: 91-100% |
| Quadrat sizes | Short herbaceous 2x2m; tall and more open herb communities 4x4m; species poor, very tall herbaceous 10x10m; linear features such as streams, ditches, verges can use strips e.g 1x4m, 2x8m. |
| Frequency | Number of quadrats which the species occurs in, use Roman numerals I to V, where I=20% of quadrats and V=100%. |

Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations

A grassland strip with a similar species composition and community type as T6 and T8. Previously cut, probably similar to T8 by tractor mower. Pig field to west and woodland to east.

Photo 17. Site overview

Photo 18. Close up of vegetation

| Project Name | Sunnica | Date | 16/7/19 | Recorders | MP | Area | T14 | Photo ref. | 19,20 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | Swamp ☐ Grassland X<br>Mire ☐ Tall-herb fen ☐<br>Heath ☐ Open habitat ☐<br>Maritime ☐ | Substrate | Acid ☐<br>Calcareous X<br>Neutral ☐<br>Not known ☐ | Condition | Improved ☐<br>Semi-improved ☐<br>Unimproved X<br>Not relevant ☐ |
|---|---|---|---|---|---|
| Hydrology | Wet ☐ Transitional ☐<br>Dry X | Age/ origin | Sown/recent origin ☐<br>Semi-natural X | Aspect n/a | Slope 10% Water Depth n/a |

| Layers Mean Height | 0.3 | M | | m | | cm | | mm | Habitat Area | 20 | m x | 500 | m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | 90 | % | | % | | % | | % | | | | | |

| Species List | DAFOR | Species List | DAFOR | | |
|---|---|---|---|---|---|
| *Origanum vulgare* | A | *Reseda luteola* | R | | |
| *Plantago lanceolata* | F | *Campanula glomerata* | O | | |
| *Galium verum* | F | *Rubus fruticosa* aggregate | F-LA | | |
| *Centaurea scabiosa* | O | *Achillea millefolium* | F | | |
| *Daucus carota* | F | *Anisantha sterilis* | O | | |
| *Arrhenatherum elatius* | A | *Arenaria serpyllifolia* | R | | |
| *Dactylis glomerata* | F | *Malva sylvestris* | O | | |
| *Bromus hordeaceus* | O | *Medicago sativa* ssp. *falcata* (N.S) | O | | |
| *Silene latifolia* | O | *Medicago sativa* nothosubspecies*varia* (N.S) | R | | |
| *Leucanthemum vulgare* | O | *Clinopodium acinos (uncommon)* | O | | |
| *Lotus corniculatus* | O | *Filipendula vulgaris* | R | | |
| *Anthriscus sylvestris* | O | *Silene vulgaris* | R | | |
| *Scabiosa columbaria* | O-F | *Potentilla sanguisorba* | R | | |
| *Hypericum calycinum* | LA | *Campanula rotundifolia* | R | | |
| Bare ground | 5% | | | | |
| DAFOR | D= Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare (L= Locally) | | | | |

Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations

Tall unmanaged grassland and tall ruderal herbs with calcareous influences around an irrigation reservoir, surrounded by arable fields. Higher species diversity on the exposed top of the banks, including two National Scarce (N.S) Medicago sativa ssp. falcata and Medicago sativa nothosubspecies varia and an uncommon species wild basil Clinopodium acinos (Stace, 2020).

Photo 19. Site overview

Photo 20. Close up of vegetation

| Project Name | Sunnica | Date | 31/7/19 | Recorders | MP | Area | T15 | Photo ref. | 21 | Sheet no. | |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Broad vegetation type | Swamp ☐ | Grassland X | Substrate | Acid ☐ | Condition | Improved ☐ |
|---|---|---|---|---|---|---|
| | Mire ☐ | Tall-herb fen ☐ | | Calcareous ☐ | | Semi-improved X |
| | Heath ☐ | Open habitat ☐ | | Neutral X | | Unimproved ☐ |
| | Maritime ☐ | | | Not known ☐ | | Not relevant ☐ |

| Hydrology | Wet ☐ | Transitional ☐ | Age/ origin | Sown/recent origin X | Aspect | n/a | Slope | 0 | Water Depth | n/a |
|---|---|---|---|---|---|---|---|---|---|---|
| | Dry X | | | Semi-natural X | | | | | | |

| Layers Mean Height | 0.5 | M | 0.2 | m | | cm | | mm | Habitat Area | 5 | m x | 100 | m |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Layers Cover | 50 | % | 20 | % | | % | | % | | | | | |

| Species List | DAFOR | Species List | DAFOR | | |
|---|---|---|---|---|---|
| *Verbascum nigrum* | R | *Achillea millefolium* | F | | |
| *Conium maculatum* | O | *Anisantha diandra* | O | | |
| *Arrhenatherum elatius* | O | *Echium vulgare* | F | | |
| *Dactylis glomerata* | F | *Vulpia myuros* | O | | |
| *Geranium pyrenaicum* | O | *Geranium mole* | O | | |
| *Silene latifolia* | R | *Bromus hordeaceus* | O | | |
| *Trifolium dubium* | O | *Filago germanica* | LF | | |
| *Scorzoneroides autumnalis* | O | | | | |
| Bare ground | 30% | | | | |
| DAFOR | D= Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare (L= Locally) | | | | |

Descriptive notes: negative indicators species (weeds), shrub/tree cover, management regime, other impacts, limitations

Short perennial/ephemeral and unmanaged semi-improved grassland along track. Arable wheat field to south and hedge/plantation woodland to north.

Photo 21. Site overview with *Filago germanica* in foreground