The Sizewell C Project

8.2 Outline Landscape and Ecology Management Plan

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EXECUTIVE SUMMARY

The **outline Landscape and Ecology Management Plan** (**oLEMP**) seeks to provide clear objectives and general principles for the establishment and longer-term management of the landscape, and ecological mitigation proposals identified for the area within the Sizewell C application boundary (hereafter referred to as the site), following construction of Sizewell C power station. The spatial extent of the **oLEMP** is the same as the area within the **Landscape Masterplan**, defined within the **Sizewell C Main Development Site Design and Access Statement** [APP-585 to APP-587]. The aim of the **oLEMP** is to complement the existing management aims of the EDF Energy Estate as a whole and to ensure newly created post-construction habitats are integrated within the surrounding landscape.

Objectives for newly created habitats and areas have been informed and established through a review of existing landscape management plans, ecological survey information, the landscape strategy, policy requirements and in response to site specific mitigation and consultation. Within the site, several areas are currently subject to measures defined within existing management plans and management of these areas would continue as defined by those plans. Where appropriate, management of the newly created habitats would be aligned with these management plans once the new habitats are established.

The site is located within the Suffolk Coast and Heaths National Character Area (NCA) and is covered by four Landscape Character Types (LCTs) within the Suffolk Landscape Character Assessment: Estate Sandlands; Coastal Levels, Ancient Estate Claylands and Coastal Dunes and Shingle Ridges. The site comprises largely of arable farmland habitat which is of little intrinsic botanical diversity. Away from the arable fields, a diverse range of habitats is present, including broad-leaved woodland, conifer plantation woodland and acid grassland. Habitats within the coastal levels comprise fen meadow, wet woodland, ditches and reedbed. Along the coastline, habitats comprise dune grassland and vegetated shingle.

The overriding intention of the site re-instatement, once Sizewell C has been constructed, is to conserve, restore and enhance landscape character and biodiversity at a landscape scale to provide long-term benefits to the biodiversity of Suffolk as a whole. Where possible, existing landscape features of importance for ecology and visual screening would be retained during construction. Four distinct habitat zones have been selected to complement the four LCTs within the site comprising:

- Zone 1 - Estate Sandlands: Farmlands;
- Zone 2 - Estate Sandlands: Dry Sandlings Grasslands;
- Zone 3 - Coastal Levels; and
- Zone 4 - Coastal Dunes and Shingle.

The overall aim is to achieve a transition from a managed farmland landscape along the western edge of the site, which grades into open Sandlings grassland bordered by native woodland and scattered trees/scrub and then the coastal zone along the site's eastern boundary. Once fully established, this habitat 'mosaic' would have a higher biodiversity value than the existing habitats, particularly the extensive arable areas that they replace. The new habitats would contribute to enhancing the landscape character of this section of the Estate Sandlands LCT. They would also minimise the visual impact of the Sizewell C Project in views from the surrounding landscape, minimise impacts on cultural heritage resources, improve access and recreation infrastructure and ensure the long-term sustainability and resilience of the landscape, including resilience to predicted climate change.

Habitat creation approaches and subsequent management proposals for habitats that would be created are outlined within this **oLEMP** including time frames.

Monitoring of newly created and existing habitats would be undertaken to measure the success of the habitat establishment and subsequent management proposals and to determine if interventions are required. More specific monitoring prescriptions would be detailed in a Monitoring Strategy produced by the contractor as part of the detailed design.

The oLEMP provides the framework for the Landscape and Ecological Management Plan (LEMP) which will provide further details of the management measures and implementation of the habitat created, along with ongoing monitoring arrangements. This is secured by a requirement within **Schedule 2** of the **Draft DCO** [AS-143].

The establishment of an Ecology Working Group prior to construction commencing will enable advice to be provided on management measures as informed by the Monitoring Strategy.

This document builds upon the original oLEMP submitted in the application, setting out management compartments by habitat typology for both relocated facilities options and accounting for the open water and wet woodland habitats. This can be found in section 3.5 of this document.

1 INTRODUCTION

1.1.1 This **oLEMP** seeks to provide clear objectives and general principles for establishment and longer-term management of the landscape, and ecological mitigation proposals identified for the area within the Sizewell C application boundary (hereafter referred to as the site), following construction of Sizewell C power station. The spatial extent of the **oLEMP** is the same as the area within the Landscape Masterplan defined within the **Main Development Site Design and Access Statement** [APP-585 to APP-587]**.**

1.1.2 Those areas outside of the main development site, but within EDF Energy's wider estate, are covered by existing management plans, as described in **Section 3.4**. Planned off-site compensation habitat mitigation would be subject to site specific management plans. The aim of the **oLEMP** is to complement the existing management aims of the wider estate. This will ensure that the newly created post-construction habitats, covered in the **oLEMP**, are integrated within the existing site, within the wider estate and the surrounding landscape, as described in **section 3.0** of this document.

1.1.3 The oLEMP provides the framework for the Landscape and Ecological Management Plan (LEMP) which will provide further details of the management measures and implementation of the habitat created, along with ongoing monitoring arrangements. This is secured by a requirement within **Schedule 2** of the **Draft DCO** [AS-143].

1.1.4 The overarching objective of the **oLEMP** is to provide an overview of how the habitats to be established within the main development site would be created and then managed in the long-term. Objectives for these habitats and areas have been informed and established through a review of existing landscape management plans, ecological survey information, the landscape strategy, policy requirements and in response to site specific mitigation and consultation.

1.1.5 Detailed descriptions of the main development site, the proposed development and the different phases of development, are provided in **Volume 2**, **Chapter 2** of the **Environmental Statement (ES)** [APP-180].

1.1.6 Several parts of EDF Energy's wider estate are managed in accordance with the plans presented in **section 3.4** of this document. As part of this **oLEMP**, a review of these existing management plans has been undertaken. This document should be read in conjunction with the following documents:

- **Code of Construction Practice** (**CoCP**) [AS-273];

- EDF Energy Estate Pre-Construction Management Plan (Integrated Land Management Plan) (Ref. 1.1);
- Sizewell Belts Management Plan (Ref. 1.2);
- Aldhurst Farm Ecology and Landscape Management Plan (Ref. 1.3);
- Sizewell Estate Woodland Management Plan (Ref. 1.4);
- Sizewell Estate Hedgerow Management Plan (Ref. 1.5);
- mitigation strategies for relevant protected and notable species; and
- Landscape Strategy Vision within the **Main Development Site Design and Access Statement, Chapter 13** [APP-587]**.**

2 DOCUMENT STRUCTURE

2.1.1 The structure of this document has been set out as follows:

- **Section 3:** sets out the baseline for the existing landscape typologies, habitats and soils types within the EDF Energy Estate and existing management regimes currently in practice;
- **Section 4:** sets out the legislative policy for landscape and ecology;
- **Section 5:** sets out the landscape and ecological vision of the **oLEMP**;
- **Section 6:** sets out broad management prescriptions per habitat type; and
- **Section 7:** sets out broad monitoring requirements per habitat type

2.1.2 In addition to the above, this **oLEMP** is supported by **Figures 8.2.1**, **8.2.2**, **8.2.3**, **8.2.4**, **8.2.5** and **8.2.6.** These figures also appear in the **Design and Access Statement** as **Figures 14A2.1**, **14A2.2** [APP-228], **14A2.3, 14A3.1**, **14A3.2** [APP-230] within **Chapter 14** of the **ES,** and **Figure 13.5** within **Chapter 13**, **Volume 2** of the **ES** [APP-220]. **Plates 33.1, 33.2, 3.3, 3.3, 3.4, 43.5 and 6.1** have been produced specifically for this document.

2.1.3 This document builds upon the original oLEMP submitted in the application, setting out management compartments by habitat typology for both relocated facilities options and accounting for the open water and wet woodland habitats. This can be found in **section 3.5** of this document.

3 BASELINE

3.1 Existing habitats and landscape typologies

a) Suffolk Sandlings National Character Area

3.1.1 The Suffolk Coast and Heaths NCA is situated on the North Sea coast between Great Yarmouth to the north and the port town of Harwich to the south. It forms a long, narrow band extending between 10 kilometres (km) and 20km inland. Its inland western boundary is within the South Norfolk and High Suffolk Claylands and South Suffolk and North Essex Claylands NCAs, with projections up many small river valleys (Ref. 1.6).

3.1.2 The land use within the study area is characterised by varied landcover and land use types. Widespread arable farmland is dominant, with localised areas of improved pasture stereotypically found around villages, farms and river valleys (Ref.1.6).

3.1.3 The landscape comprises mostly low-lying areas along valleys and former estuaries that are characterised by open water, drainage ditches, grazing marsh and reed beds interspersed by wet woodland and pasture, with some areas along the coastal plain at or below sea level. Woodland comprises large coniferous plantation forests and widely distributed deciduous and mixed woodlands and shelterbelts (including ancient broadleaved woodland and parkland woodland pasture) that are often closely linked with areas of parkland, farms and settlements (Ref. 1.6).

3.1.4 Mosaics of dry semi-natural habitats, comprised of heathland/acid grassland that supports a rich biodiversity, are sporadic with notable larger continuous areas inland from the coast known as the Sandlings, sandy rolling 'upland' between estuaries (Ref. 1.6).

3.1.5 Along the coast the shoreline is defined by low, soft crumbling cliffs, structures and sea defences, vegetated dunes/dune grassland and shingle beaches that define the boundary between the land and sea (Ref. 1.6).

b) Local landscape character areas/types

3.1.6 The site is covered by the following LCTs within the Suffolk Landscape Character Assessment, provided in **Figure 8.2.6** (Ref. 1.7):

- Estate Sandlands;
- Coastal Levels;

- Ancient Estate Claylands; and,
- Coastal Dunes and Shingle Ridges.

3.1.7 Most of the site lies within the Estate Sandlands LCT. This covers the majority of the site that would be affected by the temporary construction zone, including Goose Hill and the land north of Kenton Hills.

3.1.8 The Estate Sandlands runs in a discontinuous band along the coast and corresponds with the area of gently undulating and free-draining light sandy soils. Prior to widespread agricultural intensification and afforestation the area would have supported large expanses of heathland and acid grassland (the 'Sandlings' landscape). Small scattered remnants of this landscape type still survive in the wider area.

3.1.9 The Coastal Levels LCT occupies the flat low-lying coastal grazing land adjacent to the coast (much of which was reclaimed from the sea). It supports wet grassland with small areas of fen and woodland 'carr'. The landscape is interspersed with a network of dykes and predominantly grazed by cattle.

3.1.10 Only a small area of the Coastal Levels LCT around the main development site lies within the site but there are larger areas within the wider site at Sizewell Marshes Site of Special Scientific Interest (SSSI), Sizewell Belts and north of Goose Hill extending towards the Minsmere Levels (a very expansive area of Coastal Levels).

3.1.11 The Coastal Dunes and Shingle Ridges LCT extends along a narrow strip adjacent to the coastline (including to the east of the main development site along Sizewell Beach inside the site). This is formed by a series of shingle ridges backed by landward transitions to coastal dunes and saltmarsh. Although affected by coastal defence structures in some places, it is a relatively natural landscape characterised by open expansive views.

3.1.12 A small area of the Ancient Estate Claylands LCT falls inside the site boundaries around Upper Abbey Farm and Bridleway 19. This adjoins the Estate Sandlands LCT to the west and is characterised by a gently undulating plateau underlain by glacial till and boulder clay that give rise to more ancient organic landscape than the Estate Sandlands (now characterised by a geometric structure with regular enclosed fields and forestry plantations).

c) Main Development Site boundary

3.1.13 **Figure 8.2.4** details the broad habitat categories as defined by the Phase 1 habitat categories (Ref. 1.8), present within the main development site.

i. Estate Farmland

3.1.14 The site comprises largely of arable farmland habitat which is of little intrinsic botanical diversity, although the margins of the fields support two uncommon arable weeds, Corn Spurrey (*Spergula arvensis*) and Shepherd's Cress (*Teesdalia nudicaulis*). The arable margins are mainly devoid of weed species, with the arable crops being intensively managed and treated with herbicide. Weeds are restricted to small areas where crops have failed to establish. Small Nettle (*Urtica urens*), Fat-hen (*Chenopodium album* agg.) and Scented Mayweed (*Matricaria recutita*) are the dominant weed species recorded. In total, 19 species have been identified, including the species Corn Spurrey and Shepherd's Cress (Ref. 1.9).

ii. Estate Sandlands

3.1.15 Away from the arable fields, a diverse range of habitats are present, including broad-leaved woodland, conifer plantation woodland and acid grassland. A range of bryophyte species characteristic of acidic grassland are present and the bryophyte assemblage comprises common and widespread species. The lichen flora is well developed, with 64 species recorded, the majority being common widespread species (Ref. 1.9).

iii. Coastal Levels

3.1.16 Habitats within the coastal levels comprise fen meadow, wet woodland, ditches and reedbed. The National Vegetation Classification (NVC) surveys identified habitat communities within the portion of Sizewell Marshes SSSI that fall within the site boundary comprises wet woodland (mainly the W5 *Alnus glutinosa - Carex paniculata* woodland community), reedbed (which comprised a mixture of S4 *Phragmites australis* swamp and S26 *Phragmites australis - Urtica dioica* tall-herb fen), fen meadow (largely comprising M22 *Juncus subnodulosus - Circium palustre* fen meadow), and ditches which supported a diverse range of aquatic plant communities (Ref. 1.9), detailed on **Figure 8.2.5**.

iv. Coastal Dunes and Shingle

3.1.17 Habitats comprising dune grassland, vegetated shingle were recorded. A range of bryophyte species characteristic of shingle habitats are present and bryophyte assemblages comprise common and widespread species. The lichen flora is well developed, with 64 species recorded, the majority being common widespread species (Ref. 1.9).

d) Designated sites baseline for the habitat and statutory/non statutory site baseline

3.1.18 The site falls within the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB). The AONB comprised predominantly of farmland., with other main components of the landscape including forestry plantations, low-lying freshwater marshes, intertidal estuaries, heathland, the coast, small villages and iconic coastal market towns.

3.1.19 To the north of the main development site are the Minsmere to Walberswick Special Protection Area (SPA) and Ramsar site which support internationally important assemblages of breeding and wintering birds. The site supports a mosaic of heath, acid grassland and conifer plantation, with vegetated shingle present at Thorpeness. Minsmere to Walberswick Heaths and Marshes Special Areas of Conservation (SAC) and SSSI is also to the north of the main development site and supports wetland, heathland and coastal vegetation habitats.

3.1.20 To the south of the main development site is the Sandlings SPA and Leiston - Aldeburgh SSSI which supports acid grassland, heath, scrub, woodland, fen, open water and vegetated shingle habitats.

3.1.21 Within the site is the Sizewell Marshes SSSI, which supports wet woodland, reedbed and fen meadow habitats, lowland ditch systems, breeding bird assemblages, invertebrate assemblages and vascular plant assemblages.

3.1.22 Other habitat types within the main development site include dune and shingle vegetation of the coastal frontage which form part of the Suffolk Shingle Beaches County Wildlife Site (CWS). Habitats of county importance within the main development site boundary include mixed and broadleaved woodland and acid grassland forming the Sizewell Levels and Associated Areas CWS, Leiston Common CWS and Reckham Pits Wood CWS.

3.1.23 The locations of the designated sites are detailed on **Figures 8.2.1, 8.2.2** and **8.2.3**.

3.2 Soils

3.2.1 As noted in the above sections, the LCAs present within the main development site are supported by differing soil types.

3.2.2 The Estate Sandlands are formed in deep well drained sandy soils, some of which are highly acidic with bleached subsurface layers forming particularly under heathland or woodland. The Soil Association[1] present here is known as Newport 4. These are typically formed in glaciofluvial drift and have a low natural fertility (due to the coarse sandy texture). A typical profile would

[1] A Soil Association represents a group of soil series (soil types which are typically found occurring together in the landscape.

comprise a dark brown topsoil overlying a brown subsoil over yellowish red or brownish yellow sand.

3.2.3 Arable land use on these soils is supported by fertilizer applications to counter the natural low fertility and, in places, irrigation.

3.2.4 The Coastal Levels are developed in a mix of deep stoneless non-calcareous and calcareous clayey soils formed in marine alluvium (Wallasea Association) and deep peat soils associated with clayey over sandy soils formed in fen peat and river alluvium (Mendham Association).

3.2.5 The Wallasea Association are mapped underlying the majority of Minsmere, extending towards the Sizewell B power station site. The Mendham Association predominantly underlies the Sizewell Marshes SSSI Sizewell Belts area.

3.2.6 The Wallasea Association soils have a moderate natural fertility, whilst the Mendham Association can be naturally lime-rich to very infertile.

3.2.7 A typical profile of the Mendham Association soils comprises a deep organic layer of humified peat over semi-fibrous (less decomposed) peat overlying light brownish grey sand. A typical Wallasea Association profile comprises stoneless silty clay overlying brownish grey clay with mottles (exhibiting restricted drainage and some waterlogging) over brown stoneless silty clay, again with mottles.

3.2.8 Coastal Dunes and Shingle Ridges are developed in soils described as deep well drained calcareous and non-calcareous sandy soils formed in dune sand and marine shingle (Sandwich Association). These soils typically have very shallow dark brown topsoil (likely to be only 50 millimetres in thickness) overlying light brownish grey sand.

3.2.9 Where land under current agricultural use has been surveyed in accordance with the Agricultural Land Classification system[2] it is mapped as predominantly Grades 3b and 4. It is likely that the organic soils associated with Sizewell Belts SSSI, if surveyed, would be classed as Grade 4 or 5 due to their waterlogged nature.

[2] The ALC system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The ALC system divides agricultural land into five grades (Grade 1 ‘Excellent’ to Grade 5 ‘Very Poor’), with Grade 3 subdivided into Subgrade 3a ‘Good’ and Subgrade 3b ‘Moderate’.

3.3 Proposed habitat types

3.3.1 This **oLEMP** provides high level management and monitoring specifications for the following broad landscape types that are proposed to be created or restored following completion of construction within the main development site boundary. The broad habitat types that would be created on the post-construction site (subject to this **oLEMP**) are:

- mixed woodland;
- dry Sandlings grassland;
- semi-improved grassland;
- arable land;
- amenity landscape;
- wetland habitat (inclusive of marsh, fen and reedbed, wet woodland and open water); and
- vegetated dunes and shingle beach.

3.4 Existing management regimes

a) Overview

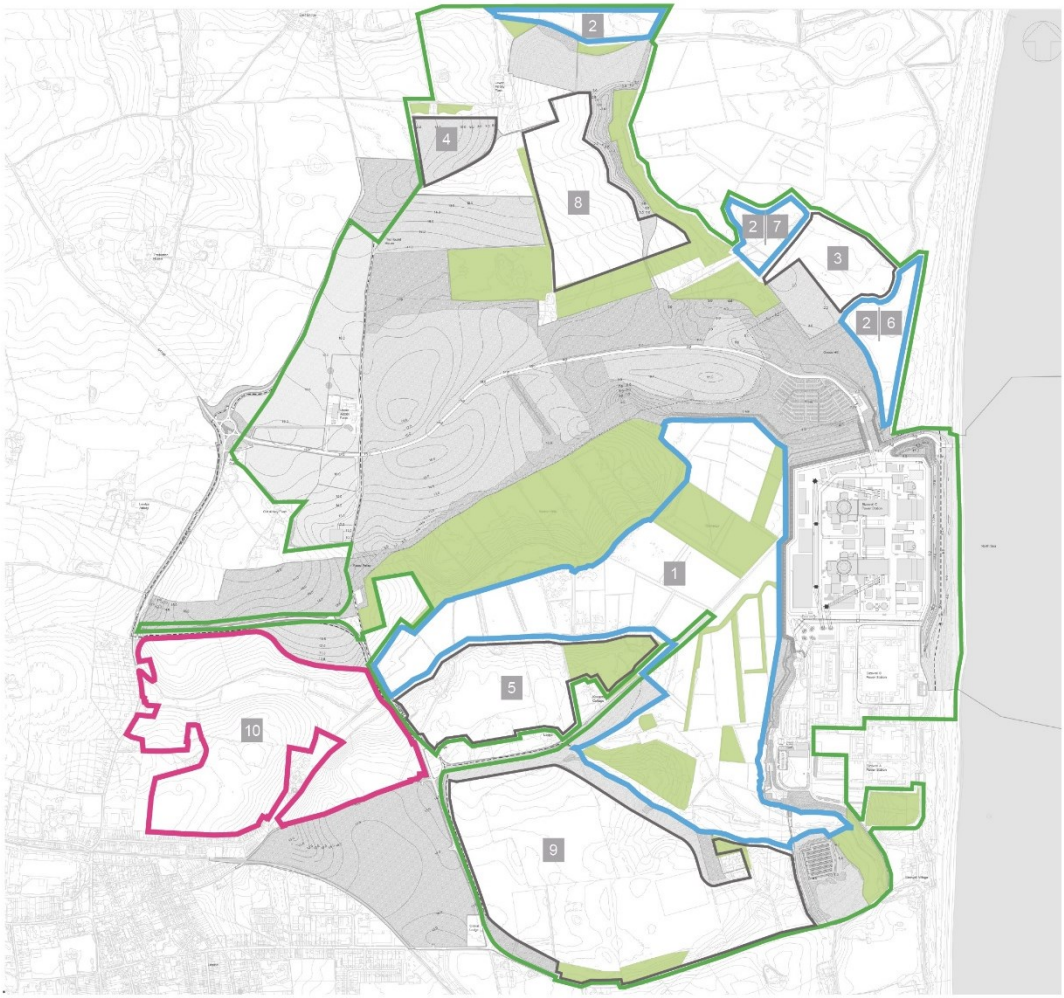
3.4.1 Within the EDF Energy Estate, several areas are currently subject to management plans and are currently in positive management according to those plans. **Table 3.1** and **Plate 3.1** detail the areas currently subject to existing management and their corresponding names. Management of these areas would be continued as defined by those existing plans and therefore management proposals for these areas are not considered further within this **oLEMP**.

Table 3.1: Current management regimes for the EDF Energy Estate

Current Management Regime	Management Areas
Higher Level Stewardship agreement underpinned by an Entry Level Stewardship Agreement (Higher Level	Sizewell Marshes SSSI
	Minsmere-Walberswick Heaths and Marshes SSSI
	Retsoms

Current Management Regime	Management Areas
Stewardship / Entry Level Stewardship Agreement)	Walk Barn/Black Walks
	Leiston Common/Broom Covert
	Saltmarsh Field
	Whinny Hill
EDF Energy Estate Pre-Construction Integrated Land Management Plan (Ref. 1.1)	Retsoms
	Walk Barn/Black Walks
	Leiston Common/Broom covert
	Studio field complex
	Saltmarsh Field
	Whinny Hill
Marsh Harrier Habitat proposals	Marsh Harrier Mitigation
Sizewell Estate Woodland Management Plan	Woodland
Aldhurst Farm Ecology and Landscape Management Plan	Aldhurst Farm

Plate 3.1: Existing Management Plans Covering EDF Energy Estate



Legend

- Proposed Landscape Restoration Areas (DCO Application)
- EDF Energy Estate Integrated Landscape Management Plan area (ILMP)
- Extent of SSSI Boundaries within the EDF ILMP area
- Extent of EDF Energy Estate Woodland Management Plan (part of the ILMP)
- Extent of Aldhurst Farm Landscape and Ecological Management Plan area

Management compartments within the EDF Energy Estate

1. Sizewell Marshes SSSI
2. Minsmere to Walberswick Heaths and Marshes SSSI
3. Retsoms
4. Walk Barn/ Black Walks
5. Leiston Common/ Broom Covert
6. Salt Marsh Field
7. Whinny Hill
8. Marsh Harrier Mitigation
9. Studio Field Complex
10. Aldhurst Farm

b) EDF Energy Estate Pre-Construction Management Plan (Integrated Land Management Plan

3.4.2 The EDF Energy Estate Pre-Construction Integrated Land Management Plan (Ref. 1.1) is a record of baseline information on the site, and the evaluation of this includes an assessment of significance or value, to produce land management objectives, policies and plans. These have subsequently been integrated to remove potential conflicts so the land is managed in the most sustainable and effective manner. A summary of the management prescriptions detailed in the document are listed in **Table 3.2**.

Table 3.2: Summary of current management prescriptions detailed in the EDF Energy Estate Pre-Construction Management Plan

Habitat	Current Management Prescriptions
Lowland heath/dry acid grassland	Black Walks – reduced livestock grazing pressures to compensate for the increased grazing pressure from rabbits. Walks Barn – clearance of debris and bracken. Retsom's Field – Annual sheep grazing and control of invasive scrub. Whinny Hill – Annual sheep grazing and management of Bracken (*Pteridium aquilinum*) as part of a Bracken Management Plan prepared by Suffolk Wildlife Trust (SWT). Leiston Common – Management of Bracken as part of a Bracken Management Plan prepared by SWT. Broom Covert – Managed as a receptor site for reptiles.
Hedgerows	Hedgerows are managed in accordance with a Hedgerows Management Plan in agreement with farming tenants (Ref. 1.5). Hedgerows are cut on a two to three-year rotational period during Winter.
Arable field margins	Autumn cuts are undertaken on rotation determined by the SWT, with some areas rotavated in spring to encourage arable annuals and are maintained typically as 6 metre (m) wide strips.

Habitat	Current Management Prescriptions
	Where the pollen and nectar crops coincide with arable mitigation within the Higher Level Stewardship/Entry Level Stewardship agreement, for marsh harrier (*Circus aeruginosus*) the margins may continue to be planted each spring with a wild bird cover crop.
Woodland	All woodlands on the site are under a management plan (Ref. 1.4) which forms the basis of all woodland operations on the site. Management objectives are aimed at ensuring the long-term resilience, landscape screening and ecological function of the woodland. Management measures to achieve this include increasing structural and species diversity by selective thinning and replanting.
Grazing marsh	All grazing marshes within the site at Lower Abbey Farm are managed within a Higher Level Stewardship/Entry Level Stewardship agreement by SWT using local graziers. All of the grazing marsh within the Sizewell Marshes SSSI is managed in accordance with the SWT Sizewell Belts Management Plan (Ref. 1.2). This includes stock grazing by cattle, topping cutting and bailing and the proactive control of scrub within dykes. Salt marsh to the east of the Sizewell Marshes SSSI is managed by SWT as a low input permanent grassland within the Higher Level Stewardship agreement. The control of water levels is undertaken by the SWT in accordance with prescriptions within the Higher Level Stewardship / Entry Level Stewardship agreement. The control of invasive rushes, seasonal cutting and periodic clearing of dykes on a five to ten year rotation period and scrub control is also undertaken.
Fen and reedbeds	The fen and reedbed areas are managed by SWT. They are entered into the Higher Level Stewardship agreement as restoration of reedbed. Management of these areas is through annual rotational cutting. Invasive tall scrub is controlled through cutting and removal, however, some areas of willow (*Salix* sp.)

Habitat	Current Management Prescriptions
	and Alder (*Alnus glutinosa*) are retained and coppiced on rotation to increase habitat diversity. Water levels are maintained through a series of control sluices connected to the dyke network.
Waterbodies	The wetland scrape in Retsom's Field is managed to control edge vegetation to maintain an area of open water. Management of ponds at Lower Abbey Farm and Retsom's Field include the controlling vegetation growth and maintaining areas of open water. The lined Natterjack toad pond at Retsom's Field is drained and cleaned each year and netted during spawning to prevent predation by corvids. The pond at Lower Abbey Farm may require more intensive management as this has not benefitted from regular management.
Wet woodland	Management of the wet woodland is currently low intervention is restricted to the clearance of any vegetation encroaching on the dykes.
Vegetated shingle	An area of vegetated shingle is fenced off from pedestrians during the nesting bird season and to protect the shingle vegetation.

c) Aldhurst Farm Ecology and Landscape Management Plan

3.4.3 The Aldhurst Farm Ecology and Landscape Management Plan (Ref. 1.3) was produced to accompany and support the planning application for the creation of habitat at Aldhurst Farm, Leiston and presents the management objectives for the establishment phase (up to ten years from commencement). A summary of the management prescriptions detailed in the document are listed in **Table 3.3**.

Table 3.3: Summary of current management prescriptions detailed in the Aldhurst Farm Management Plan

Habitat	Current Management Prescriptions
Reed bed	Control of undesirable weeds including nettle and willow herb species. Scrub rogueing is undertaken as required to minimise scrub encroachment within wet reed bed areas. Reed beds are cut on rotation (one third in year three, one third in year five and one third in year eight).
Ditches	Ditches are slubbed as required (but no more frequently than one in five years), between mid-September and the end of February. Typically, less than 250m sections of any given ditch are slubbed at any one time rather than whole ditch lengths. Management of one side of a ditch is undertaken at any one time. If algae cover exceeds 5% implementation of appropriate control measures are undertaken. Bankside vegetation is managed on a one to five year rotation to prevent excessive shading with only one bank cut on each cycle.
Open water	Water level management within the basin is controlled by sluices throughout the year.
Acid grassland / heathland, scrub	Occasional management of scrub is undertaken to maintain structure.

d) Sizewell Belts Management Plan

3.4.4 The Sizewell Belts Management Plan (Ref. 1.2) details management objectives for the Sizewell Marshes SSSI. The site is managed by SZC Co. in partnership with the SWT under a Higher-Level Stewardship Agreement. A summary of the management prescriptions detailed in the document are listed in **Table 3.4.**

Table 3.4: Summary of current management prescriptions detailed in the Sizewell Belts Management Plan

Habitat/Species	Current Management Prescriptions
Woodland	The woodland areas save for the dyke side scrub and trees have remained largely unmanaged. Grimsey's which is the main block of woodland has had parts of the central ride cleared and some of the invasive Sycamore (*Acer pseudoplatanus*) removed from its northern boundary.
Wet woodland	A largely non-intervention management approach is undertaken within the areas of wet woodland.
Flood plain grazing marsh	The grassland is managed by cattle grazing from 1 May to 1 November and supplemented by topping from August onwards and aftermath grazing to control rush growth. Two fields on the Sizewell Marshes SSSI are rotationally cut for hay and aftermath grazed. Cattle grazing produces a diverse sward structure, controls marginal plant growth and through trampling creates poached areas that are beneficial to flora, invertebrates and birds. With the high water table rush growth is a predominant problem and topping annually is undertaken in August.
Reed beds	Over the past ten years the main reed bed has been cut on rotation, the majority of tall scrub removed and the water level raised. The timing of the reed cutting has been brought forward to early winter (October to November). A run of wet Decembers flooded the reed bed so that cutting was either limited or had to be abandoned on occasions. The large area of scrub in the south-eastern corner has been substantially reduced and the remaining scrub in the northern fen has been removed. The site management policy aims to maintain and promote structural diversity within the reed bed by rotational cutting and occasional scrub control to encourage successional stages of scrub development.

Habitat/Species	Current Management Prescriptions
Open water	Management aims to ensure there are always dykes in a complete range of succession from newly restored through to areas choked with vegetation.
Dykes	Dyke management is in a rotation for cleaning; experience has shown that the time between cleaning varies from five to ten years and so decisions are made annually as to which dykes will be worked on each Winter as the growth rates vary a great deal.

e) Sizewell Estate Woodland Management Plan

3.4.5 The 29 separate woodland areas within the EDF Energy Estate are managed in accordance with the EDF Energy Estate Pre-Construction Integrated Land Management Plan to ensure woodlands meet their specific objectives, including landscape, conservation, and to provide public access and amenity. The Sizewell Woodland Management Plan (Ref. 1.4) was prepared in accordance with the United Kingdom Forestry Standard Guidelines (Ref. 1.10) for the preparation of Woodland Management Plans (issued by the Forestry Commission) and also to meet the United Kingdom Forestry Standard Management Plan Criteria (Ref. 1.10).

3.4.6 The plan states that the long-term aim of the woodlands on the wider EDF Energy Estate is '*to maintain the contribution they make to the local landscape character and/or screening, and to improve and enhance their value for biodiversity*' (Ref. 1.10). Management measures include selective thinning (but no clear felling) and restocking/replanting to increase species and structural diversity and ensure the long-term resilience of the woodland. These include the retained section of Goose Hill and Kenton Hills and the woodlands to the north of the site such as Ash Wood, Great Mount Wood and the Grove. The existing management regime would ensure the continued function of these woodlands as landscape screening features in views from the north, which would help mitigate visual impacts of the proposed development, as outlined in the Landscape and Visual Impact Assessment.

3.4.7 Tailored management prescriptions for each of the 29 woodland sites are detailed in Appendix C of the Sizewell Woodland Management Plan (Ref. 1.4).

f) Sizewell Estate Hedgerow Management Plan from Higher Level Stewardship/Entry Level Stewardship Hedges

3.4.8 Hedgerows within the Estate are managed on either a one year (roadside hedgerows and hedgerows along major access tracks), two year or three year rotation period. Three hedgerows at Lower Abbey Farm are managed as part of the Entry Level Stewardship scheme for Sizewell, which are Little Meadow Western boundary, East Bridge Walk Eastern boundary and Black Walks/Long Walk boundary. Management prescriptions are as follows:

- maintain hedgerows to a height of 1.5m except when laid or coppiced as part of a regular management cycle;
- do not cultivate or apply fertilisers, manures or pesticides to land within 2m of the centre of the hedge;
- cut each hedgerow no more than once every two calendar years. Do not cut all hedgerows managed under this option in the same year;
- do not cut hedgerows during the bird nesting season (1 March to 31 August);
- where already present, leave saplings to grow into hedgerow trees at intervals, for example four randomly spaced over 200m, where this fits in with the local landscape character;
- where a length of hedge managed under this option has more than 10% gaps in the first two years of the agreement plant up gaps with locally native shrubs typical of the hedge to achieve a hedge which has no more than 10% gaps;
- take care to minimise poaching by livestock and any channelling of surface run-off along the side of the hedgerow; and
- hedgerow laying and coppicing are permitted in style customary to the local landscape but should be completed before 1 March. However, in exceptional circumstances, work may continue up to 1 April, provided a survey is conducted to ensure there are no nesting birds present.

3.5 Proposed habitat types

3.5.1 This **oLEMP** provides high level management and monitoring specifications for the following broad landscape types that are proposed to be created, enhanced or restored following completion of construction within the development site boundary. The management of these habitats would be

aligned with the existing management where appropriate. **Plate 3.2 and Plate 3.3** illustrates the broad habitat types that would be created on the post-construction site within the DCO boundary, subject to this **oLEMP**, whilst **Plate 3.4** and **Plate 3.5** illustrates how these are stitched into the wider EDF Energy Estate as a composite plan. Please note that two options are provided for the future management of Pillbox Field, as described within **Volume 1, Chapter 2** of the **ES Addendum** [AS-181]. The habitat types are as follows:

- mixed woodland;
- dry Sandlings grassland;
- semi-improved grassland;
- arable farmland;
- amenity landscape;
- wetland habitat (inclusive of marsh, fen and reed bed, wet woodland and open water); and
- vegetated dunes and shingle beaches.

Plate 3.2: Proposed oLEMP Management Compartments by Habitat Typology – Relocated Facilities referred to as Option 2 within Volume 1, Chapter 2 of the ES Addendum [AS-181]

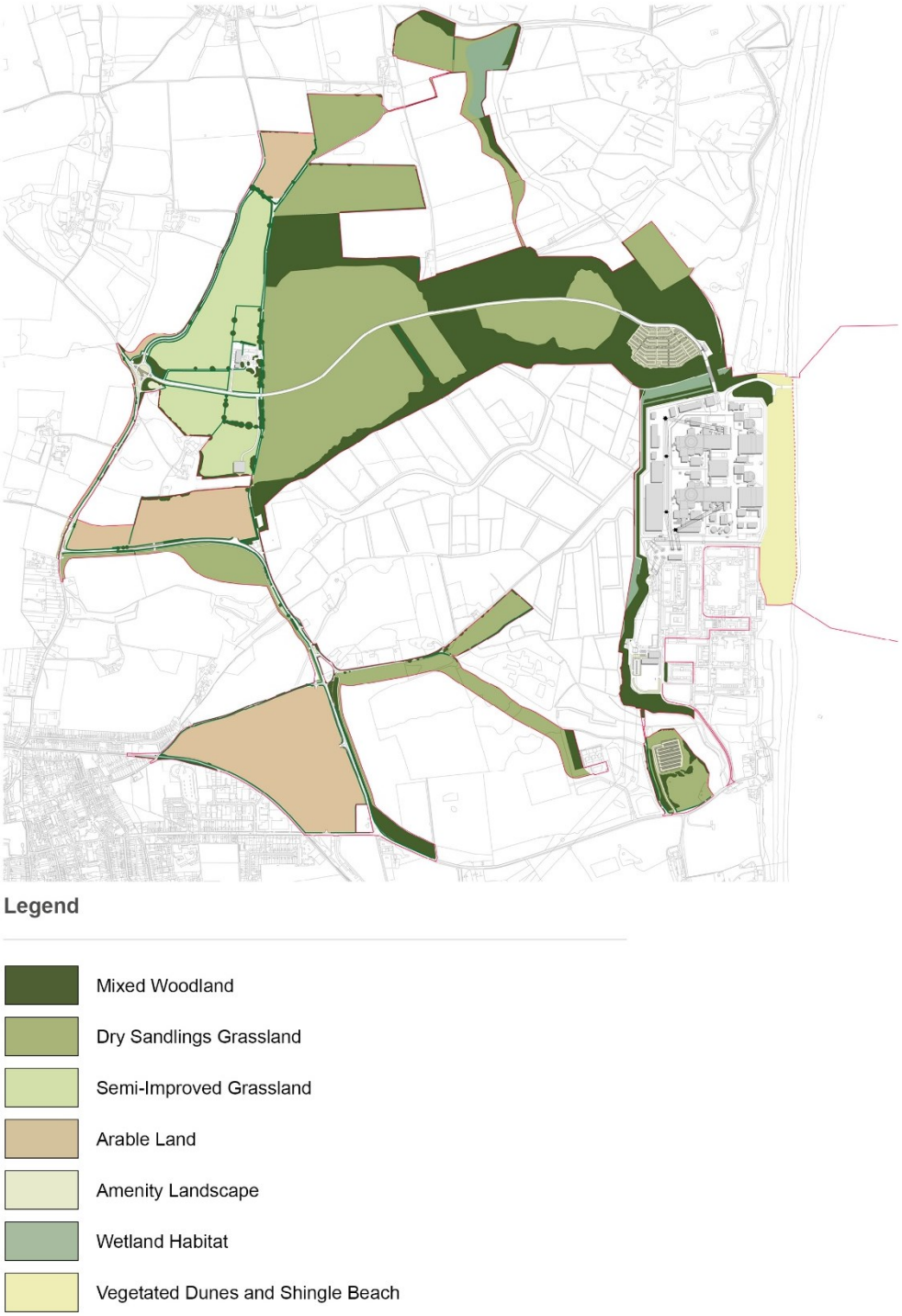


Plate 3.3: Proposed oLEMP Management Compartments by Habitat Typology – Relocated Facilities referred to as Option 1 within Volume 1, Chapter 2 of the ES Addendum [AS-181]

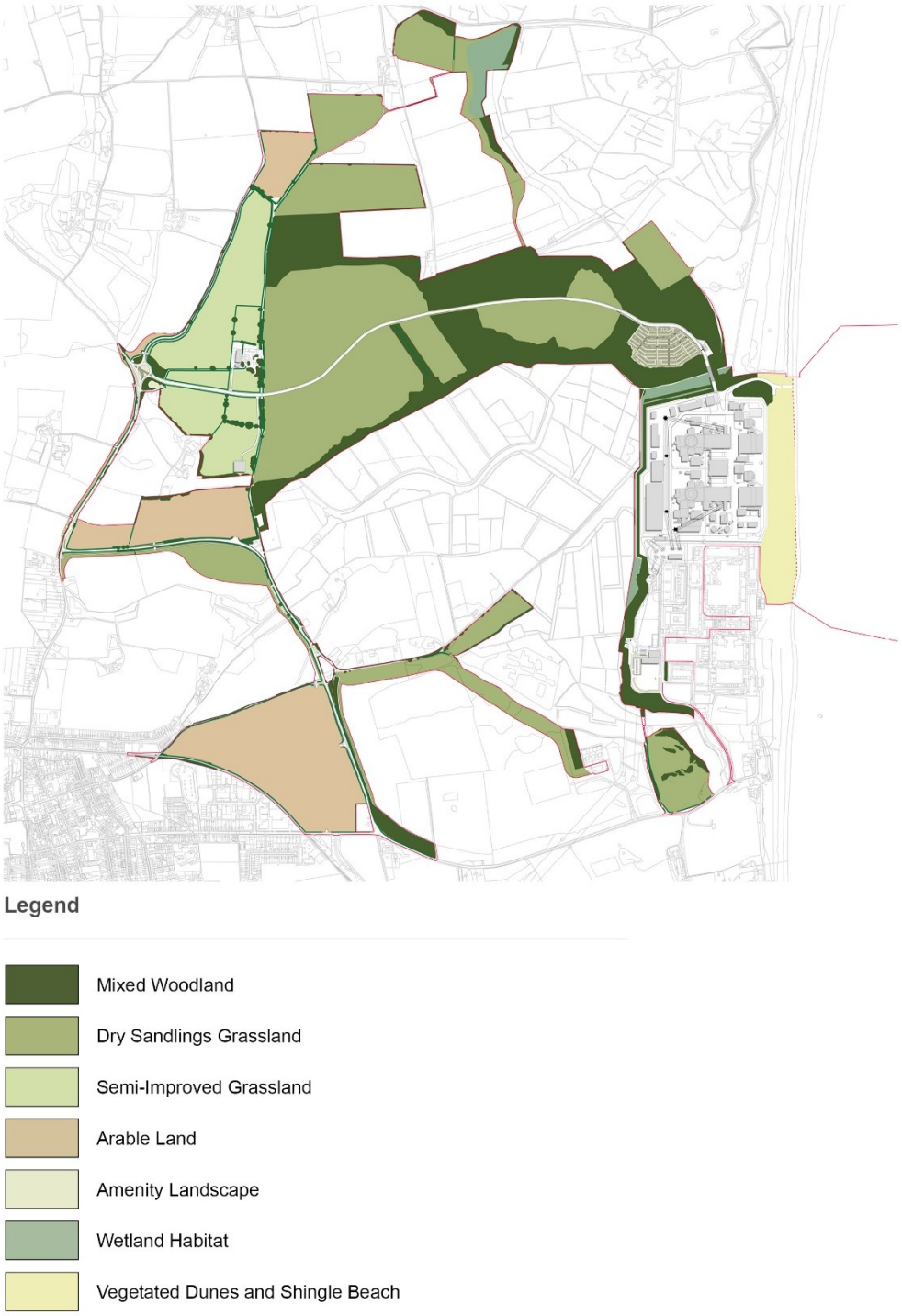
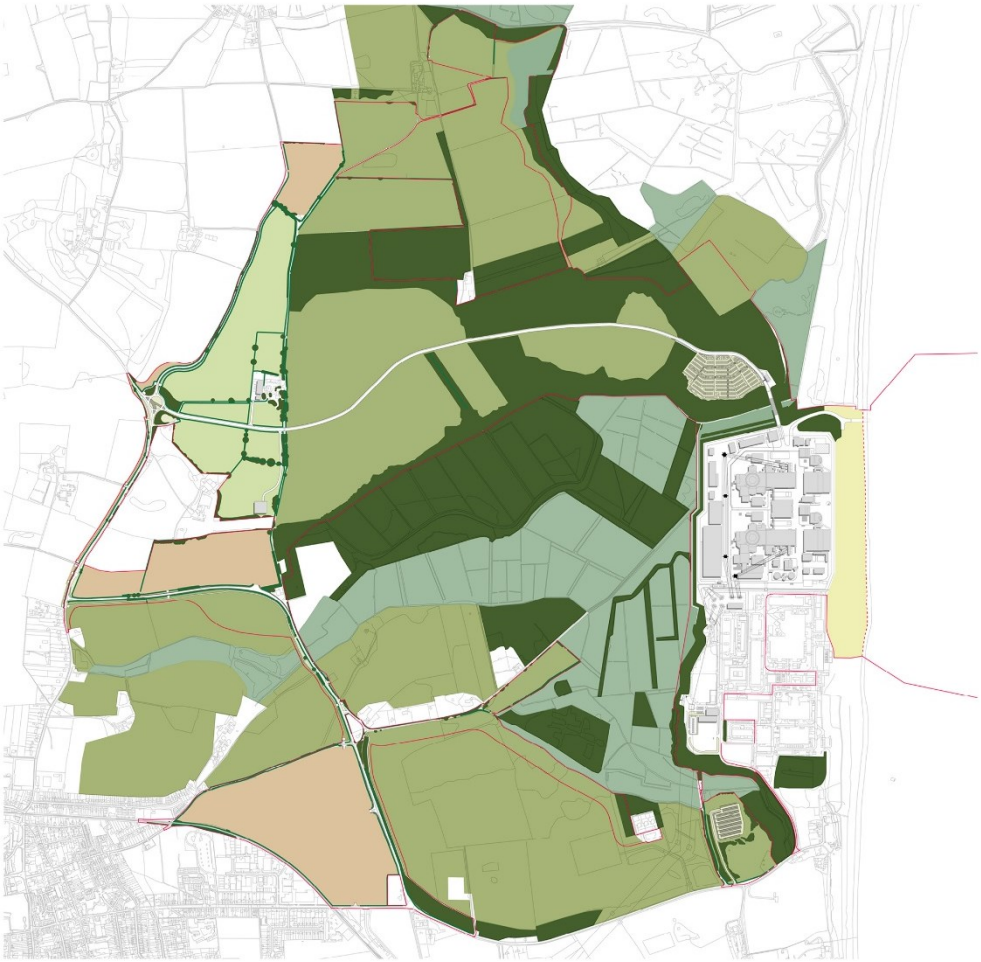


Plate 3.4: Composite EDF Energy Estate Management Compartments by Habitat Typology – Relocated Facilities referred to as Option 2 within Volume 1, Chapter 2 of the ES Addendum [AS-181]



Legend

- Mixed Woodland
- Dry Sandlings Grassland
- Semi-Improved Grassland
- Arable Land
- Amenity Landscape
- Wetland Habitat
- Vegetated Dunes and Shingle Beach

Plate 3.5: Composite EDF Energy Estate Management Compartments by Habitat Typology – Relocated Facilities referred to as Option 1 within Volume 1, Chapter 2 of the ES Addendum [AS-181]

Legend

- Mixed Woodland
- Dry Sandlings Grassland
- Semi-Improved Grassland
- Arable Land
- Amenity Landscape
- Wetland Habitat
- Vegetated Dunes and Shingle Beach

4 POLICY

4.1 Landscape and ecology policy

4.1.1 The Sizewell C Project design principles have been guided by landscape, biodiversity and amenity principles which have been embedded into the design process at an early stage. By doing so, this minimises the negative effect to the Suffolk Coast and Heaths AONB and ecology designations and ensures the main development site would constitute a good fit in the landscape, providing long-term benefits across the site.

4.1.2 There are a number of policies or reports that have been considered in preparing this document that underpin the creation and management of habitats at a landscape scale in relation to the Sizewell C proposals. In summary these are as follows, listed from the national to the local context:

- Overarching National Policy Statement for Energy (NPS EN-1) (Ref. 1.11);
- National Planning Policy Framework (Ref. 1.12);
- Environment Bill (Ref. 1.13);
- Twenty-five Year Plan for the Environment (Ref. 1.14);
- The Lawton Report (Ref. 1.15);
- Improvement Programme for England's Natura 2000 Sites Planning for the future (Ref. 1.16);
- Suffolk Coast AONB Management Plan (Ref. 1.17);
- National Character Area: Suffolk Coast and Heaths (Ref.1.6);
- Suffolk's Nature Strategy (Ref. 1.18); and
- Sizewell C Joint Local Authority Group (JLAG): Suffolk principles for the management of the EDF Energy Estate (Ref. 1.19).

e) Overarching National Policy Statement for Energy

4.1.3 **Section 5.3.18** of the Overarching National Policy Statement for Energy (EN-1) states that "*the applicant should include appropriate mitigation measures as an integral part of the proposed development*" (Ref. 1.11). In particular, the applicant should demonstrate that:

- "*habitats will, where practicable, be restored after construction works have finished; and*
- *opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals*" (Ref. 1.11).

4.1.4 Plans should:

- distinguish between the hierarchy of international, national and locally designated sites;
- allocate land with the least environmental or amenity value;
- where consistent with other policies in this Framework[3]; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and
- plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries (Ref. 1.12).

f) National Planning Policy Framework

4.1.5 The National Planning Policy and Framework (NPPF) (Ref. 1.12) states that planning policies and decisions should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

[3] Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.

- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

g) Environment Bill (Draft only 2018)

4.1.6 In the government's 2019 summer policy statement on the Environment Bill it was confirmed that "we are committed to sustainable development across our country and delivering much-needed housing does not have to come at the expense of vital biodiversity. Through the Bill, we will introduce a mandatory approach to biodiversity net gain. This will require developers to ensure habitats for wildlife are enhanced, with a 10% increase in habitat value for wildlife compared with the pre-development baseline…". (Ref. 1.13). While nationally significant infrastructure projects and marine development will remain out of scope of Biodiversity Net Gain in the Bill, the government are committed to "work to establish potential approaches to achieving biodiversity net gains" (Ref. 1.13) for these developments. Due to the consensus formed over the lengthy consultations around biodiversity net gain, it is likely that this will be implemented across local planning authorities, irrespective of actual legislative status. Net gain is seen as being preferably achieved 'on-site', however there are options to deliver these gains off-site.

4.1.7 A Biodiversity Net Gain assessment has been undertaken for the Sizewell C Project proposals using the Biodiversity Metric 2.0 which was issued on 29 July 2019 (Ref. 1.13). The Biodiversity Net Gain report is included within the application (**ES Volume 2 Chapter 14 Appendix 14E)** and demonstrates that net gain would be achieved if the habitats described within this **oLEMP** are delivered as proposed.

h) Twenty-five Year Plan for the Environment

4.1.8 This 25 Year Environment Plan (Ref. 1.14) sets out government action to help the natural world regain and retain good health. **Table 4.1** summarises the commitments made to enhance biodiversity.

Table 4.1: The 25 year environment plan biodiversity commitments summary

Chapter	Summary
Chapter 1: Using and managing land sustainably	• Embedding an 'environmental net gain' principle for development, including housing and infrastructure • Focusing on woodland to maximise its many benefits: – Supporting the development of a new Northern Forest – Supporting larger scale woodland creation – Appointing a national Tree Champion
Chapter 2: Recovering nature and enhancing the beauty of landscapes	• Protecting and recovering nature – Publishing a strategy for nature – Developing a Nature Recovery Network – Providing opportunities for the reintroduction of native species – Exploring how to give individuals the chance to deliver lasting conservation – Improving biosecurity to protect and conserve nature • Conserving and enhancing natural beauty.
Chapter 3: Connecting people with the environment to improve health and wellbeing	• Helping people improve their health and wellbeing by using green spaces – Promoting health and wellbeing through the natural environment

Chapter	Summary
	• Greening our towns and cities – Creating more green infrastructure – Planting more trees in and around our towns and cities
Chapter 6: Protecting and improving our global environment	• Providing international leadership and leading by example – Protecting and improving international biodiversity

i) The Lawton Report (2010)

4.1.9 'Making Space for Nature: a review of England's wildlife sites and ecological networks' otherwise known as the Lawton Report (2010) (England) (Ref. 1.15). was an independent review, commissioned by the Government of England's wildlife sites and the connections between them, with recommendations to 'help achieve a healthy natural environment that will allow our plants and animals to thrive.'

4.1.10 Led by Professor Sir John Lawton, the review was set up to whether wildlife sites are capable of responding and adapting to the growing challenges of climate change and other demands on land. The report states that in order to enhance the resilience and coherence of England's ecological network, five key approaches need to be adopted, which take account of the land around the ecological network. In summary these are:

- improve the quality of current sites by better habitat management;
- increase the size of current wildlife sites;
- enhance connections between, or join up, sites, either through physical corridors, or through 'stepping stones';
- create new sites: and
- reduce the pressures on wildlife by improving the wider environment, including through buffering wildlife sites.

j) Improvement Programme for England's Natura 2000 Sites Programme Report

4.1.11 The Improvement Programme for England's Natura 2000 sites Improvement Programme for England's Natura 2000 Sites (Ref. 1.16) recognises the importance of working with other sectors across landscapes to secure a fully functioning protected areas network in England and to create more space for nature. Site Improvement Plans should not exist in isolation and issues such as invasive species, climate change, air pollution and habitat fragmentation all need to be addressed at a national or landscape scale. Landscape scale approaches are required to support habitat management in the wider environment and initiatives to increase connectivity between protected sites (Ref. 1.16).

k) Suffolk Coast AONB Management Plan

4.1.12 The existing Sizewell A and B power stations and the majority of the site are located within the Suffolk Coast and Heaths AONB and Suffolk Heritage Coast.

4.1.13 AONBs are statutorily protected landscapes, recognised by government to be of the very highest quality. The statutory framework for AONBs was first established in the National Parks and Access to the Countryside Act 1949. (Ref. 1.20) They were given further protection by the Countryside and Rights of Way Act 2000 (Ref. 1.21). The purpose of the AONB designation is to conserve and enhance the natural beauty of the area. Legislation requires that a relevant authority shall have regard to the statutory purpose of the designation.

4.1.14 The Suffolk Coast and Heaths Area of Outstanding Natural Beauty Management Plan 2018-2023 (Ref. 1.17) sets out a series of objectives intended to conserve and enhance the natural beauty and special qualities of the designated landscape. The design response and long-term vision for the site (of which landscape and ecological management are important elements) have been drawn together with consideration for the management objectives of the AONB.

l) National Character Area: Suffolk Coast and Heaths

4.1.15 The Suffolk Coast NCA supports the planning of conservation initiatives at a landscape scale, with planned future habitat creation within the area taking place on a landscape scale (e.g. Dunwich Forest, with the creation of 640ha of grazed woodland and heathland habitat linking the internationally important Walberswick and Minsmere and the reconnection of rivers to their flood plains where appropriate, to provide ecological and accessible green infrastructure networks at a landscape scale) (Ref. 1.6).

m) Suffolk's Nature Strategy

4.1.16 Suffolk's Nature Strategy (Ref. 1.18) recognises the need for ecological restoration at a landscape scale and notes active partnerships in protected landscapes are required to ensure the areas are exemplars of landscape scale conservation. Where development is proposed in these areas, such as the Sizewell C Project, they should work to ensure they are of the highest quality as "*environmental exemplars*" (Ref. 1.18).

n) Sizewell C JLAG: Suffolk Principles for the Management of the EDF Energy Estate

4.1.17 Suffolk County Council and Suffolk Coastal District Council in collaboration with Suffolk Coast and Heaths AONB and SWT have produced a series of principles to guide the management of the site.

4.1.18 The document identifies the site as lying within an area of "*great significance in terms of landscape and wildlife*" (Ref. 1.19) The principles document calls for a management strategy that "*balances the moderation of visual impacts, enhancement of natural and cultural heritage, strengthening of landscape character and improvement of public access both on and off the existing estate*" (Ref. 1.19).

4.1.19 The suggested principles of most relevance to this **oLEMP** area are summarised below:

- Post-construction, the site should be managed as a mosaic of grass, heath, scrub, woodland and wetland.
- The site management strategy should form part of a broader strategy that comprises the integrated landscape, heritage and architectural plan.
- Parts of the existing site are of high ecological and landscape value already and must form the building blocks for the future post construction vision; therefore sufficient investment and resource should be made available to ensure that current features of value are protected throughout the construction phase and subsequently enhanced through the site management strategy.
- To maximise biodiversity gain, habitat restoration and recreation would need to be achieved via a number of different management approaches. The scrub and woodland mosaic can be achieved via natural regeneration rather than translocating top-soil and seeding. Management of this habitat could be via extensive grazing (although pressure from deer browsing would need to be determined and

appropriate mitigation provided if necessary), with appropriately sized grazing units, using cattle grids as necessary.

- New semi-natural habitat, created to compensate or offset residual impacts, should prioritise the improvement of ecological networks in order to ensure the maximum potential for functioning ecological connectivity across and adjacent to the site whilst maintaining and enhancing landscape character.

- Adverse land/seascape and visual impacts should be effectively minimised throughout construction and operation, and opportunities to enhance the existing qualities of the environment maximised in line with the Suffolk Design Principles for Sizewell C.

4.1.20 These principles have helped inform the outline broad management strategy of the **oLEMP** (Ref. 1.19).

5 LANDSCAPE AND ECOLOGY VISION

5.1 Objectives

5.1.1 The objectives that underpin this management plan are designed to contribute towards the overall design vision and landscape strategy for the development as articulated in the **Main Development Site Design and Access Statement** [APP-585 to APP-597].

5.1.2 The overriding intention is to conserve, restore and enhance landscape character and biodiversity. Where possible, existing landscape features of importance for ecology and visual screening would be retained during the construction of the power station, such as the established trees and hedgerows along Bridleway 19.

5.1.3 Previous engagement with East Suffolk Council, Suffolk County Council, Natural England, RSPB, Environment Agency and Suffolk Wildlife Trust has led to the refinement of the objectives presented within the **oLEMP.**

5.1.4 Inevitably given the scale of development, construction would result in the removal of vegetation and habitat loss and fragmentation (but mainly of relatively lower value arable land and plantation woodland). Rather than simply reinstate the previous landscape pattern and features, the intention is to create a large area of Dry Sandlings Grassland bordered by native woodland and scattered trees/scrub. Once established, this ‘mosaic’ would have a higher biodiversity value than the existing habitats they replace. The new habitats would also contribute to enhancing the landscape character of this section of the Estate Sandlands LCT.

5.1.5 Other design objectives are to create and manage planting to minimise the visual impact of the Sizewell C Project in views from the surrounding landscape. This would minimise impacts on cultural heritage resources, improve access and recreation infrastructure and ensure the long-term sustainability and resilience of the landscape – including to predicted climate change.

5.1.6 Specific landscape and ecological objectives, which will guide long-term management, are as follows:

- To create a transition from a managed farmland landscape at the western edge of the site, which grades into open Sandlings grassland and then the coastal zone along the site's eastern boundary. This transition from a farmed to a more natural and biodiverse landscape would be subtle and not interrupted by sharp boundaries and would align with the approach detailed in the Sizewell C JLAG: Suffolk principles for the management of the site (Ref. 1.19).

- To return areas of the temporary construction area in the west of the site (Land to the East of Eastlands Industrial Estate (LEEIE) and fields around Upper Abbey Farm) to arable and semi-improved pasture agriculture respectively.

- To reinforce and expand existing linear wooded corridors and create others to provide greater long-term connectivity for bats and other species. Specifically, native woodland would be created along the margins of the Sandlings grassland linking existing woodland areas at Kenton Hills, Goose Hill and Ash Wood.

- To create an expansive area of Dry Sandlings Grassland habitat using soils inherited from the construction phase. The intention is to source seed from adjacent areas of acid grassland (such as the restored acid grassland at Retsom's and the Studio Field – both within the site). In the longer term, this area would be managed as a diverse mosaic of dry summer parched grassland with patches of neutral grassland, scrub and scattered trees – potentially with a similar structure and species assemblage as sites in the surrounding landscape such as Leiston Common and Westleton Common/Walks.

- Within the northern area of the Dry Sandlings Grassland habitat, opportunities will be sought to manage the habitat for the benefit of breeding stone-curlew (*Burhinus oedicnemus*). Management prescriptions for stone-curlew would be refined as part of the detailed LEMP; however, the management prescriptions at the landscape scale, recommended by the RSPB, are as follows:

- select fields with sandy, free-draining soils with a high proportion of stone admixed near the surface;
- provide large areas (at least 0.1km2) of open habitat with short sward (less than 2cm during March – October) of fine-leaved grass species typically associated with acid grassland, preferably grazed by rabbits, but if not possible grazed by sheep (avoiding high densities near nesting areas during incubation period);
- potential breeding sites to be at least 400m from human access, although any closer human access could be 'screened' by landscape and other natural features if required (but should be avoided if this can be incorporated in design); and
- ideally, breeding plots to be provided in areas with gently rolling topography, enabling birds to be visually obscured from neighbouring pairs when incubating and increasing the density of breeding pairs.

- To re-establish wetland habitats temporarily lost by the realignment of sections of the Sizewell and Leiston drains within the Sizewell Marshes SSSI and minimise long-term severance effects on Sizewell Marshes SSSI.
- To maximise the capacity of wildlife and landscape to cope with climate change, using a planting palate of species resilient to drought and disease that are not reliant on irrigation measures.
- Once established, to integrate the management of the new habitats (coastal, grassland, woodland and wetland) with the management regimes for the existing and retained habitats within the EDF Energy Estate.

5.1.7 These management objectives have been designed with the aim of enabling restoration at a landscape scale. The integration of infrastructure and landscape, integration of access (creating a balance between recreation and habitat); and minimising habitat severance and increasing connectivity would provide long-term benefits to biodiversity of Suffolk as a whole rather than at a site level.

a) Character Zone

5.1.8 The **landscape strategy**, described in the **Main Development Site Design and Access Statement** [APP-585 to APP-597], recognises four broad distinct areas that have been used to inform and guide the proposed habitat

creation and planting typologies. These are illustrated in **Plate 55.1** and comprise:

- Zone 1 - Estate Sandlands: Farmlands;
- Zone 2 - Estate Sandlands: Dry Sandlings Grasslands;
- Zone 3 - Coastal Levels; and
- Zone 4 - Coastal Dunes and Shingle.

Plate 5.1 Broad Planting Character Zone

5.1.9 These wide character zones broadly correspond to the Suffolk Landscape Character Types (LCT) present within the site – the Estate Sandlands LCT, Coastal Levels LCT and Coastal Dunes and Shingle Ridges LCT. The proposed habitat creation and planting aims to reflect and enhance their key characteristics (e.g. soils, landform and characteristic habitats and species).

i. Zone 1 - Estate Sandlands: Farmlands

5.1.10 Semi-improved Pasture: Following completion of construction, several fields to the west of Bridleway 19 around Upper Abbey Farm would be reseeded with grass and returned to pasture. New hedgerows and trees would be planted along the field boundaries. These fields would continue to be managed for agriculture as they are at present and are therefore not the focus of this **oLEMP**.

5.1.11 Arable Farmland: The LEEIE and a group of fields to the north of Lover's Lane would be restored back to arable agriculture. These fields would continue to be managed in accordance with the cross-compliance obligations for land management as they are at present and are therefore not the focus of this **oLEMP**.

ii. Zone 2 - Estate Sandlands: Dry Sandlings Grasslands

Mixed Woodland

5.1.12 New areas of woodland would be established through a combination of planting and natural regeneration. The new woodland would buffer and link the existing areas of woodland within the site. Unlike the existing site, which has extensive blocks of coniferous plantations at Kenton Hills and Goose Hill, the new woodland would be predominantly native broadleaved with a small component of mixed woodland (to increase climate change resilience). It would have a greater structural and species diversity, and form a closer spatial mosaic with areas of grassland and scrub. Management would be aimed at enhancing biodiversity value rather than commercial timber management.

Sandlings Grassland

5.1.13 The majority of the post-construction area would be 'Sandlings grassland', which was formerly much more extensive in the local landscape and a characteristic component of the Estate Sandlands landscape character type. This area would not comprise a single habitat type, but form a complex mosaic of dry summer parched grassland, scrub and scattered trees/woodland (particularly around the edges).

5.1.14 Some flexibility is required for the creation and management of this area, since there is some uncertainty over the future nature of the post-construction soils. It is anticipated that the area would be underlain by dry and low fertility soils, which would naturally support dry summer parched grassland. This could be created through seeding with seeds harvested from acid grassland/heathland habitats in the local area. Management would primarily comprise mowing/topping during the establishment period, with extensive grazing at a sufficiently low density used once the site becomes established to allow natural colonisation of patches of scrub and woodland – giving the area a more natural and wild quality.

Amenity Grassland

5.1.15 Areas of amenity grassland would be created to accommodate car parking. The grassland would comprise native species and will maintain 'internal' green corridors which break up hardstanding and block paving.

iii. Zone 3 - Coastal Levels

Marsh, Fen and Reed bed

5.1.16 A small and narrow strip of land on the western and northern edges of the proposed Sizewell C power station falls into the Sizewell Marshes SSSI and Coastal Levels landscape character type. It would be partially affected by construction activities. The restoration of this area would be designed to allow the land to be returned to a wetland mosaic (fen, reeds and small areas of wet woodland) primarily by natural regeneration but perhaps supplemented by planting. Management of this area would be integrated into the existing Sizewell Belts Management Plan (Ref. 1.2). A linear area of reed bed habitat would also be created within the area which is already being optimised for marsh harrier foraging in the north-east of the EDF Energy Estate and this new reed bed would enhance this area further for this species. As part of the overall habitat compensation provisions associated with land take to the Sizewell Marshes SSSI, areas of wetland habitat have already been created at Aldhurst Farm and new fen meadow habitats would be created at off-site locations.

Wet Woodland

5.1.17 A new area of wet woodland would be created within the marsh harrier foraging in the north-east of the EDF Energy Estate through new planting during the first winter of construction works. The new woodland would comprise predominantly native species (mostly Alder (*Alnus glutinosa*)) and would help compensate for the loss of wet woodland from the Sizewell Marshes SSSI.

iv. Zone 4 - Coastal Dunes and Shingle.

5.1.18 The upper stretch of Sizewell Beach, to the east of the new power station platform, would be affected by the construction of the new coastal defences. The 'northern mound' which sits on this alignment would be removed, before being reinstated later in the construction timeline. Restoration of the reinstated beach would aim to recreate the existing coastal landscape above the sea defences structures, with suitable soils provided to enable a combination of planting (with tough 'dune' shrubs and occasional hardy trees) and natural regeneration. It is expected that management would be minimal following the initial establishment and maintenance period, and the intention is that the habitat would be self-sustaining and durable, albeit with successional planting introduced if required to maintain long-term screening of lower-level structures within the power station from coastal locations.

5.1.19 Photographs detailed in **Table 5.1** provide examples of habitats to be created within the site.

Table 5.1: Habitat examples

Zone: Character Area: Habitat Type Proposed	Photographic Example
Zone 1- Estate Sandlands: Farmlands: Improved Pasture	

Zone: Character Area: Habitat Type Proposed	Photographic Example
Zone 1- Estate Sandlands: Farmlands: Arable	
Zone 2- Estate Sandlands: Dry Sandlings Grassland: Sandlings Grassland	

Zone: Character Area: Habitat Type Proposed	Photographic Example
Zone 2- Estate Sandlings: Dry Sandlings Grassland: Mixed plantation woodland	
Zone 3- Coastal Levels: Marsh, fen and reed bed habitat	

Zone: Character Area: Habitat Type Proposed	Photographic Example
Zone 3- Coastal Levels: Wet woodland	
Zone 4 - Coastal Dunes and Shingle: Coastal Dunes and Single Beaches	

6 MANAGEMENT PROPOSALS

6.1 Overview

6.1.1 **Table 6.1** sets out an overview of the construction phase and pre-establishment management proposals. **Table 6.2** sets out the management

proposals for habitats that would be created where existing management regimes are currently not in practice, as detailed in **section 6.2**, and makes reference to the relevant planting zone typology that these proposals are applicable to. **Table 6.3** sets out faunal enhancement management outline proposals.

6.1.2 Management proposals for the Sizewell Marshes SSSI are detailed within the Sizewell Belts Management Plan (Ref. 1.2). However, during the construction phase, as well as some permanent loss, there would be temporary loss of an area covered by the Sizewell Belts Management Plan (Ref. 1.2) to accommodate diversion of sections of the Sizewell and Leiston drains. Management proposals to reinstate the habitats in this area are also detailed within **Table 6.1**. It is envisaged that reinstatement of SSSI habitats in these areas would be covered by a detailed re-instatement plan, which would be included within the detailed LEMP.

6.1.3 Establishment and aftercare works are to be carried out by an approved landscape sub-contractor in accordance with good horticultural practice and with specific reference to:

- BS 4428: Code of practice for general landscape operations (Ref. 1.22);
- BS 7370: Grounds maintenance (Ref. 1.23);
- BS 8545: Trees: from nursery to independence in the landscape – recommendations (Ref. 1.24);
- BS 5837:2012: Trees in Relation to Design, Demolition and Construction – Recommendations (Ref. 1.25);
- The Lowland Grassland Management Handbook (Ref. 1.26);
- Construction Code of Practice for the Sustainable Use of Soils (Ref. 1.27);
- Safeguarding our Soils: Soil Strategy for England (Ref. 1.28);
- Good Practice Guide for Handling soils (MAFF, 2000) (Ref. 1.29);
- Common Standards Monitoring Guidance for Lowland Heathland (Ref. 1.30);
- Common Standards Monitoring Guidance for Lowland Wetland Habitats (Ref. 1.31);

- Common Standards Monitoring Guidance for Lowland Woodland Habitats (Ref. 1.32);
- Common Standards Monitoring Guidance for Vegetated Coastal Shingle Habitats (Ref. 1.33);
- Common Standards Monitoring Guidance for Sand Dune Habitats (Ref. 1.34);
- Common Standards Monitoring Guidance for Lowland Grassland Habitats (Ref. 1.35);
- Hedgerow Survey Handbook (Ref. 1.36); and
- Countryside Stewardship Higher Tier Scheme (Ref. 1.37).

6.1.4 Where relevant, updated versions of the documents will be referred to.

6.2 Ground preparation and soil management

6.2.1 The availability of soil resources in the right condition would be critical to the establishment of the required habitats. Topsoil and subsoil would be stripped and stockpiled (separately) on site so that it is available for reinstatement.

6.2.2 All soils would be handled in accordance with a **Soil Management Plan** explained in **Appendix 17C** of the **ES** [APP-278]. This would set out the ways in which soils would be stripped, transported, stockpiled and restored, with a reconditioning step detailed should it be required. These would follow published best practice guidance and ensure that reinstated soils have the right physical and chemical characteristics for their required end use.

6.2.3 Soil materials with different characteristics would be stockpiled separately. This would ensure that the soil types which support the different habitats can be recreated in the required locations.

Table 6.1: Construction phase outline proposals

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
Source and seeding of stock				
S1	Dry Seed	Dry seed sowing should be the primary means of creating Dry Sandlings Grassland. Seeds should be collected from areas of dry acid grassland from the nearby areas. Seed would be harvested using a brush harvester and all-terrain vehicle, then seeds would be sieved and dried. Dry seed would be a good way to establish a wide range of species with a sequential coverage through the seasons including early and late flowering species. Dry seed would be used to establish the area of amenity grassland using an amenity seed mix.	Pre-construction Ideally 2-3 harvests to ensure a wide range of species (including early and late flowering species) are represented.	Zone 2: Estate Sandlands: Dry Sandlings Grasslands
S2	Green Hay	In addition to dry seed, green hay could be used to create Dry Sandlings Grassland within smaller areas of the site. Green hay is herbage cut from a meadow at or just before the hay cutting stage. The hay is then collected fresh without drying or turning and transported to the recipient site and spread immediately.	Pre and post construction	Zone 2: Estate Sandlands: Dry Sandlings Grasslands

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
		The seeds then drop from the hay onto the receptor site and the herbage stalks create a protective mulch. The green hay would be collected from the unaffected areas of the site. Green hay would be cut and hand spread to an even depth across the entire recipient area and would be turned to help seeds to separate from seed heads.		
Watering				
W1	Planting and seeding	Planting should be aligned with appropriate seasons (spring and late autumn) to reduce the requirement for watering. The Contractor shall monitor all new seeding and planting until all establishment works are completed. Any losses are to be replanted in the next dormant season.	As required	Site wide
Use of Herbicides and Fertilisers				
HF1	Herbicides and fertilisers	Following reinstatement, herbicides or fertilisers shall not be used for any maintenance or management operations that may cause harm to existing land uses (i.e. publicly accessible areas, or agricultural areas) or existing habitats.	Following reinstatement	Site wide

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
Beach Exclusion Fencing				
BEF1	Vegetative cover maintenance	Permanent beach exclusion fencing is to be installed and/or maintained to protect dune grassland vegetation and ground nesting birds. Management of access by putting boardwalks in or controlling activities in vulnerable areas to prevent loss of vegetation cover.	Construction phase	Zone 4: Coastal Dunes and Shingle

Table 6.2: Proposed management outline proposals for newly created habitats

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
Weed Control				
WC1	Injurious weeds	Weed control relates to infestations of injurious weeds as follows: Broad-leaved Dock (*Rumex obtusifolius*), Curled Dock (*Rumex crispus*), Common Ragwort (*Senecio jacobaea*),	March-October As required	Site wide

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
		Creeping Thistle (*Cirsium arvense*) and Spear Thistle (*Cirsium vulgare*). Injurious weed control would use mechanical means of control such as topping or pulling where appropriate. Specialist advice would be sought for any occurrences of invasive species, including Giant Hogweed (*Heracleum mantegazzianum*) and Japanese Knotweed (*Fallopia japonica*).		
WC2	Invasive species	In the event that species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (Ref. 1.38) are found on site during the monitoring, an invasive weeds specialist should develop an Invasive Species Management Plan to specify the treatment methods and measures to prevent the spread of these species.	March-October As required	Site wide
WC3	Herbicide application	Where weed killing is by a selective translocated herbicide, the herbicide shall be applied during a period of active growth in accordance with the manufacturer's instructions. Weed-killing shall be achieved by the total die-back of weeds. In the case of selective weed control there shall be not more than 5% re-growth during the season.	March-October As required	Site wide

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
WC4	Herbicide application	Where weed control is by spot application, a translocated herbicide shall be applied with a device that ensures that the herbicide touches weed species only.	March-October As required	Site wide
WC5	Removal of weeds by hand	Where weed control by pulling/hand-weeding, the work shall consist of the removal of the entire weed, including roots, by digging, forking, hoeing or pulling. Weeds shall be removed prior to flowering and the arisings removed from site.	March-October As required	Site wide
Dry Sandlings Grassland				
DSG1	Grass cutting	The ultimate vision for the Dry Sandlings Grassland (summer parched grassland) is that these develop over time into an acid grassland / heathland mosaics depending on the realities of soil pH and structure and water availability. Encourage an open sward and diverse structure including tussocks by a rotational grassland cutting regime (i.e. cut sections of the site one year and leave other sections to provide habitat cover and shelter) when most plant species have set seed to maintain its plant species diversity. Cuts	Late Summer One per annum	Zone 2: Estate Sandlands: Dry Sandlings Grasslands

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
		should be two stage with arisings left for seven days to dry and allow seeds to set. Any areas which are targeted specifically for heathland would require more specific interventions.		
DSG2	Scrub removal	Unless required for screening, or where it provides a boundary habitat, or is developing into desirable heathland, scrub shall be managed and should only be removed outside the breeding bird season to open the grassland sward and maintain the dry grassland and scrub mosaic.	September to February inclusive One per annum	
Once fully established, management of dry summer parched grassland would be undertaken in accordance with existing EDF Energy Estate management approaches				
Semi-improved Pasture				
IP1	Grazing	Regular grazing is required to maintain sufficient low vegetation sward.	May-September One per annum	Zone 1: Estate Sandlands: Farmland
Sizewell Marshes SSSI Marsh, Fen and Reedbed				

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
MFR1	Habitat reinstatement	The area of marsh, fen and reedbed habitats within the temporary construction area for the SSSI crossing in the Sizewell Marshes SSSI would be reinstated following construction completion. A detailed re-instatement plan would be included within the detailed LEMP.	Post construction establishment	Zone 3: Coastal Levels
Once fully established, management of marsh, fen and reed bed habitat would be undertaken in accordance with the existing Sizewell Marshes SSSI management plan (Ref. 1.2).				
Reed bed				
RB1	Planting	Assess whether reinforcement planting is required annually for first 3 years (and take corrective action as appropriate).	One per annum for the first three years.	Zone 2: Estate Sandlands: Dry Sandlings Grasslands
RB2	Water table management	The management of the water table of reed beds is required. Seasonal flooding of vegetation will control plant growth. Seasonal drying will help breakdown reed litter, helping to maintain reedbed water levels in the long-term. Ditches and open water to be slubbed as required (but no more frequently than 1 in 5 years), between mid-September	September-February One per annum	

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
		and the end of February to avoid breeding birds unless other ecological mitigation measures have been agreed. Water vole mitigation required, with pre-cutting to discourage voles in advance. Only short lengths to be slubbed rather than whole ditch lengths. Management of one side of a ditch only at any one time.		
RB3	Removal of weeds	Where weed control by pulling/hand-weeding, the work shall consist of the removal of the entire weed, including roots, by digging, forking, hoeing or pulling. Weeds shall be removed prior to flowering and the arisings removed from site.	March-October One per annum	
RB3	Reed cutting and removal	Seasonal grazing should be undertaken annually, where this is not possible machine cutting and removal of vegetation arisings. Cut the whole area of each basin no less frequently than once every 10 years. An indicative rotation for wet reed will be to cut one third in year 3, one third in year 5 and one third in year 8, subject to review of development of structure and function (i.e. species supported). However the need for cutting will be	4-7 year rotational basis as required	

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
		kept under review and may not need to commence until at least year 8.		
RB4	Scrub removal	Unless required for screening, or where it provides a boundary habitat, scrub shall be managed and should only be removed outside the breeding bird season. Scrub rogueing is to be undertaken as required to minimise scrub encroachment within wet reed bed areas and maintain target. Stumps to be treated with glyphosate if required.	September to February inclusive One per annum	
Once the reed bed is fully established, management will be undertaken in accordance with the Marsh Harrier habitat proposals				
Dune Grassland				
DG1	Planting	Light planting on the reinstated northern mound and coastal defence of scattered shrubs and trees would be required to help with erosion control and landscape screening	Construction Phase November to February	Zone 4: Coastal Dunes and Shingle
DG2	Scrub removal	Unless required for screening, or where it provides a boundary habitat, scrub shall be managed and should only be removed outside the breeding bird season. Scrub rogueing is to be	September to February inclusive One per annum	

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
		undertaken as required to minimise scrub encroachment. Stumps to be treated with glyphosate if required.		
DG3	Vegetative cover maintenance	Permanent beach exclusion fencing is to be installed and/or maintained to protect vegetation and ground nesting birds. Management of access by putting boardwalks in or controlling activities in vulnerable areas to prevent loss of vegetation cover.	Construction phase	
Vegetated Shingle				
VS1	Surface vegetation	Surface disturbance of vegetated shingle is to be avoided where possible, in particular where communities are more open. Seasonal temporary exclusion fencing is to be installed to protect vegetation and ground nesting birds. Management of access by putting boardwalks in or controlling activities in vulnerable areas to prevent loss of vegetation cover.	March-August One per annum	Zone 4: Coastal Dunes and Shingle
Amenity Grassland				

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
AG1	Grass cutting	Carry out establishment cuts and thereafter cut regularly to maintain a short sward height.	March – October As required.	Zone 2: Estate Sandlands: Dry Sandlings Grasslands
Wet Woodland				
WW1	Planting	Planting will be undertaken between late October to late February avoiding periods of heavy flooding to allow young trees to establish roots before periods of summer drought. Trees should be planted in in random single species groups of 5 – 20 plants at centres varying between 1.4 –2.5m, to avoid excessive overcrowding and shading out problems. Tree species which prefer drier condition should be planted within drier areas of the site whilst those species that prefer wetter conditions should be planted in areas more prone to flooding. Planting shall be done on a ratio of roughly 40% to 50% canopy trees, 20% to 30% understorey trees and scrub, and c.30% open space.	To be undertaken in planting season – late October to February As required	Zone 3 - Coastal Levels

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
		Any stakes, guards and ties are to be monitored, replaced and adjusted to ensure tree growth is not adversely affected.		
WW2	Tree replacement	Any trees that fail or become damaged or diseased shall be removed and replaced in the next planting season with others of similar size and species.	To be undertaken in planting season – late October to February As required	
WW3	Weeding	All weed growth shall be controlled using mechanical means, such as strimming. Chemical treatments are to be used only as a last resort.	May-October As required	
Once fully established the planted trees will form part of the ongoing woodland management design and management will be undertaken in accordance with the existing woodland management plan and the Marsh Harrier habitat proposals.				
Mixed Plantation Woodland				
MPW1	Planting	Planting would be undertaken in the dormant season (November to February) in random single species groups of 5 – 20 plants at centres varying between 1.4 –2.5m, to avoid excessive overcrowding and shading out problems.	Construction Phase November to February	Zone 2: Estate Sandlands - Dry Sandlings Grasslands

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
		Planting shall be done on a ratio of roughly 40% to 50% canopy trees, 20% to 30% understorey trees and scrub, and c.30% open space. The larger blocks of woodland planting will be protected by installing deer fencing (rather than individual tree guards). The height of the fencing should be a minimum of 1.8m. Tree guards will be used for smaller areas of woodland. Any stakes, guards and ties are to be monitored, replaced and adjusted to ensure tree growth is not adversely affected.		
MPW2	Tree replacement	Any trees that fail or become damaged or diseased shall be removed and replaced in the next planting season with others of similar size and species.	To be undertaken in planting season - November to February As required	
MPW3	Weeding	All weed growth shall be controlled using mechanical means, such as strimming. Chemical treatments are to be used only as a last resort and should not be used in areas accessible to the public.	May-October As required	

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
Once fully established the planted trees would form part of the ongoing woodland management design and management would be undertaken in accordance with the existing Sizewell Estate Woodland Management Plan (Ref. 1.4)				
Hedgerows				
H1	Planting	Planting of whips would be undertaken in the dormant season (November to February). Whips should be planted in double rows at a spacing of 20—30cm. Any stakes, guards and ties are to be monitored, replaced and adjusted to ensure hedgerow growth is not adversely affected.	Construction Phase November to February	Zone 1 Estate Sandlands: Farmland
H2	Hedgerow replacement planting	Any sections of hedgerows that fail or become damaged or diseased shall be removed and replaced in the next planting season with similar species.	To be undertaken in planting season - November to February One per annum	
H3	Hedgerow margins	Hedgerow margins of a minimum 2m are to be left undisturbed. The margins should be cut either annually or bi-annually in late summer, after the flowers have seeded.	Main cut late Summer (late July/early August) One per annum	
Once established the hedgerows would be managed in accordance with the existing Sizewell Estate Hedgerow Management Plan.				

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
Arable				
A1	Field margins	Arable field margins would be managed in accordance with the cross-compliance obligations for land management which would ensure protection of hedgerows and watercourses from pollution by agricultural inputs.	As detailed by the cross-compliance obligations for land management	Zone 1: Estate Sandlands: Farmland

Table 6.3: Faunal enhancement management outline proposals

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
FE1	Reptile hibernacula	No maintenance is required for the hibernacula, but if the structure is no longer suitable for wildlife (i.e. collapsed such that there are no longer cavities) then replace like for like.	One check per annum	Zone 2: Estate Sandlands - Dry Sandlings Grasslands
FE2	Reptile egg laying	No maintenance is required for the reptile egg laying sites, but if the structure is no longer suitable for wildlife (i.e. collapsed such that there are no longer cavities) then replace like for like.	One check per annum	Zone 2: Estate Sandlands - Dry Sandlings Grasslands

Management Item Reference	Management Item	Proposed Management	Timeframe/Frequency on Management Actions	Broad Landscape Type
FE3	Breeding and wintering bird assemblage of summer parched grassland and scrub mosaic	Management of dry Summer parched grassland and scrub mosaic in accordance with management proposals detailed above. Ensure no significant recreational disturbance to the habitats.	As required	Zone 2: Estate Sandlands - Dry Sandlings Grasslands
FE4	Invertebrate assemblage of summer parched grassland and scrub mosaic	Management of Dry Sandlings Grassland and scrub mosaic in accordance with management proposals detailed above.	As required	Zone 2: Estate Sandlands - Dry Sandlings Grasslands
FE5	Bat boxes	Any lost or damaged bat boxes to be replaced once they have been checked by a licenced bat worker to ensure that no bats are present.	As required	Zone 2: Estate Sandlands - Dry Sandlings Grasslands

7 MONITORING REQUIREMENTS

7.1 General Monitoring

7.1.1 During the short-term (initial establishment) period of twelve months, inspections shall take place by a suitably qualified specialist biannually in spring and late summer. After the first twelve months inspections would be carried out annually in late summer. These monitoring inspections will be used to measure the success of the management proposals and determine if interventions are required in order to deliver the landscape and ecology vision for the EDF Energy estate. Monitoring proposals are detailed in **Table 7.1**, however specific detailed monitoring prescriptions will be detailed in a Monitoring Strategy produced by the contractor as part of the detailed design**.**

7.1.2 An Ecology Working Group will be established prior to the main development site landscape works commencing in order to advise on the management measures that would be specified within the LEMP. This is secured by a requirement in **Schedule 2** of the **Draft DCO** [AS-143] relating to the detailed landscape scheme.

Table 7.1: Monitoring proposals

Habitat / Feature Type	Party responsible	Timing of Monitoring	Requirements
Establishment	SZC Co.	Various	There is always uncertainty where new habitat is being established. This is impacted by weather conditions, the quality of seed stock or green hay, variations in the conditions of the site, and problems with pernicious weeds. It is therefore recommended the management and monitoring of the target habitats be intensive during the first year and frequent over the subsequent four years to ensure any problems are identified early and resolved as quickly as possible. Checks would be undertaken by a suitably qualified specialist. The inspections would be undertaken to assess the establishment of habitats and the effectiveness of the LEMP and aftercare prescriptions, paying particular attention to: • the success of establishment including disease, damage or death of planting; • inappropriate use or vandalism; • general appearance and condition; • the presence of invasive or non-native species that may require treatment; and

Habitat / Feature Type	Party responsible	Timing of Monitoring	Requirements
			• any evidence of protected species that could have implications for future management. Safety issues reported by the public shall also be investigated as soon as practically possible and remedial works undertaken as necessary Public Engagement. Public engagement would be undertaken by SCZ Co. to keep users of the site informed of the works. A monitoring report would be prepared for SZC Co.
Target Communities Detailed LEMP	SZC Co.	Check bi-annually years 0, 1 and 2 Check annually year 3 - 5 Years 5-10 – A review of monitoring requirements would be undertaken in year 5 to detail timings for Years 5-10. If objectives are not met, then the Detailed LEMP	Before and after enhancement, reinstatement or creation a full botanical species list and quality assessment should be carried out to monitor the success of restoration and as a baseline for monitoring, this should include the presence and abundance of species. The NVC may be an appropriate method for collecting data for monitoring or this may be bespoken to the target communities. This would also include monitoring with regards to achieving the desired communities and quality as demonstrated in the biodiversity net gain report (Doc Ref. 6.3 14E(A)). Monitoring is essential to track the development of the target habitat(s) and troubleshoot any problems. Target communities would be set for each habitat type for years 1, 2, 5 and 10.

Habitat / Feature Type	Party responsible	Timing of Monitoring	Requirements
		would require amendment.	Success would be monitored via the yearly monitoring surveys and reporting which would feed into future iterations of the detailed LEMP.
Dry Sandlings Grasslands Semi-improved Grassland	SZC Co.	As above	Regular checks of the newly established areas of grassland shall be made during the first five years of establishment. Targets would be set for each grassland type according to the species list gathered before construction and thresholds identified for Section 41 of the Natural Environment and Rural Communities (NERC) Act (Ref. 1.39)/Suffolk Biodiversity Action Plan (Ref. 1.40) quality lowland meadow in the Countryside Stewardship Higher Tier Scheme (Ref. 1.37) made specific to the site, as well as the Joint Nature Conservation Committee guidance. Monitoring would follow the Common Standards Monitoring Guidance for Lowland Grassland (Ref. 1.35). This would weight desirable species against the injurious ones.
Arable field margins	SZC Co.	As above	Regular checks of the newly established arable field margins shall be made during the first five years of establishment. Targets would be set according to the species list gathered before construction and thresholds identified for Section 41 of the NERC Act/ Suffolk Biodiversity Action Plan quality arable field margins in the Countryside Stewardship Higher Tier Scheme made specific to the site.

Habitat / Feature Type	Party responsible	Timing of Monitoring	Requirements
			Monitoring would be undertaken in accordance with cross-compliance obligations for land management.
Hedgerows	SZC Co.	As above	Targets would be set according to thresholds identified for Section 41 of the NERC Act/Suffolk Biodiversity Action Plan quality hedgerows in the Countryside Stewardship Higher Tier Scheme made specific to the site. Regular checks shall be made during the first five years of establishment to replace dead or diseased specimens, control weeds, re-stake plants as necessary and check deer/rabbit fencing. Monitoring would follow the Hedgerow Survey Handbook (Ref. 1.36).
Woodland	SZC Co.	As above	Targets would be set according to thresholds identified for Section 41/Biodiversity Action Plan quality woodland in the Countryside Stewardship Higher Tier Scheme made specific to the site. Regular checks shall be made during the first five years of establishment to replace dead or diseased specimens, control weeds, re-stake plants as necessary and check deer/rabbit fencing. Monitoring would follow the Common Standards Monitoring Guidance for Woodland Habitats (Ref. 1.32). This would weight desirable species against the injurious ones.

Habitat / Feature Type	Party responsible	Timing of Monitoring	Requirements
Vegetated shingle	SZC Co.	As above	Targets would be set according to thresholds identified for Section 41/Biodiversity Action Plan quality vegetated shingle habitat made specific to the site. Monitoring would follow the Common Standards Monitoring Guidance for Vegetated Coastal Shingle Habitats (Ref. 1.33). This would weight desirable species against the injurious ones. Shingle coverage is to be monitored on a regular basis. Should coverage of shingle become reduced, shingle replenishment would be required.
Dune grassland	SZC Co.	As above	Targets would be set according to thresholds identified for Section 41/Biodiversity Action Plan quality dune grassland habitat made specific to the site. Monitoring would follow the Common Standards Monitoring Guidance for Sand Dune Habitats (Ref. 1.34). This would weight desirable species against the injurious ones.
Dry Sandlings Grassland	SZC Co.	As above	The ultimate vision for the Dry Sandlings Grassland is that it evolves into an acid grassland/heath mosaic. While aspirational targets would be set, it may be that the targets require amending depending on the realities of soil pH and structure and water availability.

Habitat / Feature Type	Party responsible	Timing of Monitoring	Requirements
			Targets would be set for acid grassland according to the species list gathered before construction and thresholds identified for Section 41/Biodiversity Action Plan quality lowland meadow in the Countryside Stewardship Higher Tier Scheme made specific to the site, as well as the Joint Nature Conservation Committee guidance. Grassland habitat indicators would typically include the presence and abundance of key herb species present. This would weight desirable species against the injurious ones. Monitoring would follow the Common Standards Monitoring Guidance for Lowland Grassland Habitats (Ref. 1.35). Targets would be set for heathland according to the species list gathered before construction and thresholds identified for Section 41/Biodiversity Action Plan quality lowland heathland in the Countryside Stewardship Higher Tier Scheme made specific to the site, as well as the Joint Nature Conservation Committee guidance. Heathland habitat indicators would typically include the presence and abundance of key herb species present. This would weight desirable species against the injurious ones. Monitoring would follow the Common Standards Monitoring Guidance for Lowland Heathland (Ref. 1.30).

Habitat / Feature Type	Party responsible	Timing of Monitoring	Requirements
Reed bed habitat	SZC Co.	As above	Targets would be set for reed bed according to the species list gathered before construction and thresholds identified for Section 41/Biodiversity Action Plan quality lowland wetland habitat in the Countryside Stewardship Higher Tier Scheme made specific to the site, as well as the Joint Nature Conservation Committee guidance. Lowland wetland indicators would typically include the presence and abundance of key herb species present. This would weight desirable species against the injurious ones. Monitoring would follow the Common Standards Monitoring Guidance for Lowland Wetland Habitats (Ref. 1.31). This would weight desirable species against the injurious ones.
Marsh, Fen and Reed bed	SZC Co.	As above	Targets would be set for wet grassland according to the species list gathered before construction and thresholds identified for Section 41/Biodiversity Action Plan quality lowland wetland habitat in the Countryside Stewardship Higher Tier Scheme made specific to the site, as well as the Joint Nature Conservation Committee guidance. Lowland wetland indicators would typically include the presence and abundance of key herb species present. This would weight desirable species against the injurious ones. Regular checks of the newly established area of wet grassland of the SSSI crossing shall be made during the first five years of establishment.

Habitat / Feature Type	Party responsible	Timing of Monitoring	Requirements
			Monitoring would follow the Common Standards Monitoring Guidance for Lowland Wetland Habitats (Ref. 1.31). This would weight desirable species against the injurious ones. Monitoring of fen vegetation has been carried out since 1993 by SWT as a means of assessing the success of the management practices adopted at the site. A number of quadrats have been set up and are visited every two years on a rolling programme. Monitoring would be aligned with this process.
Year five survey and review	SZC Co.	Year 5	More specific monitoring shall include botanical surveys of Dry Sandlings Grassland habitats in year 5 following implementation. The following surveys, at a minimum, shall be included in the year five review: 1 botanical surveys - The species diversity of dry grassland shall be assessed with species and assessment of their cover recorded along with tussock cover (estimate of cover assessed within 1m radius of 20 random sample points) and sward height, using a sward stick; and 2 protected species surveys: monitoring surveys of bat and bird boxes, and the reptile population. The results of the surveys shall be reviewed to identify any revisions to the management prescriptions deemed to be required to meet the

Habitat / Feature Type	Party responsible	Timing of Monitoring	Requirements
			objectives for the medium and long-term. Revised prescriptions shall be produced to guide the next five years. This information shall be presented as a 'Five Year Monitoring Report' to be shared with relevant stakeholders.

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