The Sizewell C Project

6.3 Volume 2 Main Development Site

Chapter 14 Terrestrial Ecology and Ornithology

Appendix 14E Biodiversity Net Gain Report

Revision: 1.0

Applicable Regulation: Regulation 5(2)(a)

PINS Reference Number: EN010012

May 2020

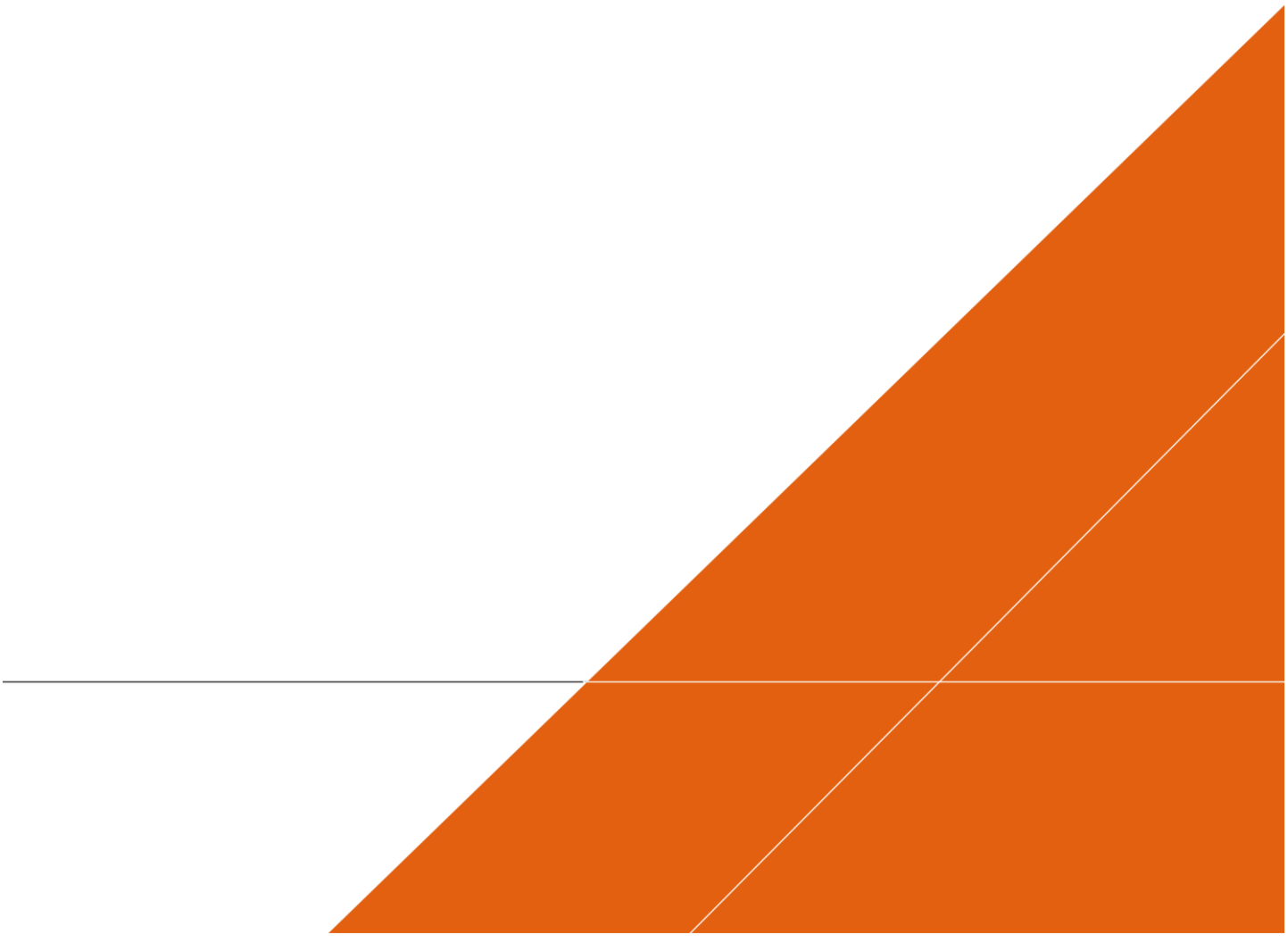
Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

ARCADIS Design & Consultancy for natural and built assets

SIZEWELL C PROJECT ENVIRONMENTAL STATEMENT

Biodiversity Metric Calculations – Main Development Site

JANUARY 2020



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Executive summary

Arcadis Consulting (UK) Limited has been commissioned on behalf of NNB Generation Company (SZC) Limited ('EDF Energy (SZC)') (also part of the EDF Energy group) hereafter known as EDF, to undertake Biodiversity Metric net gain calculations using the Biodiversity Metric 2.0 issued by Defra and Natural England. This is to support the Environmental Statement for Sizewell C Main Development Site (MDS).

This assessment includes areas within the MDS and off-site offsetting areas. The areas within the MDS can be seen in Figure 14E.1, with the exception of the Leiston Sports pitches, shown in Figure 1.3. The off-site offsetting areas are as follows:

- Studio Fields Complex
- St James Covert
- Great mount walk
- Marsh Harrier habitat improvement Area
- Kenton Woods
- Aldhurst Farm
- Fen Meadow Mitigation Area

Under current proposals it is estimated that there is a potential increase in biodiversity unit values for habitats of **10.20%,** and an increase in biodiversity unit values for hedgerows of **15.41%**. The increase in hedgerow units is predicted due to a small increase in hedgerows across the on and off-site areas. The increase in habitat units is due to the suite of enhancement and creation presented within this report. The items which have created the greatest uplift in units are as follows:

- On-site
  - Creation of a large area of 'Dry Sandling Grassland', a collection of acid grassland, heathland scrub and scattered trees, created on mostly arable land.
  - Enhancement of an area of species poor semi-improved grassland to tall tussocky grassland, as part of the Marsh Harrier habitat improvement area within the Sizewell Estate.
  - Creation of mixed woodland in the centre of the site, within areas of plantation coniferous woodland.
  - Creation of semi-improved grassland on arable and improved pasture land, in the west of the site.
- Off-site
  - Creation of a high-quality reptile habitat within studio fields complex, largely composed of acid grassland, on the site of arable land.
  - Creation of areas of heathland mosaic within the Aldhurst Farm area, largely on the site of arable land.
  - Creation of wetland areas within the Aldhurst Farm area, largely on the site of arable land.
  - Enhancement of an area of species poor semi-improved grassland to tall tussocky grassland, as part of the Marsh Harrier habitat improvement area within the Sizewell Estate.

There are a series of off-site associated developments (ADs), three of which were also assessed via the biodiversity metric (Sizewell Link Road, Two Village Bypass, Yoxford Roundabout) and these are presented in separate reports. These sites were chosen for assessment via the metric as they were considered to have potential for permanent habitat loss. When considered as a whole, there is predicted to be an approximate 18% increase in biodiversity net gain across the MDS and three ADs.

The achievement of these units scores is reliant upon achieving the target condition for created habitats, which will require creation and management plans.

It is recommended that post planning, additional surveys are undertaken through the planning process to update the report and to inform the necessary detailed design, habitat creation and management plans.

The proportions of the broad habitat types present on the site will change under current plans. The largest decrease in area will be in arable, a 200ha decrease, while the largest increase will come in grassland, a 128ha increase. Moderate increases will occur in the remaining other broad habitat types.

A small portion of Sizewell Marshes SSSI overlaps with the western extent of the main power plant site. Within this portion of the site, 0.7ha of fen meadow and 2.6ha of wet woodland is lost. The metric cannot assess such an impact on statutory designated sites, so specific mitigation is required. As such two off-site areas will be used

to provide mitigatory fen meadow habitat, along with an area of wet woodland in the north of the site. The portion of the site overlapping with Sizewell Marshes was excluded from the baseline and post-development calculations, along with the SSSI mitigation sites. The creation of additional fen meadow habitat off-site and wet woodland on-site are considered to adequately mitigate for the loss of these habitat within Sizewell marshes SSSI.

1 INTRODUCTION

1.1 Overview

Arcadis Consulting (UK) Limited has been commissioned on behalf of NNB Generation Company (SZC) Limited ('EDF Energy (SZC)') (also part of the EDF Energy group) hereafter known as EDF, to undertake Biodiversity Metric calculations. This is to support the Environmental Statement for Sizewell C Main Development Site (MDS). This site will house the Sizewell C nuclear power station, located to the north of the existing Sizewell A and B power station complex. The 'Proposed Development' will comprise on-site areas, including the main platform, Sizewell B relocated facilities and offshore works area and off-site areas. Off-site areas include the marsh harrier habitat improvement area, studio fields complex, St James covert, great mount walk, Kenton Woods, Aldhurst farm and sports facilities in Leiston. The offshore area is not assessed within this report. The red line boundary is shown in Plate 14E. 1. There are a series of off-site associated developments (ADs), three of which are assessed via the biodiversity metric, in separate reports. These sites were chosen for assessment via the metric as they were considered to have potential for permanent habitat loss. These are:

- A permanent road to bypass Stratford St Andrew and Farnham (referred to as the 'two village bypass' (TVB)) to alleviate traffic on the A12 through the villages (Vol. 05 Annex 7-4);
- A permanent road linking the A12 to the Sizewell C main development site (referred to as 'Sizewell link road' (SLR)) to alleviate traffic from the B1122 through Theberton and Middleton Moor (Vol. 06 Annex 7-4); and
- Permanent highway improvements at the junction of the A12 and B1122 east of Yoxford (referred to as the 'Yoxford roundabout' (Yoxford) and other road junctions to accommodate Sizewell C construction traffic (Vol. 07 Annex 7-4).

Plate 14E. 1: Aerial imagery of the site and redline boundary (not including sports pitches at Leiston)

1.2 Site overview

The Proposed Development sits on the east coast and extends inland to the west. The site comprises the current Sizewell B power station (largely hardstanding), an area of woodland to the north and large areas of arable and pasture land (a combination of semi-improved and improved grassland), among other habitats (see Plate 14E. 1 and Figure 14E.1). Approximately 68ha of the site falls within designated sites:

- Sizewell Marshes Site of Special Scientific Interest (SSSI) – a small wetland area, including fen meadow habitat;
- Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB) – most of the east of the site;
- Sizewell Levels and Associated Areas County Wildlife Site (CWS) – largely plantation woodland and acid grassland; and
- Suffolk Shingle Beaches CWS – dune grassland and vegetated shingle.

1.3 Proposed scheme

The proposed scheme will consist of the following components:

- The MDS would comprise five on-site components, which are described below:
  - Power station platform (main platform): the area that would become the Sizewell C nuclear power station itself.
  - Sizewell B Relocated Facilities land and National Grid land: the area that certain Sizewell B facilities would be moved to in order to release other land for the Sizewell C Project and land required for the National Grid transmission network.
  - Offshore works area: the area where offshore cooling water infrastructure and other marine works would be located.
  - Temporary construction area: the area located primarily to the north and west of the proposed Sizewell Marshes Site of Special Scientific Interest (SSSI) crossing, which would be used to support construction activity on the main platform, including an accommodation campus.
  - Land east of Eastlands Industrial Estate (LEEIE): the area including and directly north of Sizewell Halt, which would be used to support construction on the main platform and the temporary construction area.
  - Sports facilities in Leiston: these would include one full-size 3G pitch, 400mm pile, rubber crumb surface suitable for football, non-contact rugby and hockey; and two Multi-Use Games Areas (MUGAs) suitable for basketball, netball, tennis and football. This is shown in Figure 2.12. While not within the Sizewell estate, this area is within the DCO boundary.

The net gain calculations included all the above areas, with the exception of the offshore works area.

- The off-site areas of the MDS are as follows:
  - Aldhurst Farm area: this would include farmland adjacent to the MDS, which will be converted to an area including lowland ditches, reedbed and open water habitats and a large area of acid grassland habitat. These are shown within the ELMP (EDF Energy, 2014).
  - Marsh harrier habitat improvement area: this area will provide additional foraging habitat for marsh harrier to mitigate against disturbance and habitat loss during the construction phase. This is shown in Appendix 14C5.
  - Studio Fields area: this area will provide abundant reptile habitat and provide a receptor area during the construction phase.
  - St James covert: this area will provide abundant reptile habitat and provide a receptor area during the construction phase.
  - Great mount walk: this area will provide abundant reptile habitat and provide a receptor area during the construction phase. It lies within the marsh harrier habitat improvement area.
  - Fen meadow compensation: this would include land to the south of Benhall / the east of Halesworth where fen meadow would be created to compensate for the loss of fen meadow within the Sizewell Marshes SSSI. This is shown in Appendix 14C4.

The net gain calculations included all the above sites, with the exception of Fen meadow compensation and the wetlands areas of Aldhurst farm. These areas are considered separately as the metric cannot assess impacts to SSSIs, nor associated mitigation.

1.4 Biodiversity Targets

This report has been prepared in response to EDF, government and stakeholder interest around quantifying biodiversity. Defra (Department for Environment Food and Rural Affairs) has presented their intentions for biodiversity, in their summary of responses to the biodiversity net gain consultations published in July 2019 [accessed at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/819823/net-gain-consult-sum-resp.pdf?_ga=2.137222000.1116181503.1566577712-286758354.1537538178]

They have proposed that there will be a requirement for a 10% net gain in biodiversity for new development which will be mandated within the upcoming Environment Bill. Although the Sizewell C Main Development Site ES was submitted prior to these requirements, EDF would like an indication of the Biodiversity Units likely to be delivered as a result of the Proposed Development.

The scope of this report and analysis is to present the biodiversity unit change due to the proposed development. The ecological impacts and associated mitigation to ensure legislative and policy compliance are presented in the ES (ES Volume 2, Chapter 14) and its associated documents.

2 METHODOLOGY

2.1 Biodiversity metric 2.0

The purpose of this document is to evaluate the potential of the Proposed Development to achieve biodiversity net gain. This approach utilises information on the habitats and features of the site before and after the Development to calculate a biodiversity value, utilising this information to calculate a change in the biodiversity value of the Outline Planning Area (OPA). These calculations were undertaken using the Biodiversity Metric 2.0 issued by Defra and Natural England (details can be found at Crosher et al., 2019 a and b) a spreadsheet-based tool into which data can be entered to carry out biodiversity net gain calculations. The version used for these calculations is that updated in October 2019, an updated version of the tool was released in late December 2019, however these were not material to these calculations. A connectivity tool released after the updated metric, but this was not functional due to the number of bugs present within it. As such, the approach detailed in 2.2.3 for connectivity was taken.

When considering baseline conditions, the metric takes account of several factors, detailed below. The numbers in brackets show the multipliers used by the metric for each category.

- Habitat type;
- Size of habitat parcel;
- The distinctiveness of the habitat type:
  - Value predetermined for each habitat type on a scale of Very Low (0), Low (2), Medium (4), High (6) and Very High (8).
  - Distinctiveness considers the rarity of the habitat, the amount of the percentage of habitat protected in SSSIs, the UK Priority Habitat Status and the European Red List Categories for the habitat.
- The condition of each habitat parcel;
  - Value assigned based on a scale of Poor (1) Fairly Poor (1.5) Moderate (2) Fairly Good (2.5) and Good (3). For some habitat types this is pre-determined.
  - Condition sheets (provided in Crosher et al., 2019b) were used where possible to assess the condition of each habitat on the site.
- How ecologically connected the parcels are; and
  - Value assigned based on a scale of Low (1) Medium (1.1) and High (1.15).
- Whether the parcels are in locations identified as local nature priorities.
  - Value assigned based on a scale of Low (1) Medium (1.1) and High (1.15) strategic importance.

Data is entered into the metric under the UK habitat classification typologies. Baseline data was largely collected under Phase 1 Habitat survey Typologies. A conversion was carried out using a table within the tool and using the guidance document produced by UK Habitat Classification Working Group (2018).

2.2 Valuation of habitats

To calculate the biodiversity value of the site, a ‘value’ for each of the habitats is formulated and multiplied by the size of this habitat, as described within the Biodiversity Metric 2.0 (Crosher et al., 2019a). The ‘value’ is based upon the habitat’s distinctiveness, condition, ecological connectivity and strategic significance. For non-linear habitats, such as woodland or grassland, the area of the habitat is used to assess its size, whereas length is used for non-linear habitats, such as hedgerows and rivers. The biodiversity values of area-based habitats, hedgerows and rivers are separate and cannot be summed. As such they should all be evaluated separately. Area based habitats and hedgerows are largely assessed in the same way and any differences are highlighted below. No rivers were present on the site, so a rivers assessment was not necessary.

Habitats located within the site and those located off-site within off-setting areas are assessed differently, with the latter including further multipliers to allow for the fact that the habitats are spatially separated from the site. The on-site and off-site habitats are entered into the metric in different sections, to allow for clear differentiation. In this report the biodiversity values of on-site and off-site areas are also presented separately.

This section describes how this value has been applied to the existing ‘before’ habitats and the proposed ‘after’ (post-development) habitats. Full details of the Biodiversity Metric 2.0 can be found in Crosher et al. (2019a and b).

2.2.1 Habitat distinctiveness

The metric assigns a distinctiveness band to each of the habitats and linear features. These are based upon different criteria, so are considered separately below.

2.2.1.1 Area based habitats

As detailed in Crosher et al. (2019a), this is assessment is based upon "species richness, rarity (at local, regional, national and international scales), and the degree to which a habitat supports species rarely found in other habitats". Table 1 provides detail of the bandings to which each area-based habitat is assigned.

Table 1: Area based habitat distinctiveness valuation bandings

Distinctiveness band	Multiplier	Typical habitats
Very High	8	Priority habitats as defined in Section 41 of the Natural Environment and Rural Communities (NERC) Act that are highly threatened, internationally scarce and require conservation action e.g. blanket bog
High	6	Priority habitats as defined in Section 41 of the NERC Act requiring conservation action e.g. lowland fens
Medium	4	Semi-natural habitats not classed as a Priority Habitat
Low	2	Habitat of low biodiversity value. Temporary grass and clover ley; intensive orchard; rhododendron scrub
Very low	0	Little or no biodiversity value e.g. hard standing or sealed surface

2.2.1.2 Hedgerows

The distinctiveness of hedgerows is based upon their physical structure, the woody species composition and any association with physical features, such as banks and ditches. An assessment of ground flora is not included within the metric. Table 2 details the distinctiveness categories of each of the types of hedgerows and line of trees. Further detail is provided in Crosher et al. (2019a).

Table 2: Hedgerow distinctiveness categories and multipliers

Associated features	Woody plant structural composition				
	Species rich hedgerow (inc. hedgerow with trees)	Native species hedgerow	Other hedgerow (ornamental / non-native species)	Line of trees (ecologically valuable)	Line of trees
Associated earth bank or ditch	High 6	Medium 4	Low 2	Medium 4	Low 2
None	Medium 4	Low 2	Very Low 1	Medium 4	Low 2

2.2.2 Habitat condition assessment

The condition of the habitat is defined as: "the biological 'working-order' of a habitat type judged against the perceived ecological optimum state for that particular habitat." (Crosher et al., 2019b). This provides a measure of variation in the quality of areas of the same habitat type.

2.2.2.1 Area based habitats

A habitat condition assessment sheet is provided for each habitat type within Crosher et al. (2019b), which should be used to assign each habitat parcel to each of the categories detailed in Table 3. Each condition sheet is composed of a list of pass/fail criteria. The ratio of 'passes' to 'fails' is used to determine the habitat condition.

Table 3: Condition bandings for the habitats on the site

Category	Multiplier
Good	3
Fairly good	2.5
Moderate	2
Fairly poor	1.5
Poor	1
N/A – Agriculture	1
N/A – other	0

2.2.2.2 Hedgerows

A single condition sheet is provided for hedgerows, although lines of trees have a separate sheet. Both of these can be found in Crosher et al. (2019a), along with the pass/fail ratios for both types of linear feature. The condition categories and multipliers are the same as shown in Table 4, but 'fairly good' and 'fairly poor' are not options.

2.2.3 Ecological connectivity assessment

Version 2.0 of the metric includes a valuation of 'ecological connectivity'. The connectivity factor relates to the relationship of a "particular habitat patch to other surrounding similar or related semi-natural habitats facilitating flows of species and ecosystem services" (Crosher et al., 2019b). Increased connectivity with the surrounding area corresponded to a higher value for the ecological connectivity factor. Higher habitat connectivity increases the value of a habitat, all else being equal. For example, a well-connected area of woodland will likely have a higher biodiversity than an equivalent, unconnected woodland. A tool for assessing connectivity was released in December 2019, but it was found to be non-functional due to bugs within it. As such, professional judgement was utilised to assign a connectivity score to each habitat parcel. This was based upon the location of similar habitats and the potential for movement of animals and plants between them. The connectivity categories are shown in Table 4.

Table 4: Connectivity categories and multipliers

Connectivity	Multiplier
High	1.15
Medium	1.1
Low	1

2.2.4 Strategic significance assessment

Strategic significance assesses the value of habitats from the point of view of environmental objectives and preferred locations for biodiversity. Local and national policy was reviewed to quantify the strategic significance of each habitat area. Table 5, based upon Table 5-5 in Crosher et al. (2019a), was used to assist with this assessment.

Table 5: Strategic significance categories and multipliers

Category	Description	Multiplier
High	Within area formally identified in local strategy	1.15
Medium	Location ecologically desirable but not in local strategy	1.1
Low	Area/compensation not in local strategy/ no local strategy	1

2.3 Pre-development calculations

The number of biodiversity units provided by each habitat currently within the Proposed Development site is calculated by multiplying the values for Distinctiveness, Condition, Connectivity, Strategic location and the size of each habitat in hectares (ha). Hedgerows are evaluated in the same way, but base upon their length (in km), rather than area. This value represents the baseline condition of the site, in terms of biodiversity units. Further detail can be found in Crosher et al. (2019a and b). The Phase 1 habitat map presented in Figure 14E.1 and Appendix 14A3 of the MDS ES were used to inform these baseline calculations.

The development also includes mitigation areas beyond the red line boundary, for example the marsh harrier habitat improvement area and studio field complex. The biodiversity units provided by each habitat in these areas is calculated in the same way. These areas are included within the overall net gain calculations as they are offsetting sites relating to the MDS:

- marsh harrier habitat improvement area provides additional foraging habitat for marsh harrier to compensate for impacts during the construction phase;
- the reptile receptor sites (studio field complex, Kenton hills, St James covert and great mount walk) will provide abundant reptile habitat and additional net gain units; and
  - The great mount walk area overlaps with the marsh harrier habitat improvement area.
- The grassland and scrub areas of Aldhurst Farm complex will increase the area of such habitats within the Sizewell Estate and provide additional net gain units.
  - The wetland areas of Aldhurst farm were not included within the calculations.

The fen meadow sites and wetland areas of Aldhurst farm are not on-site and are not included within the net gain calculations as they provide mitigation to areas lost within Sizewell Marshes SSSI. Full details are provided in Section 2.8.

The following sources were used to assess the baseline conditions of the off-site mitigation areas:

- Sizewell C: Marsh Harrier Mitigation Area Feasibility Report (Appendix 14C5);
- Appendix 14A3 of the Main Development Site ES; and
- Reptile receptor site plans.
  - Figure 14E.3, Figure 14E.4, Figure 14E.5, Figure 14E.6 and Figure 14E.7.

2.4 Post-development calculations

2.4.1 On-site

The site is then reassessed for the post-development conditions that will be present after the landscape treatments are implemented. The number of biodiversity units provided by each habitat within the Proposed Development site is calculated in the same way as the baseline habitats, but with the additional multipliers detailed in Table 6. Further detail regarding these multipliers is presented in 2.5.

Table 6: Risk components included in post-developments calculations

Risk factor	Description
Difficulty of creating or restoring a habitat	A standard score based on how difficult the habitat type is to create.

Risk factor	Description
Temporal risk	A standard score based on how long the habitat type takes to establish.

The following sources were used to assess the on-site conditions after the landscape treatments are implemented:

- Outline Landscape and Ecology Management Plan (OLEMP);
- Stakeholder Presentation (EDF Energy, 2019); and
- Sizewell C: Marsh Harrier Mitigation Area Feasibility Report (Appendix 14C5).

The OLEMP details a mosaic landscape typology referred to as dry sandlings grassland. For the purposes of this assessment, these areas were broken down into the constituent components detailed within the OLEMP; dry acid grassland, scattered broadleaved trees and heathland scrub.

The marsh harrier habitat improvement area within the Sizewell Estate lies partially within the red line boundary of the site. The habitat areas for this area were estimated by calculating the total areas of each of the habitat types, then splitting them between the on-site and off-site sections according to the proportion of the mitigation area that lies within the red line boundary.

2.4.2 Off-site

The biodiversity units provided by each habitat in the mitigation areas beyond the red line boundary also include a spatial risk multiplier, which takes the distance of the mitigation area from the Proposed Development Site into account. Further detail regarding these multipliers is presented in 2.5.

The following sources were used to assess the off-site conditions after the landscape treatments are implemented:

- Sizewell C: Marsh Harrier Mitigation Area Feasibility Report (Appendix 14C5); and
- Aldhurst Farm: Habitat Creation Scheme Planning Application (EDF Energy, 2014)
- Appendix 14A3 of the Main Development Site ES.
- Reptile receptor site plans
  - Figure 14E.3, Figure 14E.4, Figure 14E.5, Figure 14E.6 and Figure 14E.7.

2.5 Post-Development delivery risks

2.5.1 Difficulty of creating or restoring a habitat

This ‘risk’ relates to the difficulty of the habitat restoration or recreation. There are four bands from Low difficulty, to Very high difficulty, with the value multiplier shown below in Table 7.

Table 7: Difficulty categories and multiplier

Category	Multiplier
Very high	0.1
High	0.33
Medium	0.67
Low	1

There is also different terminology and different treatment for the mechanism by which habitat are created. For example, different biodiversity change scenarios carry different levels of risk and the multipliers are applied differently to reflect this. Three distinct biodiversity habitat change scenarios are recognised in the biodiversity metric 2.0:

- **Habitat creation**. Where one habitat type is replaced by another or the habitat is destroyed (e.g. by development works) and the same habitat is recreated.
- **Habitat enhancement** of an existing habitat to improve its distinctiveness and / or condition. An example of restoration would be the transformation of a derelict chalk grassland dominated by scrub and coarse grasses to a continuous area of chalk grassland with isolated woody species and an abundance of fine-leaved grasses.
- **Accelerated habitat succession**. This recognises that certain interventions are comparable with ecological succession processes which result in a more distinctive habitat type (for example, grassland changing into scrub and ultimately woodland). The biodiversity value of the original habitat is not abruptly lost, but gradually changes as the new habitat type emerges. Accelerated succession interventions are subject to 'trading down' principles. Accelerated succession is a purposeful sustained intervention and it is envisaged that there are a limited number of situations where this would apply. For example, the planting of an existing grassland with thorny shrubs to facilitate natural tree regeneration to establish a woodland without removing the grassland.

Habitat creation and accelerated succession have the greatest risk, while enhancement carries less risk. It should be noted that accelerated succession is not recognised as an option for hedgerows.

2.5.2 Temporal risk

Many factors influence how long a habitat takes to go from the point of creation or restoration to the desired end point condition. Factors are often site dependent but can include soil nutrient status, soil types and pH, site preparation, climate and the neighbouring habitats and species matrix available to colonise the new or restored habitat. The timeframe is also resource dependent. With sufficient time and money most habitats can be recreated more rapidly but allowing a more gradual process may be more beneficial to wildlife in the longer term.

For the purposes of the Biodiversity Metric 2.0 average time estimates need to be used, accepting that there will be variation from this central estimation. For example, some sites will take longer, where conditions are more nutrient enriched or higher altitude or north facing. Average estimates of the time to target condition were largely expert driven and build upon the considerations that shaped judgements of the difficulty to create or restore a habitat. They were additionally informed by field experience, industry case studies and a body of practical experience. The time to target condition varies between 0 and greater than 32 years, with 0 years having a multiplier of 1. The multiplier decreases by 3.5% per year.

2.5.3 Spatial risk

A separate risk multiplier is applied to post-development sites outside of the MDS. This incentivizes the utilisation of sites nearby to the development, for ecological and social reasons. Sites within the same local planning authority area (LPA) or National Character Area (NCA) are deemed sufficiently close to address ecological and social concerns. Higher multipliers are assigned to more distant sites, as shown in Table 8.

Table 8: Off-site risk categories (LPA – local planning authority area, NCA – National Character Area)

Category	Multiplier
Compensation inside LPA or NCA of impact site.	1
Compensation outside LPA or NCA of impact site but in neighbouring LPA or NCA.	0.75
Compensation outside LPA or NCA of impact site and beyond neighbouring LPA or NCA.	0.5

2.6 Double counting areas

The total area input into the tool can be greater than the total area of the site. This is due to the three-dimensional nature of certain habitats. For example, the area covered by a tree is approximately the area covered by its canopy, but if an area of grassland is underneath, both should be included in the metric. As such the area under the tree is 'counted' twice and can result in the area in the metric being larger than the area of the site.

2.7 Calculation of gains or losses

The net change in biodiversity or hedgerow units on and off-site is calculated within the tool by subtracting the baseline units from the post-development units. The overall net change is the sum of the change in units on-site and off-site. The percentage net gain is then calculated by dividing this overall net change by the number of baseline units on the site, as shown in the equation below:

$$overall\ percentage\ net\ gain = \frac{change\ in\ units\ on\ site + change\ in\ units\ off\ site}{baseline\ units\ on\ site} \times 100$$

A positive value indicates a net gain has been made and a negative value indicates a net loss has been made.

2.8 Changes in broad habitat type calculations

The UK habitat classification system is hierarchical in structure, so specific habitat types can be grouped into broad habitat types. The changes in area and biodiversity units associated with each of these broad habitat types was calculated using the baseline and post-development data.

2.9 Areas excluded from the assessment

Part of the site lies within Sizewell Marshes Site of Special Scientific Interest (SSSI). The metric is not designed to assess habitats within such statutory designated sites. As such habitats within this area were excluded from the baseline and post-development calculations. Bespoke mitigation is required to offset impacts to this SSSI. This mitigation was also not included within the assessment. Further detail is provided in Section 7.

“Irreplaceable” habitats, as defined in Baker et al. (2019) should also be excluded from assessments as the metric cannot adequately assess them. There are no irreplaceable habitats, such as ancient woodland, present on the Proposed Development or within the off-site areas.

The areas of the site within the sea are not included within this assessment

2.10 Assumptions and limitations

The following assumptions, were made to complete the assessment:

- The difficulty factors applied currently significantly reduce credits calculations for habitats such as acid grassland, calcareous grassland and heathland, resulting in a lower overall unit values when attempting to create or enhance to these habitats. In the MDS dry acid grassland is a large component of the target community and has resulted in such a credit reduction. The Beta version of the metric tool may be amended in the future to more evenly weight these units.
- Considering EDFs long term ownership and management of the site and commitment to long term stewardship to be accompanied by regularly reviewed and updated management plans (such as the OLEMP) the risk around the dry acid grassland habitat creation is lower than that currently predicted in the metric (i.e. the units calculated are likely to be precautionary and an underestimate of the long term biodiversity gains).
- Arcadis have used third party data as part of the assessments of the post-development and off-site habitats.
- Assumptions on the condition of the baseline habitats are inferred from existing data. No specific surveys or assessments were undertaken. It is recommended that ground truthing surveys are undertaken to confirm the condition assessments made.
- Should a target be set for percentage net gain of biodiversity units, it is recommended that the condition scores of habitats to be created and enhanced are part of any subsequent management plan so that the conditions are appropriately targeted within the works as achieving net gain will be reliant on achieving the set condition scores.
- The tool released by Natural England for assessing ecological connectivity was released in December 2019, but it was found to be non-functional. As such previous guidance on professional judgement was used to assess available habitat data and satellite mapping to evaluate the connectivity of each habitat parcel.
- Baseline data was largely collected in the format of a Phase 1 Habitat Survey, but a conversion was required to UK habitat classification typology to enter this data into the tool

It is not considered that these assumptions introduce a level of uncertainty into the assessment that would affect the veracity of the assumptions.

3 ON-SITE BASELINE CONDITIONS AND VALUATION (PRE-CONSTRUCTION)

The MDS is approximately 365ha in area. This section describes each of the habitats present on the site, shown in Figure 14E.1. Codes utilised in this section are those from the JNCC Phase 1 Habitat Survey Handbook (JNCC, 2010). Table 9 details the UK habitat classification types used in the Biodiversity Metric 2.0 and how they relate to the Phase 1 Habitat Types. Also presented are the valuations of the condition, ecological connectivity and strategic significance of each habitat type. The baseline currently delivers **1265.25 biodiversity units for habitats**. When data was entered into the tool, some of the habitat parcels were divided up for the purposes of data handling.

Hedgerows are assessed separately to habitats by the metric. Table 10 follows the same format as Table 9, but details hedgerows, rather than areas of habitat. The baseline currently delivers 115.76 hedgerow units from 20.035km of hedgerows.

Table 9: Baseline biodiversity units for areas of habitat within the Sizewell C MDS, detailing the Phase 1 habitat and UK habitat conversions

Phase 1 habitat type	UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Habitat units
Arable	Cropland	Cropland - Non-cereal crops	143.65	Low	N/A - Agricultural	N/A	Area/compensation not in local strategy/ no local strategy	287.31
Amenity grassland	Urban	Urban - Amenity grassland	0.51	Low	Fairly Poor	Low	Area/compensation not in local strategy/ no local strategy	1.53
Hardstanding	Urban	Urban - Developed land; sealed surface	39.33	V. Low	N/A - Other	N/A	Area/compensation not in local strategy/ no local strategy	0.00
Dense scrub	Heathland and shrub	Heathland and shrub - Mixed scrub	0.05	Medium	Fairly Poor	Low	Area/compensation not in local strategy/ no local strategy	0.31
Dry heath/acid grassland mosaic	Heathland and shrub	Heathland and shrub - Lowland Heathland	0.33	High	Good	Medium	Within area formally identified in local strategy	7.51
Dune grassland	Sparsely vegetated land	Sparsely vegetated land - Coastal sand dunes	4.04	High	Good	High	Within area formally identified in local strategy	96.12
Improved grassland	Grassland	Grassland - Modified grassland	24.61	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	49.22
Plantation broadleaved woodland	Woodland and forest	Woodland and forest - Other woodland; broadleaved	4.30	Medium	Fairly Poor	Low	Area/compensation not in local strategy/ no local strategy	25.78
Plantation coniferous woodland	Woodland and forest	Woodland and forest - Other coniferous woodland	39.19	Low	Poor	Medium	Within area formally identified in local strategy	99.16

Phase 1 habitat type	UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Habitat units
Plantation mixed woodland	Woodland and forest	Woodland and forest - Other woodland; mixed	10.10	Medium	Moderate	Medium	Within area formally identified in local strategy	102.16
Plantation mixed woodland	Woodland and forest	Woodland and forest - Other woodland; mixed	1.62	Medium	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	14.29
Poor semi-improved grassland	Grassland	Grassland - Modified grassland	31.30	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	137.70
Semi-improved acid grassland	Grassland	Grassland - Other lowland acid grassland	12.39	Medium	Moderate	Low	Area/compensation not in local strategy/ no local strategy	99.14
Semi-improved acid grassland	Grassland	Grassland - Other neutral grassland	12.70	Medium	Poor	Low	Area/compensation not in local strategy/ no local strategy	50.81
Semi-natural broadleaved woodland	Woodland and forest	Woodland and forest - Lowland mixed deciduous woodland	1.19	High	Fairly Poor	Medium	Within area formally identified in local strategy	13.51
Semi-natural broadleaved woodland	Woodland and forest	Woodland and forest - Lowland mixed deciduous woodland	5.30	High	Moderate	Medium	Location ecologically desirable but not in local strategy	76.97
Vegetated shingle	Sparsely vegetated land	Sparsely vegetated land - Coastal vegetated shingle	2.91	High	Good	Low	Within area formally identified in local strategy	60.24
Species-poor semi-improved grassland	Grassland	Grassland - Modified grassland	2.26	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	9.95
Species-poor semi-improved grassland	Grassland	Grassland - Modified grassland	8.38	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	36.87

Phase 1 habitat type	UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Habitat units
Amenity grassland	Urban	Urban - Amenity grassland	2.40	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	4.81
Scattered scrub	Heathland and shrub	Heathland and shrub - Mixed scrub	0.38	Medium	Poor	Low	Area/compensation not in local strategy/ no local strategy	1.53
Plantation coniferous woodland	Woodland and forest	Woodland and forest - Other coniferous woodland	7.88	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	34.66
Semi-improved acid grassland	Grassland	Grassland - Other lowland acid grassland	4.45	Medium	Moderate	Low	Within area formally identified in local strategy	40.89
No typology – sand/shingle foreshore	Urban	Urban - Vacant/derelict land/ bareground	3.21	Low	Moderate	Low	Within area formally identified in local strategy	14.77
Totals			**362.48**					**1265.24**

Table 10: Baseline biodiversity units for hedgerows within Sizewell C MDS, detailing the Phase 1 habitat and UK habitat conversions

Phase 1 habitat type	Hedgerow type	Length (km)	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Hedgerow units
Native species rich hedge with trees	Native Species Rich Hedgerow with trees	1.611	Medium	Good	High	Location ecologically desirable but not in local strategy	24.45
Species-poor hedge with trees	Native Hedgerow with trees	0.724	Low	Good	High	Location ecologically desirable but not in local strategy	5.50

Phase 1 habitat type	Hedgerow type	Length (km)	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Hedgerow units
Species-poor hedge with trees	Native Hedgerow with trees	0.571	Low	Moderate	High	Location ecologically desirable but not in local strategy	2.89
Species-poor intact hedge	Native Hedgerow	4.831	Low	Moderate	High	Location ecologically desirable but not in local strategy	24.44
Species-poor defunct hedge	Native Hedgerow	1.484	Low	Poor	High	Location ecologically desirable but not in local strategy	3.75
Additional hedges*	Native Hedgerow	10.814	Low	Moderate	High	Location ecologically desirable but not in local strategy	54.72
Total		**20.035**					**115.76**

*Specific assessments of these hedgerows was not carried out, it was assumed they were in a similar condition to the majority of the remaining hedgerows on the site.

4 ON-SITE POST-DEVELOPMENT CONDTIONS AND VALUATION

The proposed Outline Landscape and Ecological Management Plan (OLEMP) compartments were used as the basis for the post-development assessments. It should be noted that areas of hardstanding are not shown in this figure but were included within the calculations.

The sources used to assess the biodiversity value of each of these habitat compartments are presented in Section 2.4.

The on-site post development biodiversity units total 805.60, representing a loss of 459.65 biodiversity units from the baseline 1265.25 units. This loss will be offset by off-site gains in biodiversity, detailed in Section 5. Further details of the biodiversity units delivered is presented in Table 11.

A total of 120.54 hedgerow units would be delivered from 20.699km of hedgerows post-development from a baseline of 120.54 hedgerow units resulting in an increase of 4.78 units. This is a 4.13% increase, although this will change, due to additional off-site hedgerow planting. Further details of the hedgerow units delivered is presented in Table 12.

Table 11: Biodiversity units for Sizewell C MDS from habitats post-development

Habitat type	UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition	Difficulty	Biodiversity units
Hardstanding	Urban	Urban - Developed land; sealed surface	20.25	Retained	V. Low	N/A - Other	N/A	Area/compensation not in local strategy/ no local strategy	N/A	N/A	0.00
Plantation broadleaved woodland	Woodland and forest	Woodland and forest - Other woodland; broadleaved	2.56	Retained	Medium	Fairly Poor	Low	Area/compensation not in local strategy/ no local strategy	N/A	N/A	15.38
Plantation coniferous woodland	Woodland and forest	Woodland and forest - Other coniferous woodland	8.35	Retained	Low	Poor	Medium	Within area formally identified in local strategy	N/A	N/A	21.13
Plantation mixed woodland	Woodland and forest	Woodland and forest - Other woodland; mixed	1.72	Retained	Medium	Moderate	Medium	Within area formally identified in local strategy	N/A	N/A	17.45
Semi-natural broadleaved woodland	Woodland and forest	Woodland and forest - Lowland mixed deciduous woodland	0.55	Retained	High	Fairly Poor	Medium	Within area formally identified in local strategy	N/A	N/A	6.30
Semi-natural broadleaved woodland	Woodland and forest	Woodland and forest - Lowland mixed	1.19	Retained	High	Moderate	Medium	Location ecologically desirable but not in	N/A	N/A	17.34

Habitat type	UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition	Difficulty	Biodiversity units
		deciduous woodland						local strategy			
Amenity grassland	Urban	Urban - Amenity grassland	0.24	Retained	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	N/A	N/A	0.48
Plantation coniferous woodland	Woodland and forest	Woodland and forest - Other coniferous woodland	1.18	Retained	Low	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	N/A	N/A	5.19
Mixed woodland*	Woodland and forest	Lowland mixed deciduous woodland	49.87	Created	High	Good	High	Location ecologically desirable but not in local strategy	32+	High	119.84
Dry sandlings grassland*	Grassland	Lowland dry acid grassland	86.26	Created	V.High	Fairly Good	High	Location ecologically desirable but not in local strategy	25	High	295.54
Dry sandlings grassland*	Woodland and forest	Wood-pasture and parkland	10.41	Created	High	Fairly Good	High	Area/compensation not in local strategy/ no local strategy	32+	Very High	5.74

Habitat type	UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition	Difficulty	Biodiversity units
Semi-improved grassland	Grassland	Modified grassland	36.35	Created	Low	Fairly Poor	Medium	Area/compensation not in local strategy/ no local strategy	5	Low	100.38
Arable	Cropland	Non-cereal crops	44.97	Created	Low	N/A - Agricultural	N/A	Area/compensation not in local strategy/ no local strategy	1	Low	86.79
Amenity planting*	Urban	Amenity grassland	4.40	Created	Low	Poor	Low	Area/compensation not in local strategy/ no local strategy	1	Low	8.49
Dune grassland*	Sparsely vegetated land	Coastal sand dunes	5.08	Created	High	Fairly Good	Medium	Within area formally identified in local strategy	15	Very High	5.65
Shingle beach*	Sparsely vegetated land	Coastal vegetated shingle	3.95	Created	High	Fairly Good	Medium	Within area formally identified in local strategy	15	Very High	4.39
Hardstanding	Urban	Developed land; sealed surface	54.62	Created	V. Low	N/A - Other	N/A	Area/compensation not in local strategy/ no	0	Low	0.00

Habitat type	UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition	Difficulty	Biodiversity units
								local strategy			
Dry sandlings grassland*	Heathland and shrub	Lowland Heathland	10.41	Created	High	Fairly Good	High	Location ecologically desirable but not in local strategy	25	High	26.75
Scattered trees	Urban	Street Tree+	0.13	Created	Low	Moderate	High	Within area formally identified in local strategy	27	Low	0.26
Artificial sports pitches*	Urban	Artificial unvegetated, unsealed surface	2.16	Created	V. Low	N/A - Other	N/A	Area/compensation not in local strategy/ no local strategy	0	Low	0.00
Dry sandlings grassland*	Grassland	Lowland dry acid grassland	10.78	Created	V. High	Fairly Good	High	Location ecologically desirable but not in local strategy	25	High	36.93
Dry sandlings grassland*	Heathland and shrub	Lowland Heathland	1.20	Created	High	Fairly Good	High	Location ecologically desirable but not in local strategy	25	High	3.08
Mixed woodland	Woodland and forest	Lowland mixed	1.37	Created	High	Fairly Good	High	Location ecologically	32+	High	2.74

Habitat type	UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition	Difficulty	Biodiversity units
		deciduous woodland						desirable but not in local strategy			
Ditch	Lakes	Ditches	0.20	Created	Medium	Fairly Good	High	Location ecologically desirable but not in local strategy	7	Low	2.01
Wet reedbeds*	Wetland	Reedbeds	1.20	Created	High	Fairly good	Medium	Location ecologically desirable but not in local strategy	12	Medium	9.52
Sand/shingle foreshore*	Urban	Vacant/derelict land/ bareground	3.21	Created	Low	Moderate	Low	Within area formally identified in local strategy	1	Low	14.25
Totals			**362.48**								**805.60**

*Habitats from the post-development plans (from the OLEMP) that are differ from Phase 1 typologies.

+"Urban – street trees" are not included in the area calculations by the metric, only the habitat underneath them. As such, this 0.13ha are not included in the area total.

Table 12: Biodiversity units for Sizewell C MDS from hedgerows post-development

Hedgerow type	Length (km)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition	Difficulty	Habitat units
Native Species Rich Hedgerow with trees	1.237	Retained	Medium	Good	High	Location ecologically desirable but not in local strategy	N/A	N/A	18.78
Native Hedgerow with trees	0.607	Retained	Low	Good	High	Location ecologically desirable but not in local strategy	N/A	N/A	4.61
Native Hedgerow with trees	0.457	Retained	Low	Moderate	High	Location ecologically desirable but not in local strategy	N/A	N/A	2.31
Native Hedgerow	1.966	Retained	Low	Moderate	High	Location ecologically desirable but not in local strategy	N/A	N/A	9.95
Native Hedgerow	0.706	Retained	Low	Poor	High	Location ecologically desirable but not in local strategy	N/A	N/A	1.79
Native Hedgerow	8.026	Retained	Low	Moderate	High	Location ecologically desirable but not in local strategy	N/A	N/A	40.61
Native Species Rich Hedgerow with trees	6.982	Created	Medium	Good	High	Location ecologically desirable but not in local strategy	20	Medium	34.82
Native Species Rich Hedgerow	0.718	Created	Medium	Good	High	Location ecologically	10	Medium	7.67

Hedgerow type	Length (km)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition	Difficulty	Habitat units
- Associated with bank or ditch						desirable but not in local strategy			
Total	**20.699**								**120.54**

5 OFF-SITE BASELINE AND POST- DEVELOPMENT CONDITIONS AND VALUATION

5.1 Introduction

Off-site[1] mitigation was required for to offset the following factors:

- Net loss of biodiversity on-site;
- Reptile receptor areas; and
- Loss of marsh harrier foraging habitat.

As a result, the off-site interventions shown in Table 13 are proposed to be changed to mitigate the impacts listed above. All of the sites are located immediately adjacent to the site.

Table 13: Off-site mitigation areas

Site	Data	Purpose	Change in management
Aldhurst Farm – grassland area	ELMP (EDF Energy, 2014)	Creation of additional grassland and heathland habitat.	Dry sandlings grassland habitats created from farmland area.
Aldhurst farm – wetland area*	ELMP (EDF Energy, 2014)	Creation of additional wetland habitat to offset losses within the SSSI habitat.	Wetland habitats created from farmland area.
Studio fields complex	Figure 14E.4 and Figure 14E.5	Creation of reptile habitat and deliver biodiversity units.	Conversion from arable to grassland with enhancements for reptiles (bunds, refugia, hibernacula) and biodiversity (bare ground mosaics).
St James covert	Figure 14E.6	Creation of reptile habitat and deliver biodiversity units.	Reversion of plantation coniferous woodland to heathland habitat.
Great mount walk	Figure 14E.7	Creation of reptile habitat and deliver biodiversity units. This area lies within the marsh harrier habitat improvement area, detailed below.	Conversion from arable to grassland with enhancements for reptiles (bunds, refugia, hibernacula) and biodiversity (bare ground mosaics).
Marsh harrier habitat improvement area	Appendix 14C5	Provide additional foraging habitat for marsh harrier to compensate for that which is lost during the construction phases of the development.	Largely conversion of arable and semi-improved grassland to a mosaic of grasslands and linear features of value to marsh harrier.
Kenton woods	Figure 14E.3	Creation of reptile habitat and deliver biodiversity units.	Reversion of plantation coniferous woodland to heathland habitat.
Fen meadow*	Appendix 14C4	Provide additional fen meadow habitat to mitigate	Altering water management regime to create fen meadow habitat.

[1] Off site in the BNG report means outwith the application boundary so far as it relates to the EDF Energy estate

Site	Data	Purpose	Change in management
		that which will be lost within Sizewell Marshes SSSI.	

*Not included within net gain calculations, see Section 2.8

The pre and post-development plans for these sites are detailed in Figures presented at the end of the report. Additional pre and post development data were obtained from discussion with Graham Hinton of Cedar Land Management Limited.

The baseline and post-development conditions are presented in Sections 5.2 and 5.3, respectively.

5.2 Baseline habitats

The combined area covered by the off-site mitigation area is approximately 135.50ha. The baseline currently delivers 320.77 biodiversity units for habitats.

Hedgerows were also present in the off-site mitigation areas. There are assessed separately to habitats by the metric. Table 15 details the that the baseline currently delivers 21.19 hedgerow units from 4.54km of hedgerows.

Table 14 and Table 15 provide further details, separated into the different mitigation areas.

Table 14: Baseline biodiversity units for areas of habitat within the off-site mitigation areas for Sizewell C MDS, detailing the Phase 1 habitat and UK habitat conversions

Phase 1 habitat type	UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Habitat units
Aldhurst Farm								
Arable	Cropland	Non-cereal crops	49.10	Low	N/A - Agricultural	N/A	Area/compensation not in local strategy/ no local strategy	98.20
Plantation mixed woodland	Woodland and forest	Other woodland; mixed	0.78	Medium	Moderate	Low	Area/compensation not in local strategy/ no local strategy	6.27
Semi-improved neutral grassland	Grassland	Modified grassland	1.01	Low	Fairly Poor	Low	Area/compensation not in local strategy/ no local strategy	3.04
Semi-natural broadleaved woodland	Woodland and forest	Lowland mixed deciduous woodland	0.04	High	Moderate	Low	Location ecologically desirable but not in local strategy	0.46
Standing water	Lakes	Reservoirs	0.07	Medium	Fairly Poor	High	Area/compensation not in local strategy/ no local strategy	0.48
Broadleaved scattered trees	Woodland and forest	Wood-pasture and parkland	0.388	High	Fairly Good	Medium	Location ecologically desirable but not in local strategy	7.04
Scattered scrub	Heathland and shrub	Mixed scrub	0.01	Medium	Moderate	Low	Area/compensation not in local strategy/ no local strategy	0.08
Running water	Lakes	Ditches	0.156	Medium	Fairly Good	High	Location ecologically desirable but not in local strategy	1.97
Studio fields complex								

Phase 1 habitat type	UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Habitat units
Arable	Cropland	Non-cereal crops	43.58	Low	N/A - Agricultural	N/A	Area/compensation not in local strategy/ no local strategy	87.16
Marsh harrier habitat improvement area								
Species-poor semi-improved grassland	Grassland	Modified grassland	20.96	Low	Poor	Medium	Area/compensation not in local strategy/ no local strategy	46.12
Semi-improved acid grassland	Grassland	Modified grassland	1.20	Low	Fairly Good	Medium	Area/compensation not in local strategy/ no local strategy	6.58
Arable	Cropland	Non-cereal crops	8.73	Low	N/A - Agricultural	N/A	Area/compensation not in local strategy/ no local strategy	17.46
Semi-improved neutral grassland	Grassland	Modified grassland	0.72	Low	Fairly Good	Low	Area/compensation not in local strategy/ no local strategy	4.02
Hardstanding	Urban	Developed land; sealed surface	0.21	V. Low	N/A - Other	N/A	Area/compensation not in local strategy/ no local strategy	0.00
Species-poor semi-improved grassland	Grassland	Modified grassland	2.33	Low	Fairly Poor	Medium	Area/compensation not in local strategy/ no local strategy	9.12
Semi-improved neutral grassland	Grassland	Modified grassland	0.08	Low	Fairly Good	Low	Area/compensation not in local strategy/ no local strategy	0.40
Semi-improved acid grassland	Grassland	Modified grassland	0.13	Low	Fairly Good	Medium	Area/compensation not in local strategy/ no local strategy	0.73
Kenton woods								

Phase 1 habitat type	UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Habitat units
Plantation coniferous woodland	Woodland and forest	Other coniferous woodland	4.00	Low	Fairly poor	High	Within area formally identified in local strategy	15.87
St James covert								
Mixed plantation woodland	Woodland and forest	Other woodland; mixed	2.00	Medium	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	17.60
Total			**135.50**					**320.77**

*not phase 1 habitat types, but typology given in source material.

Table 15: Baseline biodiversity units for hedgerows within the off-site mitigation areas of the Sizewell C MDS, detailing the Phase 1 habitat and UK habitat conversions

Phase 1 habitat type	Hedgerow type	Length (km)	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Hedgerow units
Aldhurst Farm							
Native species-poor hedge	Native Hedgerow	0.956	Low	Moderate	Low	Location ecologically desirable but not in local strategy	4.21
Studio field complex							
Intact species-poor hedge	Native Hedgerow	2.031	Low	Moderate	Medium	Location ecologically desirable but not in local strategy	9.83
Marsh harrier habitat improvement area							
Intact species-poor hedge	Native Hedgerow	1.556	Low	Moderate	High	Area/compensation not in local	7.16

Phase 1 habitat type	Hedgerow type	Length (km)	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Hedgerow units
						strategy/ no local strategy	
Total		**4.54**					**21.19**

5.3 Post-development habitats

The off-site post-development habitats were assessed in the same manner as the on-site post-development habitats, but with a spatial risk multiplier included. This takes the distance of the mitigation area from the Proposed Development Site into account.

The off-site areas post-development deliver 909.45 biodiversity units, representing a gain of 588.68 units from the baseline 320.77 units. This gain will be used to offset the loss of biodiversity units on-site.

A total of 34.25 hedgerow units would be delivered from 6.39km of hedgerows post-development from a baseline of 21.19 hedgerow units resulting in an increase of 13.06 units, or 62%. This increase in hedgerows will be used to supplement the increases on the site.

Table 21 and Table 22 detail the off-site biodiversity and hedgerow units delivered, respectively.

6 CHANGES IN BROAD HABITAT TYPES

The development will result in changes to the amount and quality of the habitats on the site. The UK habitat classification system used within the metric contains a tiered system, grouping similar habitats into “Broad habitats” and more specific “Habitat types”. For example, “Grassland” is a “Broad habitat”, that can contain “Other lowland acid grassland” and “Other neutral grassland”, among others. The area and biodiversity unit changes in these broad habitat types are shown in Table 16 and

Table 17.

It can be seen in Table 16 that all of the broad habitat types are predicted to increase in area, with the exception of cropland. Cropland was considered to be the least valuable of the habitats on the so, it was the most acceptable to undergo reductions in area. The largest predicted increase in area is in grassland, with approximately 128 additional hectares planned. The remaining habitats increase in smaller quantities.

Grassland and Heathland and shrub are predicted to show increases of approximately 733 and 119 units, respectively. Despite the predicted increase in area of woodland and coastal habitats (sparsely vegetated land), these habitat types are predicted to show decreases in biodiversity unit value. This is due to the penalty paid in the metric accrued when creating ‘difficult’ habitats, such as woodland, coastal sand dunes and vegetated shingle. Other habitats are predicted to undergo smaller changes.

Table 16: The changes in the total areas of the broad habitat types on and off-site

Broad habitat type	On-site baseline	On-site post-development	Off-site baseline	Off-site post-development	Change in area
Cropland	143.65	44.97	101.41	0.00	-200.10
Grassland	96.09	133.38	26.44	117.36	128.22
Heathland and shrub	0.76	11.61	0.01	12.61	23.44
Lakes	0.00	0.20	0.23	0.33	0.31
Sparsely vegetated land	6.95	9.03	0.00	0.00	2.08
Urban	45.46	85.01	0.21	0.21	39.55
Wetland	0.00	1.20	0.00	0.00	1.20
Woodland and forest	69.58	77.21	7.21	5.00	5.43

Table 17: The changes in the total biodiversity unit values of the broad habitat types on and off-site

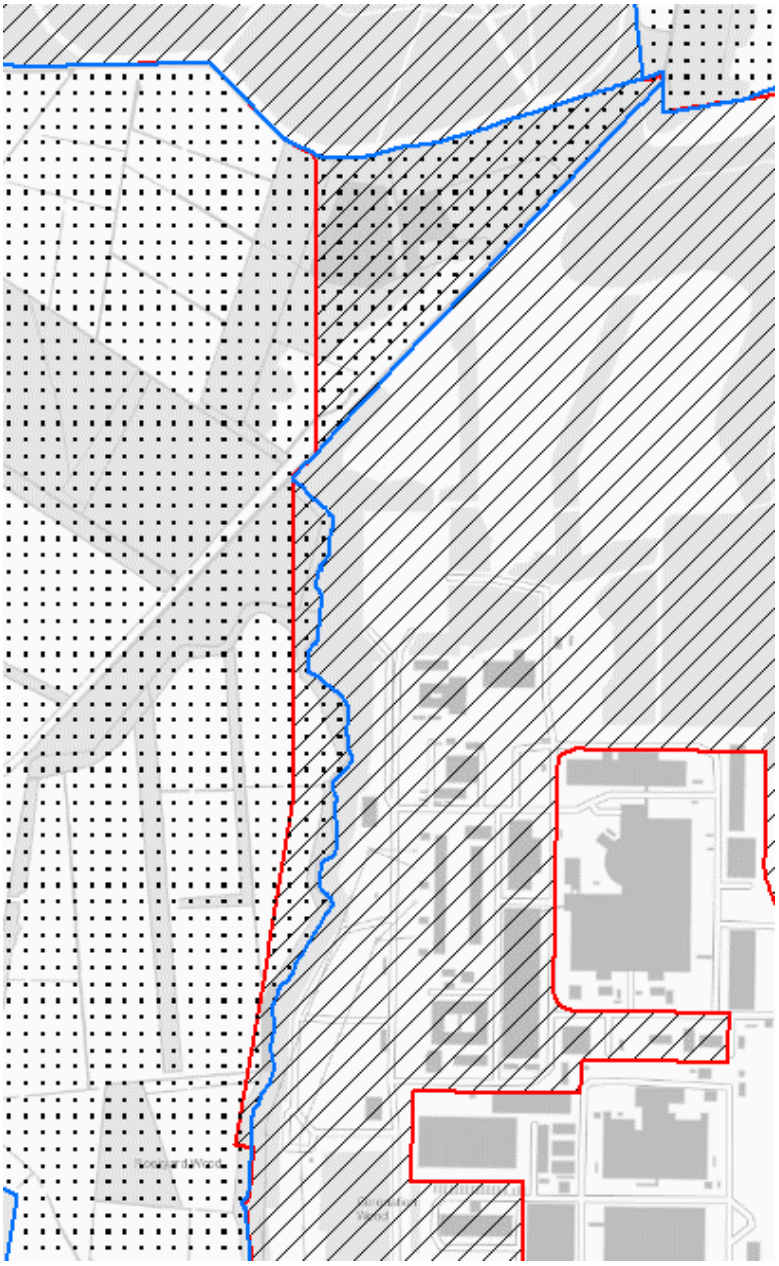
Broad habitat type	On-site baseline	On-site post-development	Off-site baseline	Off-site post-development	Change in biodiversity units
Cropland	287.31	86.79	202.82	0.00	-403.34
Grassland	424.58	432.84	68.17	792.44	732.53
Heathland and shrub	9.35	29.83	0.08	98.32	118.72
Lakes	0.00	2.01	2.46	3.60	3.15

Broad habitat type	On-site baseline	On-site post-development	Off-site baseline	Off-site post-development	Change in biodiversity units
Sparsely vegetated land	156.36	10.04	0.00	0.00	-146.32
Urban	21.11	23.47	0.00	0.00	2.37
Wetland	0.00	9.52	0.00	0.00	9.52
Woodland and forest	366.54	211.10	47.25	15.09	-187.59

7 AREAS EXCLUDED FROM ASSESSMENT

A small portion of Sizewell Marshes SSSI overlaps with the western extent of the main power plant site. This can be seen in Plate 14E. 2. The metric is not designed to assess the impacts to statutory designated sites, due to their greater value when compared to areas not within designated sites. Therefore, areas within the SSSI and any areas providing mitigation for the loss of SSSI habitat are excluded from net gain calculations.

Plate 14E. 2: Areas of Sizewell Marshes SSSI (dots and blue outline) within the Proposed Development (hashes within red line)



It can be seen in Plate 14E. 2 that there are two areas of overlap between the site and Sizewell Marshes: (1) a triangular area in the north and (2) a wavy edged area in the south. The triangular area is largely composed of wet woodland, reedbed and ditches. The largest of these being reedbed (4.11ha) and wet woodland (2.37ha). Post-development this area will largely be covered by hardstanding, with small amounts of wet grassland and woodland present.

The southern area is largely composed of fen meadow (1.60ha) and wet woodland (1.39ha). Post-development this area will largely be covered by hardstanding, with a thin strip of woodland and wet grassland present in the west.

These habitats were not included in the baseline assessment or the post-development calculations. The habitats within the fen meadow compensation areas were also not included within the calculations.

National Vegetation Classification surveys determined the following precise habitat types were present (Appendix 14C4 and Figure 14E.2) within the overlapping area:

- M22 *Juncus subnodulosus* – *Cirsium palustrefen* meadow;
- S26 *Phragmites australis* – *Urtica dioica* tall-herb fen;
- S4 *Phragmites australis* reedbed; and
- A small amount of W5 *Alnus glutinosa* – *Carex paniculate* wet woodland.

Compensatory fen meadow habitat will be created in two off-site areas, one near Benhall and the other near Halesworth. It was assessed that 0.5ha and 1.2ha of fen meadow could be created at Benhall and Halesworth, respectively. The proposed areas of fen meadow habitat are detailed in Appendix 14C4. It is considered that this creation of 1.7ha will be adequate compensation, given it is predicted that approximately 0.7ha of fen meadow habitat will be lost permanently (Appendix 14C4).

The creation of 6.2ha of wetland habitat in Aldhurst farm provides mitigation for the 3.62ha of wetland habitat permanently lost within the SSSI. It is considered that the losses of wetland habitat within the SSSI are sufficiently addressed through the creation of such habitats at Aldhurst farm (Appendix 14C4). As such the wet reedbed habitat created in the north of the site is considered to be created for the purposes of achieving biodiversity net gain. This area was therefore included within the biodiversity net gain calculations.

It is possible that wet woodland will develop naturally on Aldhurst Farm, in the absence of active reed-bed management (Appendix 14C4) and this habitat may also be established in Benhall and Halesworth, but not at the expense of fen meadow. Approximately 0.7ha of wet woodland will be created in the north of the site.

The losses of wetland habitat within the SSSI are considered to be adequately addressed through habitat creation within on and off-site areas (Appendix 14C4).

8 SUMMARY

The summary results of the assessment, using the biodiversity metric 2.0 calculator are presented in Table 18 below.

Table 18: Summary of results

Stage	Unit typology	Unit score
On-site baseline	Habitat units	1265.25
	Hedgerow units	115.76
On-site post-intervention	Habitat units	805.60
	Hedgerow units	120.54
Off-site baseline	Habitat units	320.77
	Hedgerow units	21.19
Off-site post-intervention	Habitat units	909.45
	Hedgerow units	34.25
Total net unit change	Habitat units	129.03
	Hedgerow units	17.84
Total net % change	Habitat units	10.20
	Hedgerow units	15.41
Note no rivers were present on-site or off-site, so river units were not included in this table.		

Under current plans, a **10.20%** increase in biodiversity units and **15.41%** increase in hedgerow units is predicted.

The changes in the area and biodiversity units of each broad habitat type are shown in Table 19. Most broad habitat types are predicted to increase in quantity and quality. However, cropland is predicted to decrease in area and biodiversity units, while sparsely vegetated land and woodland and forest are also predicted to decrease in terms of biodiversity units, but not area.

Table 19: Changes in area and biodiversity units of broad habitat types

Broad habitat type	Change in area	Change in biodiversity units
Cropland	-200.10	-403.34
Grassland	128.22	732.53
Heathland and shrub	23.44	118.72
Lakes	0.31	3.15
Sparsely vegetated land	2.08	-146.32
Urban	39.55	2.37
Wetland	1.20	9.52

Broad habitat type	Change in area	Change in biodiversity units
Woodland and forest	5.43	-187.59

It is not appropriate to use the metric to assess statutory designated sites. As such the areas of the site which overlap with Sizewell Marshes SSSI and the associated mitigation were not included within the calculations and are presented separately in Section 7.

9 DEVELOPMENT OVERVIEW RESULTS

The results of this assessment can be considered within the context of the portion of the development that has been assessed using the biodiversity metric (i.e. MDS and three of the AD sites). These AD sites were chosen for assessment via the metric as they were considered to have potential for permanent habitat loss. Table 20 shows the changes in biodiversity units for each of these assessed sections. An increase of 289.56 units is predicted across these MDS and ADs, corresponding to an approximate 18% net gain. This net gain demonstrates that the portion of the development that has been assessed using the biodiversity metric, is predicted to have a positive impact on the biodiversity value of the Sizewell area.

Table 20: Overview of entire development results

Site	Baseline units	Change in units	Percentage change
Main development site	1265.25	129.03	10.20%
Two village bypass	133.29	16.73	12.55%
Sizewell Link Road	227.28	143.98	63.35%
Yoxford roundabout	5.55	-0.18	-3.24%
Net	**1631.37**	**289.56**	**17.75%**

10 CONCLUSION

Under current proposals it is estimated that there is a potential increase in biodiversity unit values for habitats of **10.20%,** and an increase in hedgerow unit values of **15.41%.** The increase in hedgerow units is largely due to the quantity of on-site and off-site hedgerows increasing, from a total of 24.578km to 27.087km. The increase in habitat units is due to the suite of enhancement and creation presented within this report. The items which have created the greatest uplift in units are as follows:

- On-site
  - Creation of a large area of 'Dry Sandling Grassland', a collection of acid grassland, heathland scrub and scattered trees, created on mostly arable land.
  - Enhancement of an area of species poor semi-improved grassland to tall tussocky grassland, as part of the Marsh Harrier habitat improvement area within the Sizewell Estate.
  - Creation of mixed woodland in the centre of the site, within areas of plantation coniferous woodland.
  - Creation of semi-improved grassland on arable and improved pasture land, in the west of the site.
- Off-site
  - Creation of a high quality reptile habitat within studio fields complex, largely composed of acid grassland, on the site of arable land.
  - Creation of areas of heathland mosaic within the Aldhurst Farm area, largely on the site of arable land.
  - Enhancement of an area of species poor semi-improved grassland to tall tussocky grassland, as part of the Marsh Harrier habitat improvement area within the Sizewell Estate.

There are a series of off-site associated developments (ADs), three of which were also assessed via the biodiversity metric (Sizewell Link Road, Two Village Bypass, Yoxford Roundabout) and these are presented in separate reports. These sites were chosen for assessment via the metric as they were considered to have potential for permanent habitat loss. When considered as a whole there is predicted to be an approximate 18% increase in biodiversity net gain across the MDS and three ADs.

The achievement of these units scores is reliant upon achieving the target condition for the created habitats, which will require creation and management plans.

It is recommended that post planning, additional surveys are undertaken at an appropriate point in the planning process to update this report and to inform the necessary detailed design, habitat creation and management plans.

The proportions of the broad habitat types present on the site will change under current plans. The largest decrease in area will be in arable, a 200ha decrease, while the largest increase will come in grassland, a 128ha increase. Moderate increases will occur in the remaining other broad habitat types.

A small portion of Sizewell Marshes SSSI overlaps with the western extent of the main power plant site. Within this portion of the site, 0.7ha of fen meadow and 2.6ha of wet woodland is lost. The metric cannot assess such an impact on statutory designated sites, so specific mitigation is required. As such two off-site areas will be used to provide mitigatory fen meadow habitat, along with an area of wet woodland in the north of the site. The portion of the site overlapping with Sizewell Marshes was excluded from the baseline and post-development calculations, along with the SSSI mitigation sites. The creation of additional fen meadow habitat off-site and wet woodland on-site are considered to adequately mitigate for the loss of these habitat within Sizewell marshes SSSI.

11 REFERENCES

Baker, J., Hoskin, R. and Butterworth, T. (2019) Biodiversity net gain. Good Practice Principles for Development. A practical guide.

Crosher, I., Gold, S., Heaver, M., Heydon, M., Moore, L., Panks, S., Scott, S., Stone, D. and White, W. (2019a) The Biodiversity Metric 2.0: Auditing and accounting for biodiversity value. User guide (Beta version, July 2019). Natural England.

Crosher, I., Gold, S., Heaver, M., Heydon, M., Moore, L., Panks, S., Scott, S., Stone, D. and White, W. (2019b) The Biodiversity Metric 2.0: Auditing and accounting for biodiversity value: technical supplement (Beta version, July 2019). Natural England.

Defra (2019) Net Gain – Summary of Responses and Government Response.

EDF Energy (2014) Aldhurst Farm Habitat Creation Scheme Ecology And Landscape Management Plan.

EDF Energy (2019) Sizewell C Nuclear Power Station October 2019 – Stakeholder Presentation

JNCC (2010). Handbook for Phase 1 habitat survey. JNCC.

UK Habitat Classification Working Group (2018) *UK Habitat Classification – Habitat Definitions V1.0 at*: http://ecountability.co.uk/ukhabworkinggroup-ukhab/.

FIGURES

Figure 14E.1: Phase 1 Habitat Map of the Sizewell Estate

Figure 14E.2: National Vegetation Classification map

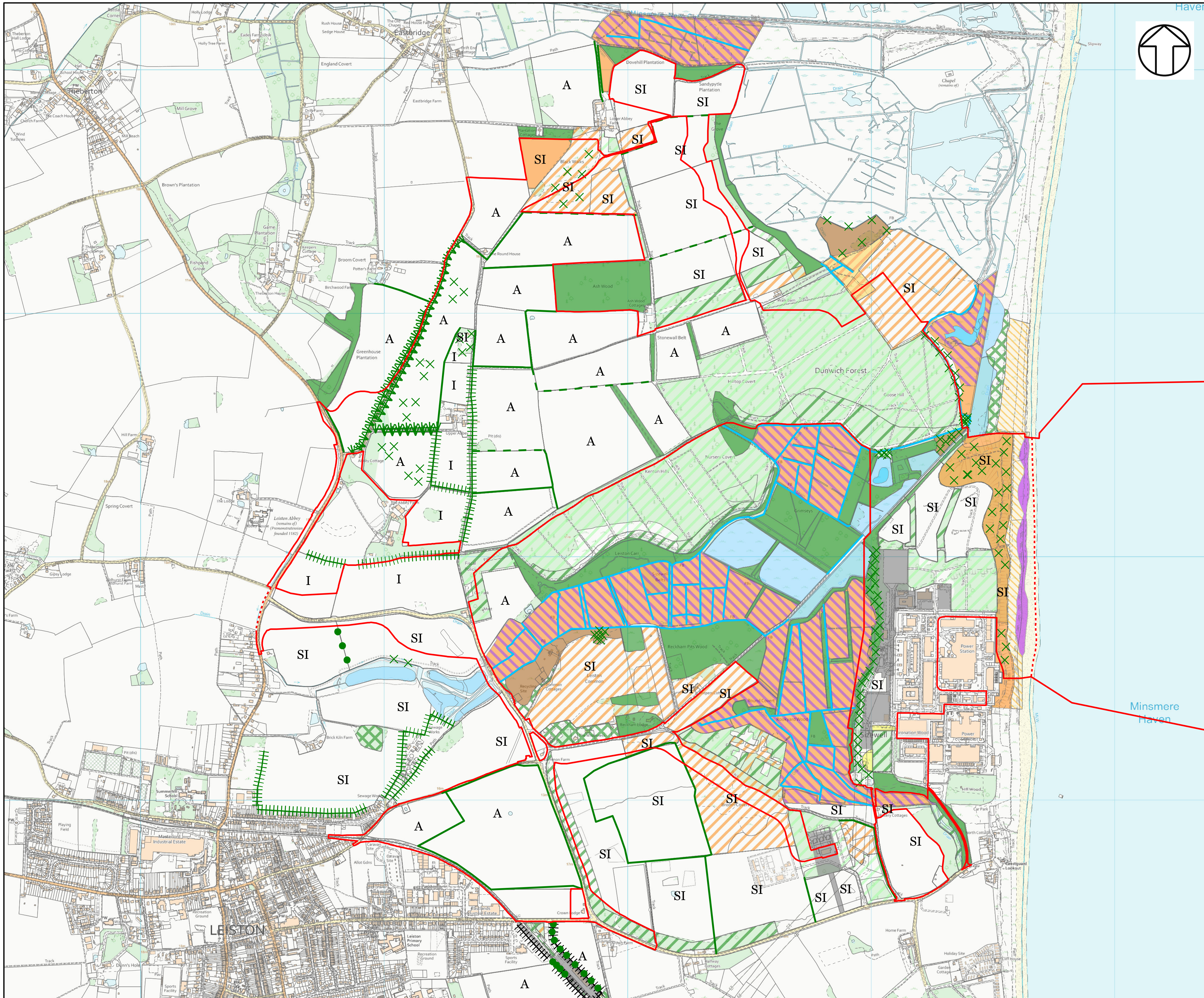
Figure 14E.3: Kenton woods – post development plan

Figure 14E.4: Studio fields area – post development plan part 1

Figure 14E.5: Studio fields area – post development plan part 2

Figure 14E.6: St. James covert – post development plan

Figure 14E.7: Great Mount walk – post development plan



NOTES

KEY

- MAIN DEVELOPMENT SITE BOUNDARY
- DEMARCATION LINE
- SCATTERED SCRUB
- SCATTERED BROADLEAVED TREES
- DEFUNCT HEDGE - SPECIES-POOR
- FENCE
- HEDGE WITH TREES - SPECIES-POOR
- INTACT HEDGE - SPECIES-POOR
- HEDGE WITH TREES - NATIVE SPECIES-RICH
- RUNNING WATER
- HARDSTANDING
- BROADLEAVED WOODLAND - SEMI-NATURAL
- BROADLEAVED WOODLAND - PLANTATION
- CONIFEROUS WOODLAND - PLANTATION
- MIXED WOODLAND - PLANTATION
- SCRUB - DENSE/CONTINUOUS
- SI ACID GRASSLAND - SEMI-IMPROVED
- SI SEMI-IMPROVED NEUTRAL GRASSLAND
- I IMPROVED GRASSLAND
- MARSH/MARSHY GRASSLAND
- SI POOR SEMI-IMPROVED GRASSLAND
- BRACKEN - CONTINUOUS
- OTHER TALL HERB AND FERN
- DRY HEATH/ACID GRASSLAND
- SWAMP
- STANDING WATER
- DUNE GRASSLAND
- QUARRY
- A CULTIVATED/DISTURBED LAND - ARABLE
- A CULTIVATED/DISTURBED LAND - AMENITY GRASSLAND
- VEGETATED SHINGLE

NOT PROTECTIVELY MARKED

DOCUMENT:
SIZEWELL C
ENVIRONMENTAL STATEMENT
VOLUME 2
APPENDIX 14E
BIODIVERSITY NET GAIN

DRAWING TITLE:
PHASE 1 HABITAT MAP OF THE SIZEWELL ESTATE

DRAWING NO:
FIGURE 14E.1

DATE:	DRAWN:	SCALE :
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SCALE BAR
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NOTES

KEY

SIZEWELL C MAIN DEVELOPMENT SITE BOUNDARY

DEMARCATION LINE

NATIONAL VEGETATION COMMUNITIES

- M22 - JUNCUS SUBNODULOSUS-CIRSIUM PALUSTRE FEN-MEADOW
- M22B - JUNCUS SUBNODULOSUS-CIRSIUM PALUSTRE FEN-MEADOW, TYPICAL SUB-COMMUNITY
- M22D - JUNCUS SUBNODULOSUS-CIRSIUM PALUSTRE FEN-MEADOW, IRIS PSEUDACORUS SUB-COMMUNITY
- MG10A - HOLCUS LANATUS-JUNCUS EFFUSUS RUSH-PASTURE, TYPICAL SUB-COMMUNITY
- OV25 - URTICA DIOICA-CIRSIUM ARVENSE
- S26 - PHRAGMITES AUSTRALIS-URTICA DIOICA TALL-HERB FEN
- S4 - PHRAGMITES AUSTRALIS SWAMP AND REED-
- S4A - PHRAGMITES AUSTRALIS-PEUCEDANUM PALUSTRIS TALL-HERB FEN, CAREX PANICULATA SUB-COMMUNITY
- SD12 - CAREX ARENARIA-FESTUCA OVINA-AGROSTIS CAPILLARIS DUNE GRASSLAND
- SD1A - RUMEX CRISPUS-GLAUCIUM FLAVUM SHINGLE COMMUNITY, TYPICAL SUB-COMMUNITY
- SD7 - AMMOPHILA ARENARIA-FESTUCA RUBRA SEMI-FIXED DUNE COMMUNITY
- SD8 - FESTUCA RUBRA-GALIUM VERUM FIXED DUNE GRASSLAND
- SCRUB
- U1D - FESTUCA OVINA-AGROSTIS CAPILLARIS-RUMEX ACETOSELLA GRASSLAND, ANTHOXANTHUM ODORATUM-LOTUS CORNICULATUS SUB-COMMUNITY
- W10D - QUERCUS ROBUR-PTERIDIUM AQUILINUM-RUBUS FRUTICOSUS WOODLAND, HOLCUS LANATUS SUB-COMMUNITY
- W2A - SALIX CINEREA-BETULA PUBESCENS-PHRAGMITES AUSTRALIS WOODLAND
- W5 - ALNUS GLUTINOSA-CAREX PANICULATA
- W5A - ALNUS GLUTINOSA-CAREX PANICULATA WOODLAND, PHRAGMITES AUSTRALIS SUB-COMMUNITY
- W6A - ALNUS GLUTINOSA-URTICA DIOICA WOODLAND, TYPICAL SUB-COMMUNITY

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DOCUMENT:
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ENVIRONMENTAL STATEMENT
VOLUME 2
APPENDIX 14E
BIODIVERSITY NET GAIN

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NATIONAL VEGETATION CLASSIFICATION MAP

DRAWING NO:
FIGURE 14E.2

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Sizewell Belts

NOTES

KEY

- SIZEWELL C MAIN DEVELOPMENT SITE BOUNDARY
- DEMARCATION LINE
- TREE ROOT PLATE
- HAY PILE
- LOG PILE SMALL
- LARGE HIBERNACULA/BRUSH PILE
- LOG / BRUSH PILE LARGE
- RECEPTOR SITE

NOT PROTECTIVELY MARKED

DOCUMENT:
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ENVIRONMENTAL STATEMENT
VOLUME 2
APPENDIX 14E
BIODIVERSITY NET GAIN

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KENTON WOODS – POST DEVELOPMENT PLAN

DRAWING NO:
FIGURE 14E.3

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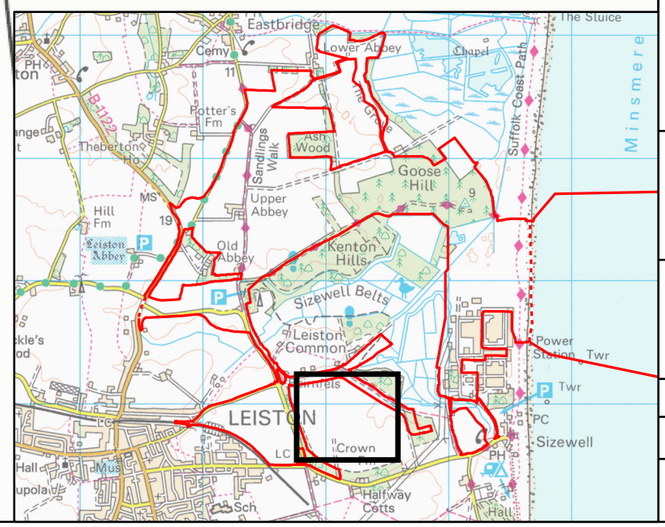
Track

Broom Covert

17m

Crown Lodge

Track



NOTES

KEY

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- DEMARCATION LINE
- LOG PILE
- LOG AND BRUSH PILE SMALL
- TRACK
- NEW BUND
- BRASH PILE LARGE
- HIBERNACULA
- HEATHER AREA ROLLED
- HEATHER AREA UNROLLED
- SCRUB PLANTING
- WET DEPRESSION
- RECEPTOR SITE

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VOLUME 2
APPENDIX 14E
BIODIVERSITY NET GAIN

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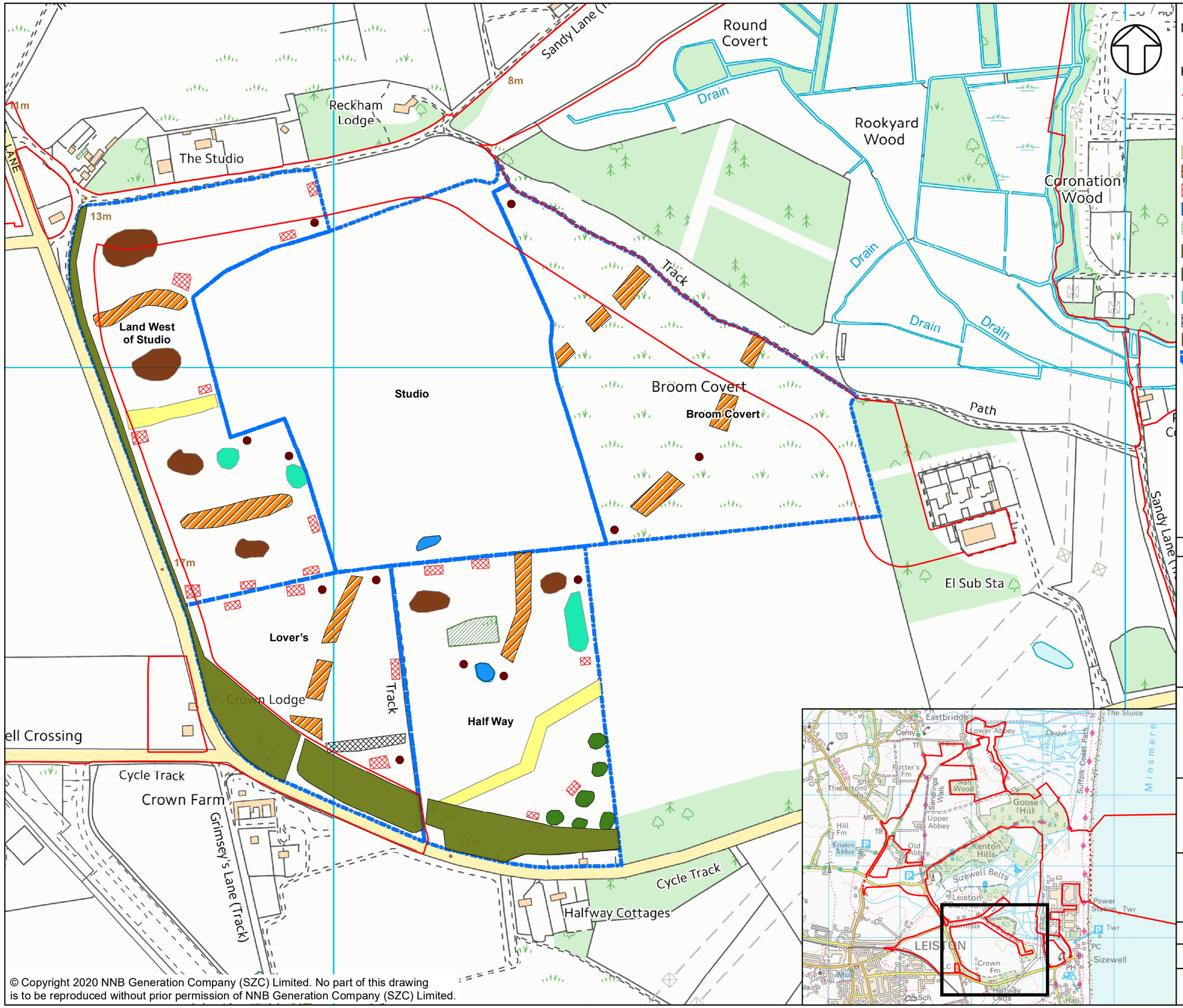

NOTES

KEY

- SIZEWELL C MAIN DEVELOPMENT SITE BOUNDARY
- DEMARCATION LINE
- HAY PILE
- NEW BUND
- LOG/BRUSH PILE
- HIBERNACULA
- EXISTING PONDS
- EXISTING SCRUB
- EXISTING SCREENING LANDSCAPE PLANTING
- SCRUB PLANTING
- WET AREAS TO BE SCRAPED AND EXTENDED
- EXISTING BUND
- HEATHER AREA ROLLED
- RECEPTOR SITE

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BIODIVERSITY NET GAIN

DRAWING TITLE:
STUDIO FIELDS AREA – POST DEVELOPMENT PLAN PART 2

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FIGURE 14E.5

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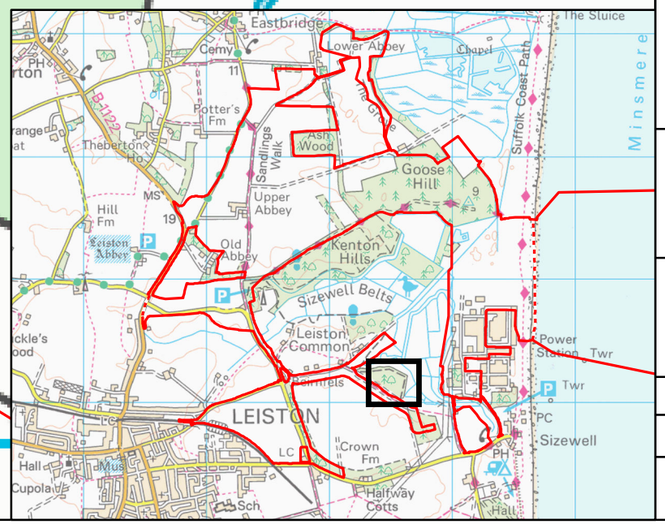
Rookyard Wood

Track

Drain



NOTES

KEY

- SIZEWELL C MAIN DEVELOPMENT SITE BOUNDARY
- DEMARCATION LINE
- HAY PILE
- LOG PILE
- SCRUB PLANTING
- LARGE HIBERNACULA/BRUSH PILE
- RECEPTOR SITE

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VOLUME 2
APPENDIX 14E
BIODIVERSITY NET GAIN

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ST. JAMES COVERT – POST DEVELOPMENT PLAN

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FIGURE 14E.6

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Black Walks

12m

Track

Drain

Drain

Drain

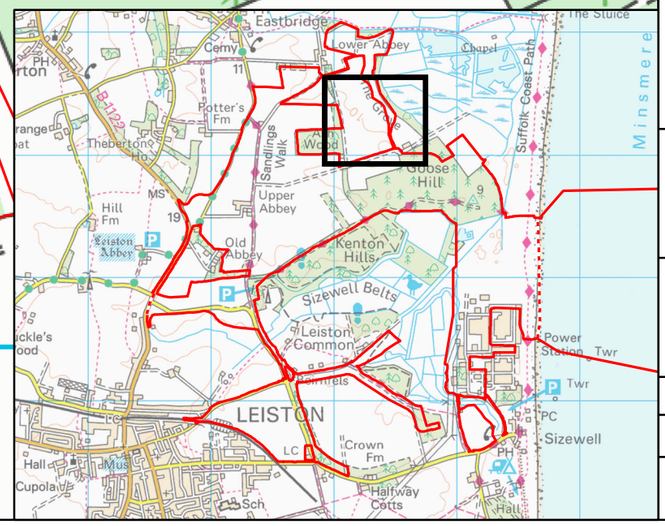
Drain

The Grove

Track

Track

Ash Wood Cottages



NOTES

KEY

- SIZEWELL C MAIN DEVELOPMENT SITE BOUNDARY
- DEMARCATION LINE
- HAY PILE
- LOG/BRUSH PILE
- HIBERNACULA
- RECEPTOR SITE

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ENVIRONMENTAL STATEMENT
VOLUME 2
APPENDIX 14E
BIODIVERSITY NET GAIN

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GREAT MOUNT WALK/LOW 40 ACRES

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FIGURE 14E.7

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APPENDIX A: Off-site post-development habitat and hedgerow data

Table 21: Post-development biodiversity units for areas of habitat within the off-site mitigation areas for Sizewell C MDS

UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition	Difficulty	Spatial risk category	Biodiversity units
Aldhurst Farm											
Woodland and forest	Other woodland; mixed	0.78	Retained	Medium	Moderate	Low	Area/compensation not in local strategy/ no local strategy	N/A	N/A	N/A	6.27
Grassland	Modified grassland	1.01	Retained	Low	Fairly Poor	Low	Area/compensation not in local strategy/ no local strategy	N/A	N/A	N/A	3.04
Woodland and forest	Wood-pasture and parkland	0.39	Retained	High	Fairly Good	Medium	Location ecologically desirable but not in local strategy	N/A	N/A	N/A	7.04
Heathland and shrub	Mixed scrub	0.01	Retained	Medium	Moderate	Low	Area/compensation not in local strategy/ no local strategy	N/A	N/A	N/A	0.08
Lakes	Ditches	0.12	Retained	Medium	Fairly Good	High	Location ecologically desirable but not in local strategy	N/A	N/A	N/A	1.56
Heathland and shrub	Mixed scrub	0.68	Created	Medium	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	3	Low	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	5.36
Grassland	Lowland dry acid grassland	38.74	Created	V.High	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	20	High	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	110.34
Grassland	Other neutral grassland	3.82	Created	Medium	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	10	Low	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	23.56

UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition	Difficulty	Spatial risk category	Biodiversity units
Woodland and forest	Wood-pasture and parkland	3.82	Created	High	Moderate	Medium	Location ecologically desirable but not in local strategy	32+	Very High	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	1.78
Heathland and shrub	Gorse scrub	2.39	Created	Medium	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	5	Low	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	17.59
Studio field complex											
Grassland	Other lowland acid grassland	41.23	Created	Medium	Good	High	Area/compensation not in local strategy/ no local strategy	15	Low	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	333.43
Heathland and shrub	Mixed scrub	2.14	Created	Medium	Fairly Good	High	Area/compensation not in local strategy/ no local strategy	5	Low	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	20.58
St James covert											
Grassland	Other lowland acid grassland	2	Enhanced	Medium	Good	High	Area/compensation not in local strategy/ no local strategy	15	Low	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	23.79
Marsh harrier habitat improvement area											
Urban	Developed land; sealed surface	0.211	Retained	V.Low	N/A - Other	N/A	Area/compensation not in local strategy/ no local strategy	N/A	N/A	N/A	0

UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition	Difficulty	Spatial risk category	Biodiversity units
Grassland	Lowland dry acid grassland	7.67	Created	V.High	Fairly Good	High	Location ecologically desirable but not in local strategy	25	High	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	26.28
Lakes	Ditches	0.207	Created	Medium	Fairly Good	High	Location ecologically desirable but not in local strategy	7	Low	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	2.04
Heathland and shrub	Lowland heathland	0.85	Created	High	Fairly Good	High	Location ecologically desirable but not in local strategy	25	High	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	2.19
Grassland	Lowland dry acid grassland	20.96	Enhanced	V.High	Good	High	Location ecologically desirable but not in local strategy	20	Medium	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	244.71
Grassland	Lowland dry acid grassland	1.20	Enhanced	V.High	Good	High	Location ecologically desirable but not in local strategy	20	Medium	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	17.01
Grassland	Lowland dry acid grassland	0.72	Enhanced	V.High	Good	High	Location ecologically desirable but not in local strategy	20	Medium	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	10.28
Heathland and shrub	Lowland Heathland	2.33	Enhanced	High	Fairly Good	High	Location ecologically desirable but not in local strategy	25	Medium	Compensation inside LPA or NCA, or deemed to be sufficiently local, to	18.56

UK habs/ broad habitat	UK habs/habitat type	Area (ha)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition	Difficulty	Spatial risk category	Biodiversity units
										site of biodiversity loss	
Heathland and shrub	Lowland Heathland	0.08	Enhanced	High	Fairly Good	High	Location ecologically desirable but not in local strategy	25	Medium	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	0.78
Heathland and shrub	Lowland Heathland	0.13	Enhanced	High	Fairly Good	High	Location ecologically desirable but not in local strategy	25	Medium	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	1.30
Kenton woods											
Heathland and shrub	Lowland Heathland	4	Enhanced	High	Fairly Good	Medium	Within area formally identified in local strategy	25	Medium	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	31.88
	Total	**135.50**									**909.45**

Table 22: Post-development biodiversity units for hedgerows within the off-site mitigation areas of the Sizewell C MDS

Hedgerow type	Length (km)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Spatial risk category	Time to target condition	Difficulty	Hedgerow units
Aldhurst Farm										
Native Hedgerow	0.914	Retained	Low	Moderate	Low	Location ecologically desirable but not in local strategy	N/A	N/A	N/A	4.02

Hedgerow type	Length (km)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Spatial risk category	Time to target condition	Difficulty	Hedgerow units
Native Hedgerow	0.065	Created	Low	Moderate	Medium	Location ecologically desirable but not in local strategy	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	5	Low	0.26
Studio field complex										
Native Hedgerow	2.031	Retained	Low	Moderate	Medium	Location ecologically desirable but not in local strategy	N/A	N/A	N/A	9.83
Marsh harrier habitat improvement area										
Native Hedgerow	1.556	Retained	Low	Moderate	High	Area/compensation not in local strategy/ no local strategy	N/A	N/A	N/A	7.16
Native Hedgerow - Associated with bank or ditch	1.822	Created	Medium	Good	High	Location ecologically desirable but not in local strategy	Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss	10	Medium	12.98

Hedgerow type	Length (km)	Habitat scenario for creation	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Spatial risk category	Time to target condition	Difficulty	Hedgerow units
Total	**6.39**									**34.25**

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