



# SUNNICA ENERGY FARM

EN010106

Volume 6

Environmental Statement

6.2 Appendix 10I: Landscape and Ecology Management Plan

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and  
Procedure) Regulations 2009



Planning Act 2008

**The Infrastructure Planning  
(Applications: Prescribed Forms and  
Procedure) Regulations 2009**

**Sunnica Energy Farm**

**Environmental Statement  
Appendix 10I: Landscape and Ecology Management Plan**

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# 1 Landscape and Ecology Management Plan

## 1.1 Outline Landscape and Ecology Management Plan

### Introduction

- 1.1.1 This Outline Landscape and Ecology Management Plan (OLEMP) has been prepared on behalf of Sunnica Limited (hereafter referred to as the Applicant). It forms part of the Environment Statement (ES) and includes provision for the successful establishment and future management of biodiversity and landscaping works.
- 1.1.2 The Applicant is seeking development consent, under a Development Consent Order (DCO), for the construction, operation (including maintenance), and decommissioning of a solar farm. The Scheme is described in **Chapter 3: Scheme Description** of this Environmental Statement [REP2-022].
- 1.1.3 The Scheme falls within the definition of a 'Nationally Significant Infrastructure Project' (NSIP) under Section 14(1)(a) and Sections 15(1) and (2) of the 2008 Act, as it would have a generating capacity greater than 50MW electrical output (50MWe). As such, a DCO is required to authorise the Scheme in accordance with Section 31 of the 2008 Act.
- 1.1.4 This OLEMP provides a framework for achieving the 'vision' of the Landscaping Masterplan, as illustrated on **Figures 1 to 6**, in Annex A. Detailed landscaping and ecological management plans will be approved by the relevant local planning authority and will be required to be in accordance with this OLEMP.
- 1.1.5 The Scheme is set within a landscape consisting of ecological designations, 'pine lines', geometric fields and areas of mature woodlands. The OLEMP forms part of the strategy for successfully integrating the Scheme within this landscape, and also mitigating many of the related impacts identified within the ES.

### The Order limits

- 1.1.6 With reference to the illustrative parameter plans **Figure 3-1** and **3-2** of this Environmental Statement [APP-135 and APP-136] and **Chapter 3: Scheme Description** of this Environmental Statement [REP2-022], the Order limits comprises the following areas:

#### *Sunnica East Site A*

- 1.1.7 With reference to **Figure 3-1** of this Environmental Statement [APP-135 ], Sunnica East Site A extends to the west of Ferry Lane and covers 223 hectares.
- 1.1.8 The landform across Sunnica East Site A is predominantly low lying, situated at around 10m AOD.
- 1.1.9 Sunnica East Site A does not cover any of the settlements in the study areas described in **Chapter 10: Landscape and Visual Amenity** of this Environmental Statement [APP-042]. Isleham is approximately 0.5km to the north-west and Freckenham is approximately 0.6km to the south of Sunnica East Site A, at its closest point.



- 1.1.10 The land use across Sunnica East Site A is agricultural, based around Lee Farm, with either arable or pig farming land uses, consisting of large scale fields which are open in character.
- 1.1.11 Sunnica East Site A is crossed by one public right of way (PRoW), a footpath, W-257/007/7, W-257/002/X and W-257/002/0, which cross the eastern edge of ECO2, between Beck Road and Mortimer Lane.
- 1.1.12 Sunnica East Site A is not covered by any statutory landscape designations, neither is it covered by any Conservation Areas and nor does it contain any listed buildings.

#### *Sunnica East Site B*

- 1.1.13 With reference to **Figure 3-1** of this Environmental Statement [**APP-135**], Sunnica East Site B extends to the east of Freckenham Road and to the south of Elms Road and covers 319 hectares
- 1.1.14 The landform across Sunnica East Site B is generally flat, although there is also localised variation at the north-east edge, where the landform adjacent to the A11 rises up to 20m AOD.
- 1.1.15 Sunnica East Site B does not cover any of the settlements in the study areas described in **Chapter 10: Landscape and Visual Amenity** of this Environmental Statement [**APP-042**], although it borders the southern and eastern edges of Worlington. Red Lodge is approximately 0.4km to the east and Badlingham is approximately 0.5km to the south-west.
- 1.1.16 The land use across Sunnica East Site B is predominantly agricultural, as either arable or pig farming. The field pattern is a combination of large to smaller scale fields, which are generally geometric or planned in form. Whilst the fields themselves are open in character, the intervening pine lines or hedgerows along the boundaries of the fields results in a wooded context to Sunnica East Site B.
- 1.1.17 Sunnica East Site B is crossed by the following PRoW:
  - a. U6006 extends from Elms Road to Worlington, across the eastern part of Sunnica East Site.
- 1.1.18 PRoW (footpath) W-257/003/0 forms the southern edge to Sunnica East Site B, to the south of E19 and E22.
- 1.1.19 Sunnica East Site B is not covered by any statutory landscape designations; neither is it covered by any Conservation Areas, nor does it contain any listed buildings.

#### *Sunnica West Site A*

- 1.1.20 With reference to **Figure 3-2** of this Environmental Statement [**APP-136**], Sunnica West Site A is in the central part of the study area, to the north-east of Newmarket and covers 373 hectares.
- 1.1.21 The Gallops forms the western boundary to Sunnica West Site A. Fields, woodland blocks, Chippenham Park and the B1085 form the northern boundary; fields to the west of Kennett form the eastern boundary and the A14 forms the southern boundary.

- 1.1.22 There are two unnamed watercourses which flow across Sunnica West Site A. The first, flows across around the edge of Chippenham Park and across the northern part of Sunnica West Site A. The second flows between the A11 and The Willows, to the south of Dane Hill Farm, via Halfmoon Plantation.
- 1.1.23 The landform across Sunnica West Site A is gently undulating. At the western edge of Sunnica West Site A the landform rises from the A14, at 30m AOD, to a localised hill at 40m AOD before falling back to Chippenham Road at 35m AOD. In contrast, the landform falls very gradually across the central part of Sunnica West Site A, from the junction of the A14 and A11 at 25m AOD, to the edge of Chippenham Park, at 20m AOD. Similarly, in the eastern part of Sunnica West Site A, the landform falls from La Hogue Farm, at 30m AOD, northwards towards the unnamed stream bordering Chippenham Park at 20m AOD, whilst remaining generally flat across Dane Hill and Halfmoon Plantation to the south, at 30m AOD.
- 1.1.24 Sunnica West Site A does not directly cover or border any settlements. Chippenham is approximately 1km to the north of the northern part of Sunnica West Site A; Kennett is approximately 1.5km to the east of the eastern part of Sunnica West Site A and the eastern edge of Newmarket is approximately 1.5km to the south-west of Sunnica West Site A.
- 1.1.25 The A11 separates the eastern part of Sunnica West Site A. Chippenham Road and La Hogue Road form the north-west and north-east boundaries of Sunnica West A Site respectively.
- 1.1.26 The land use across Sunnica West A Site is agricultural, consisting of small to medium scale fields. The field pattern to the north of the A14 is more geometric than the fields to the south of the A11. There are several small wooded plantations and woodland belts within the fields.
- 1.1.27 The agricultural fields are bounded by trees, managed hedgerows, linear tree shelter belts, small woodland and copses, and farm access tracks.

#### *Sunnica West Site B*

- 1.1.28 Sunnica West Site B is also located in the central part of the study area, approximately 1.4km north of the village of Snailwell. Sunnica West Site B covers 66 ha and the land use is agricultural.
- 1.1.29 Mature woodland, extending from Chippenham Fen forms the northern boundary to Sunnica West Site B. Fields, including grassland, form the eastern boundary, part of Snailwell Road forms the southern boundary and a woodland block and the Horseracing Forensic Laboratory form the western boundary. There are areas of small woodland and copses, farm access tracks and irrigation ditches fed by the River Snail which flows along the western and southern edges of Sunnica West Site B, to flow under Snailwell Road. The landform rises from the River Snail to the eastern edge of Sunnica West Site B, at 15m AOD.
- 1.1.30 Sunnica West Site B does not cover any settlements and is located to the north of a trout farm and Snailwell Business Park.
- 1.1.31 Snailwell Road forms part of the southern boundary to Sunnica West Site B, extending from the A142 to Snailwell.

### *Grid Connection Route A*

- 1.1.32 Grid Connection Route A runs between Sunnica East Site A, Sunnica East Site B and Sunnica West Site A.
- 1.1.33 Heading south-east from Sunnica East Site A, the cable route for Grid Connection Route A crosses agricultural land and the B1102 immediately north of Sunnica East Site B. The cable route then passes through Sunnica East Site B before running south, crossing the River Kennett and Havacre Meadows and Deal Nook CWS using boring, micro-tunnelling or moling methods (more information on these techniques is provided in **Chapter 3: Scheme Description** of this Environmental Statement [REP2-022]). The cable route corridor then crosses the Chippenham footpath 49/7, before passing approximately 20m west of the Chippenham Gravel Pit CWS and crossing the B1085, before then joining Sunnica West Site A.
- 1.1.34 Cable Route A does not cross any designated landscapes.

### *Grid Connection Route B*

- 1.1.35 Grid Connection Route B traverses between Sunnica West Site A, Sunnica West Site B to Burwell National Grid Substation.
- 1.1.36 Grid Connection Route B connects Sunnica West Site A with Sunnica West Site B, and Sunnica West Site B with the Burwell National Grid Substation Extension. Heading north-west from Sunnica West Site A, the cable route crosses Chippenham Road and Snailwell 1 PRoW before joining Sunnica West Site B.
- 1.1.37 Heading west from Sunnica West Site B, the cable route corridor for Grid Connection Route B crosses PRoW 92/19 before crossing the railway line and the A142 Newmarket / Fordham Road, using boring, micro-tunnelling or moling methods.
- 1.1.38 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. As such, the cable route for Grid Connection Route B passes through multiple areas of Flood Zones 2 and 3. For the main watercourses, the cable route crossings will require boring, micro-tunnelling or moling methods. For shallower and narrower drainage ditches, open cut trenching will be undertaken (more information on these techniques is provided in Chapter 3: Scheme Description of this Environmental Statement [REP2-022]).
- 1.1.39 Grid Connection Route B is not covered by any statutory landscape designations.

### *Burwell National Grid Substation Extension*

- 1.1.40 The Burwell National Grid Substation Extension covers two locations.
- 1.1.41 The first (option 1) is to the east of the substation and covers small scale fields divided by hedgerows and trees and bordered by Newnham Drove and Weirs Drove, fields and the existing substations.

- 1.1.42 The second (option 2) is to the north-east of the existing substation, to the north of Newnham Drove. Option 2 is situated in a large field, bordered by hedges and trees, except for its western boundary, which is contiguous with the wider fen landscape.

### **The Scheme**

- 1.1.43 The Scheme is described in further detail in **Chapter 3: Scheme Description** of this Environmental Statement [REP2-022].

## **1.2 Purpose of this Document**

- 1.2.1 The purpose of this OLEMP is to set out the measures proposed to mitigate the effects of the Scheme on landscape and biodiversity features, and to enhance the biodiversity, landscape and green infrastructure value of the Order limits, to secure compliance with relevant national and local planning policies.
- 1.2.2 The Scheme has been designed, as far as is practicable, to avoid or reduce effects on landscape, heritage and biodiversity features through siting of the Scheme components, including structures and new planting. These include measures to avoid impacts on protected species to ensure compliance with legislation (see **Chapter 8: Ecology and Nature Conservation** and **Chapter 10: Landscape and Visual Amenity** of this Environmental Statement [APP-042]).
- 1.2.3 This document outlines the landscape and biodiversity impact avoidance measures that would be implemented prior to, and during, construction of the Scheme, as well as the habitat restoration, enhancement, management and monitoring measures to be implemented once the Scheme is operational. Implementation of these measures is proposed to be secured by a Requirement of the draft DCO through the requirement for detailed Landscape and Ecology Management Plan(s) to be produced in accordance with this OLEMP
- 1.2.4 In order to avoid potential conflicts in approach to impact avoidance and enhancement, this document identifies the measures required for both landscape, heritage and biodiversity together, to demonstrate a cohesive strategy.
- 1.2.5 This OLEMP is structured as follows:
- a. **Section 2** sets out the Scheme Vision;
  - b. **Section 3** summarises relevant legislation and planning policy;
  - c. **Section 4** describes the existing landscape, heritage and biodiversity features and the potential impacts and effects of the Scheme;
  - d. **Section 5** outlines the requirements for impact avoidance, both during advance works and during the construction phase;
  - e. **Section 6** describes the proposals for landscape and biodiversity enhancement and the measures required for their effective management and maintenance. The areas of the Order limits to which the different proposals would be applied are shown for illustrative purposes in the Landscape Masterplan figures **Figure 1** to **6**, in Annex A and the Illustrative Cross sections, appended as Annex B (and labelled as **Figures 7** to **13**). In addition, Environmental Masterplans have been prepared [EN010106/APP/8.47], which provide additional clarity on the mitigation being proposed for the Scheme rather than additional mitigation; and

- f. **Section 7** describes the roles and responsibilities of all parties involved in the delivery of the mitigation, enhancement and management proposals.

### 1.3 Scheme Vision

- 1.3.1 The Scheme offers the opportunity to increase Green Infrastructure and biodiversity across the Order limits, reflecting valued landscape characteristics which would aid in integrating the Scheme within the landscape and into Nature Recovery Schemes (see **Figures 1 to 6** in Annex A).

- 1.3.2 This OLEMP has been developed to ensure that the Scheme would reflect the existing landscape character and context, whilst accommodating mitigation principles established within the ES, so as to achieve the vision of:

*“The Scheme will deliver a new network of environmental features which will also deliver a range of ecosystem services, incorporating biodiversity, heritage, landscape and access.”*

- 1.3.3 The overarching objectives of the OLEMP are to:

- a. promote the conservation, protection and improvement of the physical, natural and historic environment across the Order limits and its setting, and to ensure the Scheme is appropriately sited, softened and integrated. The landscape framework should be seen as part of the essential infrastructure of the Scheme.
- b. diversify ecological value through the retention of the existing hedgerows and trees, to enhance these through restoration and creation of diverse habitats offering greater botanical and faunal interest to the Scheme, and to safeguard the habitats with potential for protected species.
- c. ensure the design and maintenance of landscape and biodiversity components preserves and enhances the character of the landscape and local distinctiveness.
- d. protect and retain, where practicable, the hedgerows and trees which cross the Scheme boundary, particularly adjacent to the road networks and at site access points, by utilising existing breaks in boundary vegetation at field access points to minimise impacts on vegetation
- e. create new structural planting which links with existing habitats and to take account of species that are locally appropriate and the existing vegetation patterns.
- f. use native indigenous species of local provenance wherever appropriate.
- g. provide landscape amenity enhancement through the introduction or permissive routes.
- h. provide a variety of foraging, nesting and roosting opportunities for protected and notable species, including bats, badgers, invertebrates, amphibians, reptiles and birds.
- i. create floristically rich habitats, to support a greater assemblage of species and give rise to enhanced foraging opportunities.
- j. provide a framework for monitoring and reviewing the landscape implementation and establishment.



- k. ensure the mitigation proposed as part of the Scheme remains effective at reducing identified environmental effects as intended.

1.3.4 The contractor appointed by the Applicant to deliver the Scheme, shall deliver each of the OLEMP measures and commitments through the developed LEMP(s) that are developed for the Scheme, unless the contractor is able to define an alternative measure, or measures, which achieve the same landscape and biodiversity effects at the relevant location.

1.3.5 The assumption is that the decommissioning phase would be covered by a Decommissioning Environment Management Plan (DEMP) which would be submitted at a later time in the project timeline. Decommissioning matters are therefore not addressed in this OLEMP.

## **1.4 Legislative and Policy Framework**

1.4.1 The legislation and policies relevant to biodiversity, landscape and visual amenity are summarised below.

### **Legislation**

- a. Ancient Monuments and Archaeological Areas Act 1979 (Ref. 7-5) (amended by the National Heritage Act 1983 (Ref. 7-6) and 2002 (Ref. 7-7)) (excluding normal planning procedures, which are disappplied by the DCO, which if granted, would encompass all of the normal consents);
- b. Planning (Listed Buildings and Conservation Areas) Act 1990 (Ref. 7-4) (excluding normal planning procedures, which are disappplied by the DCO, which if granted, would encompass all of the normal consents);
- c. Directive 2009/147/EC on the conservation of wild birds (the codified version of Council Directive 79/409/EEC as amended) (Birds Directive);
- d. Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive);
- e. The Conservation of Habitats and Species Regulations 2017 (as amended);
- f. Wildlife and Countryside Act (WCA) 1981 (as amended);
- g. Countryside & Rights of Way Act 2000 (as amended);
- h. Natural Environment and Rural Communities (NERC) Act 2006 (as amended);
- i. Protection of Badgers Act 1992 (as amended);
- j. Hedgerow Regulations 1997 (as amended);
- k. Water Environment (Water Framework Directive) (England and Wales) Regulations 2017;
- l. Animal Welfare Act 2006; and
- m. Invasive Alien Species (Enforcement and Permitting) Order 2019

### **Planning Policy**

- a. Overarching National Policy Statement for Energy (EN1), adopted 2011;

- b. National Policy Statement for Renewable Energy Infrastructure (EN3) 2011
- c. NPS for Electricity Networks Infrastructure (EN5), adopted 2011;
- d. National Planning Policy Framework (NPPF), adopted 2021;
- e. National Planning Practice Guidance (NPPG);
- f. Cambridgeshire and Peterborough Minerals and Waste Development Plan, adopted 2011;
- g. Cambridgeshire and Peterborough Minerals and Waste Local Plan, Further Consultation Draft (FCD), March 2019;
- h. Suffolk – Creating the Greenest Country – Suffolk Climate Change Partnership;
- i. Suffolk Climate Action Plan 3 (SCAP), 2017;
- j. East Cambridgeshire Local Plan (ECLP), 2015;
- k. East Cambridgeshire District Council Renewable Energy Development (Commercial Scale) Supplementary Planning Document, (EC RED), 2014;
- l. East Cambridgeshire District Council Design Guide (EC DG), SPD, 2012
- m. The West Suffolk, Forest Heath and St Edmundsbury Local Plan, Joint Development, Management Policies Document (WS MPD), 2015;
- n. Forest Heath Local Development Framework, Core Strategy Development Plan Document (FH CS), adopted 2010;
- o. Forest Heath District Council, Accessible Natural Greenspace Study (FH NGS), 2017
- p. Freckenham Neighbourhood Plan Landscape Character Assessment and Key Views Study (2020)

### **Other Guidance**

- a. Natural England National Character Area (NCA) 46: The Fens;
- b. Natural England NCA 85: The Brecks;
- c. Natural England NCA 87: East Anglian Chalk;
- d. East of England Landscape Framework;
- e. Suffolk Landscape Character Assessment;
- f. Cambridgeshire Landscape Guidelines (CLG);
- g. Norfolk and Suffolk Brecks Landscape Character Assessment (NSB LCA);
- h. Cambridgeshire Green Infrastructure Strategy;
- i. The Brecks' Special Qualities (BSQ);
- j. Village Design Guides and Conservation Area Statements;
- k. Cambridgeshire and Peterborough Biodiversity Action Plan;
- l. Suffolk Biodiversity Action Plan;
- m. Biodiversity 2020 - A strategy for England's Wildlife and Ecosystem Services;

- n. Priority habitats and species listed on UK Post 2010 Biodiversity Framework which succeeds the UK Biodiversity Action Plan (UK BAP) (Joint Nature Conservation Committee (JNCC) and Defra, 2018);
- o. BRE's National Solar Centre Biodiversity Guidance for Solar Developments;
- p. Planning Practice Guidance, Conserving and enhancing the historic environment;
- q. Historic Environment Good Practice Advice in Planning Note 2. Managing Significance in Decision Taking in the Historic Environment. Historic England;
- r. Historic Environment Good Practice Advice in Planning Note 3. The Setting of Heritage Assets. Historic England (2<sup>nd</sup> edition, 2017);
- s. Historic England Advice Note 12 Statements of Heritage Significance: Analysing Significance in Heritage Assets (2019); and
- t. Chartered Institute for Archaeologists, Code of Conduct and Standards and Guidance for Historic Environment Desk-based Assessment.

### **Biodiversity Net Gain**

- 1.4.2 The draft Environment Bill, published by the UK Government in January 2020 and currently going through the Parliamentary process, includes proposals to make BNG a mandatory requirement within the planning systems in England, including for Nationally Significant Infrastructure Projects (NSIPs). Once enshrined in law it is expected that all developments will be required to achieve a minimum 10% net gain in biodiversity units relative to the site's baseline biodiversity value.
- 1.4.3 Biodiversity metrics provide a measure of overall biodiversity value based on habitat type, area, condition and distinctiveness. The current approved metric is Defra's Metric 3.1 and this metric is a tool that allows a value to be measured, in this case biodiversity, which is calculated pre- and post-development. The change in biodiversity units indicates either a net loss, a net gain or no change in biodiversity.
- 1.4.4 The proposals within this OLEMP have been informed by BNG principles to ensure there is a net gain arising during the lifetime of the Scheme. Further details are set out in the Biodiversity Net Gain Assessment (BNG) **[APP-259]**. This will be kept up to date with respect to, for example, the biodiversity baseline and the Scheme design by submitting an updated BNG with each detailed LEMP.

## **1.5 Existing Landscape, Heritage and Biodiversity Features**

- 1.5.1 The following section summarises the baseline analysis within **Chapter 10: Landscape and Visual Amenity** of this Environmental Statement **[EN010106/APP/6.1]**. This is to facilitate the management measures being read in the context of the existing baseline and in one single document.

### **Existing Landscape and Heritage Features**

#### *Sunnica East Site A Site Level Landscape Character*

- 1.5.2 To provide additional detail to the landscape character and land use within Sunnica East Site A and with reference to **Figure 3-1**, parts of Sunnica East Site A have been divided into the following parcel references (E):

- a. E01 to E04 are in the north-west of Sunnica East Site A. The Fen woodland forms the northern boundary and the reservoirs and access track at Lee Farm form the southern boundary. The Lee Brook forms the western boundary and an intermittent hedgerow tree group form the eastern boundary. The fields are open in character with hedgerows between E03 and E04;
- b. E05 forms the north-west part of Sunnica East Site A, between Beck Road and the Lee Brook. E05 consisting of several fields which are open in character. There are a few individual trees along the southern edge of E05, adjacent to Beck Road and a small woodland block adjacent to the Lee Brook in the south-east part of E05;
- c. Eco1 to Eco2 form the west part of Sunnica East Site A, located to the south of Beck Road, between the dismantled railway line and to the south of Beck Bridge. The fields are open in character, although the northern and western edges of Eco1 are bordered by intermittent hedgerows. PRow (footpath) W-257/007/7, W-257/002/X and W-257/002/0 crosses the eastern edge of Eco2, crossing between Beck Bridge and Mortimer Lane;
- d. E08 to E10 are in the north-west of Sunnica East Site A, to the south of E03 and E04 and reservoirs and access track to Lee Farm. Ferry Lane forms the eastern boundary to E08 and E10, with Beck Road forming the southern boundary to E09 and E10. The elevated junction of Beck Road and Ferry Lane forms the south-east boundary to E10. The fields are open in character, although there is a hedgerow along the southern edge of fields E09 and E10 and hedgerows and trees along the eastern edge of E10, which extend to a small woodland block bordering the elevated junction of Beck Road and Ferry Lane; and
- e. E33 is located to between the reservoirs at Lee Farm and Ferry Lane and is contiguous with E04, which forms the northern boundary and E08 which forms the southern boundary.

1.5.3 With reference to **Appendix 10B: Tree Constraints Report** of this Environmental Statement [APP-101] and the **Arboricultural Impact Assessment Report [EN010106/APP/8.46]** Ferry Lane, between Freckenham and West Row, is bordered by mature woodland on the east side of the lane at the junction with the B1102. From Freckenham, both sides of the lane are bordered by hedgerows, which extend into a row of mature trees. To the north of these trees, the vegetation patterns return to hedgerows, with some gaps and taller scrub and young trees at the elevated junction with Beck Road. To the north of the junction the lane is bordered by hedgerows, until the junction with the access road to the reservoirs by Lee Farm, where the lane to West Row is bordered by intermittent hedgerows and mature trees including Scots pine, particularly along the eastern side of the lane. A single potential veteran tree was identified via the 2019 site walkover well beyond the western edge of the Order limits, this tree is no longer thought to be present following a review of aerial imagery.

1.5.4 There are no scheduled monuments nor listed buildings within Sunnica East Site A. There are no registered parks and gardens within Sunnica East Site A or within 1km from this part of the Order limits. Sunnica East Site A is not covered any Conservation Areas, there are two conservation areas that fall within the 1km, with the Freckenham Conservation Area and Isleham Conservation Area.

### *Sunnica East Site B Site Level Landscape Character*

- 1.5.5 To provide additional detail to the landscape character and land use within Sunnica East Site A and with reference to **Figure 3-1**, parts of Sunnica East Site A have been divided into the following parcel references (E):
- a. Eco3 and E12 are located in the western part of Sunnica East Site B, between the B1102 and U6006. The fields are open in character and bordered to the east by pig farming and Surprise Hill woodland and residential properties to the north, adjacent to the B1102;
  - b. E13 to E18 are to the east of U6006, extending to Elms Road, which forms the southern boundary to E16 and E18. The eastern boundary to E13-E18 consists of fields and woodland blocks, including mature woodland around Worlington Quarry. The fields within E13-E18 are small in scale, rectangular in form and divided by mature tree belts;
  - c. E19 to E22 are to the south of Elms Road, forming the southern part of Sunnica East Site B. Similar to E13 to E18, the fields are smaller in scale, rectangular in form and divided by mature tree belts, including Scots pine and a small reservoir. Residential land uses adjacent to Bridge End Road form the eastern boundary to E19 to E22, with PRow (footpath) W-257/003/0 adjacent to the southern boundary to E19 and E22;
  - d. E24 to E25 are two larger scale fields to the west of Newmarket Road. Both fields are open in character and divided by a vegetated access track to pig farms and woodland belts which form the western boundary;
  - e. E26 to E29 are four fields to the east of Worlington Road at the north-east part of Sunnica East Site B. Each field is broadly the same, being small in scale and square in form. E26 to E29 are divided by mature vegetation such that they are well enclosed in relation to the wider landscape. There is small mature tree clump within the central part of E29; and
  - f. E30 to E32 form the north-east part of Sunnica East Site B, located to the south of Golf Links Road and with the A11 forming the eastern boundary. A rectangular block of mature woodland forms the southern boundary to E30 and E32, across the rising ground at the base of Chalk Hill. E30 is rectangular in form and divided from E31 and E32 by a narrow tree belt, with all parcels open in character.
- 1.5.6 With reference to **Appendix 10B: Tree Constraints Report** of this Environmental Statement [**APP-101**] and the **Arboricultural Impact Assessment Report** [**EN010106/APP/8.46**], the main tree species within Sunnica East Site B include hybrid Black Poplar (*Populus x canadensis*), White Poplar (*Populus alba*), Oak (a species of *Quercus*), Scots Pine (*Pinus sylvestris*), Beech (*Fagus sylvatica*) and Corsican Pine (*Pinus nigra*).
- 1.5.7 Across the southern part of Sunnica East Site B there are several semi mature pine plantations and a large linear groups of pine and poplar which denote field boundaries. These groups also contain a number of large broadleaf woodlands, consisting of predominantly Oak and Beech mixed with occasional Pine. There are a small number of veteran trees located along field boundaries within Sunnica East Site B. There are no scheduled monuments, nor listed buildings within Sunnica East Site B. There are no registered parks and gardens within Sunnica East Site B or



within 1km from this part of the Order limits. Sunnica East Site B is not covered any Conservation Areas.

#### *Sunnica West Site A Site Level Landscape Character*

- 1.5.8 To provide additional detail to the landscape character and land use within Sunnica West Site A and with reference to **Figure 3-2**, parts of Sunnica West Site A have been divided into the following parcel references (W):
- a. W03 and Eco5 forms the north-west part of Sunnica West Site A, situated between the Gallops and Foxborrow Plantation. W03 consists of four small square fields, situated across the relatively elevated and rising land to the south-east of Snailwell. The fields are open in character due to the land use, but the fields are bordered by woodland blocks along the western and southern edges and a narrow tree belt along the eastern edge which connects with Foxborrow Plantation.
  - b. W04 and W05 form the western part of Sunnica West Site A and are adjacent to The Avenue. Both W04 and W05 are geometric in form and open in character due to their land use, although there is a mature woodland belt along the western edge of W04, through which a PRow crosses;
  - c. W06 to W12 are located centrally within Sunnica West Site A and consist of smaller scale geometric fields divided by hedgerows. Sounds Plantation extends between W06 and W07 and there is also a rectangular woodland block between W08 and W10. La Hogue Road crosses the eastern edge of W10, W11 and W12;
  - d. W15 form the eastern part of Sunnica West Site A to the east of the A11. W15 consists of several fields, which are open in character; and
  - e. W17 is a rectangular field in the central part of the study area, situated in the centre of W06 to W12. The field is open in character and bordered by hedgerows and tree belts, with Sounds Plantation forming the western boundary. There are also several agricultural barns adjacent to the southern edge of W17.
- 1.5.9 With reference to **Appendix 10B: Tree Constraints Report** of this Environmental Statement [APP-101] and the **Arboricultural Impact Assessment Report [EN010106/APP/8.46]**, the trees within Sunnica West Site A are semi mature to mature in age. The main species include Scots Pine, Corsican Pine, Beech, Sycamore (*Acer pseudoplatanus*), Common Oak, Ash (*Fraxinus excelsior*) and Crack Willow (*Salix fragilis*).
- 1.5.10 At the western side of Sunnica West Site A field boundaries consist of large linear Pine, Beech, Willow and Sycamore. To the north of Sunnica West Site A, within the grounds of La Hogue Farm are several high value mature oak trees surrounding the entrance of the farm shop, whilst at the rear of the farm shop there are two veteran status trees which were identified by the site walkover.
- 1.5.11 Around Dane Hill Farm the fields are bordered mainly by moderate quality tree groups dominated by Oak, Aspen (*Populus tremula*), Beech and Field Maple (*Acer campestre*). Within this group are three large mature individual native Black Poplar (*Populus nigra*) trees, which as a species are rarely distributed across Britain.

- 1.5.12 Other vegetation patterns include mature trees adjacent to The Avenue and adjacent to the watercourse which flows through Half Moon Plantation, to the south of Dane Hill Farm.
- 1.5.13 There are no listed buildings within Sunnica West Site A. There are no registered parks and gardens within Sunnica West Site A. Chippenham Park Registered Park and Garden (RPG) is to the north of this part of the Order limits, along with Chippenham Conservation Area. Snailwell Conservation Area is to the west of Sunnica West Site A.
- 1.5.14 In respect of the RPG, the formal parkland is defined by its brick boundary walls, with the south drive extending towards Newmarket. While the wider rural landscape is not visible from within the park, it does form part of its setting, revealing evidence of the impact landowners had on the landscape, and forming part of the informal parkland context. The RPG, including the Hall also have an important relationship with the village of Chippenham to the north and this influence is visible within the arrangement of buildings and the predominant architectural style.

*Sunnica West Site B Site Level Landscape Character*

- 1.5.15 The land use across Sunnica West Site B is agricultural and to provide an additional level of detail, has been divided into the following parcel references:
- a. W01 consists of several small fields which are divided by individual trees;
  - b. W02 is a single agricultural field which is open in character and bordered by a woodland belt along its southern edge; and
  - c. ECO4 consists of grassland and is bordered to the south by a woodland area.
- 1.5.16 With reference to **Appendix 10B: Tree Constraints Report** of this Environmental Statement [APP-101] and the **Arboricultural Impact Assessment Report [EN010106/APP/8.46]** the trees within Sunnica West Site B are semi mature to mature in age. The main species include common Ash, Crack Willow, hybrid Black Poplar and Norway spruce (*Picea abies*). Most of the trees were identified as being low to moderate quality. A number of veteran trees have been identified via detailed tree surveys at the southern extent of Sunnica West Site B.

*Grid Connection Route A Site Level Landscape Character*

- 1.5.17 With reference to **Appendix 10B: Tree Constraints Report** of this Environmental Statement [APP-101] and the **Arboricultural Impact Assessment Report [EN010106/APP/8.46]**, most of the trees across Grid Connection Route A are classified as low quality, with the exception of those in Heath Plantation.
- 1.5.18 There are no designated heritage assets within Grid Connection Route A.

*Grid Connection Route B Site Level Landscape Character*

- 1.5.19 With reference to **Appendix 10B: Tree Constraints Report** of this Environmental Statement [APP-101], and the **Arboricultural Impact Assessment Report [EN010106/APP/8.46]** the vegetation across Grid Connection Route B is assessed as moderate value plantations, with a moderate value group of beech trees adjacent to Chippenham Road, which are protected by a Tree Preservation Order.

- 1.5.20 There are no designated heritage assets within Grid Connection Route B. Burwell North Street Conservation Area is located within 1km of the Grid Connection Route B.

*Burwell National Grid Substation Extension Site Level Landscape Character*

- 1.5.21 The Burwell National Grid Substation Extension Options 2 is located in the western part of the study area, to the north of the existing Burwell substation. Option 2 is a larger field bound by trees and hedges around its northern, eastern and southern edges.
- 1.5.22 There are no scheduled monuments within 1km from the Burwell National Grid Substation Extension. There are no Registered Parks and Gardens within 1km of the Burwell National Grid Substation Extension. Burwell North Street Conservation Area is located within 1km of the Burwell National Grid Substation Extension. Burwell North Street Conservation Area also falls within the Grid Connection Route B study area and is described under the relevant section.

### Existing Biodiversity Features

*Habitats*

- 1.5.23 Table 11 summarises the notable habitats to be found within the Order limits:

**Table 1 Notable Habitats within the Order limits**

Habitat type	Status
Woodland -Broad-leaved semi-natural	Local Biodiversity Action Plan (LBAP) Habitat; Lowland Mixed Deciduous Woodland – Habitat of Principal Importance
Grassland - Unimproved and Semi-Improved Acid	LBAP, Habitat of principal importance
Grassland - Semi-improved calcareous	LBAP, Habitat of Principal Importance
Grassland – Marshy / swamp	LBAP, Habitat of Principal Importance
Arable (including arable flora)	LBAP, Habitat of Principal Importance
Reedbed	Habitat of Principal Importance Reedbed
Running water	Including a network of ditches and rivers; Rivers are a habitat of Principal Importance
Hedge - Intact (species poor) and with trees (species poor)	LBAP, Habitat of Principal Importance

*Species*

- 1.5.24 With reference to **Appendix 8C: Terrestrial Habitats and Flora Report** of this Environmental Statement [APP-079] surveys of arable field margins recorded rare/scarse arable flora species, including Corn Spurrey (*Spergula arvensis*) and Corn Marigold (*Glebionis segetum*) listed as Vulnerable in the UK and England recorded, Fine-leaved Fumitory (*Fumaria parviflora*) classified as Vulnerable in the

UK and Near Threatened in England and Corn Chamomile (*Anthemis arvensis*) classified as Endangered in the UK and England, (Stroh *et al.* 2015, Mcleod *et al.* 2017).

- 1.5.25 Within Sunnica East Site B, three Nationally Scarce species are present in dry acid grassland; Bearded Fescue (*Festuca subulata*), Sand Catchfly (*Silene conica*) and Bur Medick (*Medicago minima*) and a NERC Act Section 41 species Annual Knawel (*Scleranthus annuus*).
- 1.5.26 Narrow-leaved Water Plantain (*Alisma gramineum*) was present in all three ditches surveyed in Sunnica East Site A and is considered a Suffolk Rarity, however, it is not a priority species and is common throughout England.
- 1.5.27 With reference to **Appendix 8E: Aquatic Ecology Survey Report** of this Environmental Statement [APP-081] three species with a Local distribution were recorded at Sunnica East Site A; the Hairy Dragonfly (*Brachytron pratense*), the snail Leach's Bithynia (*Bithynia leachii*) and a caddisfly (*Agrypnia pagetana*). One species with a local distribution was recorded at Sunnica West Site B; the diving beetle (*Ilybius quadriguttatus*).
- 1.5.28 The invasive Signal Crayfish (*Pacifastacus leniusculus*) was recorded in the desk study from the Lee Brook adjacent to Sunnica East Site A. The remains of this species were also found in a ditch within Sunnica East Site A.
- 1.5.29 With reference to **Appendix 8D: Terrestrial Invertebrate Scoping Survey Report** of this Environmental Statement [APP-080] there are notable terrestrial invertebrate species and assemblages present, particularly in dry acid grassland habitats identified within Sunnica East Site B.
- 1.5.30 With reference to **Appendix 8E: Aquatic Ecology Survey Report** of this Environmental Statement [APP-081], there are records of protected fish species exist in the River Snail including Brook Lamprey (*Lampetra planeri*) and Bullhead (*Cottus gobio*) within Sunnica West Site B. The River Snail fish community also comprises widespread common fish species including 3-spined Stickleback (*Gasterosteus aculeatus*) and 10-spined Stickleback (*Pungitius pungitius*).
- 1.5.31 With reference to **Appendix 8E: Aquatic Ecology Survey Report** of this Environmental Statement [APP-081] there are records of protected fish species exist in Lee Brook including Brook Lamprey, Bullhead, and Brown Trout (*Salmo trutta*) and these species may be present in the ditches onsite as they are connected to Lee Brook via River Lark within Sunnica East Site A and B.
- 1.5.32 With reference to **Appendix 8F: Great Crested Newt Survey Report** of this Environmental Statement [APP-082] Great Crested Newt (*Triturus cristatus*) has been detected in one waterbody within 500 m of the Order limits. This pond is approximately 150 m from Sunnica East Site B. Common Toad (*Bufo bufo*) is potentially present on the Site as it is present in habitat connected to Sunnica West Site B.
- 1.5.33 With reference to **Appendix 8G: Report on Surveys for Reptiles** of this Environmental Statement [APP-083] two species of reptile, Common Lizard (*Zootoca vivipara*) and Grass Snake (*Natrix helvetica*), were recorded within Sunnica West Site B boundary during field surveys. Habitat within the Grid

Connection Route B, between Sunnica West Site B and the Burwell National Grid Substation Extension are a mixture of ditches, grassland and scrub and could be suitable for Grass Snake, Common Lizard and Slow worm (*Anguis fragilis*). Similarly, the ditches around the BNGSE could support Grass Snake.

- 1.5.34 With reference to **Appendix 8I: Report on Surveys for Breeding Birds** of this Environmental Statement [APP-085], a total breeding bird assemblage of 73 species was recorded within the Order limits between 2019 and 2021, with a breeding assemblage of 66 species recorded in 2019/2020 and 59 species in 2021. Territories of one Annex 1 species: Stone Curlew (*Burhinus oedichenus*) and five WCA Schedule 1 species (Stone Curlew, Hobby (*Falco subbuteo*), Quail (*Coturnix coturnix*), Little Ringed Plover (*Charadrius dubius*) and Barn Owl (*Tyto alba*) were confirmed within the survey area.
- 1.5.35 With reference to the **Appendix 8H: Wintering Bird Survey Report** of this Environmental Statement [APP-084], 71 bird species were recorded during the wintering bird surveys, including notable species such as Skylark (*Alauda arvensis*) and Yellowhammer (*Emberiza citrinella*).
- 1.5.36 With reference to the **Appendix 8J: Report on Surveys for Bats** of this Environmental Statement [APP-087], surveys of Sunnica East Site A recorded very low to high bat activity (depending on the season and location) of at least 8 species; Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Noctule (*Nyctalus noctule*), Leisler's bat (*Nyctalus leisleri*), Myotis species, Brown Long-eared bat (*Plecotus auratus*), Serotine (*Eptesicus serotinus*) and Barbastelle (*Barbastella barbastellus*). A few barns are present (not affected by the Scheme) with roosting potential and foraging activity was observed along the watercourses and hedges.
- 1.5.37 Surveys of Sunnica East Site B recorded very low to high bat activity (depending on the season and location) of at least eight species; Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's bat, Myotis species (including Daubenton's bat (*Myotis daubentonii*), Brown long-eared bat, Serotine and Barbastelle.
- 1.5.38 The highest levels of activity were recorded over the reservoir to the south and along Badlingham Lane, but also foraging was noted in fields particularly in the summer (e.g. over maize crops). Numerous potential roost features are present in mature trees, none of which is affected by the Scheme.
- 1.5.39 Surveys of Sunnica West Site A recorded very low to high bat activity (depending on the season and location within the Scheme) of at least 8 species; Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's bat, Myotis species (including Natterer's bat *Myotis nattereri* identified from netting survey), Brown Long-eared bat, Serotine and Barbastelle. Foraging was observed along tracks, field margins and adjacent to woodland. Numerous potential roost features are present in mature trees and farm buildings, none of which is affected by the Scheme).
- 1.5.40 Surveys of Sunnica West Site B recorded moderate to high bat activity of at least 8 species; Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's bat, Myotis species, Brown Long-eared bat, serotine and barbastelle. The highest number of bat passes on the static detector at this site were along the central hedge with 68 passes per hour in summer 2019. Numerous potential roost features are present in



mature trees along the central hedge, and in scattered mature trees in the southern field, none of which is affected by the Scheme).

- 1.5.41 Two bat roosts, supporting 1-2 individual bats, were identified in two trees at the Burwell National Grid Substation and surrounding area and are likely to be impacted by Option 1.
- 1.5.42 With reference to **Appendix 8K: Badger Survey Report** of this Environmental Statement [APP-088], four Badger (*Meles meles*) setts, in current use, were identified within the Order limits. Two setts, including an active main sett, in Sunnica East Site B, one outlier sett in Sunnica West Site A; and a main sett within the Option 1 location of the Burwell National Grid Substation Extension.
- 1.5.43 With reference to **Appendix 8L: Report on Surveys for Riparian Mammals** of this Environmental Statement [APP-091], Water Vole (*Arvicola amphibius*) presence was recorded in ditches within Sunnica West Site B, within ditches in Grid Connection Route B and in peripheral ditches of Sunnica East Site A and B. Otter (*Lutra lutra*) presence was recorded in six peripheral watercourses of Sunnica East Site A.

## 1.6 Potential Impacts and Avoidance

### Landscape and Visual

- 1.6.1 The **Chapter 10: Landscape and Visual Amenity** of this Environmental Statement [APP-042] sets out the assessment of the Scheme in relation to landscape and visual receptors for the construction, Year 1 of operation, Year 15 of operation and the decommissioning phases.
- 1.6.2 For the construction phase, significant adverse effects were predicted to county landscape character areas, local landscape character areas and at the Order limits landscape character level and to a range of visual receptors (people's views). This was due to the presence of machinery and activity across the Order limits, with activities including excavation, boring, installation of panels, solar stations and the taller Battery Energy Storage System (BESS) and substations, which would require tall lifting equipment.
- 1.6.3 For the year 1 of operation phase, significant adverse effects were also predicted to county landscape character areas, local landscape character areas and at the Order limits landscape character level. This was due to the change in land use, with new massing via the panels and associated structures, the reduction in aesthetic and perceptual qualities of the landscape from the 'infrastructure' character of the Scheme. Whilst new planting was accounted for in the year 1 assessment, it would not have fully established.
- 1.6.4 By year 15, the landscape and visual assessment predicted that the degree of landscape and visual effects would reduce due to the establishment of the proposed Green Infrastructure that forms part of the Scheme and is discussed in this document, consisting of native grassland, new hedgerows and trees. Due to this, significant adverse landscape effects were predicted at the Site landscape character level only and one local landscape character area (LLCA 24: Lowland Estate Chalkland).

- 1.6.5 The assessment also identified significant effects on visual amenity in year 15 at one of the assessed viewpoints (Viewpoint 39: Limekilns). This was due to the open character of existing views across a valley and the elevated position of the receptor.
- 1.6.6 For all other visual receptors, the significant effects were avoided by the combination of the existing vegetation and proposed planting that forms part of the Scheme and is discussed in this document.
- 1.6.7 However, there remains a need to avoid impacts on trees, for appropriate restoration of the landscape following construction, and for enhancements to the landscape character and improvements to the green infrastructure network, to meet requirements of local and national planning policy.

### **Biodiversity**

- 1.6.8 From the outset of the Scheme, the Applicant recognised the important opportunity to link the provision of renewable energy with landscape and nature recovery at a significant scale, enabling an intensively managed agricultural land to be restored to a sustainable state over a decadal period of recovery including contributing towards Nature Recovery Networks as referenced in the Draft Overarching National Policy Statement for Energy (EN-1). This has involved working down the hierarchy of avoidance, mitigation and offsetting followed by compensation. Given the nature of the Scheme, there has been no necessity for any compensation with respect to either habitat or species.
- 1.6.9 The Scheme will result in the temporary and permanent loss of the following habitats:
- a. semi-improved acid grassland;
  - b. marshy grassland;
  - c. arable (specifically arable flora);
  - d. other flora; and
  - e. hedgerows.
- 1.6.10 There will be potential adverse impacts on some protected or notable species during construction of the Scheme. These include adverse impacts to:
- a. terrestrial invertebrates due to loss of habitat;
  - b. Common Lizard and Grass Snake due to killing/ injuring during construction; and
  - c. birds due to adverse impacts to nesting bird species, including specially protected species (such as Stone Curlew) due to temporary and permanent loss of habitat and noise and visual disturbance during construction.
- 1.6.11 In addition, the presence of invasive non-native Signal Crayfish poses the risk of potential spread of crayfish plague and of impacting native plant and animal species through predation.

### **Impact Avoidance**

- 1.6.12 The impact avoidance measures outlined below would be implemented, as relevant and appropriate, prior to and during the construction phase of each relevant part of

the Scheme, the purpose being to minimise the impact of works on landscape and biodiversity features and to achieve legislative compliance.

- 1.6.13 Standard environmental best practice and mitigation will be implemented to ensure construction and operation of the Scheme complies with legislation relating to protected species. It would also aim to ensure the Scheme does not compromise the local conservation status of ecological receptors present within the vicinity of the Scheme.
- 1.6.14 The implementation of these measures has been taken into account when assessing the likely impacts and effects of the Scheme on landscape and biodiversity features in **Chapter 8: Ecology and Nature Conservation** and **Chapter 10: Landscape and Visual Amenity** of this Environmental Statement [APP-042].
- 1.6.15 The impact avoidance approach allows for the retention of trees and hedgerows and the enhancement of watercourses including ditches to ensure that the connectivity of the existing green infrastructure network is maintained.
- 1.6.16 Actions have been taken that have contributed to avoid and, or reduce potential biodiversity and nature conservation effects.
- 1.6.17 These have included, through the parameters set out in the illustrative **Works Plans [REP2-005]**:
  - a. reconfiguration of solar arrays;
  - b. creating undeveloped buffers throughout the Scheme of at least 5 m from existing boundary features which are embedded within the Scheme design, many of which would consist of new planting;
  - c. ensuring that sites designated for their biodiversity value within the Order limits are retained and measures are embedded within the Scheme design to ensure that their biodiversity is not impacted during construction, e.g. through siting construction routes outwith and away from designated sites;
  - d. ensuring that existing woodland, treelines and the majority of hedgerows are retained and will be protected during construction of the Scheme; and
  - e. retaining and managing existing grassland habitats.
- 1.6.18 These measures are depicted on illustrative sections in **Figure 7 to 13** in Annex 10B of the OLEMP.
- 1.6.19 The following provisions in respect of construction methods are set out in the Framework Construction Environmental Management Plan (CEMP) (which will follow through to the CEMP(s) produced post-construction, pursuant to the DCO):
  - a. designing the Scheme to comply with industry good practice and environmental protection legislation during both construction and operation e.g. prevention of surface and ground water pollution, fugitive dust management, noise prevention or amelioration;
  - b. crossings of watercourses where the presence of Otter and Water Vole have been determined, as well as the River Kennett, River Snail, Lee Brook, New River and Burwell Lode, to be undertaken using boring, micro-tunnelling or

- moling methods, with appropriate setbacks from the top of the banks (depending on habitats and other individual ecological constraints);
- c. the perimeter security fence around the Scheme to be implemented early in the construction phase to secure the site to prevent construction activity in proximity to retained vegetation, in particular designated sites within and adjacent to the Order limits and, where required by the **Arboricultural Impact Assessment Report [EN010106/APP/8.46]** and any additional arboricultural surveys, specific tree protection measures will be implemented, including solid hoarding fencing and construction exclusion zones and with respect to protected species, e.g. Badgers and their setts;
  - d. utilising motion detection security lighting within substations and BESS compounds to avoid permanent lighting and developing a sensitive lighting scheme ensuring inward distribution of light and avoiding light spill on to existing boundary features during the construction phase. Infra-red lighting will be utilised for CCTV cameras to avoid the need for permanent lighting at the Scheme boundary;
  - e. the ecological measures within the CEMP(s) to be implemented by the selected construction contractor and overseen by an Ecological Clerk of Works (ECoW), where required;
  - f. an Invasive Species Management Plan to be developed which sets out procedures to ensure no invasive non-native species are spread from the Scheme and that any imported building/landscaping materials are free from invasive non-native species (e.g. Schedule 9 and Schedule 2 species). In the event that any future infestations of invasive non-native species are identified during the development process, exclusion zones will be established around them and the ecology team contacted for advice as detailed. This includes not undertaking in-channel works where invasive non-native species have been identified, e.g. Lee Brook, to avoid the spread of invasive non-native species. Where appropriate, cabling would be underneath the watercourse.
  - g. no permanent above ground infrastructure within 10 m of watercourses which will mitigate for potential hazards such as chemical and soils spills into watercourses;
  - h. preparing mitigation strategies for protected species and, where required, applying for species licences from Natural England. At present no such licences are required. Such works will be undertaken sufficiently in advance of the works to meet with the optimum time for mitigation and to minimise any changes to the construction programme;
  - i. careful consideration of the access points to limit the loss of vegetation at access points and the number of field boundary crossings. Where access and crossings are necessary, they have been carefully aligned to pass through the field access points and hedgerows where it would have the minimal impact on mature trees. The width of the access points will be minimised as far as possible to retain the landscape structure and habitat connectivity. All access points will be re-instated to their condition prior to the construction;
  - j. undertaking vegetation clearance in advance of construction and at an appropriate time of year so as to avoid incidental injuring or killing of reptiles and amphibians so that there will be no need to undertake any translocation of reptiles and/or amphibians;

- k. establishing reasonable avoidance measures along the cable corridors, including buffers of 30 m around any identified Badger setts or 15m around trees with bat roost potential; and
- l. restoring post-construction any habitat removed from within the Grid Connection cable corridors.

### Updated Surveys

- 1.6.20 An ecologist will complete a Scheme walkover in advance of works to reconfirm the ecological baseline conditions and to identify any new ecological risks. The walkover will be completed sufficiently far in advance of the works to allow for the completion of any additional, seasonally constrained surveys (e.g. surveys in support of any identified requirements for protected species licences) that may be required. These surveys will be undertaken in advance of the final LEMP and the Plan will be developed in line with the findings of these surveys.
- 1.6.21 Immediately prior to site clearance and start of construction of each relevant part of the Scheme, further site walkover surveys will be undertaken by an ecologist, landscape architect and arboriculturalist to confirm that the risks associated with the Scheme remain as previously assessed and, or to confirm the correct impact avoidance measures are being implemented (e.g. tree protection fencing, protected species stand-offs and other protection measures).
- 1.6.22 The scope of the required walkovers will be defined on a case-by-case basis in consultation with the project team and Sunnica Ltd, based on the specific risks associated with each relevant part of the Scheme and informed by the preceding ecological walkover described above.
- 1.6.23 Should any new constraints be identified as a result of the updated surveys, these would be captured in the final version of LEMP. Any additional impact avoidance or mitigation requirements would be identified in consultation with Sunnica Ltd and/or the relevant statutory consultees. Implementation of these measures is proposed to be secured through this OLEMP which will be secured by a requirement of the draft DCO.
- 1.6.24 Any additional surveys would be instructed as necessary by the ecologist or landscape architect, based on professional judgement and the findings of the updated walkover surveys, or identified as appropriate by the Applicant or their contractor(s). These may be required, for example, based on the construction programme, working requirements or following identification of specific issues and constraints not covered by previous advice.

### Protected Species Licences

- 1.6.25 A licence is required for a Badger sett closure at the Burwell National Grid Substation Extension. This will be secured as per the details set out in **Annex 8B of Appendix 8K: Badger Survey Report** of this Environmental Statement **[APP-088]** All necessary protected species licences would be applied for and obtained prior to undertaking any works that might result in offences under the relevant legislation.



## Ecological Clerk of Works

- 1.6.26 The scope of the Ecological Clerk of Works (ECoW) would be advised by the ecologist and landscape architect based on relevant environmental commitments, the findings of the updated surveys, protected species licensing requirements and with reference to the relevant project programmes.
- 1.6.27 Relevant site staff would receive toolbox talks as necessary from the ECoW on the relevant ecological risks present, legal requirements, and the working requirements necessary to comply with legislation, and the final approved landscaping and biodiversity management and enhancement measures. Toolbox talks would be repeated as necessary over the duration of the works.

## Tree Works

- 1.6.28 The location of the Scheme would largely avoid the need for the removal of mature trees. However, some tree removals and pruning of trees would be required.
- 1.6.29 Where works in close proximity to retained trees cannot be practicably avoided, these works would be undertaken in accordance with current best practice at the time of the works. At the time of issue of this OLEMP, current best practice is defined in:
- a. British Standard (BS) 5837: 2012 Trees in relation to design, demolition and construction – Recommendations; and
  - b. National Joint Utilities Group (NJUG) Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.
- 1.6.30 A Precautionary Arboricultural Method Statement (PAMS) has been produced and is provided in Appendix 10B of this Environmental Statement **[APP-101]**. The PAMS identifies the specification for tree protection measures and the methodology for sensitive works in proximity to retained trees during construction.
- 1.6.31 The **Arboricultural Impact Assessment Report [EN010106/APP/8.46]** identifies the maximum extent of tree removals anticipated to facilitate the Scheme. .
- 1.6.32 A pre-construction tree survey will be undertaken where construction works are likely to affect trees which have not been subject to detailed tree survey. The findings of this will be included within an Arboriculture Report, which will be accompanied by an updated impact assessment and Arboriculture Method Statement which will set out mitigation and protection measures to be undertaken. These reports will build on the PAMS provided in Appendix 10B of this Environmental Statement **[APP-101]**. The Arboricultural Report will be developed alongside the CEMP **[EN010106/APP/6.2]** and will be submitted in advance of commencement for approval. The findings and recommendations of these will be taken into account by the appointed contractor.
- 1.6.33 All necessary protective fencing would be installed prior to the commencement of any site clearance or construction works. This tree protection fencing will be rendered in a suitable colour to aid its integration in the landscape.

## **Solar Panels and Related Structures**

- 1.6.34 The following impact avoidance measures in relation to structures were highlighted as part of **Chapter 10: Landscape and Visual Amenity** of this Environmental Statement **[APP-042]** and shall be taken into consideration as part of the detailed design of the Scheme, which will be approved by the relevant local planning authority, pursuant to a DCO Requirement.
- a. suitable materials would be used, where reasonably practicable, to minimise reflection and glare and to assist with breaking up the massing and scale of the panels, solar-stations and associated structures;
  - b. the selection of finishes for the infrastructure would be informed by the tonal colours of the landscape to minimise the visual impact of the Scheme; and
  - c. visual clutter would be minimised, where possible, through careful siting and design.

## **Impact Avoidance Measures for Hedgerows and Tree Loss**

### *Hedgerows*

- 1.6.35 Species poor hedgerows will be crossed by the Scheme and may need to be wholly or partially removed to facilitate construction works.
- 1.6.36 On completion of construction, the affected hedgerow sections will be reinstated in full and a diversity of native woody species of local provenance will be used to improve their biodiversity value. Species will include Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Hazel (*Corylus avellana*), Holly (*Ilex aquifolium*) and Field Maple (*Acer campestre*).
- 1.6.37 All hedgerow planting will be notch planted into cultivated ground at approximately 75 cm spacings in a double staggered row and supported by an appropriate timber stake and guard (all fitted as per manufacturer's recommendations).

### *Trees*

- 1.6.38 Trees within the Scheme footprint that cannot be retained will be replaced with native species (either the same species as the tree that has been removed or another suitable native species) within the Order limits boundary.
- 1.6.39 In a number of places, trees are proposed as visual screening to mitigate the visual impacts of the Scheme, as shown on the illustrative parameter plans **Figures 3-1 and 3-2** of this Environmental Statement **[APP-135 and APP-136]**. Smaller trees have been specified across the Scheme to aid in their establishment.

## **Precautionary Working Methods**

- 1.6.40 The following precautionary working methods would be employed to minimise potential adverse effects on protected/notable species prior to and during construction. Precautionary working method statements would be produced as necessary to specify working requirements and other necessary impact avoidance measures. These measures would be controlled and implemented through the CEMP that would be developed by the contractor. A Framework CEMP has been

submitted in **Appendix 16C** of this Environmental Statement [EN010106/APP/6.3], this is proposed to be secured by a Requirement of the DCO.

### *Nesting Birds*

- 1.6.41 Where practicable, vegetation clearance works will be undertaken outside the bird nesting season, which is typically between March and August inclusive. Where it is not practicable to avoid the bird nesting season, an ecologist would inspect all areas of vegetation prior to clearance, and clearance would only be undertaken subject to the instruction and requirements of the ecologist to ensure the protection of birds and their nests. Cleared ground would be maintained in a disturbed state in the run-up to construction, to minimise the risk of ground nesting birds attempting to nest on cleared ground.
- 1.6.42 Where vegetation clearance works are required during the bird nesting season (*i.e.* between the months of March and August inclusive), these works can only proceed following the completion of a nesting bird check which will be undertaken by an experienced ornithologist. Vegetation clearance will not be undertaken where any active bird nest is identified, and all nests will be protected from harm until the nesting attempt is complete. This will require a buffer of vegetation to be left around the nest, the size of which will depend upon the species involved. Vegetation clearance can only proceed once the nesting attempt has been deemed, by a suitably qualified ornithologist, to have finished.

### *Stone Curlew*

- 1.6.43 Offsetting habitats have been embedded into the Scheme in areas where operational access will not be required. All operational staff working within 500m of the offsetting areas created for breeding Stone Curlew will be given a toolbox talk regarding the sensitivity of the species and, where possible, maintenance within 500m of the offsetting areas will be scheduled between November and February to avoid nesting Stone Curlew. This measure is included in the OEMP and will be finalised prior to operation in accordance with that outline. With these measures in place it is considered that no operational-related disturbance of nesting Stone Curlew will occur since they will not be present in areas subject to operational maintenance visits.

### *Badger*

- 1.6.44 Due to the presence of Badger setts within the Order limits, it will be necessary to permanently exclude Badgers under licence from Natural England. Any setts within the Scheme will need to be closed prior to construction, and outside of the Badger breeding season (30 November until 30 June). One artificial sett is currently required to mitigate for the loss of a main sett and this will be delivered within existing territories of these Badger clans, although the location of this is not specifically provided in this application due to confidentiality. This mitigation will be secured as per the details set out in **Annex 8B of Appendix 8K: Badger Survey Report** of this Environmental Statement [APP-088]. Mitigation to prevent injury to Badger (and other mammals) during construction works will include the provision of ramps into any open excavations to allow any Badger that have fallen in to escape. Any retained setts within the Scheme will have an appropriate exclusion zone of 30m around the sett to prevent disturbance and accidental damage. Pre-construction

surveys for Badger will be undertaken to determine baseline conditions remain the same as currently recorded and whether there have been any changes to Badger distribution. Where this occurs, Natural England licences and mitigation measures will be updated accordingly.

### *Reptiles*

- 1.6.45 Precautionary working methods to avoid accidental killing or injury of reptiles will be implemented during construction of the Scheme. Precautionary methods will include initial clearance of potentially suitable vegetation down to a height of approximately 30 cm, followed by dismantling of any suitable features, such as log piles and tree stumps, under ecological supervision. Vegetation will be cleared to ground level once no risk of reptile presence remains. Vegetation within working areas will be kept short during construction to discourage reptiles from entering the Scheme.

### *Amphibians*

- 1.6.46 Precautionary methods of working for amphibians, including Great Crested Newts, are similar to the ones outlined for reptiles (above).
- 1.6.47 Consideration would be given to proceed with any minor vegetation clearance works and minor construction activities using a precautionary method of working where appropriate.
- 1.6.48 In general, precautionary methods of working would consist of encouraging any amphibians to move away from the work's footprint into adjacent areas using habitat manipulation. These precautionary measures are implemented to discourage / displace any residual amphibians from the nearby area.
- 1.6.49 Habitat manipulation methodologies will vary between areas and seasons but will in general consist of a phased approach, outlined below:
- a. The on-site vegetation is cut short during winter (when amphibians are hibernating) if possible. If not possible (i.e. works during active season), the vegetation will be cut in a phased approach, firstly cutting to 30cm, then a cut to 15cm, then to ground level.
  - b. The vegetation should then be kept short to displace any amphibians, which may be present, away from the works when they emerge in the early spring and discourage amphibians from moving into the Scheme from the surrounding habitat.
  - c. Vegetation (including topsoil) should be carefully removed using an excavator with a toothed bucket. These works should be supervised by an ecologist if this is deemed appropriate to do so.
  - d. Any habitat features which may conceal sheltering amphibians (log piles, rubble mound bunds, any other debris etc.) will be dismantled by hand under supervision of the ecologist.
  - e. Dismantling of any rubble piles should be conducted during the amphibian active season (i.e. April to October) during warm weather conditions (i.e. above 5 degrees Celsius) to avoid killing or injuring potential hibernating amphibians.

- 1.6.50 In the unlikely event that any Great Crested Newts are discovered, works must cease immediately and an ecologist must be consulted to determine how to proceed. If other amphibians are discovered during vegetation clearance it is proposed that these are translocated to suitable habitat nearby in suitable weather conditions.

#### *Animal Welfare Requirements*

- 1.6.51 Construction excavations have the potential to trap wildlife, such as badger and otter, and result in offences under animal welfare legislation. This would be avoided through implementation of simple precautionary mitigation. All excavations deeper than 1m would be covered or fenced overnight, or where this is not practicable, a means of escape would be fitted (e.g. battered soil slope or scaffold plank), to provide an escape route should any animals stray into the construction site and fall into an excavation.

#### *Invasive Species Management Plan*

- 1.6.52 An Invasive Species Management Plan (ISMP) will be prepared as an integral section of the LEMP based on the findings of the update surveys. The ISMP will identify requirements for invasive plant management to achieve legislative compliance over the construction phase. There may be ongoing requirements to control invasive plant species during establishment of new habitats and soft landscape, or otherwise to address wider requirements for legislative compliance.
- 1.6.53 If necessary, the ISMP will be updated to allow it to be rolled forward into the operational phase of the Scheme.

#### *Lighting*

- 1.6.54 Construction temporary lighting would be arranged so that glare is minimised outside the Order limits as far as reasonably practicable, via the use of best practice measures. Permanent lighting will be activated by motion detection within the BESS and substation areas and infra-red CCTV cameras will be used to avoid operational light spill on areas outside the Order limits.

## **1.7 Proposed Green Infrastructure**

- 1.7.1 Proposals for new habitat creation and landscaping are accommodated, where feasible, across the Order limits along with the focus on protection and enhancement of existing habitats.
- 1.7.2 The implementation of these measures has been considered when assessing the likely impacts and effects of the Scheme on landscape and biodiversity features in **Chapter 8: Ecology and Nature Conservation** and **Chapter 10: Landscape and Visual Amenity** of this Environmental Statement [APP-042].
- 1.7.3 The landscape and biodiversity effects of the Scheme are considered to be localised. While there will be a short-term impact during construction, the land and associated field boundary features (hedgerows, drainage ditches, trees) will be retained overall. Opportunities for meaningful landscape and biodiversity enhancement within the Scheme have been identified where appropriate via grassland and new tree and hedgerow planting.



- 1.7.4 Biodiversity offsetting metrics have been used to quantify the biodiversity value of the proposed enhancement and to compare these to the biodiversity value of proposed losses to demonstrate that the Scheme can achieve no net loss and net gain of biodiversity. This information is presented in Biodiversity Net Gain Assessment [APP-259].
- 1.7.5 The Green Infrastructure proposals are illustrated in **Figures 3-1 and 3-2** of this Environmental Statement [APP-135 and APP-136] and secured through the **Works Plans [REP2-005]** and this document.

### Design Principles and Green Infrastructure Proposals

- 1.7.6 With reference to Parameter Plan **Figure 3-1 [APP-135]**, a number of design principles have been incorporated across the Sunnica East Sites A and B by:
- Siting the primary construction compound, BESS and substation in E33 adjacent to reservoirs and Lee Farm, so that their massing and land uses are perceived in the context of existing infrastructure features and built structures in the landscape. The tonal rendering of shades to integrate the permanent structures within the landscape will help to reduce their perceived overall mass, the detailed design of such structures to be approved by the relevant local planning authority pursuant to a DCO Requirement.
  - Siting the BESS and substation in E18 so that it is enclosed and screened by existing woodland along its northern edges and in part by roadside vegetation adjacent to Elms Road to its south-east. The tonal rendering of shades which are suitable to integrate within the landscape will help reduce the perceived overall mass of these structures, secured via the OEMP. Additionally, these land uses and proposed structures are consolidated in proximity to Worlington Quarry and Bay Farm solar farm, so that the cumulative impact of these land uses are localised within the landscape;
  - Siting the solar arrays away from Freckenham, Isleham and Worlington to avoid the Scheme resulting in the physical coalescence of settlements, and retaining the open character to the west of Beck Road, between Isleham and Freckenham via Eco 1 and Eco 2;
  - Conserving the field boundaries and the vegetation patterns, including the pine lines, overall by offsetting the solar panels from the field edges. This also retains views across the landscape to valued features including the pine lines in long distance views and vegetation adjacent to the Lee Brook, as well as responding positively to the Freckenham Neighbourhood Plan Landscape Character Assessment guidance *“by using and extending the existing woodland structure to help assimilate and provide screening, arrays contained in land parcels surrounded by belts of woodland would, over time, become well assimilated”*;
  - Implementing new woodland and hedgerows, as set out in the OLEMP to aid in visually screening the Scheme and improving the landscape structure, as well as new native grassland mixes beneath the solar panels to improve the range of fauna and increase the biodiversity across the Site in comparison to intensive agriculture, including pig farming; and
  - New permissive routes between Freckenham and Isleham, adjacent to Beck Road, to the south of Worlington, along U6006, adjacent to Elms Road and around the perimeter of E19 and E22, to link with existing routes to Red Lodge,

between U6006 and E24 and across E26 to E27 to connect with Golf Links Road. These permissive paths will enable increased public access across the landscape and respond positively to published Green Infrastructure strategies.

1.7.7 Other embedded mitigation measures across the Sunnica East Sites A and B which are shown on **Figure 3-1 [APP-135]** and within the Landscape Masterplan in **Figures 1 to 6** in Annex A are:

- a. Parcel E01 – the solar panels are offset from the Fen woodland to the north and by 8m from the Lee Brook to the west. The proximity to the woodland aids in screening views from the wider landscape to the north;
- b. Parcel E02 – new woodland planting along the eastern edge of the parcel, to reinforce the vegetation structure adjacent to Ferry Lane and screen the panels in longer distance views from the east.
- c. Parcel E03 – new woodland to the north and south of the parcel, to screen views from the wider landscape to the north and from Lee Farm. The linear form of the woodland reflects the linear form of pine lines within the wider landscape and provides vegetation linkages east to west across this part of the scheme, between the Lee Brook and vegetation bordering Ferry Lane;
- d. Parcel E04 – as per E03, additional woodland along the northern edge and the eastern edge, adjacent to Ferry Lane, so as to screen the panels and improve the vegetation cover;
- e. Parcel E05 - the solar panels have been sited back from Beck Road via a landscape buffer of native grassland, to reduce the proximity of the panels to road users, retain views along the road corridor of the churches in Isleham and Freckenham and to retain a perception of travelling through the landscape that separates the settlements;
- f. Parcel Eco1 – the proposals are for an area of native chalk grassland implemented via non-invasive methods, as a positive response to the below ground archaeology. In combination with Eco2, this will retain the open character of land between Isleham and Freckenham, to the west of Beck Road;
- g. Parcel Eco2 – native chalk grassland and stone curlew plots, which in combination with Eco2 will retain the open character of the land between Isleham and Freckenham, to the west of Beck Road;
- h. Parcels E08, E09 and E10 are enclosed by new hedgerows, to screen views of the panels and reinforce existing hedgerow patterns. There is also a proposed area of chalk grassland within E09, above an archaeological mitigation area;
- i. Parcels Eco3 will establish a substantial offset from Freckenham Road, to reduce the perception of the solar panels and proximity to residents. The U6006 County Wildlife Site will be retained and is proposed for native chalk grassland as an improvement to the land cover compared to the agricultural fields;
- j. Parcels E12 – solar panels have been sited to the south of Worlington and offset from the residential land uses by native chalk grassland. These grassland areas would also provide opportunities for stone curlew mitigation;
- k. Parcels E12 to E17 – solar panels have been located within the smaller field parcels and offset from the intervening pine lines, so as to retain the field pattern and vegetation cover. The panels have also been offset from U6006, which is retained as a recreational route through this part of the Scheme;

- l. Parcels E19 to E22 – the solar panels in this part of the Site have also been located within the smaller field parcels, to reflect the landscape pattern and retain the intervening pine lines. New woodland is proposed around the perimeter of the parcels to reduce the visibility from residents adjacent to Bridge End Road and local PRoW, as well as screen the structures and reduce the perception of the Scheme from Badlingham;
- m. Parcels E24 and E25 – new woodland planting is proposed to the north, east and south of these parcels to screen the structures and reduce the perception of the scheme when travelling along Worlington Road;
- n. Parcels E26 to E29 – the solar panels have been located within the small scale fields and are offset from the boundary vegetation. This is to retain the landscape pattern and screen the panels from wider views;
- o. Parcels E30 to E32 – the woodland in the south-east part of the Site and around the field parcels has been retained for visual screening and retaining the vegetation cover. Additional hedgerow and woodland planting are proposed adjacent to Golf Links Road to screen views for motorists and from views from the wider landscape to the north, as well as reduce the perception of the Scheme in relation to Worlington.

1.7.8 With reference to Parameter Plan **Figure 3-2 [APP-136]**, the design principles have been incorporated across Sunnica West Site A and Sunnica West Site B by:

- a. Siting the primary construction compound and the BESS and substation within W17, so that it is in part adjacent to existing barns and bordered by the mature woodland of Sounds Plantation which aids in screening the structures from the west and in views from the east, their suitable rendering in the context of the woodland, to aid in reducing the perceived overall massing of the structures;
- b. Conserving the field boundaries and the vegetation patterns by locating the solar panels within the fields and offsetting them from the existing hedgerows and trees. This also retains views across the landscape to valued features including Avenue and plantations; and
- c. Implementing new woodland and hedgerows to aid in visually screening the Scheme and reflect the vegetation patterns, as well as new grassland mixes beneath the solar panels to improve the range of fauna and increase the biodiversity across the Site in comparison to intensive agriculture.

1.7.9 Other embedded mitigation across the Sunnica West Site A and B sites which are shown on **Figure 3-2 [APP-136]** and secured within the Landscape Masterplan in **Figures 1 to 6** shown in Annex A are:

- a. Parcels W01 and W02 – siting the solar arrays within a small part of W01 and W02, away from Chippenham Fen, the River Snail and Snailwell Road so as to reduce the visibility of the Scheme from motorists and conserve the landscape features of woodland and the river. New native wetland grassland is proposed across these parcels as a positive response to the adjacent RAMSAR site and in response to below ground archaeology;
- b. Parcel W03 – siting the solar panels between woodland blocks and Foxburrow Plantation and reinforcing the vegetation patterns with new woodland planting to aid in screening this part of the Scheme from the wider landscape and retaining a physical separation from Chippenham Road and Snailwell;

- c. Parcel W04 – new native chalk grassland across part of the parcel, in response to below ground archaeology. The solar panels have also been sited away from The Avenue so that new woodland can be implemented. A temporary fence, rendered in a colour to aid its integration in the landscape will also be implemented in relation to views from Godolphin Gallops, until the establishment of the proposed planting, secured via the OLEMP;
  - d. Parcel W05 – siting the solar panels away from The Avenue so that new woodland can be implemented along the southern edges of the parcel, which is considered appropriate in the context of the Avenue and Chippenham Parl. There would also be a new woodland mix along the southern edge of the parcel which would include a higher percentage of evergreen species and a temporary fence, rendered in a suitable colour, to screen views from motorists on the A14, secured via the OLEMP.
  - e. Parcels W06 and W07 – new woodland planting to the west of the parcels, to reduce their visibility in longer distance views from The Limekilns, as well as provide new vegetation links across the landscape. The existing woodland between these parcels has also been retained, with panels and associated infrastructure offset from the woodland;
  - f. Parcels W08 and W09 – limiting the extent of the solar panels across these fields, so as to respond positively to below ground archaeology. New native grassland would extend across the archaeological areas, to create a continuous sward of grassland with that which will be present under the panels;
  - g. Parcels W10, W11 and W12 – the extent of the solar panels has been located to ensure a physical separation from the boundary wall of Chippenham Park and Chippenham Hall. New hedgerow and woodland are proposed along the northern edge of these parcels to provide visual screening from La Hogue Road. New woodland is also proposed along the northern edge of W10, to provide visual screening from the same road and reinforce the existing vegetation patterns;
  - h. Parcel W15– the solar panels have been offset from the watercourse, along with the retention of the riverside trees and vegetation and road networks. New woodland is proposed around the perimeter of the parcels to screen the Scheme, as well as to soften views of the A11 from Kennett and increase the vegetation.
- 1.7.10 In relation to the below ground cable routes, there would be new planting to replace vegetation removed during the construction phase where practicable.
- 1.7.11 At Burwell National Grid Substation Extension, there would be new boundary woodland planting along the eastern edge of Option 1 and the western edge of Option 2. There would also be replacement planting along the Newnham drove where the vegetation is to be removed for cable route construction. These elements are set out in the Landscape Masterplan proposals, in **Figures 1 to 6** in Annex A.

### **Proposed planting**

- 1.7.12 As set out above, various habitats and species have been identified through baseline assessments, which are prevalent and adapted to the local environment. These species will form an important part of the planting mixes for the Scheme, which will be adapted to respond to and reinforce the different character areas of the landscape across the Scheme.

- 1.7.13 Native species will typically make up the larger proportion of a planting mix within the proposed green infrastructure. This is because the longer a tree species has been present in the British Isles the wider the range of other species it can support to maximise biodiversity.
- 1.7.14 Species diversity is important as a diverse range of plants can help cope with warmer climates and limit the damage caused by pest and disease outbreaks, enhancing biosecurity. Current Forest Research guidance stresses this, by suggesting a mix of provenances of recommended species that are resilient and adaptable for an unpredictable future climate. A mix of provenances will therefore be specified:
- a. 1/3 of seed from same local seed source as the site.
  - b. 1/3 of seed from source up to 2° of latitude south of the site.
  - c. 1/3 of seed from slightly warmer climate sources from 2 to 5° of latitude south of the site.
- 1.7.15 Detail on species mixes for proposed areas of habitat and indicative plant numbers, and specifications for plant material, planting, establishment maintenance and long-term aftercare will be developed post-consent. This will also include consideration of their resilience to predicted changes in climate. Indicative plant species lists are set out in Annex D Tables 1-3, responding to the three National Character Areas defined by Natural England, as follows:
- a. NCA 46: The Fens
  - b. NCA 85: The Brecks
  - c. NCA 87: East Anglian Chalk
- 1.7.16 Reference has also been made where relevant to the locally characteristic species listed in the Cambridgeshire Landscape Guidelines (Cambridgeshire County Council, 1991) (CLG).

*Plant specification*

- 1.7.17 There are many factors which will influence the selection and specification of plants for the Scheme, including:
- a. Geology and soils;
  - b. Climate;
  - c. Latitude;
  - d. Availability of irrigation;
  - e. Function – e.g., habitat creation or visual screening;
  - f. Prevalence of pest and diseases in the environment, for example oak processionary moth;
  - g. Commercial availability; and
  - h. Management arrangements.



- 1.7.18 Climate change resilience and biosecurity, including the control of Invasive Non-Native Species (INNS), will be important considerations in developing the detailed specification for plants, implementation and management post-consent. The specification will be developed with reference to legislation and best practice including:
- a. Forest Reproductive Material Regulations (Great Britain) (HMSO, 2002);
  - b. UK Forestry Standard (Forestry Commission, 2017);
  - c. Ecological Site Classification for Forestry in Great Britain – a tool to help select ecologically suited species to specific sites (Forest Research, 2019a);
  - d. Plant Health and Biosecurity: The Landscape Consultant's Toolkit, (Landscape Institute, 2019);
  - e. Tree Species Selection for Green Infrastructure: A Guide for Specifiers (TDAG, 2018);
  - f. Trees in hard landscapes: A guide for delivery (TDAG, 2014);
  - g. The Right Trees for Changing Climate Database (Forest Research, 2019b); and
  - h. Urban Tree Manual (Forest Research, 2018).
- 1.7.19 Relevant standards that will be applied include:
- a. PAS 100:2018 - *Specification for composted materials*
  - b. BS 3882:2015 - *Specification for topsoil*
  - c. BS 3936-1:1992 - *Nursery stock - Specification for trees and shrubs*
  - d. BS 3936-4:2007 - *Nursery stock - Specification for forest trees, poplars and willows*
  - e. BS 4428:1989 - *Code of practice for general landscape operations (excluding hard surfaces)*
  - f. BS 8545:2014 - *Trees: from nursery to independence in the landscape. Recommendations*
  - g. BS 42020:2013 - *Biodiversity. Code of practice for planning and development*
  - h. BS 8683:2021 - *Process for designing and implementing Biodiversity Net Gain. Specification*

#### *Vegetation Loss*

- 1.7.20 Paragraph 1.6.8 recognises that The Scheme will result in the temporary and permanent loss of semi-improved acid grassland, marshy grassland, arable (including arable flora), other flora and hedgerows.
- 1.7.21 Appendix 10B: Tree Constraints Report [**APP-101**] provides preliminary tree constraints information in relation to the nature and potential level of constraint posed by existing trees. The results of this report have been analysed to refine the design principles set out in the OLEMP and DAS (DAS 3.5.4, and OLEMP 1.7.6-8), which will be applied in developing the detailed design post-consent. This includes design principles for site access points and cable routes, where localised vegetation removal may be required.

- 1.7.22 The Applicant has subsequently carried out further survey work in key areas to assess existing trees in more detail. These detailed surveys have been carried out with reference to British Standard (BS) 5837: *Trees in Relation to Design, Demolition and Construction to Construction – Recommendations*. An **Arboricultural Impact Assessment Report [EN010106/APP/8.46]** has been produced to identify trees to be removed or retained and to consider the likely direct and indirect impacts of the Scheme.
- 1.7.23 Impact avoidance measures are set out in paragraphs 1.6.12 to 1.6.18 of this document. These include the retention of trees to ensure that the connectivity of the existing green infrastructure network is maintained. The extent of vegetation loss assumed within the assessment of likely impacts and effects of the Scheme on landscape and biodiversity features in Chapter 10: Landscape and Visual Amenity [**APP-042**] and Chapter 8: Ecology and Nature Conservation [**APP-040**] of the Environmental Statement has taken account of these impact avoidance measures.
- 1.7.24 The outline design is based on maximum parameters in terms of the space required to construct and operate the Scheme. The detailed design will minimise the extent of impacts on existing vegetation within these parameters by, for example, reducing the width of excavation for cable routes and access points or proposing horizontal directional drilling.
- 1.7.25 To facilitate the construction and operation of the Scheme, it has been estimated, that up to 1,068 m of existing hedgerow will need to be removed in the worst-case. In some cases, this may just require management of the hedgerow, but as a reasonable worst case, this is presented as lost. The figure incorporates widening of entry and access points for large construction vehicles, creation of passing places on existing highways, internal access roads and trenching for internal cables and works along the grid connection corridor. The detailed design stage will seek to further refine the Scheme to minimise hedgerow loss.
- 1.7.26 The **Arboricultural Impact Assessment Report [EN010106/APP/8.46]** indicates that, as a reasonable worst case, up to 1.76ha of tree canopy cover will be removed to facilitate the Scheme. This comprises 8,300m<sup>2</sup> of canopy cover of trees which have not been subject to detailed on site assessment and have been classified following a desktop study informed by a high-level site walkover where possible. Of those trees, 150m<sup>2</sup> are considered likely to be of high quality, 5,300m<sup>2</sup> are considered likely to be of moderate quality and 2,850m<sup>2</sup> of low quality. The remaining 9,250m<sup>2</sup> of tree cover to be removed consists of trees which have been subject to a detailed tree survey to BS5837:2012.
- 1.7.27 Tree loss will be further reduced where feasible and all areas subject to potential impacts will be surveyed in detail as part of the detailed design process. Retained trees will be fully protected via Construction Exclusion Zones (CEZ) where possible. Where impacts are unavoidable but trees can be successfully retained they will be managed in accordance with the principles of an update to the Preliminary Arboricultural Method Statement (PAMS), including through watching briefs, included within Appendix 10B of the **Arboricultural Impact Assessment Report [EN010106/APP/8.46]**. This is secured through the Framework CEMP [**EN010106/APP/6.2**].

- 1.7.28 **Table 2** below summarises the number of tree features to be removed based on current detailed survey information and their quality category in accordance with BS5837:2012. The maximum extent of canopy area to be removed is provided and has been rounded up to the nearest 50m<sup>2</sup>.
- 1.7.29 No veteran or ancient trees are to be removed.
- 1.7.30 Of the trees to be removed, part of three tree groups to the south of Worlington are subject to a Tree Preservation Order (TPO). In addition, two individual trees not subject to detailed tree survey are to be removed at Chippenham Road (east of Snailwell) and these trees are protected by a recent TPO made by East Cambridgeshire District Council.

**Table 2: Summary of impacts on trees subject to detailed tree survey**

Impact	Category A (High Quality)	Category B (Moderate Quality)	Category C (Low Quality)	Category U (Unsuitable for retention for >10 years)
Trees to be removed to facilitate the Scheme	<i>Part of 4 woodland groups</i>	1 full group, part of 9 groups/hedgerows	2 trees, part of 8 groups/hedgerows	1 tree, 1 full group.
Tree canopy area in m <sup>2</sup>	4250m <sup>2</sup>	2950m <sup>2</sup>	1750m <sup>2</sup>	300m <sup>2</sup>
<b>Total = 9,250m<sup>2</sup></b>				

- 1.7.31 **Table 3** below summarises the estimated losses and gains of new and enhanced woodland and hedgerow habitat.

**Table 3: Summary of estimated woodland and hedgerow loss and gain**

Common name	Worst-case loss	Gain/enhancement	Difference
Hedgerows	-1.068km	+7.4km	+6.332km
Woodland	-1.76ha	+52ha	+50.24ha

#### *Creation of replacement grassland habitats*

- 1.7.32 A total of 99ha within Sunnica East Site A and 60ha within Sunnica East Site B have been set aside within the Scheme design for creation of biodiverse habitats. This will include at least 31ha of dry acid grassland creation on current arable land. The management of dry acid grassland would aim to maintain a sward height of 1 to 5 cm with approximately 15% bare ground. This will utilise conservation (low intensity) grazing by sheep. The remaining area will be managed as biodiverse grassland, suitable for foraging Stone Curlew and breeding farmland birds, e.g. Lapwing and Skylark.
- 1.7.33 A total of 96ha within Sunnica West Site A and 38ha within Sunnica West Site B have been set aside within the Scheme design for creation of biodiverse habitats. This will include the reversion of 26.5ha of arable farmland to marshy grassland

within Sunnica West Site B along with the rewilding through natural regeneration of an undeveloped buffer adjacent Chippenham Fen and the River Snail at Sunnica West Site B. The remaining area will be managed as biodiverse grassland, suitable for breeding farmland birds, e.g. Lapwing and Skylark and providing landscape scale benefits for pollinators through increased habitat provision and connectivity.

- 1.7.34 Throughout the Scheme, a range of new grassland mixes are proposed beneath the solar panels to improve the range of fauna and increase the biodiversity, in comparison to existing intensive agriculture. Management will be undertaken in a variety of ways to ensure maximum biodiversity gains. This may include leaving open areas between or surrounding the panels or adjacent to new access roads. Vegetation would be established through natural regeneration or from seed collection from the grasslands identified within the Order limits and through a suitable long-term habitat management regime. Consideration will be paid to microclimatic conditions when considering appropriate species. Management will be undertaken in a variety of ways to ensure maximum biodiversity gains. This will include creating disturbed open bare ground areas to promote annual seed-bearing plant species to benefit declining farmland birds such as Turtle Dove *Streptopelia turtur*. Grassland will be managed by either low intensity grazing or infrequent hay cutting to allow plant species to flower and seed.
- 1.7.35 Across the Scheme, the management of solar arrays, particularly margins, located in areas identified for their arable flora, will be managed for rare and scarce arable plants. This may include annual soil rotation, avoiding planting of field margins and avoiding the use of herbicides around the solar panels.

*General Principles for creation of replacement grassland*

- 1.7.36 The land across the Order limits is mainly arable and the soil is not likely to meet nutrient requirements.
- 1.7.37 All clods will be broken up and alien material (such as plastics and metals) above 100mm in size will be removed from the chalk/soil mix before being laid. The top 50mm of the planting medium will then be raked to prepare a fine tilth for the seedbed. The raking will occur immediately before sowing.
- 1.7.38 Where the area will not be subject to excavated material and the soil does not meet the nutrient requirements, the Contractor is to spray the area off with a herbicide and remove the dead material. The Contractor is then to add a layer of a chalk up to a maximum of 150mm, ensuring that the grounds levels match and tie in with existing levels. The chalk is to be mixed with topsoil stripped from elsewhere within the Scheme at a ratio of three parts chalk to one part topsoil and the topsoil mix will be spread back across the new areas as appropriate
- 1.7.39 The soil will be physically screened before use to ensure that no clods of material are present and that all stones and other alien material (such as plastics and metals) above 50mm in size are removed. No clay soils will be used and only soil with a high pH (above pH7) will be used. The top 50mm will then be raked to prepare a fine tilth for the seedbed. The raking will occur immediately before sowing. This is to avoid disturbing the existing substrate and potential archaeology.

- 1.7.40 It is considered most appropriate to select a single calcareous grassland seed mix that will be sown at all locations to be put down to chalk grassland.
- 1.7.41 Immediately after the seeds have been sown, the ground should be left undisturbed. It is not necessary to water the seeds as the grassland regeneration should be a natural process.
- 1.7.42 In the first few years of establishment, the grassland may need to be mown between two and four times at even intervals throughout the growing season to control the more competitive species and allow the newly sown less competitive species to establish. The vegetation growth will be visually inspected every month during the growing season and this mowing regime will be set up if it appears that certain species are at risk of outcompeting the establishing seedlings. Mowing, if required at all, should be to a height of approximately 50-75mm.
- 1.7.43 Grazing should be prevented for the first three years to allow seedlings to establish sufficient root systems. Cut vegetation will be removed from the grassland area and taken to a composting location; this can and should be located near to each main area of cutting to avoid the need for material to be moved long distances. Nearby scrub and woodland areas would be ideal. This will limit the deposition of nutrients, controlling the initial flush of weeds and promoting root establishment of grasses and wildflowers.
- 1.7.44 Control of invasive plants such as Spear Thistle (*Cirsium vulgare*), Blackgrass (*Alopecurus myosuroides*), Creeping Thistle (*Cirsium arvense*), Broad-leaved Dock (*Rumex obtusifolius*) and Ragwort (*Senecio jacobaea*) may be required as these common weeds could colonise the Scheme naturally and potentially dominate the vegetation if not controlled. This control can be achieved in a targeted manner using a weed wiper, targeted spraying or by hand weeding. Volunteer (self-sown) cereals should also be identified and removed.
- 1.7.45 Rabbit proof fencing is not currently proposed for sown areas. Rabbit grazing is characteristic of short-sward open grassland communities but excessive grazing before seedlings have established can be harmful to the vegetation. This situation will be monitored to determine if management action is required.

*Species-rich grassland under the solar panels and creation of replacement arable flora*

- 1.7.46 Beneath the panels, species-rich grassland will be encouraged. Any bare areas created during construction will be re-seeded, post construction, using a mix of native grass and wildflower.
- 1.7.47 Around the periphery of the panels, these areas will be managed and enhanced for arable flora which will benefit a range of wildlife, including terrestrial invertebrates, amphibians, reptiles; small mammals (such as voles), and both foraging and ground-nesting birds. Leaving rough areas of grassland margins, which will benefit small mammals, will also provide foraging habitat for Barn Owl *Tyto alba*.
- 1.7.48 Following installation of the solar panels, a wildflower seed mix will be sown between rows and such appropriate mixes include EM3 – Special General Purpose Meadow Mixture or EM2 –Standard General Purpose Meadow Mixture. Grass seed will be sown from April to May or from September to October, during calm weather



and not when the ground is frost bound or waterlogged. The seed will be sown in accordance with the supplier's guidance. A suitable wildflower mix could be, for example, EM7F – Wild Flowers for Sandy Soils.

- 1.7.49 The creation of species-rich grasslands will provide landscape scale benefits for pollinators through increased habitat provision and connectivity. For example, the Scheme will contribute to Buglife's B-Lines project, which looks to create a national network of wildflower habitats to connect pollinator populations. Annex C sets out the indicative grass mixes to be sown across the Scheme and grazing regimes for management. Areas designated for conservation grazing have been incorporated to link in with the B-Lines project through allowing diverse grasslands to establish and be managed for the benefit of pollinators.
- 1.7.50 Areas throughout the Scheme where notable arable flora has been recorded will be subject to the provision of disturbed field margin strips to provide suitable conditions for annual species. Parts of the Order limits will continue to be cultivated to allow rare arable plants to persist within the Scheme following the cessation of arable farming. The following areas within the Order limits, where notable species were recorded, will be managed for arable plants (refer to the illustrative parameter plans (see **Figures 3-1** and **3-2** of this Environmental Statement [**APP-135** and **APP-136**]):
- a. Sunnica East Site B: 4 3x20m wide strips in field E30 and 4 3x10m wide strips in field E17/18
  - b. Sunnica West Site A: 3 3x10m wide strips in field W09.
- 1.7.51 For all arable plant areas there will be no routine application of herbicides, but where a pernicious weed burden becomes an issue, targeted herbicide application and or hand pulling will be necessary. No seed or crop will be added to these areas, to encourage the existing seed bank to germinate, grow and re-seed. The management will be in accordance with that described within Natural England Entry Level Stewardship Option EF11. The strips will be cultivated in either spring (February-March) or autumn (September-November) each year for the lifetime of the Scheme, to a depth of 150mm to establish a firm, fine tilth. This will then be left undisturbed to naturally regenerate. The cultivation depth can be adjusted to control germination of problematic weeds. The disturbed strips located in Sunnica East Site B will also benefit specialist terrestrial invertebrate species which require disturbed bare ground. These strips will be disturbed using disc harrowing to a depth of between 80-180cm. Disc-harrowing will occur in February with the vegetation left to naturally regenerate within the strips.
- 1.7.52 The southern section of field W09 (refer to the illustrative parameter plans (see **Figures 3-1** and **3-2** of this Environmental Statement [**APP-135** and **APP-136**]) will be sown with a winter bird cover crop. This will extend the existing cover crop present in the field and provide a greater resource during the winter months for farmland bird species. Management prescriptions will follow those set out in Natural England Entry Level Stewardship Option EF2, with the aim of maximising the production of small seeds suitable as bird food in either annual or annual/biennial mixtures.

#### *Hedgerows – infill planting and creation*

- 1.7.53 The Scheme will introduce 7.4km of hedgerow infill planting and new hedgerow creation. Detailed surveys will be carried out at the detailed design stage to

determine the extent of gapping up of existing hedgerows required. It is assumed at this stage that this would be approximately 30% of the total length, equating to 2,200m. The specification for hedgerow planting will be a double staggered row of transplants of 40-60cm and 60-80cm at five plants per linear metre. Therefore, the current assumption is approximately 11,100 shrubs will be required.

- 1.7.54 Hedgerow trees will also be introduced and is assumed that these would be planted as feathered trees of 150-175cm and 200-250cm, depending on species, at approximately 20m centres within the sections of infill and creation to allow for canopy spread. Therefore, the working assumption is that approximately 110 hedgerow trees will be required.
- 1.7.55 An indicative list of key hedgerow shrub and tree species is given in Annex D Table D2, which will be tailored and expanded on for each plot depending on the soil, habitat and character at the detailed design stage, post-consent.
- 1.7.56 During construction existing hedgerows shall be protected, retained and inspected by measures set out by the Contractor's Arboricultural Mitigation Strategy which would be developed within the Contractors LEMP, as part of the DCO Requirements.
- 1.7.57 This will also include managing the structure and integrity of the hedgerows during the construction period, with any trimming undertaken outside of the bird breeding season.
- 1.7.58 Gaps in currently defunct hedges will be planted with suitable native species to improve habitat connectivity of with, for example, broad-leaved woodland within the Sites and linked to habitat beyond the Sites. New areas of tree planting around infrastructure will be provided to provide both screening from Scheme infrastructure and to improved habitat connectivity as well the increase the area of hedge/woodland habitat on Site. Hedgerows and trees will be allowed to grow tall and wide to provide maximum benefits for biodiversity and this natural regeneration will encourage a mosaic of successional habitats, forming broad habitat corridors throughout the Scheme. The following woodland and hedgerow planting and infilling have been embedded in the Scheme:
  - a. 51ha of tree planting to reinforce the existing vegetation patterns, with the use of native species of local provenance, including Pedunculate Oak, English Elm, Field Maple, Birch and Scots Pine.
  - b. 7.4km of hedgerow infill planting and creation, including species such as Blackthorn, Hazel and Hawthorn.
- 1.7.59 Best practice horticultural techniques should be used in the planting of hedgerow vegetation to ensure rapid early growth. Rapid attainment of effective screening would be achieved through the autumn planting of both hedgerow and hedgerow with trees with a healthy root structure, including a mix of 40-60cm and 60-80cm transplants of blackthorn, hazel, hawthorn and holly, depending on species, and feathered hedgerow trees of beech and oak of 150-175cm and 200-250cm, depending on species. Fruit and nut bearing species would provide a food source for birds and small mammals.

- 1.7.60 The ground below the hedgerow planting will be maintained as bare ground in the first two to three years after establishment. Depending upon establishment of trees, these areas would then be seeded with a low-vigour native wildflower seed mix suitable for hedgerows. The ground flora should be maintained through annual cutting and removal of vigorous weed species. Once established, new hedgerow planting should be subject to the same maintenance work as for the rest of the existing hedgerows.

*Trees and Woodland*

- 1.7.61 A total of 52ha of woodland is proposed, which together with the 17.7ha of existing woodland which will be retained, totals approximately 70ha of woodland across the Scheme. This equates to an approximate increase of 5.3% in woodland cover across Sunnica East Sites A and B and Sunnica West Sites A and B.
- 1.7.62 It is expected that new woodland plots will be planted at a density of 3,000 plants per hectare. Therefore, it is currently assumed that approximately 156,000 trees and shrubs will be planted within these areas. The majority of plants will be nursery transplants, planted at a height of between 40-60cm and 60-80cm. Such plants are easier to establish in the field than larger trees as their root systems adapt better to the growing position. Approximately 20% of the planting mix will be larger feathered trees of 150-175cm and 200-250cm, depending on species.
- 1.7.63 Groups of feathered trees will also be planted to reinforce existing vegetation patterns and aid in enclosing the Scheme (refer to Environmental Masterplan **[EN010106/APP/8.47]**). It is envisaged that these tree groups will be located within areas of grassland on the peripheries of the Scheme. The location and extent of each tree group will be determined on site at the detailed design stage. It is assumed that there will be up to 20 tree groups across the Scheme, each of approximately 20 feathered or standard trees. Therefore, the total number of trees in groups will be approximately 400. An indicative list of key tree species including hedgerow trees is set out in Annex D, Table D2.
- 1.7.64 Native species of local provenance would be used, including:
- a. Pedunculate Oak (*Quercus robur*);
  - b. English Elm (*Ulmus minor*);
  - c. Field Maple;
  - d. Birch; and
  - e. Scots Pine.
- 1.7.65 All new trees would be notch planted at approximately 2m centres with a random distribution into cultivated ground. All planting would also be supported by an appropriate timber stake and tree shelter, fitted as per manufacturer's recommendations.
- 1.7.66 The exact number of plants and stock size will be determined at the detailed design stage, taking consideration of the interface between proposed planting and existing vegetation and the need for interplanting. It will be designed to respond to the conditions and character of each part of the site with reference to the landscape character assessment. For example, the planting palette for the parts of the Scheme

which lie on the fringes of the Breckland will be characterised by stands of Scots Pine, interspersed with birch and occasional oak trees. The understorey will be more sparsely planted, particularly at the edges, to allow natural colonisation with shrubs and perennial and annual ground flora. On the parts of the site which lie on the edge of the Fens, tree species in wetter areas will include Willow and Alder, which are characteristic of watercourses in the area.

- 1.7.67 Elms were once prolific in the Cambridgeshire landscape but were decimated by Dutch Elm Disease in the 20<sup>th</sup> century. They are important for the diversity associated with them, primarily invertebrates as opposed to the species as part of floral diversity per se. They are important in the study area, but rarely grow beyond 5m in height before succumbing to the disease. Its inclusion will depend on securing a commercial supply of suitable plant material. Otherwise, it will be allowed to colonise hedgerows and woodland through natural regeneration. It must be propagated from either seed or more likely from cuttings from selected stands. Further work and consultation with relevant local authorities is required to confirm the feasibility of including elm in the planting mix.
- 1.7.68 A list of indicative woodland plant species is given in Annex D (Table D3). This will be tailored and expanded for each plot depending on location to respond to character and context at the detailed design stage.
- 1.7.69 All new tree plantings would be subject to the maintenance regimes, in which all plants found to be dead or dying would be replaced within the first available planting season. If areas of trees are seen to be failing, soil samples may be needed to identify potential soil issues affecting tree health. Either soil remediation would be required or, if not practical, a more suitable tree species or location would be chosen. Following the completion of the initial five-year aftercare period all new planting plots will undergo an annual condition assessment and an appropriate programme of works developed to address changes in condition and site requirements. Such work may include; additional replacement planting, tube/stake removal, pruning, coppicing, or thinning out of plots to encourage establishment.

#### *Creation of Stone Curlew nesting Plots*

- 1.7.70 Ten 2 ha nesting/foraging plots for Stone Curlew will be created in advance of construction and of the Stone Curlew breeding season. Details of plot creation and management of nesting plots has drawn on best practice guidance, such as the RSPB information Note 'Managing nest plots for Stone Curlews' and further requirements set out in the Countryside Stewardship Higher Tier 'AB5: Nesting plots for Stone Curlew' guidance note.
- 1.7.71 As well as the bare ground plots, approximately 108 ha of predominantly arable farmland have been embedded within the Scheme for reversion to grassland, specifically managed to create a close-cropped sward, suitable for Stone Curlew. Small areas of existing acid grassland have also been retained within the Scheme design in Sunnica East Site B and these will form the basis of reverting adjacent areas in Sunnica East Site B to semi-natural grassland, characteristic of the Breckland heaths. In time this will provide a high quality habitat, offering both nesting and foraging opportunities for Stone Curlew. The disturbed plots will be retained within these established grassland areas for the lifespan of the project. Within Sunnica East Site A the offsetting area will be sown with a chalk grassland mix and



managed specifically for Stone Curlew, i.e. maintaining a close-cropped sward. The plots will be retained within these established grassland areas for the lifespan of the Scheme.



**Plate 1-1 Stone Curlew plot in a Brecks arable field (RSPB Information note – Managing nest plots for Stone Curlews)**

*Provision of wildlife boxes*

- 1.7.72 A range of artificial bird and bat boxes will be installed in existing woodland areas to increase the availability of nesting and roosting features and enhance the value of the woodlands for these species' groups.
- 1.7.73 A total of 40 bird nest boxes and 30 bat roost boxes of varying types to suit different species of birds and bats will be installed within the retained woodland areas on suitable trees, in locations to be determined by an ecologist at the time of installation.

*Creation of Habitat Piles*

- 1.7.74 Habitat piles and hibernacula would be constructed throughout the Scheme areas using natural materials generated during clearance of the site, such as logs, turf and grass strimmings. These would provide refuge and hibernation opportunities for amphibians and reptiles, as well as dead wood habitat for invertebrates, which would in turn benefit fauna such as bats and birds.

*Creation of Permissive Paths*

- 1.7.75 The Scheme will implement new permissive routes during the lifetime of the Scheme as illustrated on **Figures 1 to 6** in Annex A, **Figure 3-1** and **3-2** of this Environmental Statement [APP-135] and **Works Plans [APP-136]**, as follows:
- a. adjacent to Beck Road;
  - b. along the southern edge of Sunnica East Site B and adjacent to Elms Road; to connect existing routes from Red Lodge with U6006; and
  - c. along the north part of Sunnica East Site B, between U6006 and Golf Links Road.



- 1.7.76 These routes shall be made accessible for all but 1 day a year; when they will be closed. The routes will neither be surfaced or bound to retain the existing field character.

*Temporary Fencing*

- 1.7.77 Temporary timber fencing shall be located along the southern edge of W5 and the western edge of W4 at the start of the construction phase. The fencing shall be 2.5m in height and toned to be integrated into the landscape, i.e. olive green.
- 1.7.78 All of the above fencing shall be removed once the proposed planting has reached 2.5m in height.

## **1.8 Management, Maintenance and Monitoring of Landscape and Biodiversity**

### **Landscape**

*Species Rich Grassland*

- 1.8.1 The management regime for species-rich grassland within the solar farm is not yet defined, but if cutting is preferred for areas of species rich grassland, this will include:
- a. taking a first cut to 5 cm height from late July to mid-August after plants have set seed;
  - b. taking a second cut, as per the first cut, towards the end of October;
  - c. if the grass regrows vigorously, taking a third cut in February to ensure that the sward is approximately 5 cm high;
  - d. leaving approximately one third of the grassland areas uncut and managed as tussocky grassland to retain some habitat structure and refuge for local wildlife when the remainder of grassland is cut;
  - e. removing all arisings a proportion of which will be used to create habitat piles for the benefit of species such as Grass Snake; and
  - f. controlling scrub encroachment will be controlled within areas of species-rich grassland and will be maintained at no greater than 10% total cover; and
  - g. taking measures to prevent or reduce grazing by rabbits, such as installation of fencing which may be required during the early development of species rich grassland in order to allow it to establish properly.
- 1.8.2 Initial management of new areas of species rich grassland will be in accordance with the recommendations of the seed supplier. Following successful establishment, management regimes are likely to be comparable to those outlined above for existing grassland.
- 1.8.3 Works will also include the following actions:
- a. removal of litter, rubbish and debris;
  - b. spot treat undesirable species;
  - c. hand-pulling of Ragwort (species of *Senecio*) (if required);

- d. establishment cuts;
- e. subsequent cuts;
- f. collection and removal of arisings;
- g. removal of emerging scrub;
- h. checking and recording defective plants and identify a list of replacements;
- i. re-seeding failed areas.

#### *Long-term management*

- 1.8.4 It is likely to take at least five years for the grassland to develop into a stable community and even then, there are likely to remain numerous sparsely vegetated areas; this variation is desirable as it provides valuable structural diversity.
- 1.8.5 Management will be essential to maintain an early successional community for the long-term. Without management the community will (at varying rates depending upon the nutrient availability of the substrate) progress naturally through the later successional stages and become tall, dense and grass-dominated and ultimately develop extensive scrub encroachment. A regime of cutting and/or grazing is required to prevent domination of the sward by scrub or aggressive grass species, see Annex C.
- 1.8.6 Mowing must be undertaken in the appropriate conditions, i.e. when the ground is dry to prevent poaching of the grassland. Where grazing is to be undertaken, water trough locations will need to be selected carefully as the areas immediately around the troughs are likely to be poached. Grazing is generally preferable to mowing as it is less labour intensive and the action of grazing helps to spread seeds, opens up small areas of bare ground and reduces the build-up of leaf litter.
- 1.8.7 Once an even sward is established (*i.e.* one not dominated by a small number of competitive species) mowing will only be needed once or twice a growing season. Ideally this should only take place in autumn after the grasses and wildflowers have set seed, to allow for new growth of species the next season. Arisings will be left in-situ for 24hrs to encourage seed drop, before being removed to the designated composting location. Where required, litter picking should take place prior to each grass cut and all stones and debris removed.
- 1.8.8 Some areas of grassland along the meadow margins adjacent to woodland and hedgerows should be left for a year or more between cuts in order to provide dense ground level cover for reptiles, small mammals and invertebrates.
- 1.8.9 These management requirements will need to be adjusted in response to changes in the vegetation as time progresses.

#### *Hedgerows*

- 1.8.10 Native species hedgerows across the Order limits will provide valuable habitat and food source for local wildlife. Hedgerow height is important to screen views to and from the road and should be maintained between 2m and 3m in height. The treatment of arisings needs to be considered along roadsides and may determine maintenance techniques such as flailing.

- 1.8.11 Native species hedgerows provide good ecological value, through use of local species and form. Proposed hedgerows linking to the existing hedgerows provide a continuation of wildlife corridors and protect adjacent fragile habitats. Hedgerows provide a visual screening function. To sustain a dense structure requires more frequent cyclical operations or phased maintenance in the initial years following installation.
- 1.8.12 Specific management operations are:
- a. Remove litter, rubbish and debris;
  - b. Spot treat undesirable species;
  - c. Re-firm plants;
  - d. Inspect and adjust guards;
  - e. Check and record failed or defective plants;
  - f. Replacement of failed or defective plants.
  - g. Non-desirable woody species should be removed during management operations and at other times as necessary, where this does not prejudice screening requirements.
  - h. In order to fulfil the OLEMP objectives, each hedgerow should be managed as appropriate, i.e. by trimming, laying, coppicing, bulking up, etc.
  - i. If managed by laying, this should be on a rotational basis. This is a traditional management technique and seeks to retain the structural integrity of hedgerows and maintain connections with other habitats. Cutting should be carried out at the end of the winter in February, thereby retaining berries through the winter months for wildlife, and avoiding the bird breeding season.
  - j. Where trimmed, hedges should, wherever possible, be managed on a three year rotation with only one side cut a year to help develop the desired tall bushy structure.
  - k. Cutting back undergrowth, overgrowing or overhanging shrubs and minor tree branches from any pathways to maintain an unobstructed width of at least 2m or the existing width of the pathway, whichever is the greater.
  - l. Retaining dead, over-mature or dying hedgerow trees wherever possible, but those which are considered dangerous for health and safety reasons, for example adjacent to public footpaths or residences, to be felled or lopped as appropriate to maintain safety, and in accordance with protected species constraints.
  - m. In the interests of wildlife, hand weeding, where feasible, should take precedence over the use of herbicides in hedgerows. However, in certain instances, herbicide may be the most effective measure to take in relation to unwanted species.
  - n. Where herbicide application is needed for the removal of unwanted species, an appropriate herbicide would be applied in July - August in small controlled areas around the tree base. Such herbicide application would only be undertaken by an appropriately certified operative whose company was a member of recognised trade association.

### *Individual Trees*

- 1.8.13 Maintenance works to trees need to be planned to avoid the bird nesting season. If this can not be achieved, then an ornithologist will be required to check for the presence of active nests prior to any tree works. Tree works will include the following actions:
- a. Re-firm plants;
  - b. Inspect and adjust stakes, guards, irrigation pipes and ties;
  - c. Apply herbicide to plant circles;
  - d. Inspect and top-up mulch as required;
  - e. Formative pruning;
  - f. Check and record failed or defective plants;
  - g. Replacement of failed or defective plants.

### **Biodiversity**

#### *Stone Curlew plots*

- 1.8.14 Stone Curlews are very susceptible to human disturbance and birds may also abandon nests if they are suddenly faced with a new type of disturbance at any time within the breeding cycle. Therefore, during the Stone Curlew breeding season (March to September, inclusive), the Stone Curlew plots should be avoided by energy farm personnel and there should be no entry to these plots unless essential to the maintenance or monitoring of them.
- 1.8.15 A successful breeding plot will provide a predominately open area of bare ground with sparse vegetation from February to September. Excessive vegetation growth can cause birds to abandon nests or severely restrict the area in which chicks can feed.
- 1.8.16 The following cultivation programme is required in ECO1 and ECO3:
- a. By mid-March prior to construction, prepare the whole 2 ha plot by discing/ light cultivation, ideally in February. This creates a rough bare fallow that provides suitable conditions for the first Stone Curlew nesting attempt.
  - b. During May of the plots being operational, spray the whole plot using a non-selective herbicide ideally when the vegetation is no more than a few centimetres tall. This will create bare ground rather than a mat of dead vegetation. Spraying reduces the risk associated with intrusive management (such as through mowing) to a level that will not impact the population of Stone Curlew. The only danger from spraying, to Stone Curlew nests/chicks, is from tractor wheels. If the nest location is known it may be possible to reduce this risk by avoiding the area around the nest and/or by spraying only half of the plot.
  - c. Retain the fallow through the autumn/winter (at least until the end of September). Stone Curlew can nest late into the year so the fallow must be left until the end of September. If left through winter, it will provide a vital source of seeds for farmland birds.

- 1.8.17 The timing of any management may need to be adjusted in accordance with any breeding attempts and this will be informed by the post-construction monitoring.
- 1.8.18 Whilst cultivation of plots is generally preferred to suppress vegetation, it may be necessary to spray plots with an appropriate herbicide, rather than mow. Again, this would be informed by the post-construction monitoring.
- 1.8.19 Within ECO2 the Scheme would replicate ploughed field conditions within the plots to constitute bare-earth. This would be managed through visual inspection and manual removal of aggressive weeds, to keep the plots bare.
- 1.8.20 To create the grassland outside the plots, the surface would be raked followed by hydroseeding across the existing surface.
- 1.8.21 The short-term management (0-5 years) would involve the following:
- a. visual inspections during the growing season;
  - b. looking for establishment rates and whether certain species are at risk of out-competing the grassland;
  - c. grassland mown between two and four times at even intervals throughout the growing season to control the more competitive species and allow the newly sown less competitive species to establish;
  - d. grassland cut in autumn (once grassland has set seed) with cut grass left in situ for 24hrs;
  - e. Removal of cut vegetation from the grassland area (in combination with a litter pick); and
  - f. Targeted weeding (including no residual herbicide) if invasive species recorded.
  - g. The long-term management (5+ years) will involve low intensity conservation grazing once the grassland has established.

#### *Wildlife Boxes*

- 1.8.22 Bird and bat boxes made from long lasting materials (such as Woodcrete) will be used and would be expected to have a life expectancy of 20-25 years. However, the condition of all wildlife boxes installed would be monitored every five years during the operation of the scheme and replacements will be made as necessary. Inspections can be timed to coincide with the required inspections of new tree and shrub plantings.
- 1.8.23 All wild birds, their active nests and eggs are protected under the Wildlife and Countryside Act (1981), as amended. This makes it an offence to deliberately, or recklessly kill or injure any wild bird or damage or destroy any active nest or eggs of a wild bird.
- 1.8.24 Therefore, annual cleaning of bird boxes cannot be undertaken between the months of March and August inclusive, when birds may be using the boxes. Therefore, bird boxes should be cleaned between October and February to prevent the build-up of nest parasites in the boxes whilst avoiding the risk of disturbing birds using the boxes as a roost site during the cold winter months.



- 1.8.25 Bat boxes will be inspected by an appropriately licensed bat surveyor for evidence of uptake, and any evidence of roosting bats will be recorded to assist with ongoing management of the woodland on site.
- 1.8.26 Bat boxes are, in most circumstances, unlikely to be used by hibernating bats during winter months (between November and February inclusive). Therefore, any maintenance that is required on bat boxes should be undertaken during these months, when bat droppings and any bird nests will be removed.
- 1.8.27 If bats are inadvertently discovered during maintenance, the person undertaking the maintenance should replace the box and leave site.

### **Post-construction Monitoring**

- 1.8.28 Monitoring is required in order to determine that the objectives documented within this OLEMP are being achieved and whether remedial action may be required. The baseline against which the effects of the actions resulting from the monitoring can be compared against, comprise the pre-construction baseline data.
- 1.8.29 A post-construction monitoring programme will be formalised and included within the finalised LEMPs. Walkover surveys of the Order limits will be undertaken between April and June in Years 1, 3, 5 and 10 post-construction and will involve an inspection of the hedgerows and grassland habitats to ensure that they are being managed accordingly.
- 1.8.30 Post-construction monitoring of the success of the Stone Curlew plots will be undertaken annually between March and September for five years post-construction and then again in year 10.
- 1.8.31 Post-construction monitoring for flora, birds (breeding and non-breeding), riparian mammals, Badger, bats and reptiles will be undertaken in the respective seasons, in Years 1, 3, 5 and 10 post-construction.
- 1.8.32 An annual check of wildlife boxes would be made each winter to ensure that all boxes are still in position and secure.
- 1.8.33 The management plan will be amended accordingly, based on the post-construction monitoring.

## **1.9 Roles and Responsibilities**

### **The Applicant and/or the Appointed Contractor(s)**

- 1.9.1 The Applicant and appointed contractor(s) and their Environmental Clerk of Works would be responsible for:
  - a. correct instruction of all parties contributing to delivery of the final approved LEMP (including but not restricted to the Applicant's staff and their appointed ecologists, landscape architects, landscape contractors, construction contractors and management organisations) based upon the principles stated within the OLEMP;
  - b. compliance with the final approved LEMP, relevant legislation and any relevant planning commitments;

- c. keeping the appointed ecologist/landscape architect/arboriculturalist informed of work activities that require support and supervision, so that it is clear when attendance at the Order limits is required;
- d. Enacting and, or enforcing recommendations made by the ecologist/landscape architect/arboriculturalist, or otherwise agreeing an appropriate alternative course of action, if it is subsequently determined that previous advice is not practicable or is out of date; and
- e. keeping a record of measures taken to deliver the requirements of the final LEMP, to provide an auditable record of compliance.

### **The Appointed Ecologist**

1.9.2 The appointed ecologist would be responsible for:

- a. advising the Applicant and the appointed contractor(s) on ecological matters and requirements for compliance with relevant legislation and protected species licences, providing support as instructed, and monitoring compliance with the final approved LEMP;
- b. reviewing the LEMP at appropriate intervals and revising management requirements as necessary for the following five year period and subsequently for the duration of the Plan;
- c. where a European Protected Species Mitigation Licence (EPSML) has been granted it is the responsibility of the 'Named Ecologist' and licence holder or otherwise appointed ecologists to ensure the compliance of the licence and working activities associated with the agreed licence; and
- d. providing the Applicant and the appointed contractor(s) with survey reports and other written evidence required in accordance with the agreed scope of work and contractual obligations.

### **The Appointed Landscape Architect/Arboriculturalist**

1.9.3 The appointed landscape architect/arboriculturalist would be responsible for:

- a. providing specialist site supervision in the form of walkover assessments relating to relevant landscape areas. This would be to assess landscape components and their condition and identify the need for landscape enhancement as instructed and in accordance with the agreed scope of work and contractual obligations, once the power station is operational;
- b. monitoring and assessing the landscape related elements of the approved LEMP for their effectiveness on an annual basis for the first ten years following commencement of operation of the Scheme and then for the following five year period and subsequently for the duration of the Plan;
- c. ensuring that the landscape related elements of the approved LEMP are reviewed at the end of the five year initial monitoring and assessment stage and amended accordingly for the following five year period and subsequently for the duration of the Plan. The LEMP shall be amended accordingly to suit any changing landscape conditions and ultimately inform the maintenance operations throughout the operational life of the Scheme; and
- d. ensuring that any reviews associated with landscape related elements of the approved LEMP clearly identifies any changes to site conditions and

circumstances, whether the aims and objectives of the approved Plan are being met, and where identified changes are needed to existing management practices and timeframes.

### **The Ecology Advisory Group**

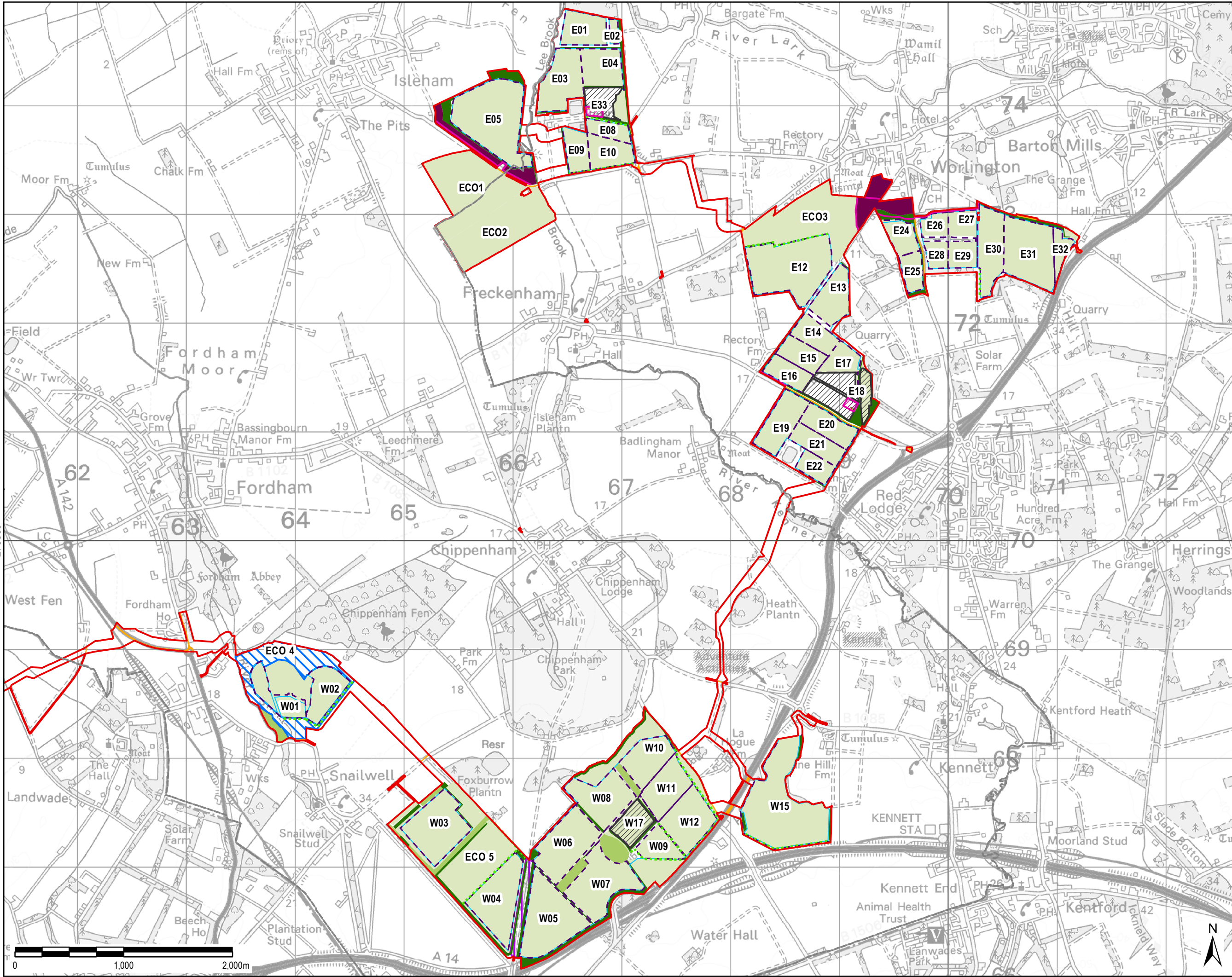
- 1.9.4 The Ecology Advisory Group is a long-term partnership providing an interactive and sustainable vehicle for dealing with biodiversity matters to meet the ambition for the Scheme. The Group will advise on:
- a. the achievement of biodiversity enhancement as laid out in the Development Consent Order
  - b. communication regarding biodiversity matters between the Scheme and relevant stakeholders;
  - c. the need to respond within these terms of reference of the Group to the changes that will occur over its lifetime, e.g. in policy and legislation; and
  - d. the co-ordination of any research projects planned around the Scheme and dissemination of the outcomes providing both feedback within the Scheme and externally.
- 1.9.5 This will cover the pre-construction phase, post-construction phase and decommissioning.
- 1.9.6 The Ecology Advisory Group comprises Scheme representative(s), Natural England, local host authorities, wildlife trusts, other relevant stakeholders and, if relevant, research group representative(s).
- 1.9.7 Further details of the Ecology Advisory Group will be included in the detailed LEMP with terms of reference including such aspects as scrutiny of monitoring data, adaptive habitat management, site conditions and working practices where necessary to meet the ambition for the Scheme.

## Annex A Figures



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- LEGEND**
- The Order Limits
  - County Boundary
  - District Boundary
  - Potential Provision of Permissive Route
  - Proposed Hedgerow (new planting or infilling of existing vegetation)
  - BESS and Substation
  - Developable Area
  - Native Grassland Planting
  - Office/Warehouse
  - Boundary Fence
  - Public Highway within Scheme
  - Compound Area (Permanent)
  - Landscape Offset with Chalk Grassland
  - Native Grassland/Wetland
  - Heritage Offset with additional planting along The Avenue
  - Proposed Woodland (new planting or infilling of existing vegetation)
  - Retained Woodland

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Existing vegetation along the Cable Route alignment which is required to be removed during the construction phase would be replaced with the same species to recreate the vegetation cover

Purpose of Issue  
**FOR DCO SUBMISSION**

Client  
**SUNNICA LTD**

Project Title  


Drawing Title  
**FIGURE 1  
LANDSCAPE MASTERPLAN  
SUNNICA EAST SITE  
AND WEST SITE**

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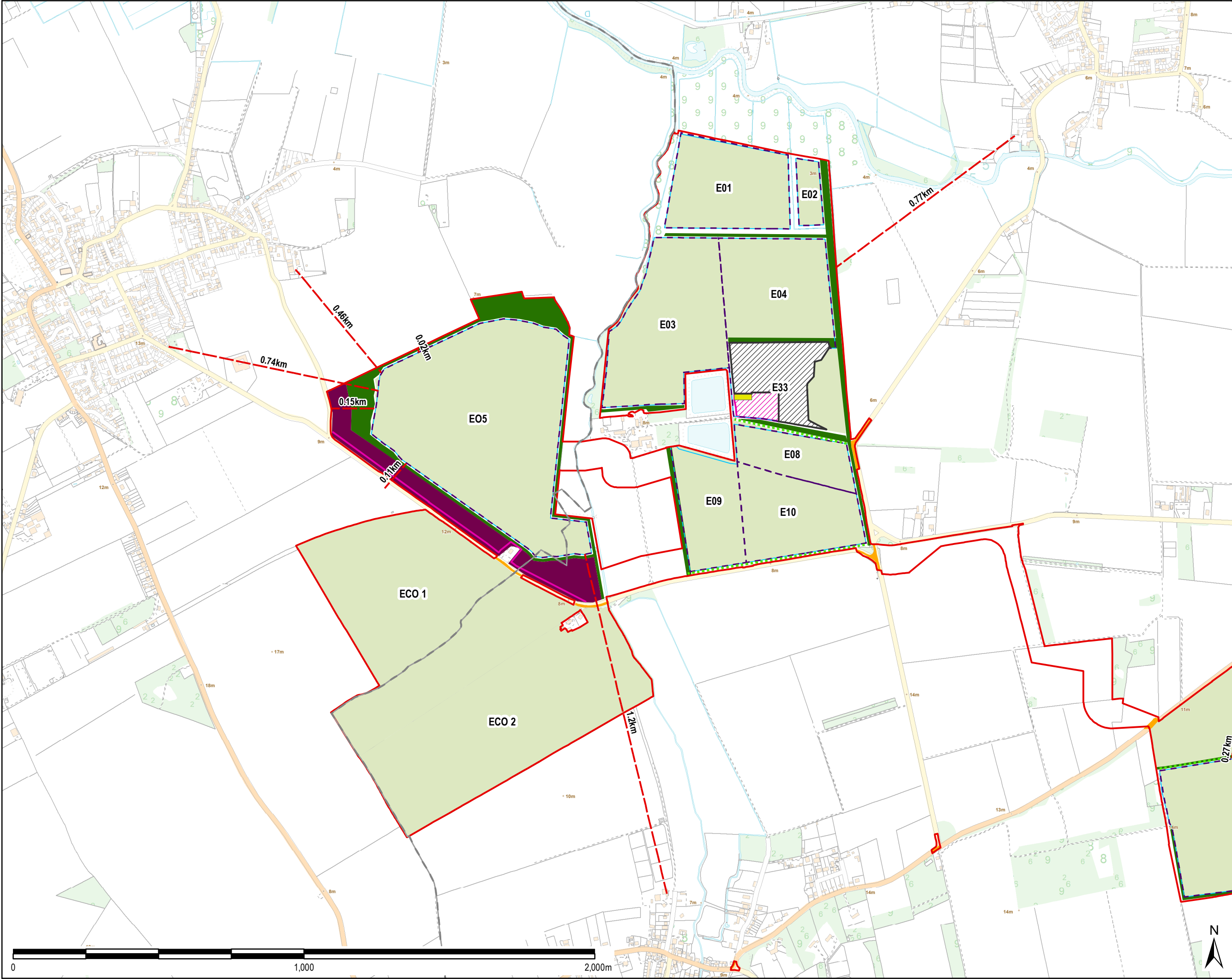
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  - County Boundary
  - District Boundary
  - Potential Provision of Permissive Route
  - Proposed Hedgerow (new planting or infilling of existing vegetation)
  - BESS and Substation
  - Developable Area
  - Native Grassland Planting
  - Office/Warehouse
  - Boundary Fence
  - Public Highway within Scheme
  - Compound Area (Permanent)
  - Landscape Offset with Chalk Grassland
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Purpose of Issue  
**FOR DCO SUBMISSION**

Client  
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Project Title  


Drawing Title  
**FIGURE 2  
LANDSCAPE MASTERPLAN  
SUNNICA EAST SITE A**

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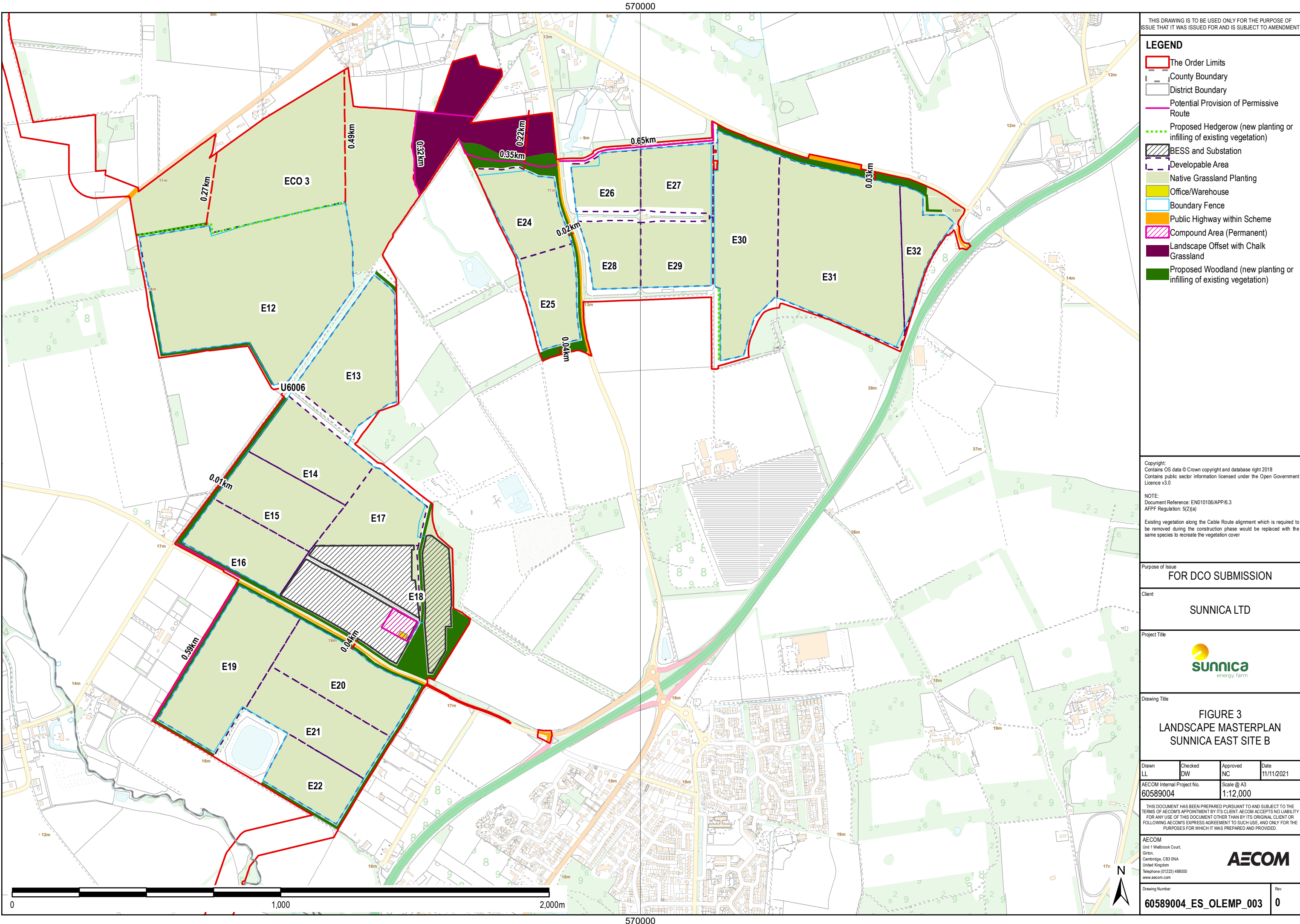
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LEGEND

- The Order Limits
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- District Boundary
- Potential Provision of Permissive Route
- Proposed Hedgerow (new planting or infilling of existing vegetation)
- BESS and Substation
- Developable Area
- Native Grassland Planting
- Office/Warehouse
- Boundary Fence
- Public Highway within Scheme
- Compound Area (Permanent)
- Landscape Offset with Chalk Grassland
- Proposed Woodland (new planting or infilling of existing vegetation)

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Client  
SUNNICA LTD

Project Title

Drawing Title  
FIGURE 3  
LANDSCAPE MASTERPLAN  
SUNNICA EAST SITE B

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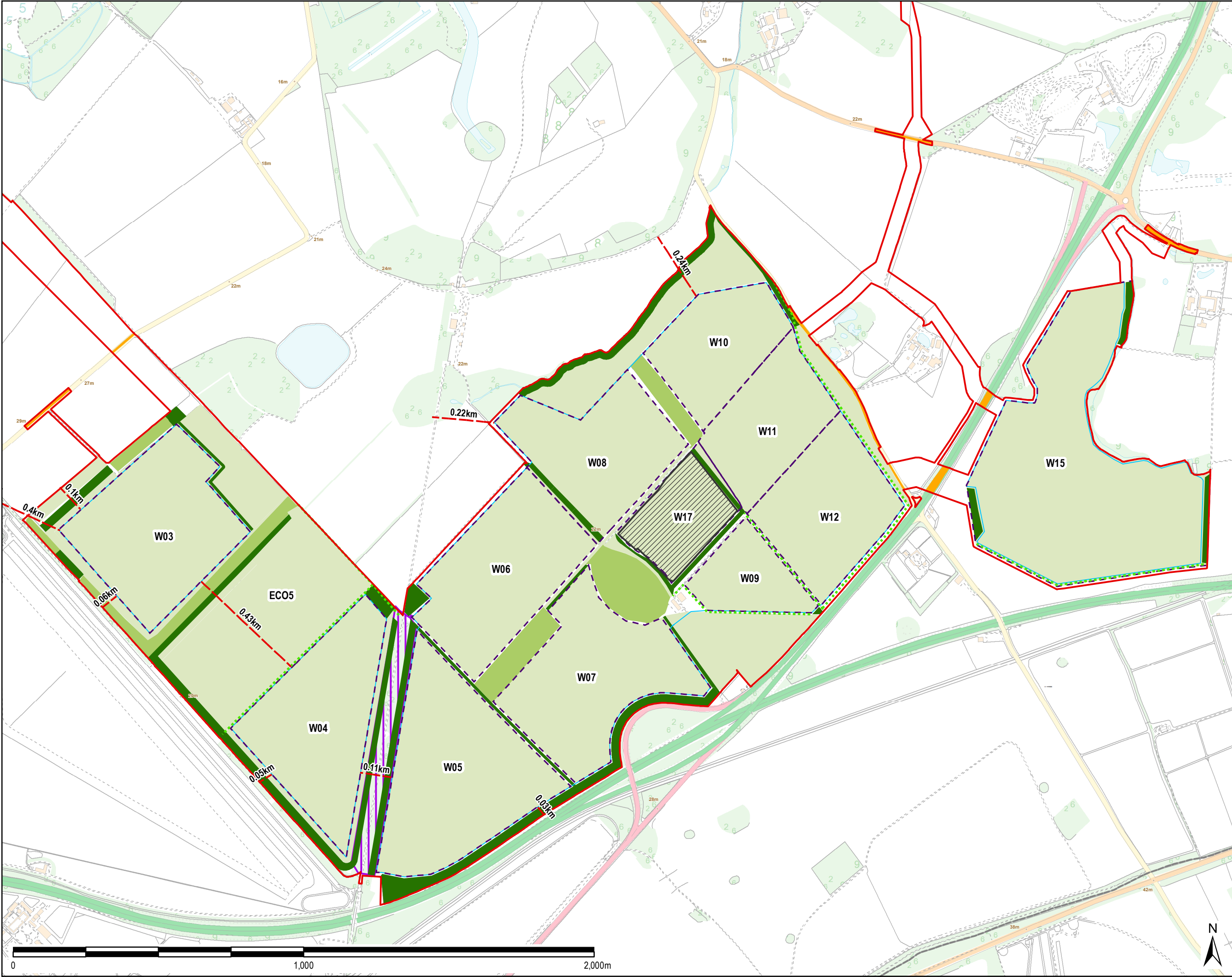
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- District Boundary
- Proposed Hedgerow (new planting or infilling of existing vegetation)
- BESS and Substation
- Developable Area
- Native Grassland Planting
- Boundary Fence
- Public Highway within Scheme
- Heritage Offset with additional planting along The Avenue
- Proposed Woodland (new planting or infilling of existing vegetation)
- Retained Woodland


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**FOR DCO SUBMISSION**

Client  
**SUNNICA LTD**

Project Title  


Drawing Title  
**FIGURE 4  
LANDSCAPE MASTERPLAN  
SUNNICA WEST SITE A**

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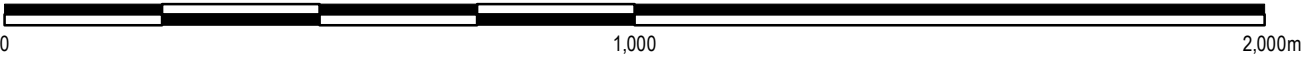
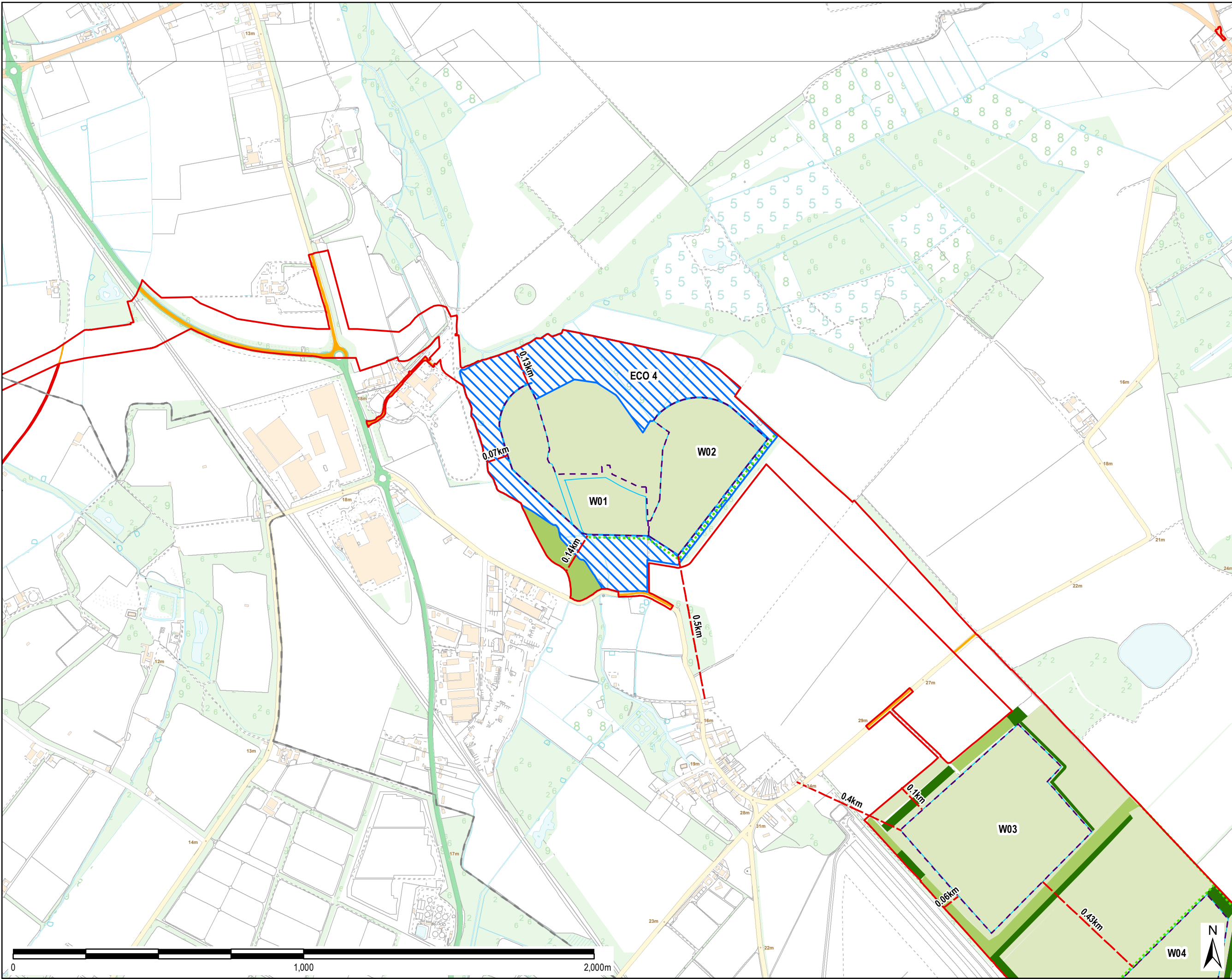
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LEGEND

- The Order Limits
- County Boundary
- District Boundary
- Proposed Hedgerow (new planting or infilling of existing vegetation)
- Developable Area
- Native Grassland Planting
- Boundary Fence
- Public Highway within Scheme
- Native Grassland/Wetland
- Heritage Offset with additional planting along The Avenue
- Proposed Woodland (new planting or infilling of existing vegetation)
- Retained Woodland

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FIGURE 5  
LANDSCAPE MASTERPLAN  
SUNNICA WEST SITE B

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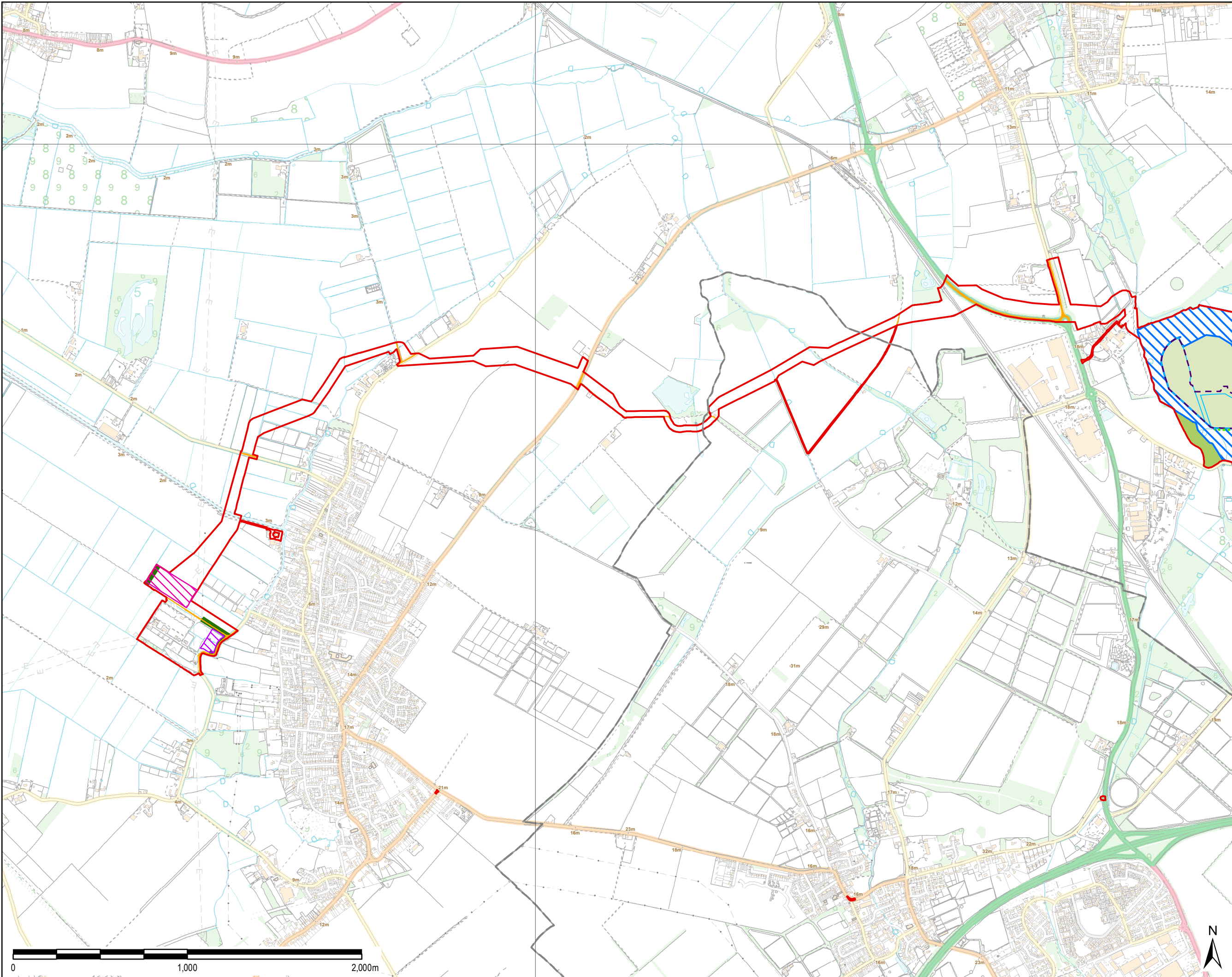
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- District Boundary
- Proposed Hedgerow (new planting or infilling of existing vegetation)
- Developable Area
- Native Grassland Planting
- Boundary Fence
- Public Highway within Scheme
- Native Grassland/Wetland
- Proposed Woodland (new planting or infilling of existing vegetation)
- Retained Woodland
- National Grid Substation Extension Burwell - Option 1
- National Grid Substation Extension Burwell - Option 2

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Project Title  


Drawing Title  
FIGURE 6  
LANDSCAPE MASTERPLAN  
CABLE ROUTE  
TO BURWELL SUBSTATION

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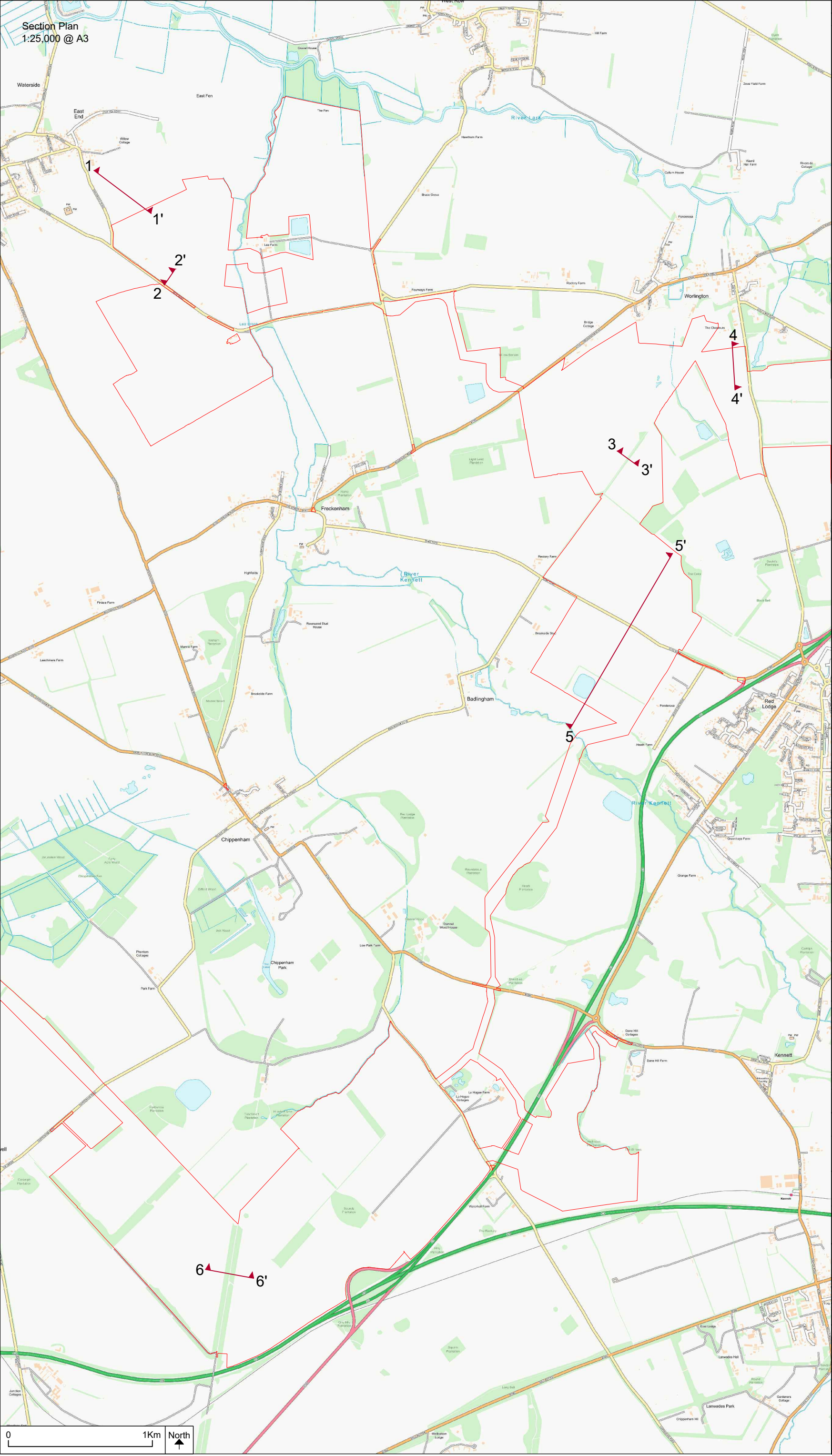
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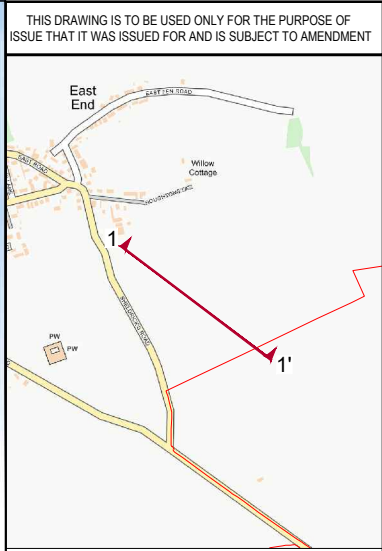
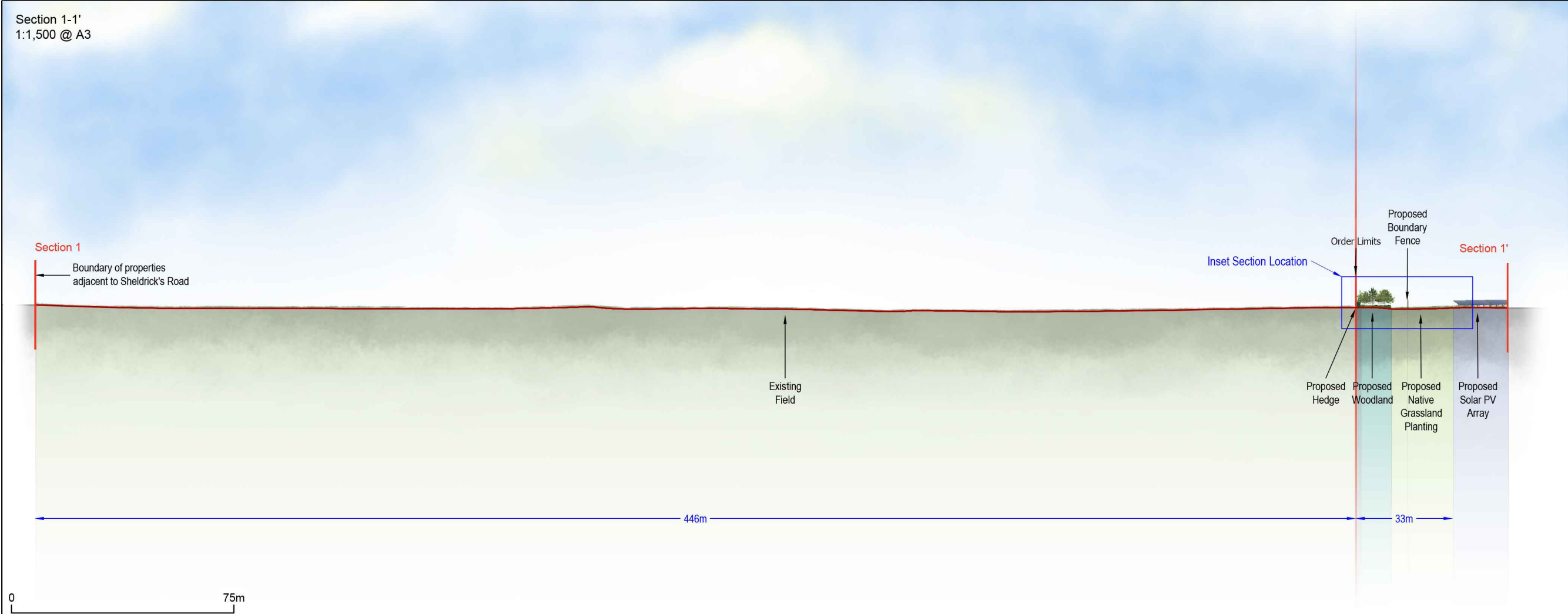
## Annex B Illustrative Sections



Section Plan  
1:25,000 @ A3

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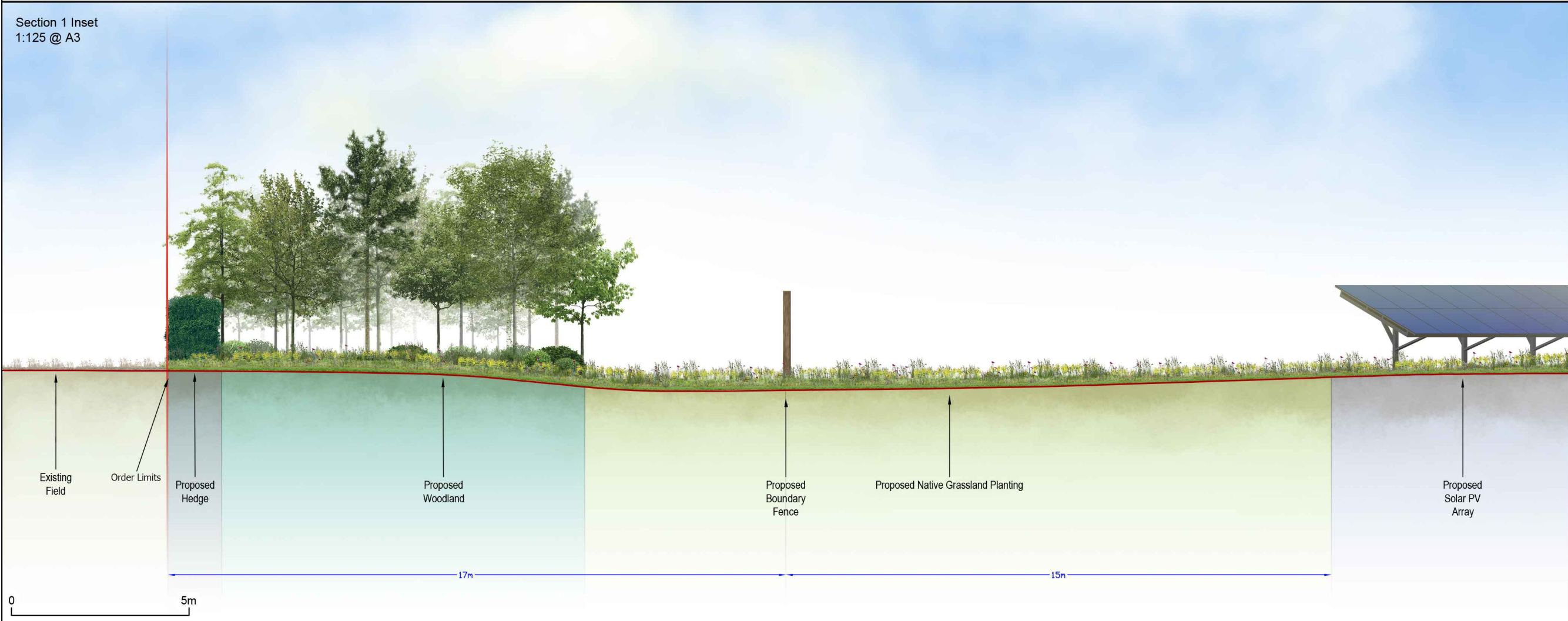
Key Plan 1:20,000 @ A3



**Section 1-1'**  
Between properties on Sheldrick's Road and the north-west edge of Sunnica East Site A (E05)

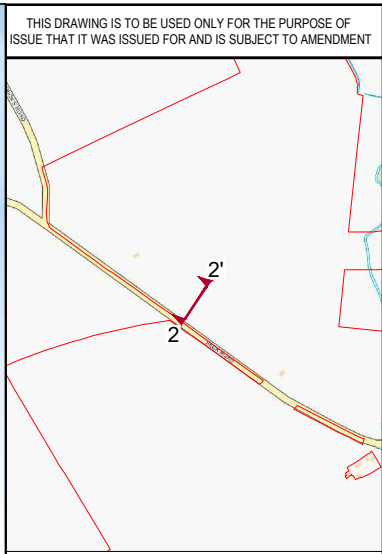
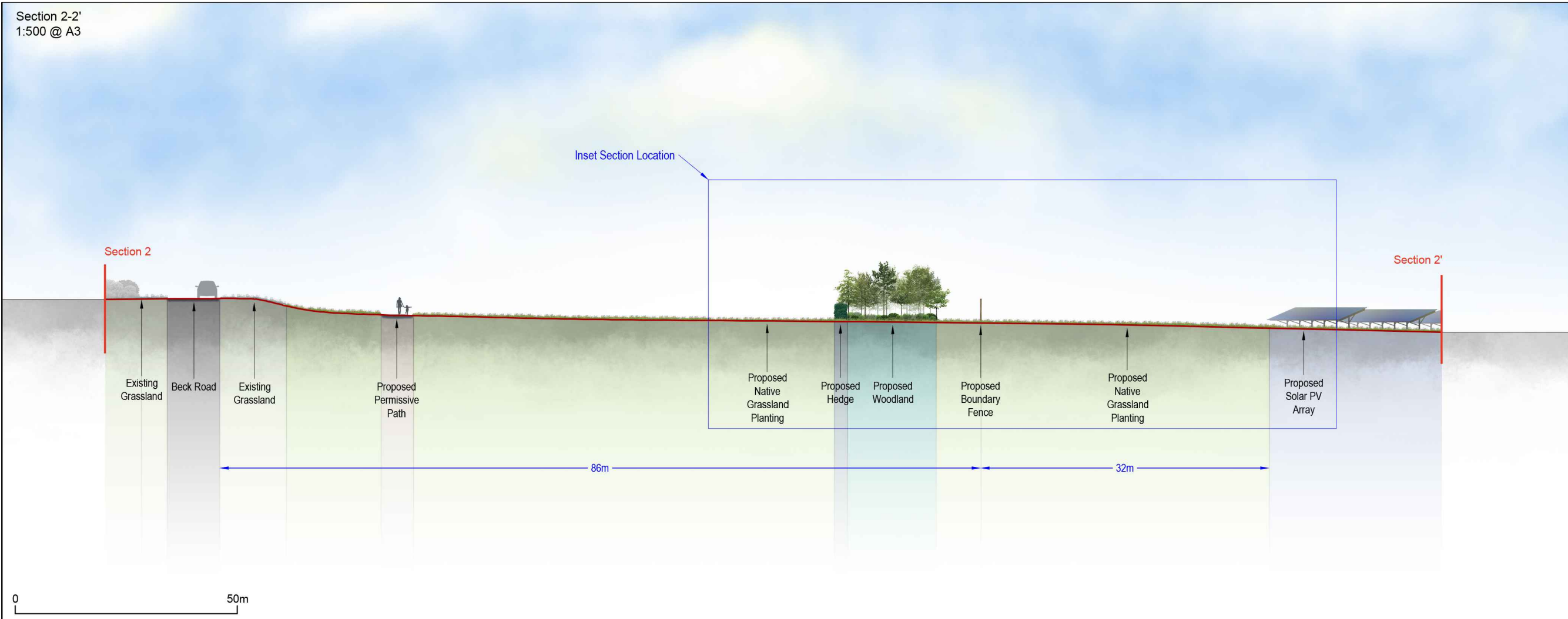
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Project Title <div><div></div></div>			
Drawing Title <div>Figure 8 Illustrative Cross Section 1 - Sheldrick's Road to Sunnica East Site A</div>			
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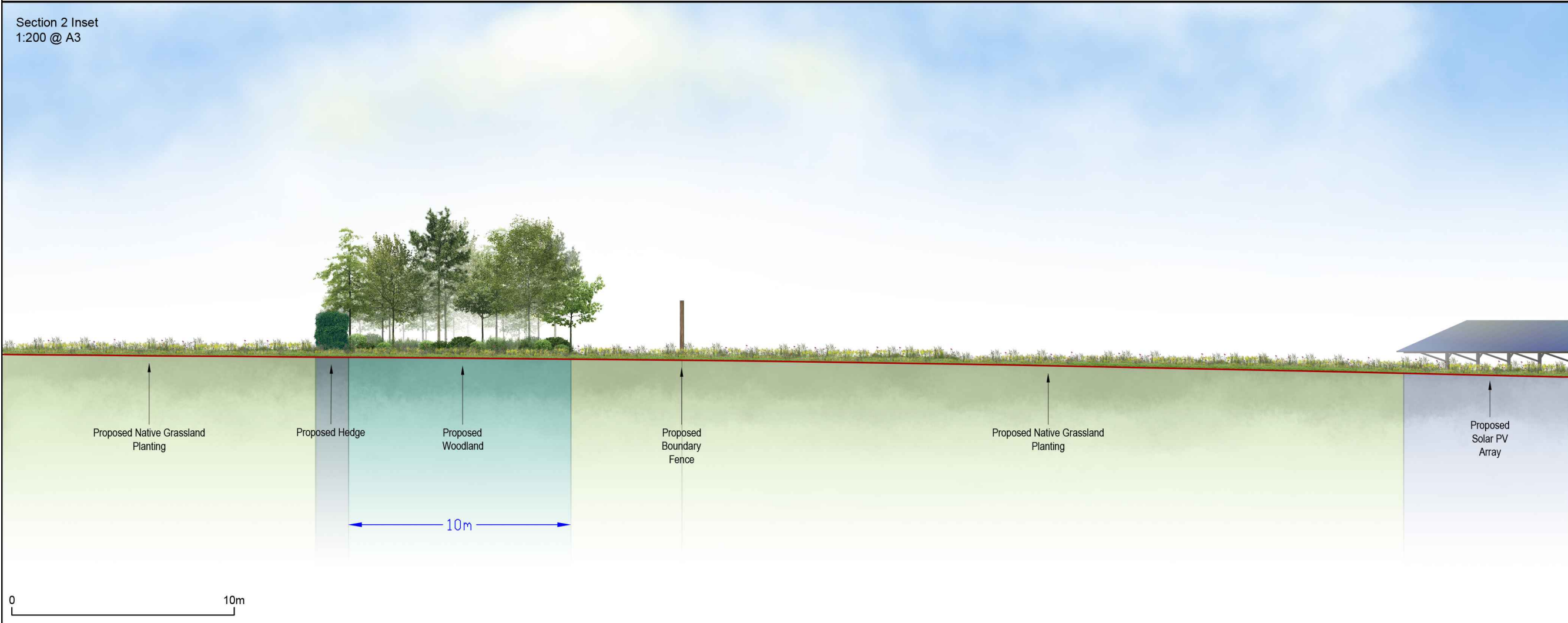




**Section 2-2'**  
Between Beck Road and Sunnica  
East Site A (E05)

Notes:

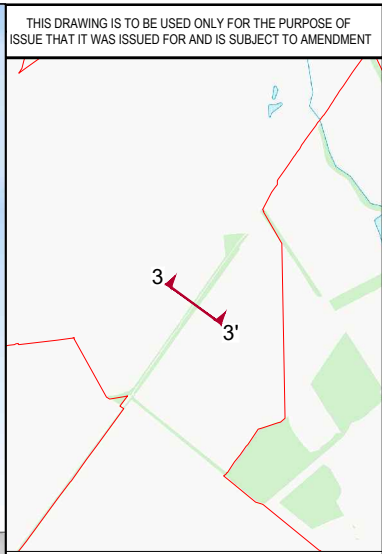
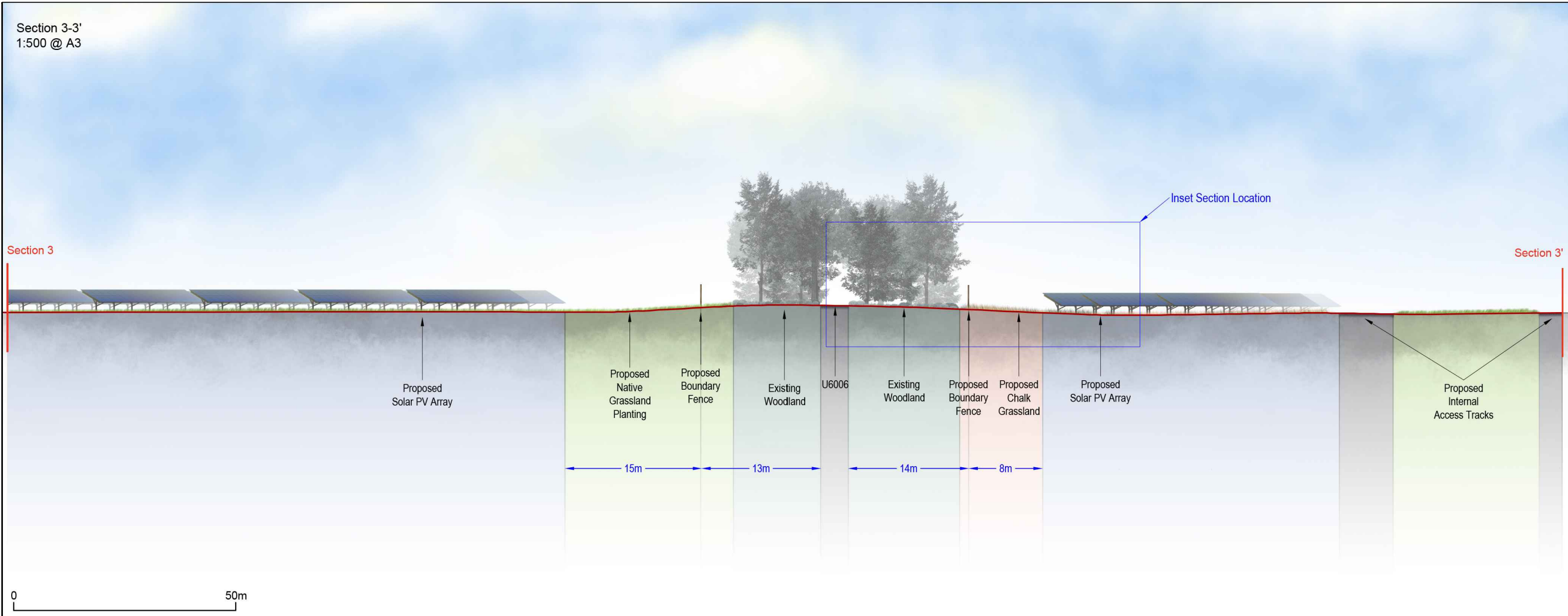
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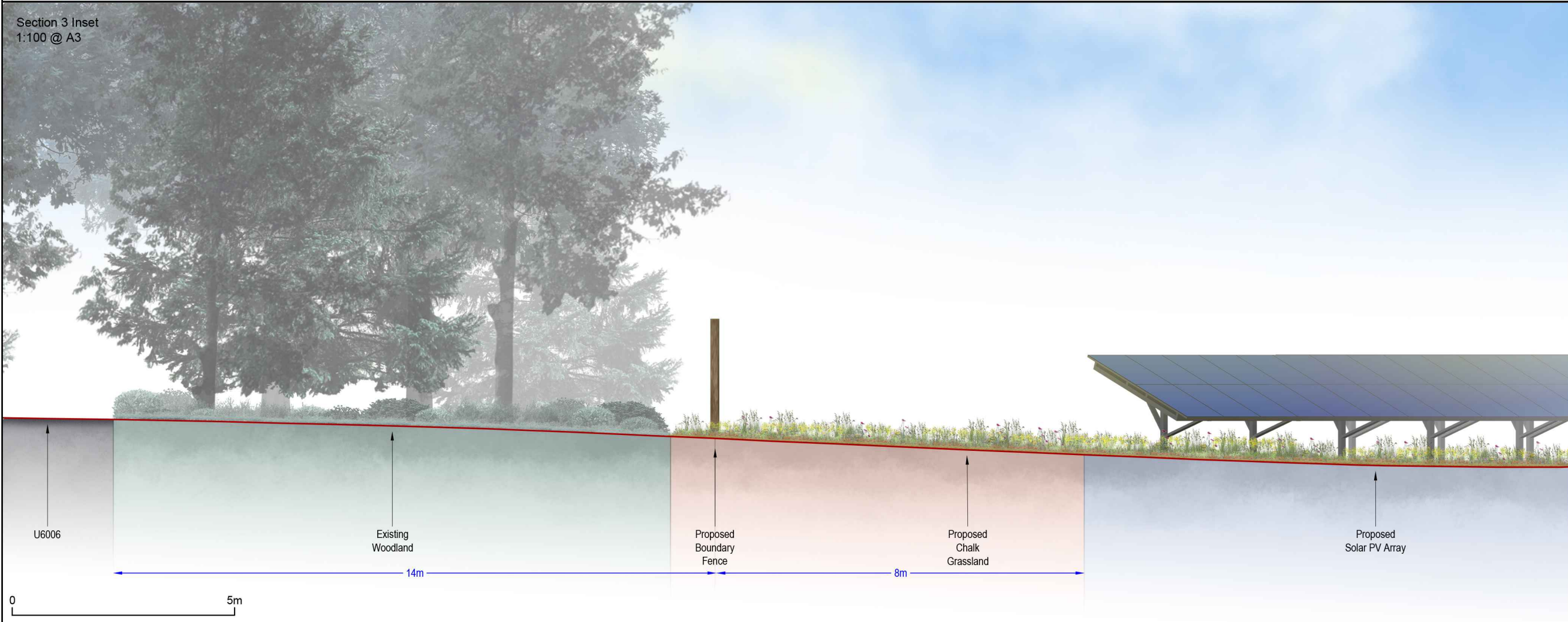




**Section 3-3'**  
Adjacent to Public Right of Way U6006

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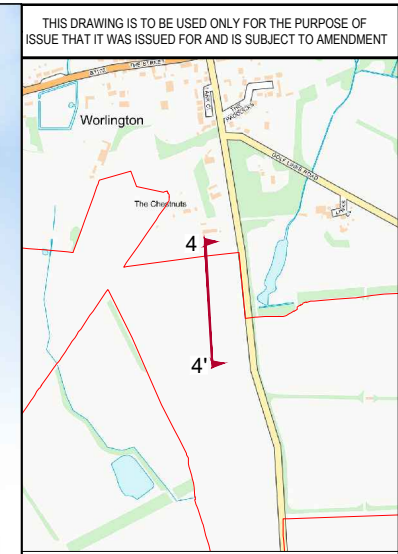
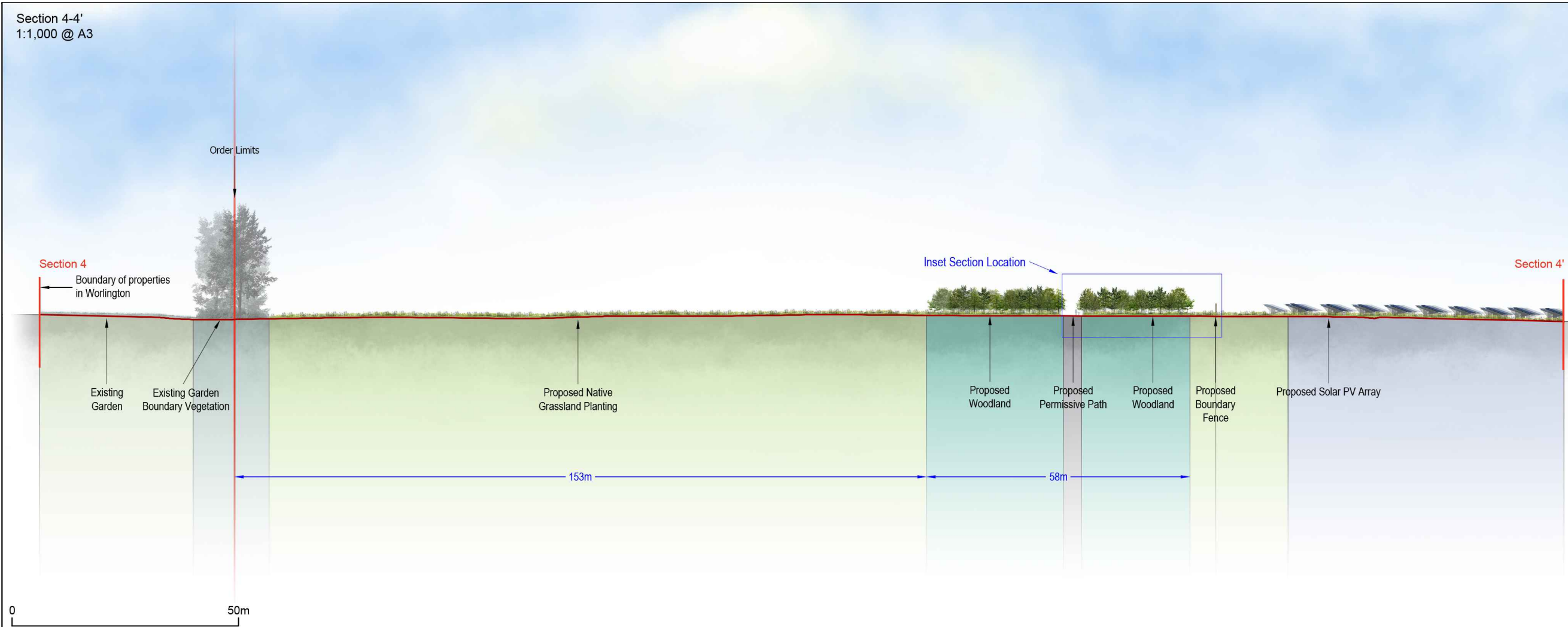
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Drawing Title Figure 10 Illustrative Cross Section 3 - U6006			
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**Section 4-4'**  
Between properties at the southern edge of Worlington and Sunnica East Site B (E25)

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Figure 11  
Illustrative Cross Section 4 - Worlington

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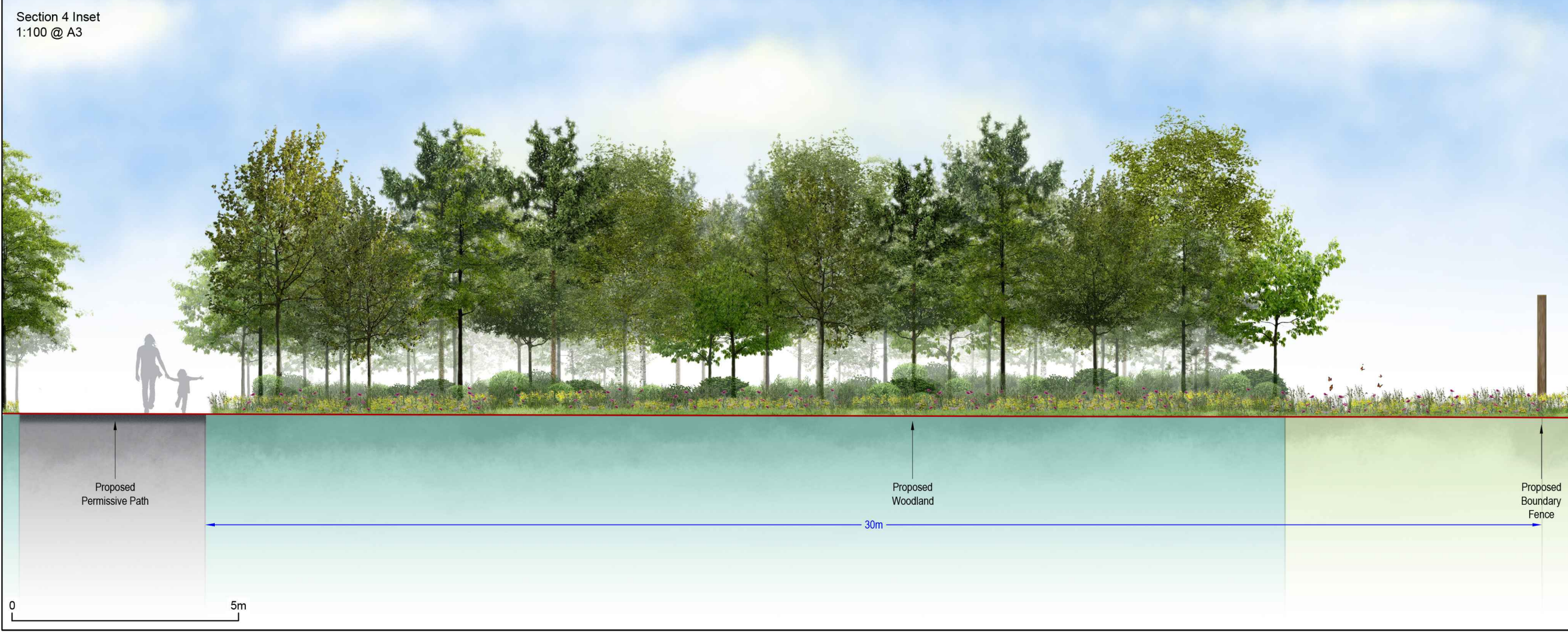
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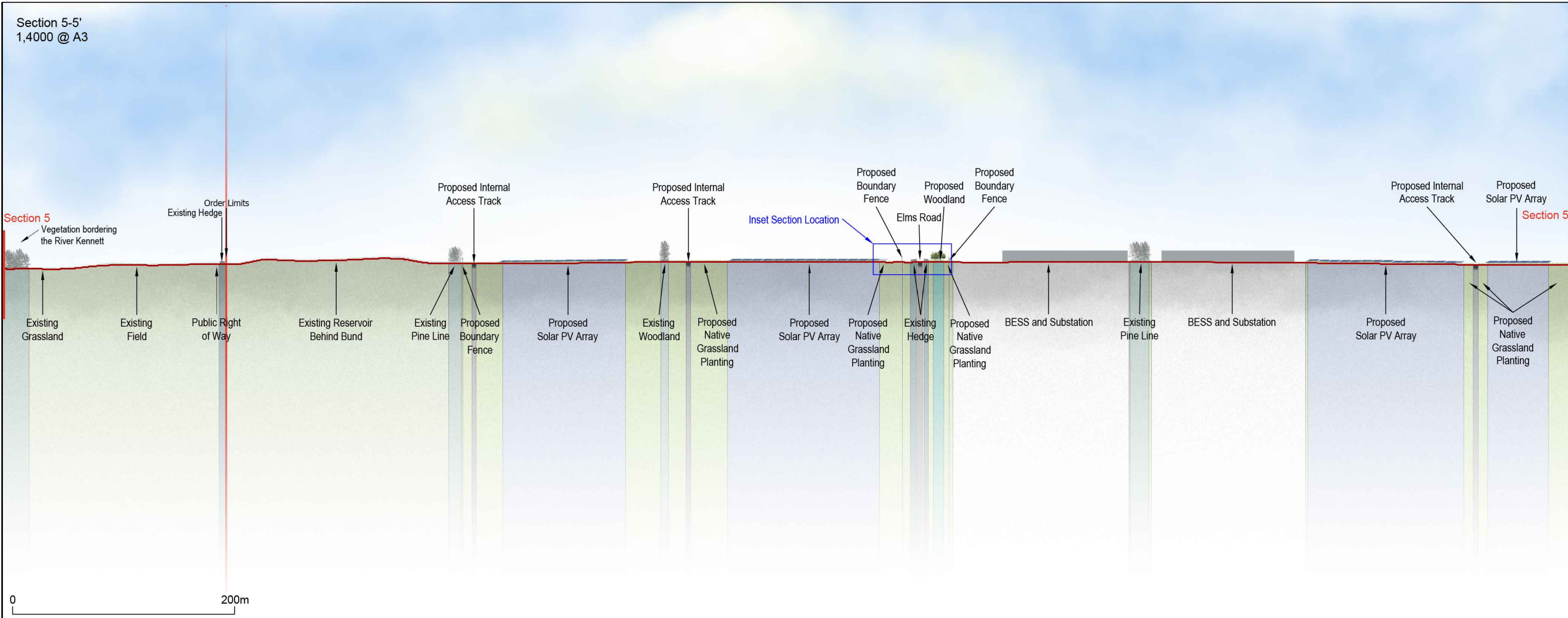
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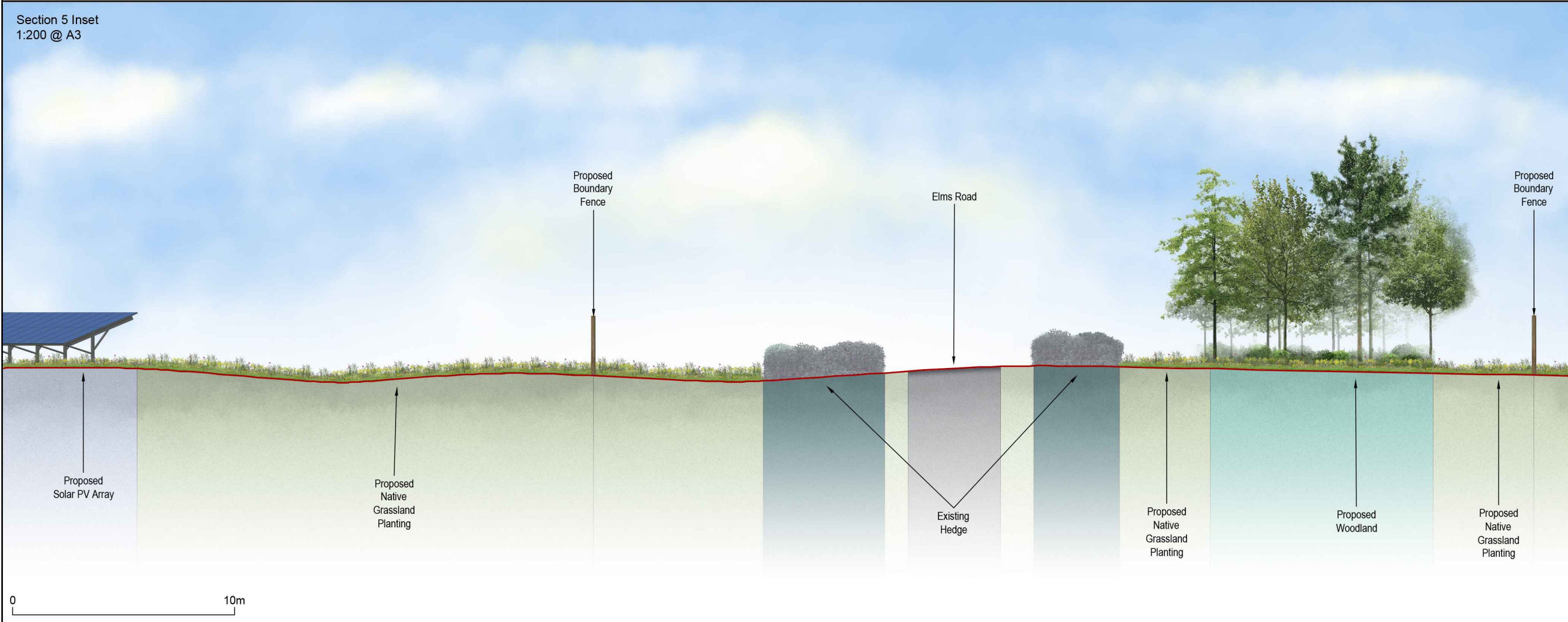




**Section 5-5'**  
Across Sunnica East Site B, either side of Elms Road

Notes:

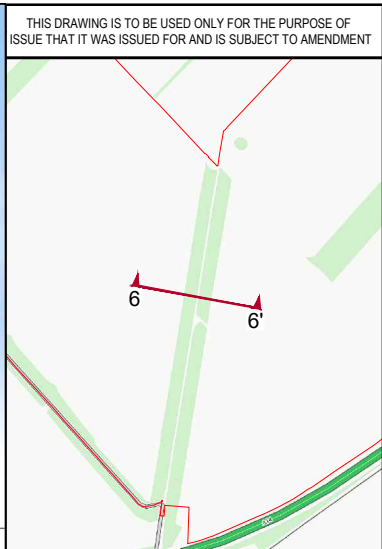
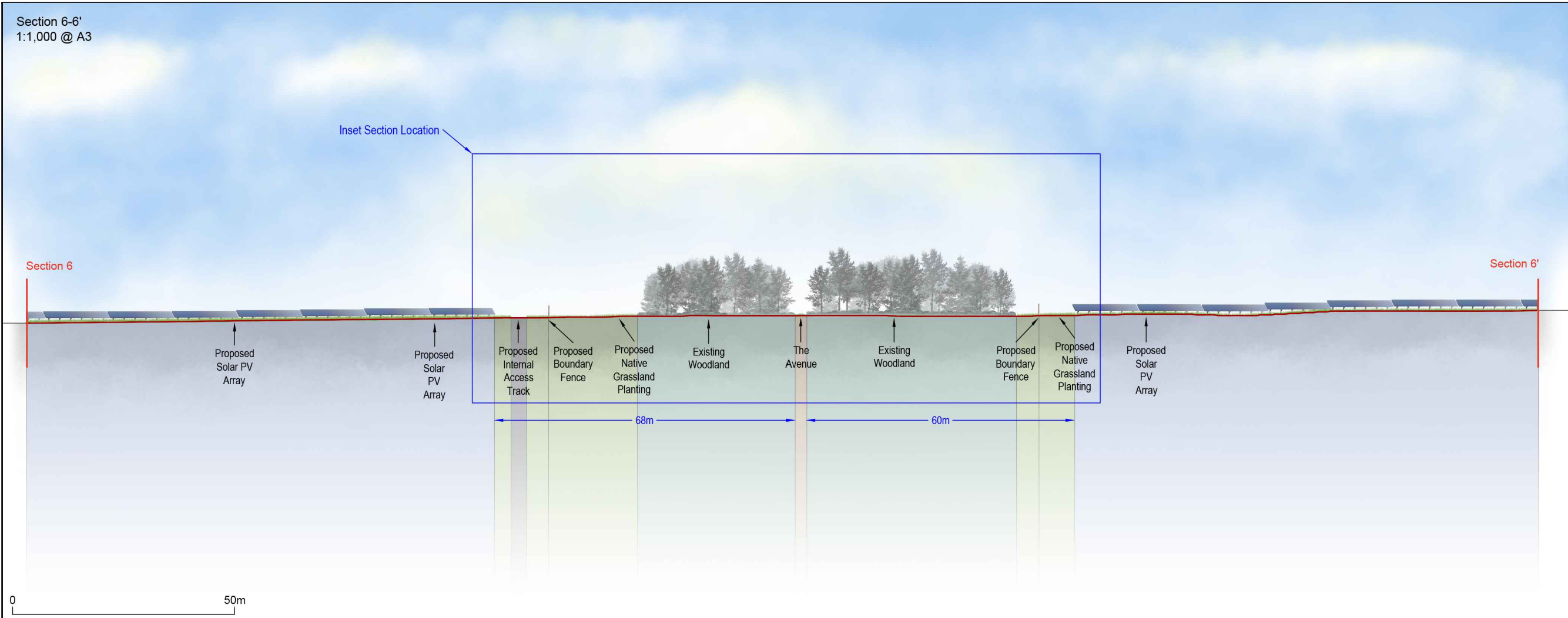
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Purpose of Issue For DCO Submission			
Client SUNNICA LTD			
Project Title <div></div>			
Drawing Title Figure 12 Illustrative Cross Section 5 - Elms Road			
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**Section 6-6'**  
Across The Avenue at Sunnica  
West Site A

- Notes:
- All dimensions given in Metres unless otherwise specified.
  - APFP Regulation: 5(2)(a)

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Purpose of Issue  
**For DCO Submission**

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**SUNNICA LTD**



Drawing Title

**Figure 13**  
**Illustrative Cross Section 6 - The Avenue**

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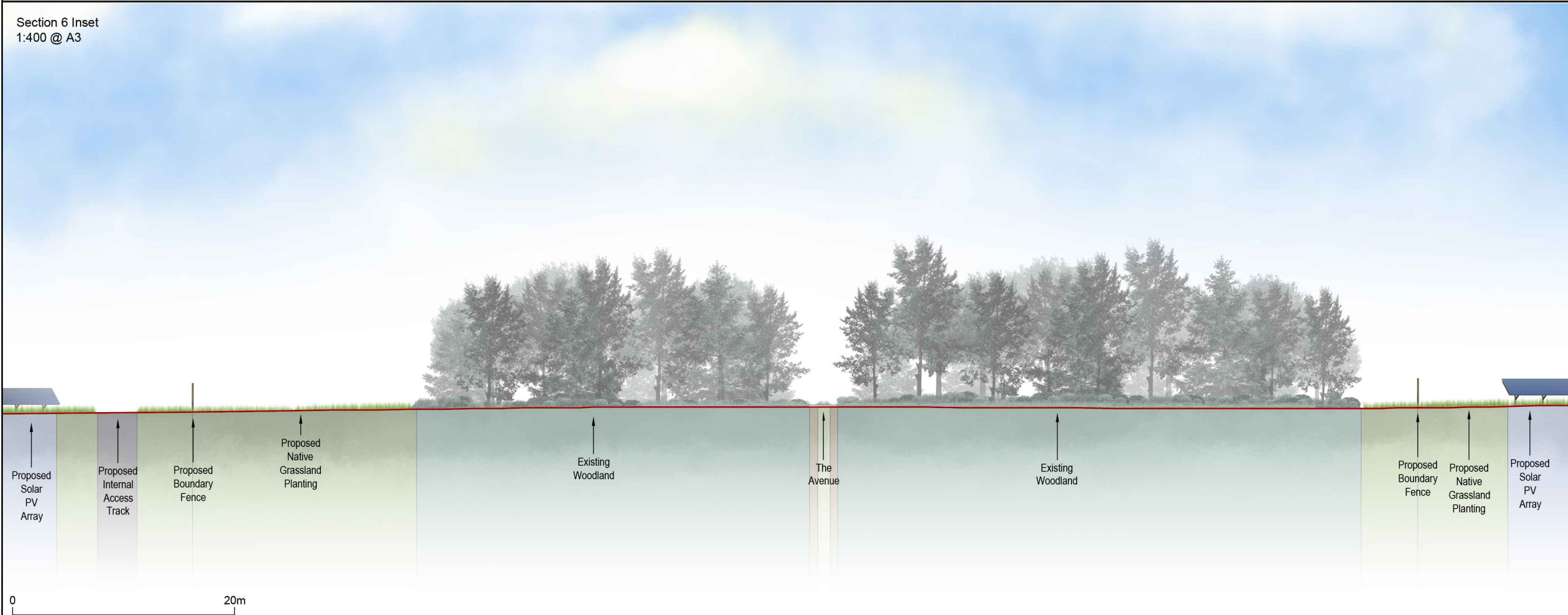
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## Annex C Field Management after Establishment

**Table C1. Field Management Sunnica East Site A and B**

Field Reference	Habitat Objective/Condition	Seed Mix Type Example	Management after Establishment	Notes
E01	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	
E02	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	
E03	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	
E04	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
E05	Other Neutral Grassland (Moderate)	EM5 - Meadow Mixture for Loamy Soils	General Grazing (March-August) or mowing for hay	
ECO1	Other Neutral Grassland (Moderate)	EM5 - Meadow Mixture for Loamy Soils, with specific Stone Curlew plots	Conservation Grazing (Low density, September – February)	Sensitive management for Stone Curlew.
ECO2	Other Neutral Grassland (Moderate/Poor)	EM5 - Meadow Mixture for Loamy Soils, with specific Stone Curlew plots	Conservation Grazing (Low density, September – February)	Sensitive management for Stone Curlew.
E08	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
E09	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
E10	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	

Field Reference	Habitat Objective/Condition	Seed Mix Type Example	Management after Establishment	Notes
ECO3	Other Lowland Acid Grassland (Moderate)	Natural regeneration of acid grassland through fallow and mowing/grazing and ground disturbance for stone curlew plots.	Conservation Grazing (Low density, September – February)	
E12	Other neutral grassland or other lowland acid grassland (Moderate/Poor).	EM7 - meadow mixture for sandy soils or EM7a - meadow mixture for acid soils.	Conservation Grazing (Low density, September – February)	Sensitive management for Stone Curlew.
E13	Other neutral grassland or other lowland acid grassland (Moderate/Poor).	EM7 - meadow mixture for sandy soils or EM7a - meadow mixture for acid soils.	Conservation Grazing (Low density, September – February)	Sensitive management for Stone Curlew. Managed for pollinators (B-Lines)
E14	Other neutral grassland or other lowland acid grassland (Moderate/Poor).	EM7 - meadow mixture for sandy soils or EM7a - meadow mixture for acid soils.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
E15	Other neutral grassland or other lowland acid grassland (Moderate/Poor).	EM7 - meadow mixture for sandy soils or EM7a - meadow mixture for acid soils.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
E16	Other neutral grassland or other lowland acid grassland (Moderate/Poor).	EM7 - meadow mixture for sandy soils or EM7a - meadow mixture for acid soils.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
E17	Other neutral grassland or other lowland acid grassland (Moderate/Poor).	EM7 - meadow mixture for sandy soils or EM7a - meadow mixture for acid soils.	General Grazing (March-August) or mowing for hay	Managed for pollinators (B-Lines)
E18	Other neutral grassland or other lowland acid grassland (Moderate/Poor).	EM7 - meadow mixture for sandy soils or EM7a - meadow mixture for acid soils.	General Grazing (March-August) or mowing for hay	Managed for pollinators (B-Lines)
E19	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	



Field Reference	Habitat Objective/Condition	Seed Mix Type Example	Management after Establishment	Notes
E20	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
E21	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
E22	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
E24	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
E25	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
E26	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
E27	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
E28	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
E29	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
E30	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
E31	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	

Field Reference	Habitat Objective/Condition	Seed Mix Type Example	Management after Establishment	Notes
E32	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
E33	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.		

**Table C1. Field Management Sunnica West Site A and B**

Field Reference	Habitat Objective/Condition	Seed Mix Type Example	Management after Establishment	Notes
W01	Other Neutral Grassland (Moderate/Poor)	Natural regeneration of marshy grassland.	Conservation Grazing (Low density, September – February)	
W02	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	
W03	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
W04	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
W05	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
W06	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
W07	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General	Conservation Grazing (Low	Managed for pollinators (B-Lines)

		Purpose Meadow Mixture.	density, September – February)	
W08	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
W09	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
W10	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
W11	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	
W12	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
W15	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	Conservation Grazing (Low density, September – February)	Managed for pollinators (B-Lines)
W17	Other Neutral Grassland (Moderate/Poor)	EM3/EM2 - Meadow Mixture for General Purpose Meadow Mixture.	General Grazing (March-August) or mowing for hay	

### Non-developable fields and archaeological mitigation areas

All other fields and areas of retained grassland not included in Table 1, such as archaeological mitigation areas will be subject to conservation grazing.

### Notes on Conservation Grazing

After the initial seeding and management period (3 or 4 years after seeding) as set out in the OEMP, grassland within conservation grazing areas should be managed through low

intensity pulse grazing using sheep. A stocking density of between 0.5 – 1 Livestock units (LSUs) per hectare is recommended between late September and February.

- a. January-February: Light grazing on any new growth
- b. Early March: Remove grazing; this allows plants to grow and creates good habitat for ground nesting birds

September to end of December: Main grazing period with light grazing down to a short sward height; a mosaic of plant heights helps encourage insects.

## Annex D Hedgerow and Woodland Species

**Table D1. Indicative Tree Species including hedgerow trees -**

Common Name	Latin Name	Root Condition	Height (cm)	National Character Area
Beech	<i>Fagus sylvatica</i>	Bare root (2x)	150-175	The Brecks
Pedunculate Oak	<i>Quercus robur</i>	Bare root (2x)	150-175	East Anglian Chalk
Scots Pine	<i>Pinus sylvestris</i>	Root balled (3x)	150-175	The Brecks

**Table D2. Indicative hedgerow shrub species -**

Common Name	Latin Name	Root Condition	Height (cm)	National Character Area
Blackthorn	<i>Prunus spinosa</i>	Bare root	40-60	The Brecks
Buckthorn	<i>Rhamnus cathartica</i>	Bare root	40-60	East Anglian Chalk The Brecks
Dog rose	<i>Rosa canina</i>	Bare root	40-60	East Anglian Chalk
Elder	<i>Sambucus nigra</i>	Bare root	40-60	The Brecks
English Elm*	<i>Ulmus procera</i>	Bare root	40-60	The Brecks
Field Maple	<i>Acer campestre</i>	Bare root	40-60	East Anglian Chalk
Guelder rose	<i>Viburnum opulus</i>	Bare root	40-60	East Anglian Chalk
Hawthorn	<i>Crataegus monogyna</i>	Bare root	40-60	East Anglian Chalk The Brecks
Hazel	<i>Corylus avellana</i>	Bare root	40-60	East Anglian Chalk
Holly	<i>Ilex aquifolium</i>	Container grown (1L)	30-40	The Brecks
Spindle	<i>Euonymus europaeus</i>	Bare root	40-60	East Anglian Chalk The Brecks



Wild privet	<i>Ligustrum vulgare</i>	Bare root	40-60	East Anglian Chalk
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**Table D3. Indicative species for woodland planting -**

Common Name	Latin Name	Root Condition	Height (cm)	National Character Area
Alder	<i>Alnus glutinosa</i>	Bare root	40-60	The Fens
Beech	<i>Fagus sylvatica</i>	Bare root	40-60	East Anglian Chalk The Brecks
Blackthorn	<i>Prunus spinosa</i>	Bare root	40-60	East Anglian Chalk The Brecks
English Elm*	<i>Ulmus procera</i>	Bare root	40-60	East Anglian Chalk
Field Maple	<i>Acer campestre</i>	Bare root	40-60	East Anglian Chalk
Gorse	<i>Ulex europaeus</i>	Bare root	40-60	The Brecks
Hawthorn	<i>Crataegus monogyna</i>	Bare root	40-60	East Anglian Chalk The Brecks
Hazel	<i>Corylus avellana</i>	Bare root	40-60	East Anglian Chalk
Heather	<i>Calluna vulgaris</i>	Container grown (1L)	30-40	East Anglian Chalk The Brecks
Holly	<i>Ilex aquifolium</i>	Container grown (1L)	30-40	The Brecks
Hornbeam	<i>Carpinus betulus</i>	Bare root	40-60	East Anglian Chalk The Brecks
Pedunculate Oak	<i>Quercus robur</i>	Cell grown	40-60	East Anglian Chalk
Scots Pine	<i>Pinus sylvestris</i>	Bare root	40-60	The Brecks

Silver Birch	<i>Betula pendula</i>	Bare root	40-60	East Anglian Chalk
White Willow	<i>Salix alba</i>	Bare root	40-60	The Fens

\* depending on commercial availability