



# The Sizewell C Project

SZC Co.'s Response to the Secretary of State's Request for Further Information dated 31 March 2022: Appendix 4 - Code of Construction Practice (clean version), submitted in response to Question 8.16 and in response to our submission dated 8 April 2022 - Appendices Part 1 of 3

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## PART A: PROJECT WIDE CONTROLS

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## APPENDIX A HINKLEY POINT C LOOK AHEAD

# HINKLEY POINT C LOOK AHEAD

March 2017



This information provides an overview of work taking place related to Hinkley Point C which may affect you. If you'd like to discuss any of the below, please drop in to the EDF Energy Visitor Centre, Angel Place Shopping Centre, Bridgwater, TA6 3TQ. We're open 9.00am-4pm Monday to Friday and 9.00am-1pm on a Saturday. We're also available in the Babbling Brook on Friday 3 March 12.00 – 13.00. Further information is available [www.edfenergy.com/hinkleyc](http://www.edfenergy.com/hinkleyc) or call us freephone on **0800 0969 650** at any time, or email us at [hinkley-enquiries@edf-energy.com](mailto:hinkley-enquiries@edf-energy.com).

Work/Item	Timings and duration	Location	You may experience
<ul style="list-style-type: none"><li>• <b>Site construction activities</b></li><li>• <b>Jetty construction</b></li><li>• <b>Southern landscaping and HPC campus construction</b></li></ul>	Throughout March	Hinkley Point C Site  On the inter tidal area of the Hinkley Point C site  Along the southern boundary of the Hinkley Pont C land	<ul style="list-style-type: none"><li>• Noise from activity associated with construction work</li><li>• Visibility of activity associated with jetty construction</li><li>• Noise and visibility of earth movement activity associated with landscaping and campus construction</li></ul>
<b>Junction 23 park and ride and freight management facility</b>	Throughout March	Near Junction 23 of M5	Noise from construction activity
<b>Bridgwater accommodation campus</b>	Throughout March	In the vicinity of the old Innovia site	Noise from activity associated with cable diversion work and preparation for campus construction
<b>Northern Bridgwater Junction Improvements</b>	Throughout March	Wylds Road and Bristol Road / The Drove	Traffic management to keep traffic flowing

**We're sorry for any inconvenience these works may cause.**

**Disclaimer:** This 'Look Ahead' is accurate at the time of issue. However, the work schedule may change due to adverse weather conditions or other unforeseen factors.



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## PART B: MAIN DEVELOPMENT SITE

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## APPENDIX A FRESHWATER FISH AND AQUATIC INVERTEBRATES MITIGATION STRATEGY

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None provided

## FIGURES

None provided.

## APPENDICES

None provided.

## 1 INTRODUCTION

### a) Purpose

1.1.1 SZC Co. is proposing to build and operate a new nuclear power station on the Suffolk coast, known as Sizewell C power station (hereafter referred to as Sizewell C) located to the north of the existing Sizewell B power station.

1.1.2 This **Aquatic Invertebrate and Fish Mitigation Strategy** ('Mitigation Strategy'), compiled by Arcadis Consulting (UK) Limited (hereafter referred to as 'Arcadis') outlines the key approaches to mitigating potential impacts to aquatic invertebrate and fish present within or adjacent to the construction site for Sizewell C main development site, with a particular focus on the Sizewell and Leiston drains. It must be used by SZC Co., consultant ecologists and any relevant subcontractors, in relation to the proposal to build the Sizewell C power station during the construction phase of the development and/ or during the undertaking of any relevant enabling works.

1.1.3 This document has been drafted based on the survey data collected to date, including work undertaken in 2020. The requirements for mitigation are based on the impacts outlined in the ES chapter associated with the proposed main development site works. This document has been informed by the following documents:

- **Volume 2, Chapter 14 of the Environmental Statement (ES) [AS-033]:** Terrestrial Ecology and Ornithology
- **Volume 2, Chapter 22 of the ES [AS-035]:** Marine Ecology and Fisheries.
- **Volume 2, Chapter 14, Appendix 14A4 of the ES [APP-231]:** Invertebrates.
- **Volume 1, Chapter 2 of the First ES Addendum [AS-181]:** Main Development Site.
- **Invertebrate Survey Report 2020 [AS-036].**
- **Fish Surveys 2020 [AS-036].**

1.1.4 Level 1 control documents will either be certified under the DCO at grant or annexed to the DoO. All are secured and legally enforceable. Some Level 1 documents are compliance documents and must be complied with when certain activities are carried out. Other Level 1 documents are strategies or draft plans which set the boundaries for a subsequent Level 2 document which is required to be approved by a body or governance group. The

obligations in the DCO and DoO set out the status of each Level 1 document. This Mitigation Strategy is a Level 1 compliance document.

- 1.1.5 For the purposes of this document the term ‘SZC Co.’ refers to NNB Nuclear Generation (SZC) Limited (or any other undertaker as defined by the DCO), its appointed representatives and the appointed construction contractors.

## 2 BACKGROUND

### a) Legal Status

2.1.1 Aquatic environments within and adjacent to the main development site support at least one species of fish and one species of aquatic invertebrate that have legal protection along with a large number of other species of aquatic invertebrates with recognised conservation status due to their threat of extinction or rarity. The legally protected species are:

- Norfolk Hawker (*Aeshna isoceles*); protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (Ref 1.2) which prohibits the intentional killing, injuring or taking of individuals and intentional damage or destruction/obstruction to any structure or place used for shelter or protection.
- European eel (*Anguilla anguilla*); protected by The Eels (England and Wales) Regulations 2009 (Ref 1.3) which afford powers to the Environment Agency to implement measures for the recovery of European eel stocks and have important implications for operators of abstractions and discharges.

2.1.2 Also of note is the presence of low numbers of bullhead (*Cottus gobio*), an Annex 2 non-priority species under the Habitats Directive 2017 (Ref 1.1). Annex 2 species can form the basis of Special Area of Conservation (SAC) designated site selection.

### b) Document Structure

2.1.3 This Mitigation Strategy has been set out as follows:

- Section 1: Introduction
- Section 2: Background
- Section 3: Aquatic invertebrate and fish baseline
- Section 4: Potential impacts of the development
- Section 5: Mitigation measures
- Section 6: Monitoring

2.1.4 The layout of the Sizewell C main development site is shown in **Figure 14C2A.1** [\[APP-255\]](#) and a full description of the proposed development is provided within **Volume 2** of the **ES**.

c) Roles and Responsibilities

2.1.5 The requirements identified within this Mitigation Strategy are the responsibility of SZC Co. Set out below is a description of the roles and responsibilities that will be adopted so that SZC Co. can ensure that these requirements are fulfilled:

i. SZC Co.

- Ensuring any habitat areas which have already been created are managed appropriately to ensure suitable conditions remain for aquatic invertebrates and fish species.
- Ensure this Mitigation Strategy is implemented and updated as required through the development process and that any method statements on mitigation measures that are subsequently drafted are implemented.

ii. Consultant ecologist

- Developing and updating the Mitigation Strategy and the plan for its implementation.
- Providing advice on Sizewell drain reinstatement and retained Leiston drain in liaison with Natural England, the Environment Agency and site managers.
- Undertaking pre-construction surveys of land take areas and baseline surveys of created habitats.
- Long-term monitoring of the aquatic invertebrates to ensure the mitigation implemented has been effective and successful.
- Progress reporting.

iii. Site Managers

- appropriate management of newly reinstated Sizewell drain and retained Leiston drain.

iv. Contractors/sub-contractor

- appropriate management of newly reinstated Sizewell drain and retained Leiston drain.
- adhering to agreed Method Statements, under a watching brief from an Ecological Clerk of Works (ECoW).

## 3 BASELINE

### a) Aquatic invertebrate baseline

3.1.1 Please refer to **Volume 2, Chapter 14, Appendix 14A4** of the **ES [APP-231]** and **Volume 1, Chapter 2** of the **First ES Addendum [AS-181]** for full details of the aquatic invertebrate baseline.

3.1.2 **Volume 2, Chapter 14** of the **ES [APP-224]** assesses terrestrial and aquatic invertebrates together due to the nature of the wetland habitats on site and the crossover of species considered terrestrial and aquatic using both terrestrial and aquatic habitats. A number of species, notably dragonflies, including the Norfolk hawkler, have both aquatic and aerial life stages. Further terrestrial and aquatic invertebrate surveys, detailed in the **Invertebrate Survey Report 2020 [AS-036]**, were undertaken in 2020 which focused on wetland associated invertebrates within Sizewell Marshes SSSI and adjacent areas.

3.1.3 The results of the initial baseline and the 2020 surveys showed the presence of valued wetland invertebrate assemblages, especially those associated with “permanent wet mire” and “reed-fen and pool” habitats (typical of mires and seepages which may have little open water but remain permanently wet), which were well represented across Sizewell Marshes SSSI and were assessed as being of national importance. The invertebrate assemblage associated with “mineral marsh and open water” habitats (typically found in floodplain wetlands, fluctuating meres, carr and wet woodland), while not as well represented, were also considered of high conservation value. Surveys in 2020 identified the presence of an important invertebrate assemblage associated with dead wood habitats found in the wet woodland. Aquatic ditch sampling undertaken in 2020 recorded only low numbers of invertebrate species of which only one of which has recognised conservation status, the ornate brigadier soldierfly (*Odontomyia ornata*), considered Nationally Scarce<sup>1</sup>. The presence of these assemblages confirms the importance of the wetland habitats within Sizewell Marshes SSSI.

3.1.4 Norfolk hawkler dragonfly, which requires well vegetated aquatic habitat to breed, especially unspoilt grazing marsh dyke systems with clean, non-saline water and rushy margins (Ref 1.4), was recorded in low number within the wider Sizewell Marshes SSSI grazing marsh systems, outside of the proposed area of landtake. Much of the ditch habitat potentially subjected to land take is shaded by wet woodland and so is considered sub-optimal to be used for breeding by this species.

3.1.5 Proposed aquatic invertebrate surveys in 2021 will further update the baseline and include a further, early season, visit to sample the Sizewell

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<sup>1</sup> Species thought to occur in between 16 and 100 10-km squares of the National Grid

and Leiston drains and a targeted survey for Norfolk hawker to determine in greater detail its distribution within Sizewell Marshes SSSI and the new wetland at Aldhurst Farm.

b) Fish baseline

- 3.1.6 The baseline presented in **Volume 2, Chapter 14** of the **ES** [[AS-033](#)] states that glass (young) eels were found in the Leiston Drain during aquatic macrophyte surveys, showing that the Minsmere sluice is permeable to eels and that eels are therefore present within the ditch network of Sizewell Marshes SSSI. In addition, anecdotal evidence from the Suffolk Wildlife Trust suggests that Sizewell Marshes SSSI supports a population of coarse fish including rudd (*Scardinius erythrophthalmus*).
- 3.1.7 Fish surveys undertaken in 2020 within the Sizewell and Leiston drains and area of wetland land take within the SSSI Triangle, detailed in **Sizewell C - 2020 Fish Survey Report** [[AS-036](#)] and covered in **Volume 1, Chapter 2** of the **First ES Addendum** [[AS-181](#)], recorded seven species, including protected and notable species, European eel and bullhead.
- 3.1.8 The composition of the fish assemblage was considered typical for a lowland ditch in close proximity to the sea however the presence of bullhead was unexpected due to the lack of suitable habitat for this species.

## 4 POTENTIAL IMPACTS OF THE DEVELOPMENT

4.1.1 **Volume 2, Chapter 14** of the **ES [AS-033]** explains that the main impact pathways during construction and operation would be associated with:

- Direct land take resulting in habitat loss;
- Habitat fragmentation, and obstruction of passage for migratory fish and aquatic invertebrates; and
- Incidental mortality of aquatic invertebrates and fish.

4.1.2 As part of the Sizewell C main development site design, there will be embedded mitigation measures and/or industry standard protection procedures, as well as additional mitigation measures as required. These are described in **Section 1.4 of Volume 2, Chapter 14** of the **ES [AS-033]** and in the **Volume 1, Chapter 2** of the **First ES Addendum [AS-181]**.

4.1.3 The **First ES Addendum [AS-181]** considers further a number of changes which have been introduced into the Sizewell C proposals, including the inclusion of a 30m open span bridge rather than a culvert to provide the SSSI crossing. Impacts such as reductions in the associated direct landtake and reduced habitat fragmentation as relevant to fish and aquatic invertebrates are described in **Volume 1, Chapter 2** of the **First ES Addendum [AS-181]**.

4.1.4 The remainder of this Mitigation Strategy focusses on the mitigation required to minimise the incidental mortality of aquatic invertebrates and fish present in the Sizewell and Leiston drains during the construction phase.

## 5 MITIGATION MEASURES

5.1.1 This section outlines the proposed mitigation strategy for aquatic invertebrates and fish. In summary, this must consist of an invertebrate and fish (including European eel) rescue, which is detailed below:

i. Aquatic Invertebrates

5.1.2 The section of the Sizewell drain to be realigned is considered to be sub-optimal for breeding Norfolk Hawker due to shading from adjacent wet woodland, and larvae, if present, are considered to be low in number. To reduce potential mortality, a search and translocation of this species, and other aquatic invertebrates, must be undertaken using the following methodology:

- The banks of the isolated drain must be netted by an ecologist trained in aquatic invertebrate sampling. Aquatic invertebrates caught must be placed in sample buckets before being moved to an adjacent established watercourse, unaffected by realignment. The netted samples must be checked for the presence of Norfolk Hawker larvae and any individuals must be recorded prior to re-release to unimpacted sections of the Leiston drain.
- Following this, vegetation removed from the Sizewell drain must be translocated along the banks of adjacent established ditches to allow aquatic invertebrates, particularly any present Norfolk Hawker larvae, within this vegetation to crawl into an unaffected watercourse. Vegetation must be left in place for up to 2 days before being removed (Ref 1.5), to maximise the chance of aquatic invertebrate transfer whilst minimising the introduction of plant matter to other watercourses. This must be carried out under supervision of an ECoW who must confirm the absence of protected or invasive species prior to vegetation removal.
- Aquatic invertebrates must not be released directly to the realigned Sizewell drain as the habitat will likely be immature and lack vegetation.

ii. Fish

- The banks of the water body must be subject to strimming and vegetation clearance in order to permit safe and clear means of access to the waterbody prior to capture and relocation of fish species present.

- Fish in the affected drain must be caught during daylight hours through electro fishing methods and using specialist nets and placed in oxygenated containers.
- If any temporary dewatering is required from sections of drain that will be infilled, a small abstraction pump must be used. The pump must be fitted with mesh to ensure fish do not become entrained during this exercise. The works must be overseen by suitability experienced specialists. Whilst the dewatering exercise is carried out, any further fish encountered must be captured and removed appropriately.
- Once sections of the drain have been fully drained and all fish removed, a thorough search of the bed of the drain must be carried out to ensure all fish have been removed. The search must involve carefully and systematically removing vegetation (in multiple stages) and searching for fish as the work progresses. All silt substrates extracted must be relocated to the newly created ditch network to maximise the rate of vegetation and ecosystem generation. In addition, bankside turves must also be translocated to newly constructed ditches to maximise vegetation establishment.
- During the exercise, all fish species must be recorded as well as their size, and weight. In line with Environment Agency guidelines, all fish must be health checked and certified before release. This check involves an internal and external examination to look for parasites and disease (Ref 1.6).
- Fish must then be moved by hand to the realigned Sizewell drain (upstream to the works) or into adjacent unaffected watercourses within Sizewell Marshes SSSI. Only waterbodies which are established with vegetation and suitable habitat conditions will be used to receive the captured and relocated fish.

5.1.3 Fish removal requires consent from the Environment Agency, which must be obtained prior to the work.

5.1.4 These measures must be undertaken during daylight hours under strict biosecurity measures. Watercourses selected as adjacent receptor sites must be hydrologically linked with the original Sizewell drain to prevent the spread of disease. If invasive species are identified, work must not be undertaken prior to their removal and disposal. Further information regarding control and removal of invasive species is provided in the **Code of Construction Practice (CoCP)** (Doc Ref.10.2).

5.1.5 The above methodology must be aligned with the mitigation works proposed for the displacement of water vole, detailed in **Table 1.6** of the **Draft Water Vole License Method Statement** [[REP5-050](#)]. It is likely that

netting aquatic invertebrates will be undertaken before vegetation removal (**Step 1, Table 1.6**) and the fish rescue will then be undertaken during the five days allocated for (any) water vole relocation (**Step 6, Table 1.6**). Translocating in-channel vegetation could be undertaken during bank excavation (**Step 7, Table 1.6**).

- 5.1.6 It is currently thought unlikely that any clearance of aquatic and riparian vegetation along the Leiston drain will be required prior to ground improvement construction for the SSSI crossing, although some clearance may be needed to encourage water voles out of the area (see **Draft Water Vole License Method Statement** [[REP5-050](#)]). If aquatic vegetation removal is required, this must be undertaken following the steps highlighted in **Paragraph 5.1.2** to allow for the transfer of aquatic invertebrate species, particularly Norfolk Hawker, to a different section of the Leiston drain and reduce incidental mortality. Any Norfolk Hawker larvae must be recorded during this process which must be undertaken with adherence to a bespoke Reasonable Avoidance Measures (RAMs) Method Statement for the construction works to the Sizewell drain, to be prepared and agreed with the Environment Review Group.

## 6 MONITORING

- 6.1.1 All of the construction works related to the Sizewell and Leiston drains must be undertaken with adherence to a bespoke Method Statement to be prepared in accordance with dDCO Requirement 12D and has been submitted to and approved by East Suffolk Council, following consultation with the Environment Agency and Natural England. Proposed monitoring for aquatic invertebrates and fish during pre-construction, construction, and operation is detailed in the **Terrestrial Ecology Monitoring and Mitigation Plan** (Doc Ref. 10.28) (secured by Requirement 4 of the dDCO).

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## REFERENCES

- 1.1 The Habitats Directive 2017. Europa. European Commission
- 1.2 Wildlife and Countryside Act, as amended. 1981. (Online) Available at: <http://www.legislation.gov.uk/ukpga/1981/69/contents> (Accessed October 2020).
- 1.3 The Eels (England and Wales) Regulations 2009. (Online) Available at: <https://www.legislation.gov.uk/uksi/2009/3344/contents/made> (Accessed October 2020)
- 1.4 British Dragonfly Society. 2019. Norfolk Hawker. (Online) Available at: <https://british-dragonflies.org.uk/species/norfolk-hawker> (Accessed October 2020).
- 1.5 British Dragonfly Society 2010. Norfolk Biodiversity Action Plan – Norfolk Hawker. (Online) Available at: <http://www.norfolkbiodiversity.org/assets/Uploads/Norfolk-Hawker2.pdf> (Accessed October 2020).
- 1.6 Gov Guidance – Fish Health Checks (Online) Available at: <https://www.gov.uk/guidance/fish-health-checks> (Accessed October 2020).

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## APPENDIX B MAIN DEVELOPMENT SITE – DRAFT NOISE MONITORING AND MANAGEMENT PLAN

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None provided

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None provided

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## 1 INTRODUCTION

- 1.1.1 SZC Co. is proposing to build a new nuclear power station at Sizewell in East Suffolk, known as Sizewell C. Located to the north of the existing Sizewell B power station, the Sizewell C site is located on the Suffolk coast, approximately halfway between Felixstowe and Lowestoft; to the north-east of the town of Leiston.
- 1.1.2 Consent to construct the development is sought through a Development Consent Order (DCO) as a Nationally Significant Infrastructure Project under the Planning Act 2008.
- 1.1.3 The **Code of Construction Practice (CoCP)** (Doc Ref.10.2) (secured by Requirement 2 of the **dDCO** (Doc Ref. 3.1(J)) is the mechanism through which SZC Co. will ensure that the construction works are undertaken in accordance with all relevant legislative controls, construction health, safety and environmental standards and other relevant best practice methods.
- 1.1.4 The aim of the **CoCP** (Doc Ref.10.2) is to provide a clear and consistent approach to the control of Sizewell C construction activities on the main development site and associated development sites so as to maintain satisfactory levels of environmental protection, and take all reasonable steps to mitigate and minimise disturbance from construction activities. The **CoCP** (Doc Ref. 10.2) also seeks to control construction works to minimise potential significant environmental effects
- 1.1.5 This **Draft Main Development Site Noise Monitoring and Management Plan** (MDS NMMP) has been submitted to the Examination to set out how the details anticipated by paragraph 3.1.3 of the **CoCP** Part B (the main development site) (Doc Ref. 10.2) will be discharged. As set out in the CoCP Part B, the final NMMP for the MDS must be submitted to ESC for approval. Vegetation clearance within the main development site must not be carried out until a Main Development Site NMMP in general accordance with this draft MDS NMMP has been approved by ESC and the construction works must then be undertaken in accordance with the approved MDS NMMP.
- 1.1.6 Level 1 control documents will either be certified under the DCO at grant or annexed to the DoO. All are secured and legally enforceable. Some Level 1 documents are compliance documents and must be complied with when certain activities are carried out. Other Level 1 documents are strategies or draft plans which set the boundaries for a subsequent Level 2 document which is required to be approved by a body or governance group. The obligations in the DCO and **Deed of Obligation (DoO)** (Doc Ref.10.4) set out the status of each Level 1 document.

- 1.1.7 This Draft NMMP is a Level 1 document. As explained above, the final NMMP for the MDS must be submitted to ESC for approval.
- 1.1.8 Where further documents or details require approval, this document states which body or governance group is responsible for the approval and/or must be consulted. The approval of the final NMMP by East Suffolk Council will be carried out in accordance with the procedure in Schedule 23 of the DCO. However the final NMMP will require Bespoke Mitigation Plans to be submitted to and approved by East Suffolk Council. Approval of these Bespoke Mitigation Plans will follow the procedure set out in the final NMMP (section 4.4 of this draft NMMP). The DoO establishes the governance groups and sets out how these governance groups will run and, where appropriate, how decisions (including approvals) should be made. Any updates to these further documents or details must be approved by the same body or governance group and through the same consultation and procedure as the original document or details.
- 1.1.9 Where separate Level 1 or Level 2 control documents include measures that are relevant to the measures within this document, those measures have not been duplicated in this document, but cross-references have been included for context. Where separate legislation, consents, permits and licences are described in this document they are set out in the **Schedule of Other Consents, Licences and Agreements** (Doc Ref. 5.11(C)).
- 1.1.10 For the purposes of this document the term ‘SZC Co.’ refers to NNB Nuclear Generation (SZC) Limited (or any other undertaker as defined by the DCO), its appointed representatives and the appointed construction contractors.
- 1.2 **Purpose of the NMMP**
- 1.2.1 The final NMMP will provide a framework for monitoring and managing noise at the main development site in accordance with this Draft Noise Monitoring and Management Plan.
- 1.2.2 The NMMP will be subject to periodic review and update so that it remains current and relevant to the works being undertaken and treated as a live document. The NMMP and any updates will be subject to agreement with East Suffolk Council pursuant to Requirement 2.
- 1.2.3 The NMMP will relate to the monitoring and management of construction works within the main development site, i.e. the monitoring and management of activities between source and receptor, which is the noise or vibration pathway from the sources to affected properties. The NMMP will not relate to any control at the receptor.

## 1.3 Principles of the NMMP

1.3.1 The NMMP will act as a framework to guide the control, monitoring and management of noise and vibration from the construction works.

1.3.2 An updated noise assessment of the construction works will be undertaken as part of the implementation of the **Noise Mitigation Scheme** (Annex W of the DoO (Doc Ref.10.4)), which is secured by Schedule 12 of the **Deed of Obligation** (Doc Ref. 10.4) This work will include a review of the NMMP and will confirm if updates to the NMMP are required. Any amendments to the NMMP will be submitted to ESC for approval pursuant to Requirement 2.

1.3.3 The monitoring and update of the NMMP to reflect the above will:

- ensure mitigation is targeted appropriately throughout the construction period;
- facilitate identification of ‘noisy’ works, which will in turn facilitate notification of local residents and other steps required by the **CoCP** (Doc Ref. 10.2);
- provide a feedback mechanism for ongoing validation of construction noise and vibration predictions.

## 1.4 Compliance

1.4.1 SZC Co. will comply with the provisions in the NMMP throughout all the construction activities on the main development site.

1.4.2 The NMMP will incorporate a range of noise mitigation measures that reflect best practice techniques, to be employed during the undertaking of construction activities; to seek to design out the risk of emissions of noise; and take all reasonable steps to mitigate and minimise noise and vibration where elimination of risk is not feasible.

1.4.3 Once contractors are appointed, the NMMP will be reviewed in consultation with them to identify further opportunities for noise control.

## 2 ROLES AND RESPONSIBILITIES

2.1.1 It is recognised that all those participating in the delivery of construction activities at all of the Sizewell C sites have a role to play in the minimisation and mitigation of potential noise and vibration impacts.

2.1.2 It is also recognised that certain key roles within construction teams will play a more active role in delivering the requirements of the NMMP.

2.1.3 The requirements identified within this NMMP are the responsibility of SZC Co. This section provides a description of the defined roles and responsibilities that will be adopted so that SZC Co. can ensure that these requirements are fulfilled and so that noise and vibration impacts from construction activities are minimised.

## 2.2 SZC Co. Site Environmental Lead

2.2.1 This is expected to be under the direct employment of SZC Co.. The role will include responsibility for:

- the implementation of the SZC Co. Environmental Management System, including the provision of environmental training;
- co-ordination between the client, contractors and external stakeholders as appropriate;
- approving contractor-submitted Construction Environmental Management Plans;
- approving the environmental parts of contractor-submitted works method statements and liaison with relevant authorities in relation to those aspects of the submissions;
- Undertaking investigations in relation to noise level exceedances and to investigate any complaints received by the project in relation to noise and vibration issues, including assessment of contractors' compliance with approved Bespoke Mitigation Plans, and taking appropriate enforcement action against contractors found to be operating in breach of any requirement of a Bespoke Mitigation Plan;
- environmental monitoring and reporting, including collation and analysis of data to demonstrate compliance with the construction noise thresholds;
- carrying out the measures outlined within the NMMP in relation to construction noise threshold exceedances, including liaison with the contractor; and
- conducting site inspections producing reports and communications with relevant parties within SZC Co., the contractor's project management team and internal / external stakeholders as required.

## 2.3 SZC Co. Noise Specialist

2.3.1 This role will include a noise specialist to:

- advise on how to meet legal and contractual noise requirements;
- review and develop the NMMP as part of the **CoCP** for the works, as required;
- undertake the noise assessments required under the **Noise Mitigation Scheme** (Annex W of the DoO (Doc Ref. 10.4)), which will feed into the NMMP process;
- train nominated staff to undertake basic monitoring tasks correctly, e.g. downloading data and undertaking initial checks of results for compliance with requirements;
- provide analysis and interpretation of noise monitoring results for compliance with the requirements and advise the construction teams on action required and follow up;
- provide specialist noise management advice to the construction teams as required;
- liaise with East Suffolk Council as necessary and provide it with monitoring results in agreed timescales;
- be responsible for noise assessments of temporary works and equipment to determine their design and location and any necessary mitigation works required to maintain noise levels below the threshold levels; and
- assist and support the Site Environmental Lead in the preparation of reports, and assist to resolve any problems arising from noise issues.

2.3.2 SZC Co. will require the Noise Specialist to have the following experience and qualifications:

- appropriate experience of dealing with noise on construction projects;
- good knowledge and practical experience of legal requirements and how to comply with them;
- experience of liaison with stakeholders including statutory bodies such as local authorities; and

- be an Associate or Full Member of the Institute of Acoustics (or equivalent competent body).

## 2.4 Contractor's Site Manager

2.4.1 This will be a full-time role in the employment of the appointed lead contractor. In so far as it relates to noise, the role will include responsibility for:

- all works on site, within the scope of their contract;
- preparing and submission of SZC Co. method statements and risk assessments, and liaison with Noise Specialist on noise assessments;
- implementing the NMMP and for liaison and communication with sub-contractors; and
- reviewing Construction Environmental Management Plans (CEMP) as far as they relate to compliance with the NMMP and noise measures set out within the **CoCP** (Doc Ref. 10.2).

## 2.5 Contractor's Site Environmental Engineer

2.5.1 This will be a role in the employment of the appointed lead contractor. It will be for the contractor to determine whether this is a full- or part-time role. The role will include responsibility for:

- planning works on site;
- instructing the foreman and briefing site workers;
- daily site inspections in relation to the implementation of noise mitigation measures and for recording inspections within the site logs;
- technical environmental input into the Method Statements submitted to SZC Co. for approval, where required; and
- providing specific training in relation to noise management to all levels of contractor's staff including inductions, subject-specific training and tool box training where appropriate.

## 2.6 Contractor's Foreman

2.6.1 This will be a full-time role in the employment of the appointed lead contractor. The role will include responsibility for:

- directing activities on site;
- implementing the measures outlined in the NMMP and defined in the works method statement and for undertaking daily inspections to demonstrate compliance; and
- undertaking inspections of work sites and the implementation of remedial measures in the event of a noise level exceedance being attributed to their works.

### 3 LIAISON

3.1.1 Regular meetings will be held between representatives of SZC Co. and ESC. Unless agreed otherwise between the parties, the meetings will be held monthly for the first year of the project post-consent, and every two months thereafter.

3.1.2 The meetings will cover the following topics:

- upcoming works;
- updates to the noise assessments;
- additional mitigation proposals;
- need for community liaison and plan for same;
- any complaints in the prior period and resolutions.

3.1.3 The scope of the meetings can be adapted according to need, with agreement of all parties.

### 4 NOISE AND VIBRATION THRESHOLDS

#### 4.1 Introduction

4.1.1 This section sets out the noise and vibration thresholds that will apply to the main development site, and describes the process for agreeing alternative thresholds with ESC, should they be required.

#### 4.2 Noise Thresholds

4.2.1 **Table 4.1** sets out the construction noise thresholds for the site.

**Table 4.1: Noise thresholds for construction works**

Period	Threshold	Parameter
Any day 07:00 to 23:00	60	L <sub>Aeq, T</sub> , dB, free field.
Night 23:00 to 07:00	45	
Night 23:00 to 07:00	65	L <sub>Amax</sub> , dB, façade.

*Notes: Time period T in this table refers to the period in question: day (16 hours) or night (8 hours). Thresholds apply at residential receptors*

4.2.2 SZC Co. will use best practicable means (as defined by Section 72 of the Control of Pollution Act 1974) to comply with these noise thresholds at all times.

4.2.3 Other representative receptors may be used to calculate noise levels at relevant residential receptors, where this has been agreed with ESC, including the relevant equivalent thresholds that will be used. This will allow for instances where monitoring at the relevant residential receptor is not practicable and that alternative locations, such as within SZC Co. land, can provide a suitable proxy to measure noise thresholds.

4.2.4 The noise thresholds apply to noise from SZC Co.’s construction activities at the main development site only; the thresholds do not apply to existing or extraneous sources.

## 4.3 Vibration Thresholds

4.3.1 **Table 4.2** sets out the construction vibration thresholds for the site.

**Table 4.2: Vibration thresholds for construction works**

Period	Threshold	Parameter
Any time	1.0	PPV mm/s

*Notes: Thresholds are external and apply at residential receptors*

4.3.2 SZC Co. will use best practicable means (as defined by Section 72 of the Control of Pollution Act 1974) to comply with these vibration thresholds at all times.

## 4.4 Bespoke Mitigation Plans

4.4.1 Where it is anticipated that the construction works will exceed free-field noise levels of either 55dB L<sub>Aeq,16hrs</sub> (daytime between 07:00 and 23:00

hours), 50dB  $L_{Aeq,4hrs}$  (evening between 19:00 and 23:00 hours)<sup>1</sup> or 45dB  $L_{Aeq,8hrs}$  (night-time between 23:00 and 07:00 hours), or the vibration thresholds stated in **Table 4.2**, despite the use of best practicable means (as defined by Section 72 of the Control of Pollution Act 1974), a Bespoke Mitigation Plan will be submitted to ESC for approval in accordance with the process set out below.

- 4.4.2 Details of works likely to require a Bespoke Mitigation Plan and a draft of the plan will be provided to ESC at least 28 days prior to the start of the works, to include proposed method statements, likely noise or vibration levels at the closest sensitive receptors, proposed mitigation, and a scheme for notifying local residents. The purpose will be to agree measures to reduce noise as far as reasonably practical for particularly noisy activities. If appropriate, the Bespoke Mitigation Plan can include revised noise thresholds.
- 4.4.3 As the Bespoke Mitigation Plans will be agreed, monitored and enforced and their purpose will be to determine the best practicable means of delivering the construction activity, it will not normally be appropriate to include finite noise limits in the plans. Nevertheless, the parties recognise that ESC must have the ability to monitor the effect of the work and require adjustments to working practices in the event that adverse effects exceed those anticipated. For this purpose, indicative limits may be appropriate and it is intended that close working between the parties will enable corrections to be made to working practices to ensure that the objectives of the Bespoke Mitigation Plan are achieved.
- 4.4.4 Each Bespoke Mitigation Plan will be approved pursuant to the procedure set out below. Any breach or non-compliance with measures set out in the Bespoke Mitigation Plan will therefore be enforceable under the DCO. The parties also recognise that the **ddCO** does not remove ESC's powers under section 60 of the Control of Pollution Act 1974. Section 60 authorises ESC to serve a notice imposing requirements as to the way in which works are to be carried out to control noise on construction sites, and is subject to a right of appeal by the recipient. A person who contravenes any requirement of a section 60 notice without reasonable excuse will be guilty of an offence. Where the requirements of a section 60 notice reflect the measures set out in a Bespoke Mitigation Plan, those requirements will be enforceable under section 60 of the Control of Pollution Act 1974 as well as under the DCO.

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<sup>1</sup> The overlap between the 16 hour daytime period and the 4 hour evening period is immaterial in the context of noise assessments carried out in advance of the works to determine the need for a Bespoke Mitigation Plan. The calculations will consider both periods, and predicted exceedance of either period (or the other stated levels) will trigger the need for a Bespoke Mitigation Plan.

4.4.5 The details of the works and proposed controls must be submitted to and approved by ESC before the specified activity can commence. The measures must be implemented as approved for the duration of those activities. Where ESC does not approve the submitted Bespoke Mitigation Plan in whole or in part within a period of 28 days, SZC Co. can elect to instigate the dispute resolution process set out in **Section 4.5** in respect of the unapproved parts. Works covered by a Bespoke Mitigation Plan that are subject to the dispute resolution process set out in **Section 4.5**, must not be commenced until the dispute resolution process has been completed, or agreement otherwise reached. It is permissible for approved elements of a Bespoke Mitigation Plan to commence upon approval while unapproved elements are subject to the dispute resolution process set out in **Section 4.5**.

4.4.6 The number and duration of occasions on which activities subject to Bespoke Mitigation Plans are carried out will be limited to those approved by ESC.

## 4.5 Dispute Resolution Process

4.5.1 In the event that SZC Co. and ESC cannot agree the terms of a Bespoke Mitigation Plan, it will be open to SZC Co. to either:

- refer the disagreement to a Governance Group set up under the Deed of Obligation to seek guidance; or
- activate the formal dispute resolution process set out in this Section 4.5.

4.5.2 ESC will be under no obligation to agree the terms of a submitted Bespoke Mitigation Plan (so long as it is acting reasonably) and none of the Governance Groups established in the **Deed of Obligation** (Doc Ref.10.4) are authorised to determine a dispute concerning a Bespoke Mitigation Plan. Nevertheless, SZC Co. will be entitled to seek advice and assistance from one of these Governance Groups in reaching agreement with ESC. Depending on the nature of the disagreement and the availability of a relevant Governance Group, for instance, SZC Co. could seek advice from the Planning Group, the Environment Review Group or the Delivery Steering Group.

4.5.3 In the event that SZC Co. considers that formal dispute resolution is necessary, it may send ESC a notice stating that it intends to refer the dispute to an expert for determination in accordance with the process set out below:

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- SZC Co will request that the President of the Institute of Acoustics nominate a suitably qualified expert (the Expert) to act as an expert and not as an arbitrator. If that Expert is or becomes unable or unwilling to act, then SZC Co will request that the President of the Institute of Acoustics nominate a suitable replacement Expert;
- SZC Co will meet all reasonable and proper costs involved in the appointment of the Expert and the determination of the dispute by the Expert following the receipt by SZC Co of invoices from the Expert and ESC;
- Following the appointment of the Expert, SZC Co. will submit to the Expert in writing details of the proposed Bespoke Mitigation Plan and SZC Co.'s written justification for the terms of that Plan ('the dispute'). SZC Co. will provide a copy of the dispute to ESC;
- No later than providing the dispute to the Expert in accordance with c), SZC Co. will ensure that the Expert has access to the Sizewell C Environmental Statement (in its final form), the **CoCP** (Doc Ref. 10.2), the **NMS** (Annex W of the DoO (Doc Ref. 10.4)), the relevant **NMMP** and all relevant noise monitoring data that may be relevant to the dispute;
- As soon as practical and in any event within 28 days of receipt of the dispute, the Expert will invite ESC to submit its response to the dispute. Any response from ESC must be submitted within 28 days of receipt of that invitation from the Council, be in writing, and copied to SZC Co;
- Exceptionally, the Expert will be entitled to send either party a written request for further information if necessary to assist his or her determination (with a copy of the request sent to the other party) and to set a reasonable period (of no longer than 28 days) for both parties to respond but, subject to that exception, the Expert will be required to determine the dispute within 28 days of ESC's response;
- The determination by the Expert will be in writing, and take the form of a final form of the Bespoke Mitigation Plan and will be final and binding on both parties (in the absence of manifest error). The Expert will give reasons for its determination.
- In reaching his or her determination, the Expert will:

- be guided by best professional practice, by the terms of documents submitted under item d) above, and by the policy requirements of NPS EN-1 or any successor document; and
- have regard to any representations and evidence before them.

## 5 SITE-SPECIFIC CONTROLS

### 5.1 Working Hours

5.1.1 The working hours at the main development site will be as set out in paragraph 1.3.1 in Part B of the **Code of Construction Practice** (Doc Ref. 10.2).

### 5.2 Noisy Work Controls

5.2.1 Any periods where the thresholds set out in **Tables 4.1 or 4.2** are likely to be exceeded will be considered to constitute ‘noisy’ works and the following actions from the **CoCP** (Doc Ref.10.2) (secured by Requirement 2) will be implemented as appropriate, to be documented in any agreed Bespoke Mitigation Plan:

- staggering or restricting certain activities to less-sensitive periods (CoCP Part B Table 3.1);
- installing temporary screens as required to provide additional screening attenuation and to protect sensitive receptors (CoCP Part B paragraph 3.3.2);
- notifying local communities of potentially noisy or disruptive works (CoCP Part B paragraph 3.3.6 and paragraph 3.3.22).

### 5.3 Physical Controls

5.3.1 The following barriers will be erected at the main development site as primary mitigation:

- Barrier #4 (B4) – 5m high acoustic fence;
- Barrier #6 (B6) – 3m high earth bund;
- Barrier #7 (B7) – 3m high earth bund with a 2m high acoustic fence on top of the ridge (5m total height).

5.3.2 The following barriers were identified as potential additional mitigation in the ES (paragraph 11.7.7 of **Volume 2, Chapter 11** of the **ES** [\[APP-202\]](#),

electronic page 84], updated by **section 2.6** in **Volume 1, Chapter 2** of the **First ES Addendum** [[AS-181](#), electronic page 133] and associated appendices contained in **Volume 3, Appendices 2.6.A to 2.6.C** of the **First ES Addendum** [[AS-204](#)]), and the need for these barriers, and their construction, will be subject to confirmation as part of the refreshed assessments that inform the **NMS** (Annex W of the DoO (Doc Ref.10.4)) (secured by Schedule 12 of the **DoO**) and this draft **NMMP**:

- Barrier #1 (B1) – 5m above ground;
- Barrier #2 (B2) – 3m above ground;
- Barrier #3 (B3) – 3m above ground;
- Barrier #5 (B5) – 3m above ground; and
- Barrier #8 (B8) – 5m above ground.

5.3.3 These barriers are all shown in **Volume 2, Chapter 11, Figure 11** of the **ES** [[APP-211](#), electronic page 5], which is included in **Appendix A** of this document.

## 5.4 General Controls

5.4.1 The general controls to be implemented are set out in **Table 3.1** in **Part B** of the **CoCP** (Doc Ref. 10.2) (secured by Requirement 2).

5.4.2 SZC Co. is responsible for the compliance with the obligations set out in the final NMMP and compliance with approved Bespoke Mitigation Plans. As a description of how SZC Co. plans to ensure this: SZC Co. will require its contractors to prepare Construction Environment Management Plans (CEMPs) for its approval. These plans will demonstrate to SZC Co. how the specific works will be carried out in accordance with the Level 1 and Level 2 control documents (including the Bespoke Mitigation Plans) and all other relevant legislation and guidance.

## 6 NOISE AND VIBRATION MONITORING

6.1.1 Noise and vibration monitoring will be carried out throughout the Sizewell C construction works, to determine compliance with the target noise levels set out in the **NMMP**.

6.1.2 This section of the **NMMP** sets out the proposed approach to that monitoring.

6.1.3 The thresholds identified in **Tables 4.1 and 4.2** apply to noise or vibration from SZC Co.'s construction works only. Where required, steps will be taken to exclude non-construction sources from any measurements.

6.1.4 Any 1 hour measurements that exceed the numerical noise thresholds in **Table 4.1** for the appropriate period of the day or night will be taken as an indication that the overall thresholds may be exceeded unless corrective action is taken.

## 6.2 Measurement Locations

6.2.1 The measurement locations have been selected to be representative of noise-sensitive receptors close to the construction works.

6.2.2 Monitoring locations are shown in Appendix B and are as follows, including the receptor reference numbers from **Volume 2, Chapter 11** of the **ES [APP-202]** updated by the ES Addendum [[AS-181](#)] and [[AS-204](#)]:

- **Position 1:** Abbey Cottages (Receptor 1)
- **Position 2:** Abbey Farm (Receptor 2)
- **Position 3:** Abbey Road, Leiston (adjacent 99-105) (Receptor 3)
- **Position 4:** Crown Lodge (Receptor 7)
- **Position 5:** Keepers Cottage (Receptor 11)
- **Position 6:** King George's Ave (Receptor 12)
- **Position 7:** Pro Corda Music School, Leiston Abbey (Receptor 13)
- **Position 8:** Lover's Lane / Sandy Lane junction (Receptor 14)
- **Position 9:** Old Abbey Care home (Receptor 15)
- **Position 10:** Planation Cottages (Receptor 16)
- **Position 11:** Potters Farm (Receptor 17)
- **Position 12:** Round House (Receptor 20)
- **Position 13:** The Studio (Receptor 23)
- **Position 14:** Valley Road (Receptors 24/24)

- **Position 15:** Aldhurst Farm (No ES receptor reference)

- **Position 16:** Ash Wood Cottages (Receptor 4)

6.2.3 It will be acceptable to monitor at a representative sample of the identified positions, and assign the measured noise levels to nearby or adjacent positions. Justification for any variations will be submitted to and approved by ESC.

6.2.4 Other locations may be acceptable, subject to agreement with ESC.

## 6.3 Measurement Equipment

6.3.1 All noise monitoring systems will meet the following requirements:

- Type 1/Class 1 sound level meter, complying with BS EN 61672-1 and BS EN 61672-2 [Ref 1];
- Type 1/Class 1 field calibrator, complying with BS EN IEC 60942:2018 [Ref 2].

6.3.2 An effective windshield will be used throughout to minimise turbulence at the microphone.

6.3.3 All vibration monitoring systems will meet the requirements set out in BS 5228-2: 2009+A1: 2014 [Ref 3].

## 6.4 Meteorological Monitoring Equipment

6.4.1 Meteorological data will be gathered during any noise measurements. As a minimum, the following information will be gathered:

- wind speed and direction;
- precipitation;
- fog;
- wet ground;
- frozen ground or snow cover;
- temperature;
- cloud cover; and

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- presence of conditions likely to lead to temperature inversion (e.g. calm nights with little cloud cover).

6.4.2 Hand-held anemometers are acceptable to periodically gather wind speed data for attended measurements. Where unattended measurements are undertaken, either a remote meteorological station will be used, or a suitable third party source of local meteorological data identified.

## 6.5 Calibration Requirements

6.5.1 All sound level meters will have been laboratory-calibrated to a traceable standard within a two year period prior to the end of the measurements. All field calibrators will have been similarly calibrated within a one year period prior to the completion of the measurements, or within a two year period prior to the completion of the measurements but be subject to a cross-check every other year. Any such cross-checks will be documented.

6.5.2 Calibration certificates for all noise monitoring equipment will be retained on file and made available to East Suffolk Council upon request.

6.5.3 The on-site field calibration of the sound level meters will be checked immediately prior to the start of any measurements and after any measurements, using acoustic calibrators. Where appropriate, intermediate checks will be carried out of the meter's calibration. For long-term or permanent monitoring locations, the periodic calibration will be at least every six months. All calibration checks will be reported to East Suffolk Council, and any drifts stated.

6.5.4 Should the calibration of a meter drift by more than 1dB for an unattended measurement over several days, or by more than 0.5dB for an attended measurement, the data gathered will be reported to East Suffolk Council but not used in any subsequent assessment.

## 6.6 Measurement Periods

6.6.1 Measurements will be undertaken during both weekdays and weekends, and will cover the daytime (07:00 to 23:00 hours) and night-time (23:00 to 07:00 hours) periods as necessary.

6.6.2 Measurements will include a combination of long-term, semi-permanent monitoring at some positions, and short duration, attended monitoring at others. The proposed combination of monitoring duration and location will be agreed with ESC.

---

## 6.7 Baseline Measurements

6.7.1 Baseline measurements were undertaken as part of the Environmental Impact Assessment. These are contained in **Appendix C** of this document.

6.7.2 Further baseline measurements will be undertaken in advance of the start of any works and reported to ESC. Any baseline measurements undertaken after the works have started will, as far as is possible, be free from the influence of SZC Co. construction works and will capture the existing level of ambient noise at each location.

6.7.3 The purpose of further baseline monitoring is to quantify non-construction noise levels at any given location to facilitate the calculation of construction noise levels where monitoring includes a combination of both construction noise and non-construction noise.

6.7.4 Any update to the **NMMP** will include any relevant or necessary updates to the baseline noise survey data, which will take account of changes in the noise climate occur, where these changes do not result from construction activities at Sizewell C.

6.7.5 The duration of further baseline measurements may vary according to a number of factors, including but not limited to, the security of a given location, access constraints, weather, and the presence of local extraneous noise sources, such as local atypical activities, e.g. lawn mowers. Regard will be had of the sea state during any baseline measurements influenced by noise from the sea.

6.7.6 Where possible, baseline measurements will be conducted over a minimum 24 to 48 hour period, at a secure location, using remote, automated equipment. For locations where it is not possible to secure a meter for an extended period, for example where there are access or security constraints, measurements will be undertaken over shortened periods, as appropriate.

6.7.7 Further baseline measurements will be gathered across daytime (07:00 to 23:00 hours) and night-time (23:00 to 07:00 hours) periods on a weekday and weekend (Saturday and Sunday).

6.7.8 Where baseline data gathered at one location is considered representative of another location, this will be made clear.

## 6.8 Reporting Requirements

6.8.1 The following information will be reported to ESC for all measurements:

- the appropriate measured values, e.g.  $L_{Aeq,T}$ ,  $L_{Amax}$ , PPV, together with details of the appropriate time periods;
- details of the instrumentation and measurement methods used, including details of any sampling techniques, position of microphone(s) in relation to the site and system calibration data;
- any factors that might have adversely affected the reliability or accuracy of the measurements;
- plans of the site and neighbourhood showing the position of plant, associated buildings and notes of site activities during monitoring period(s);
- notes on weather conditions, including where relevant, wind speed/direction, temperature, presence of precipitation, etc.;
- time, date and name of person carrying out the measurement.
- statement of compliance with the identified maximum appropriate sound level for that location.

6.8.2 Survey reports will be submitted to ESC within 28 days of completion of that particular element of monitoring, unless agreed otherwise.

## 7 COMPLAINTS HANDLING PROCESS

7.1.1 Section 3 of the **CoCP** Part A (Doc Ref. 10.2) (secured pursuant to Requirement 2) sets out the proposed communication, community and stakeholder engagement arrangements, including a complaints handling procedure, that will be applied throughout the construction period.

## REFERENCES

1. BS EN 61672-1:2013 Electroacoustics. Sound level meters – Specifications and BS EN 61672-2: 2013+A1: 2017 Electroacoustics. Sound level meters - Pattern evaluation tests
2. BS EN IEC 60942:2018 Electroacoustics. Sound calibrators
3. British Standard BS5228-2: 2009+A1: 2014 Code of Practice for noise and vibration control at open construction sites – Vibration

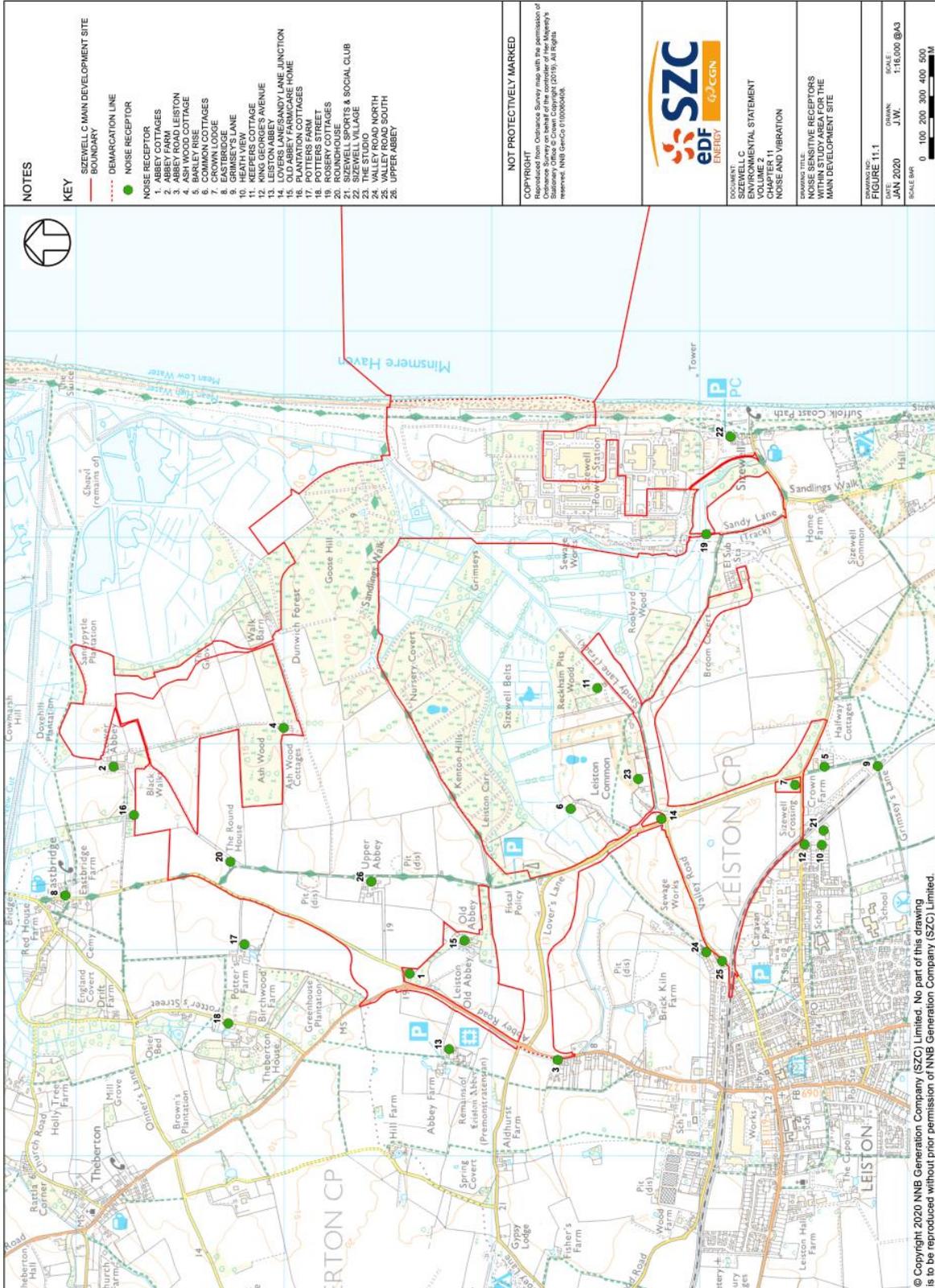
## APPENDIX A: BARRIER LOCATIONS

Figure A.1: Barrier location plan



## APPENDIX B: MONITORING LOCATIONS

Figure B.1: Indicative monitoring location plan



## APPENDIX C: BASELINE NOISE LEVELS

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**Table C.1: Summary of ES baseline noise survey results**

Receptor Name	Receptor Reference (See Figure C.1)	Typical Daytime Noise Level		Typical Night-time Noise Level	
		L <sub>Aeq,T</sub> (dB)	L <sub>A90,T</sub> (dB)	L <sub>Aeq,T</sub> (dB)	L <sub>A90,T</sub> (dB)
Eastbridge South	MS1	50	32	38	26
Lower Abbey Farm	MS2	55	34	38	28
Leiston Old Abbey	MS3	38	35	40	35
Land East of Potters Farm	MS4	43	35	30	25
Land South and West of Minsmere	MS5	36	29	31	28
The Roundhouse	MS6	41	35	38	35
Ash Wood Cottages	MS7	45	40	39	35
Abbey Marshes	MS8	45	40	35	33
Coast Path North	MS9	43	39	41	39
Bridleway Centre	MS10	45	35	35	28
Hill Farm	MS11	45	37	33	25
Leiston Abbey, rear	MS12	42	38	30	27
Old Abbey Farm Lodge	MS13	71	42	50	28
Abbey Cottage	MS14	56	41	40	30
Old Abbey Care Home	MS15	47	43	34	30
Sizewell Marshes West	MS16	45	36	34	27
Sizewell Marshes East	MS17	40	39	40	39
Cakes and Ale Caravan Site	MS18	50	42	40	33
Leiston North	MS19	70	40	60	30
Coastal Path at Site	MS20	50	48	48	47
The Gatehouse, Saxmundham Road	MS21	70	40	50	30
Leiston Station	MS22	65	45	45	30
Leiston Centre	MS23	47	40	40	30
Valley Road, Leiston	MS24	45	40	35	28
Sandy Lane West	MS25	50	45	45	30
Keepers Cottage	MS26	42	35	30	28
Rosery Cottages	MS27	47	45	47	45
Sizewell Village	MS28	48	43	43	40
Leiston Rail Crossing, King George's Avenue	MS29	65	45	50	35

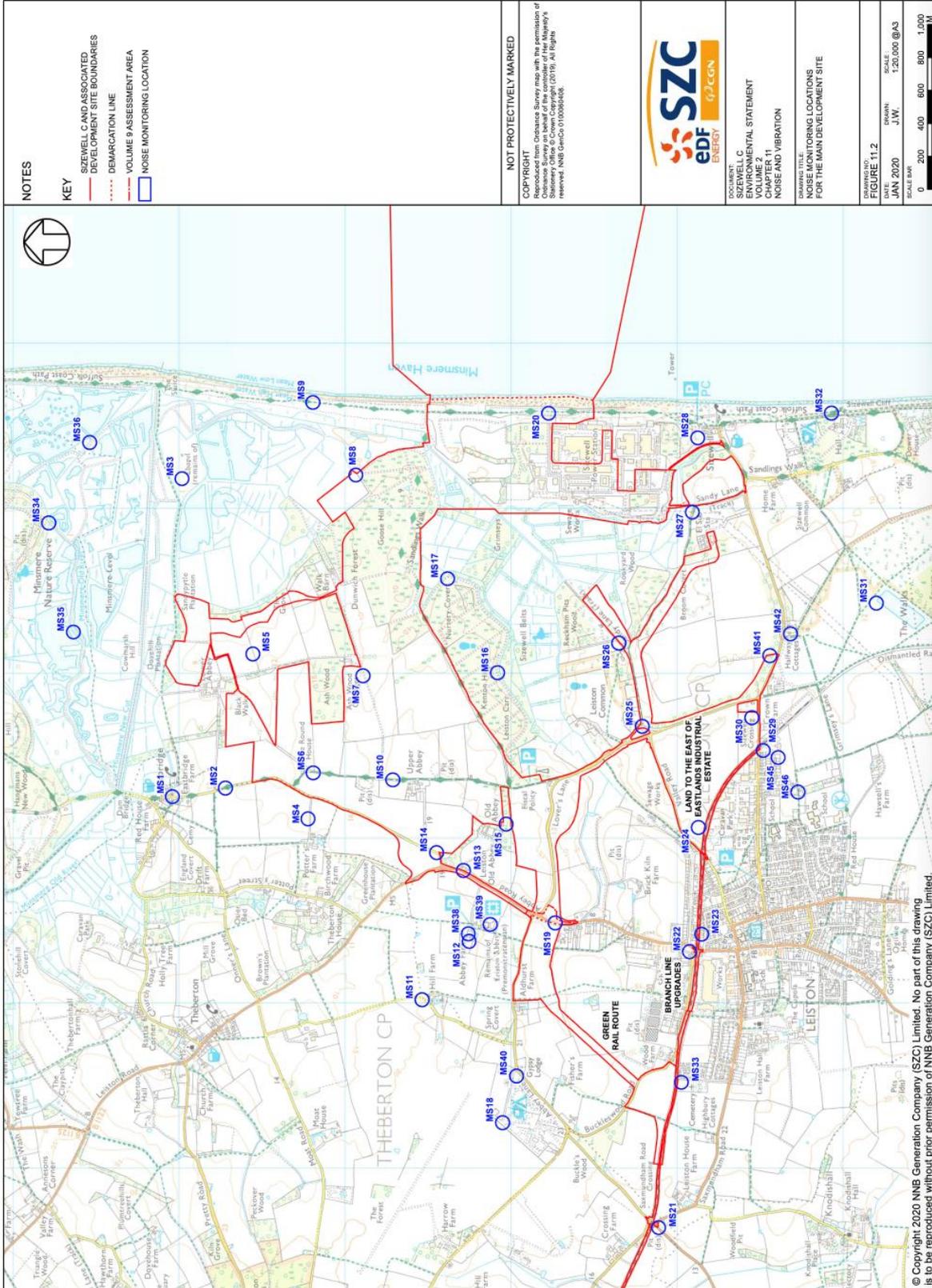
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Receptor Name	Receptor Reference (See Figure C.1)	Typical Daytime Noise Level		Typical Night-time Noise Level	
		L <sub>Aeq,T</sub> (dB)	L <sub>A90,T</sub> (dB)	L <sub>Aeq,T</sub> (dB)	L <sub>A90,T</sub> (dB)
Crown Lodge	MS30	60	45	45	30
Sandlings	MS31	40	35	32	30
Sizewell Campsite	MS32	50	48	50	48
Leiston West	MS33	45	38	33	30
Minsmere (Bittern Hide)	MS34	35	30	33	27
Minsmere (Post N)	MS35	38	30	32	25
Minsmere (South Hide)	MS36	40	37	40	37
Leiston Abbey Courtyard	MS38	43	35	30	26
Leiston Abbey Residential Block	MS39	45	37	35	26
Cakes and Ale Entrance	MS40	53	36	40	26
Sizewell Gap	MS41	54	45	45	40
Halfway Cottages (Sizewell Gap Road)	MS42	53	45	40	35
Heath View, Eastern end	MS45	46	40	40	35
Heath View, Southern end	MS46	42	37	30	28

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Figure C.1: ES baseline monitoring location plan



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## APPENDIX C MAIN DEVELOPMENT SITE – REPTILE MITIGATION STRATEGY



# SIZEWELL C PROJECT – REPTILE MITIGATION STRATEGY

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# SIZEWELL C PROJECT – REPTILE MITIGATION STRATEGY

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## 1. Introduction and Background

### 1.1 Introduction

1.1.1 SZC Co. is proposing to build and operate a new nuclear power station on the Suffolk coast, known as Sizewell C power station (hereafter referred to as Sizewell C) located to the north of the existing Sizewell B power station.

1.1.2 This Reptile Mitigation Strategy, dated August 2021, outlines the key approaches to mitigating potential impacts to reptiles on the main development site and supersedes, but makes reference to content within, the version submitted as part of the Development Consent Order (DCO) application (originally submitted as **Volume 2, Chapter 14, Appendix 14C2A** of the ES [[APP-252](#)]). The proposed mitigation solution has been devised based on the survey data collected to date and the impacts outlined in **Volume 2, Chapter 14** of the **Sizewell C Project Environmental Statement (ES)** [[AS-033](#)]. This document should be read alongside the following documents:

- **Volume 2, Chapter 14, Appendix 14A6** of the ES [[APP-235](#)], which presents the reptile baseline for the main development site;
- **Volume 2, Chapter 14** of the ES [[AS-033](#)] which assessed the potential impacts on reptiles and outlines the requirements for mitigation and the residual effects;
- **Volume 2, Chapter 14, Appendix 14C2B** of the ES (**Reptile Non-Licensable Method Statement: Main Development Site**) (now Appendix E of Part B of the CoCP (Doc Ref.10.2)) which sets out the key approaches to mitigating potential impacts to the reptile populations present within or adjacent to the Sizewell C main development site during construction; and,
- **Reptile Survey Report 2020** [[AS-036](#)] which provided an update to the reptile baseline and reviewed earlier population assessments.

1.1.3 Level 1 control documents will either be certified under the DCO at grant or annexed to the Deed of Obligation (DoO). All are secured and legally enforceable. Some Level 1 documents are compliance documents and must be complied with when certain activities are carried out. Other Level 1 documents are strategies or draft plans which set the boundaries for a subsequent Level 2 document which is required to be approved by a body or

governance group. The obligations in the DCO and DoO set out the status of each Level 1 document.

- 1.1.4 This Reptile Mitigation Strategy is a Level 1 and is appended to the Code of Construction Practice and secured by Requirement 2 of the dDCO. This strategy will be reviewed prior to construction and prior to any reptile translocation and any updates must be agreed with the Ecology Working Group (EWG).
- 1.1.5 Where further documents or details require approval, this document states which body or governance group is responsible for the approval and/or must be consulted. Any approvals by East Suffolk Council, Suffolk County Council or the MMO will be carried out in accordance with the procedure in Schedule 23 of the dDCO. The Deed of Obligation establishes the governance groups and sets out how these governance groups will run and, where appropriate, how decisions (including approvals) should be made. Any updates to these further documents or details must be approved by the same body or governance group and through the same consultation and procedure as the original document or details.
- 1.1.6 Where separate Level 1 or Level 2 control documents include measures that are relevant to the measures within this document, those measures have not been duplicated in this document, but cross-references have been included for context. Where separate legislation, consents, permits and licences are described in this document they are set out in the **Schedule of Other Consents, Licences and Agreements** (Doc Ref. 5.11(C)).
- 1.1.7 For the purposes of this document the term ‘SZC Co.’ refers to NNB Nuclear Generation (SZC) Limited (or any other undertaker as defined by the dDCO), its appointed representatives and the appointed construction contractors.

## 1.2 Baseline and Impact Assessment

- 1.2.1 Four species of reptiles are known to be present within the main development site, namely: adder (*Vipera berus*), slow-worm (*Anguis fragilis*), grass snake (*Natrix helvetica*<sup>1</sup>) and common lizard (*Zootoca vivipara*). **Appendix 1** summarises the legislative framework for these four species of reptiles.
- 1.2.2 Reptile surveys were undertaken by Wood Group between 2007 and 2012 and by Arcadis in 2014 to 2016 and 2020. The results of the surveys from 2007 to 2016 are presented within **Volume 2, Chapter 14, Appendix 14A6** of the **ES [APP-235]** which also includes survey and assessment of prey

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<sup>1</sup> The grass snake in the UK was reclassified as *Natrix helvetica helvetica* rather than *Natrix natrix helvetica* (Kindler *et al.* (2017)).

availability in identified donor and receptor sites. Population sizes were initially estimated using results from the 2015-2016 surveys (see **Volume 2, Chapter 14, Appendix 14A, Annex 14C2B** of the **ES [APP-252]**) and this process was updated following the 2020 surveys (see **Reptile Survey Report 2020 [AS-036]** which also includes a summary of the 2007 to 2016 data).

- 1.2.3 **Volume 2, Chapter 14** of the **ES [AS-033]** assessed the potential impacts on reptiles and outlines the requirements for mitigation and the residual effects. The results of the 2020 updated surveys supported the assessment in the **ES** which was based on the earlier survey data.
- 1.2.4 In summary, the main development site and its zone of influence was considered to constitute a “Key Reptile Site” as defined by Froglife criteria (Ref 1.1), as it fulfils all of the first four criteria; that is: supports three or more reptile species; supports two snake species (grass snake and adder); supports an exceptional population of one species (adder); and supports an assemblage of species scoring at least 4.
- 1.2.5 The reptile assemblage as a whole (rather than the four individual species) was therefore considered to be of regional importance under CIEEM guidelines (Ref 1.2) and of medium importance under the EIA-specific assessment methodology (see **Volume 1, Chapter 6, Appendix 6J** for further details [APP-171](#)]).
- 1.2.6 Please refer to **Appendix A** for a series of diagrams that highlight the location of all reptiles records (within a heat map) collected since 2007. The figures also highlight the location of the reptile donor sites and corresponding receptor sites (these are discussed further within **Section 2**).
- 1.2.7 Based on survey records and an assessment of habitat suitability, reptile presence across the main development site can be separated into distinct areas that are affected by the proposals. These are described within **Table 1.1**.

**Table 1-1: Areas with reptile presence affected by the proposals.**

Site name and Total Area affected within RLB (approximate ha)	Details
Sizewell C Main Platform including the	This area comprises predominately semi-improved grassland with rabbit and deer grazed turf supporting <i>Cladonia</i> lichen communities in places which is sub-optimal for reptiles due to its lack of structural diversity. Two strips of broadleaved plantation woodland run north to south through the grassland and frequently flood in winter

Site name and Total Area affected within RLB (approximate ha)	Details
SSSI Triangle (38ha)	<p>and there is a block of young conifer plantation at the southern extent, which are also largely sub-optimal for reptiles except for the edge habitats. There is a large bund running along the east and north edge which contains east and south facing slopes, brash piles and scattered and dense scrub with diverse vegetation structure valuable to reptiles. The whole area is accessed by Sizewell C workers and is exposed to minor disturbance.</p> <p>The SSSI triangle lies to the north-west of the above separated by the Sizewell Drain. This is part of the of Sizewell Marshes SSSI and comprises a mosaic of wet and dry reedbed, open water and wet woodland dissected by red deer tracks. Vegetation structure is diverse throughout this section, which is not accessible to the public. This section floods heavily particularly during winter however is suitable for reptiles and provides important foraging habitat.</p> <p>It supports populations of adder (high), grass snake (low), common lizard (moderate) and slow worms (high).</p>
Goose Hill Complex (52ha)	<p>This area comprises areas of dense coniferous plantation woodland that is generally unsuitable for reptiles. Nevertheless, woodland edge habitats in this area comprise a variety of suitable and unsuitable reptile habitats. The value of this area for reptiles lies within the open sandy woodland rides that cross Goose Hill, which contain grassland and scrub vegetation, dead wood/brash piles and a band of native scrub planting along the southern edge of the woodland (adjacent to the north of the SSSI Triangle).</p> <p>Goose Hill is bordered by arable fields to the north dissected by hedgerows and lines of trees. The fields are largely unsuitable for reptiles however the linear features provide suitable habitat for reptiles, particularly those moving through the site.</p> <p>This area has been found to support populations of adder (high), grass snake (low), common lizard (moderate) and slow worms (high).</p>
Retsom's Field (3.2ha)	<p>This field comprises grazed pasture that is largely unsuitable for reptiles. However, small patches of gorse and heather to the north-west provide habitat structure, and the field is the subject of a mitigation strategy for natterjack toad (<i>Epidalea calamita</i>) [REP5-053]. The removal of any natterjack toads from that area of the proposed water management zone in this area will also be used to capture any reptiles present in this footprint. Surveys have not been undertaken within this area for reptiles however presence (albeit in low numbers based on patch quality), is assumed.</p>
Black Walks and Fields to South of Sandpytle Plantation (6.2ha)	<p>This area comprises rabbit grazed semi-improved acid grassland with short turf, the majority of which is sub-optimal for reptiles. There is a band of scattered scrub, woodland blocks, scattered trees and bracken through the centre of Black Walks which provide habitat structure that is suitable for reptiles, and the margins of Black Walks and Sandpytle Plantation provide further reptile habitat. It supports populations of adder (low), grass snake (moderate), common lizard (low) and slow worms (moderate).</p>

Site name and Total Area affected within RLB (approximate ha)	Details
Northern Arable Fields, 'Campus' Area, Land North of Lovers Lane and Ashwood (125ha)	The vast majority of this area comprises arable fields which are largely unsuitable for reptiles however the hedgerows provide opportunities for reptiles, particularly those moving through the site. There are also two old borrow pits which have scrubbed over providing islands of suitable reptile habitat in this area. Populations of grass snake (moderate) and slow worm (moderate) have been recorded in this area.
Land Associated with National Grid Cabling (11ha)	This area comprises compartments of semi-improved grassland some with patches of Bracken, Bramble scrub and scattered trees. The turf is short throughout and is grazed heavily by rabbits. The edges of the longer vegetation provide the most suitable habitat for reptiles within this area. This area supports populations of adder (low), grass snake (low), common lizard (low) and slow worms (low).
Hedgerows associated with the Southern Arable Fields (29ha)	These arable fields are sub-optimal for reptiles as the hedgerows are species poor, lack diverse structure and there are only narrow field margins. There is an area of grassland scrub mosaic along the north boundary, which is suitable for reptiles, providing good vegetation structure from rabbit grazed bare ground to dense scrub and scattered trees.  Surveys have not been undertaken by Sizewell C co within this area for reptiles however presence is assumed, particularly within the northern strip.
Total area: 264ha (with 32ha of optimal habitat)	

### 1.3 Mitigation Strategy Overview

#### 1.3.1 In summary, the proposed strategy involves:

- preparation and management of receptor sites to receive translocated reptiles (see **Section 2**);
- the identification of donor sites (as described above and discussed further in **Section 2**) and capture/exclusion of reptiles from the construction footprint to avoid incidental mortality (see **Section 3**); and
- pre-, during- and post-construction monitoring of reptile populations (see **Section 4**).

1.3.2 **Table 1.2** outlines the proposed construction and operational phases in relation to reptile mitigation and incorporates habitat improvement measures as part of the mitigation measures.

**Table 1-2: Construction and Operational Phases in relation to reptile mitigation**

Phase	Specific action	Timing
<p><b>Preliminary works</b> - activities proposed prior to a DCO being granted, to expedite the delivery of the works.</p>	Selection, preparation and management of potential receptor sites.	2012-present
	Reptile surveys and suitability monitoring at receptor sites.	2014-present
	Commencement of reptile translocation.	TBC
<p><b>Construction phase</b> - construction will commence with establishment of the site and preparations for the main earthworks, focussing on securing and clearing the site and provision of early access routes.</p> <p>As the main construction phases conclude, temporary facilities would start to be removed and the temporary construction site areas restored to the habitats defined within the <b>Outline Landscape and Ecological Management Plan (OLEMP) (Doc Ref. 10.22)</b></p>	Completion of reptile translocation and destructive searches to provide reptile-free construction footprint.	Y1
	On-going monitoring programme as per the <b>Terrestrial Ecology Monitoring and Mitigation Plan (TEMMP) (Doc Ref.10.28))</b>	Y1-12
<p><b>Operational phase</b></p>	On-going monitoring programme at receptor sites as per the <b>TEMMP (Doc Ref. 10.28)</b>	Y13 – Y17

## 2. Receptor Sites

### 2.1 Overview

2.1.1 With all species translocations there is the risk of underestimating the number of reptiles that would need to be captured and translocated from the construction footprint. This has been addressed by SZC Co. by ensuring that the translocation is underpinned by sufficiently large receptor areas of high-quality habitat. The approach to the mitigation solution presented within this strategy has been to ensure an increase in area of better-quality habitat and that these habitats are well connected to the wider landscape. Suitable habitat creation was considered fundamental to this, and the following five receptor sites have been created in advance of impact:

- Kenton Hills;
- St James Covert;
- Studio Field complex (which includes Broom Covert, Studio Field, Lovers, Halfway, and land west of Studio Fields);
- Great Mount Walk/Low 40 Acres; and
- Aldhurst Farm.

2.1.2 The locations of the proposed receptor sites (see **Figure 14.C2A.10** [[APP-255](#)]; and **Appendix A**) have been selected to maximise connectivity with the wider landscape using existing ecological features and corridors (see **Figure 14.C2A.10** [[APP-255](#)]) and to maximise the establishment and spread of other biodiversity including reptile prey species. Photographs of the receptor sites from 2015 are presented in **Volume 2, Chapter 14, Appendix 14C2A** of the **ES** [[APP-252](#)].

2.1.3 These receptor sites provide a total area of approximately 170.2ha. Approximately 46.9ha of this is regarded as optimal reptile habitat (as noted in **Table 1.1** it is estimated that 32ha of optimal reptile habitat will be lost to facilitate the proposals) and includes areas with varied vegetation structure provided by scattered scrub, heather and reedbed along with retained hedgerows and ditches and purpose-built brash piles, refugia and hibernacula. These habitat patches are interspersed with areas of sub-optimal but valuable reptile habitat such as rough grassland and woodland patches. It is also envisaged that the total area of optimal habitat will increase further as habitats (such as those within Kenton Hills) are subject to further

ongoing management to improve vegetation structure prior to them receiving reptiles (see **Section 4**).

2.1.4 To maximise the suitability of the receptor sites (and therefore the success of this mitigation strategy), a range of habitat and lifecycle features have been provided based on the advice provided within the Reptile Habitat Management Handbook (Ref. 1.3). The general principles followed during receptor site creation (that will also be followed for any further habitat creation within the receptor sites) are presented in **Appendix C**.

2.1.5 It is not intended to translocate all species of reptiles to all receptor sites as different reptile species have different habitat requirements and pressures; given the proximity of Aldhurst Farm to Leiston and the possibility of opening up parts of this area to the public, this site would not be used for adders due to the potential conflict with members of the public.

## 2.2 Kenton Hills

2.2.1 The Kenton Hills receptor site (see Figure 14C2A.13 [[APP-255](#)]) comprises approximately 3.9 ha of cleared conifer woodland divided into four sub-compartments; the western-most of these was clear-felled (timber removed and brash mulched) in 2008, and the remaining three sub-compartments were clear-felled and mulched in 2011. South-facing windrows were created to provide shelter and hibernation sites running full length of each compartment a long with four dedicated hibernation structures built per compartment.

2.2.2 Reptile exclusion fencing was erected around all four sub-compartments in October 2011 and will remain in place until commencement of the translocation.

2.2.3 The wider Kenton Hills already supports good quality reptile habitat, and the habitat modifications and creation of large brash piles/hibernacula were undertaken (2008 and 2011) to boost its carrying capacity significantly. Subsequent management has included management of bracken and scrub to maintain the receptor area in an optimal condition. Once the reptile exclusion fencing has been removed, there will be excellent connectivity with the adjacent wetland habitat of Sizewell Marshes SSSI.

2.2.4 The receptor site is considered suitable to receive all four species and despite the fencing being in place, it has been colonised by adder (good population size; see **Reptile Survey Report 2020** [[AS-036](#)] for all population size class' quoted in this section), grass snake (low), common lizard (good) and slow worms (good).

2.2.5 The Kenton Hills receptor site will provide a receptor for displaced reptiles currently using the southern sections of the Northern Arable Fields donor site. In addition to this, approximately 25% of adders (1 in 4 captured) from the Goose Hill and Kenton Hills Complex donor site will be released here. The location of all donor and receptor sites are illustrated on **Figures 1 to 4** in **Appendix A**.

## 2.3 St James Covert

2.3.1 The receptor area in St James Covert (see **Figure 14C2A.14** [[APP-255](#)]) was clear-felled (timber removed and brush mulched) in 2010. Five south-facing windrows were created to provide shelter and hibernation sites, with dedicated hibernation structures built. A limited amount of shrub planting has been undertaken to bulk up and link existing areas of scrub, with adjacent large brush piles to provide cover. Trees to the southern edges of both compartments between the receptor site and Broom Covert were also scalloped at edges and thinned to allow more light into receptor area.

2.3.2 Reptile exclusion fencing was erected in 2011 to create two (a large and small) compartments totalling 1.4 ha. Exclusion fencing will remain in place until commencement of the translocation.

2.3.3 The receptor site is suitable to receive all four reptile species and despite the reptile exclusion fencing being in place, it was recorded to have been colonised by adder (low), grass snake (low), common lizard (low) and slow worms (low to good) in 2020 [[AS-036](#)].

2.3.4 Approximately 25% of adders (1 in 4 captured) from the Goose Hill and Kenton Hills Complex donor site will be released at St James Covert. The location of all donor and receptor sites are illustrated on **Figures 1 to 4** in **Appendix A**.

## 2.4 Studio Field Complex

2.4.1 The Studio Field complex comprises Studio Field (see **Figure 14C2A.16** [[APP 255](#)]), Land west of Studio Field, Lovers Field and Half Way Field (see **Figure 14C2A.16** [[APP-255](#)]) and Broom Covert (see **Figure 14C2A.15** [[APP-255](#)]) totalling an area of approximately 50.7 ha.

2.4.2 The field complex was former agricultural land situated to the south of Sandy Lane. Studio Field was ploughed, cultivated and sown with grass seed mix in Autumn 2012. The aim was to encourage plants to tiller and thus aid the creation of a denser sward. Heather brushings were applied (and half were rolled) in Winter 2014/2015 to increase the diversity of heathland plants within the grassland sward. These were applied in 'patches' to add diversity

by providing seeds of heather and other heathland/acid grassland plants and invertebrates to colonise the wider area.

- 2.4.3 Gorse Covert comprises flower rich lowland acid grassland and gorse scrub mosaic. Heavy stock grazing ceased within the field in 2016 and the grassland has recovered well from grazing pressure.
- 2.4.4 All other areas (except the dense tussocky grassland that exists in the southern portion of Lovers) were sown in the winter of 2014/2015 with an acid grassland seed mix comprising Sheep's fescue (19%); Slender creeping red fescue (25%); Chewing's fescue (17%); Hard fescue (17%); Crested dog's tail (15%); Sweet Vernal grass (2%); and Common bent (5%).
- 2.4.5 Part of Lovers Field has also previously been used for trials to establish if spreading peat would lower soil pH, aiding the creation of heath and acid grassland (2014/2015). In these trials, the higher peat application plot was unsuccessful, and the central part of Lovers Field now supports an area of bare ground with sparse vegetation (last observed in May 2021). The peat trials also involved the creation of a 2m-high south-facing earth bank providing perfect basking opportunities for reptiles and the southern part of Lovers supports grassland with a dense thatch and large tussocks, providing cover for foraging reptiles and small mammals (last observed in May 2021).
- 2.4.6 In addition to the above, south-facing basking banks, hay piles and extensive hibernacula features have also been provided throughout these fields. Scalloped landscape planting was installed along the west and southern boundaries to increase the barrier between the field and Lover's Lane (i.e. discourage reptiles from moving onto road).
- 2.4.7 The area is unfenced and is considered to be well connected to the wider landscape including Sizewell Marshes SSSI and its wetland habitat features, via St James Covert, and the optimal reptile habitat within the heathland and forestry glades at Aldringham Walks.
- 2.4.8 The field complex has been colonised by adder (low), grass snake (low), common lizard (low) and slow worms (low to good), and it is deemed suitable to receive all four species.
- 2.4.9 The Studio Field Complex will provide a receptor for all reptiles captured from the Sizewell C Platform donor sites. Individuals will also be temporarily displaced into this receptor site from the Land Associated with National Grid Cabling donor site, which will be subjected to the installation of a cable from Sandy Lane to the Greater Gabbard substation and an attenuation basin field north-east of Sandy Lane. The proposed donor site(s) are illustrated on **Figures 1 to 4 in Appendix A.**

## 2.5 Great Mount Walk

2.5.1 Great Mount Walk comprises approximately 47.2ha of former arable land. Extensive reptile mitigation features (hibernation structures, hay bales and brash piles) have been installed across this site.

2.5.2 Please note that the initial layout for Great Mount Walk, as illustrated on **Figure 14C2A.17 [APP-255]**, has since been amended to include an extensive flood mitigation area and wet woodland habitat creation to the north (see **Figure 2.2.14 of Volume 2, Chapter 2 of the ES [AS-190]**). This additional area will comprise a mosaic of grassland, open water, reed bed and woodland habitats that will supplement the habitats already created and will enhance the area further for reptiles.

2.5.3 Great Mount Walk has good connectivity with the extensive wetland habitats at Minsmere to the north and east, together with the established acid grassland and scrub mosaic at Black Walks and Retsom's Field. Previous survey work within the arable margins indicates that grass snakes use the margins of the arable fields as corridors between wetland foraging habitat and hibernation sites.

2.5.4 The receptor site has been colonised by adder (low), grass snake (low), common lizard (good) and slow worms (good), and it is therefore deemed suitable to receive all four species.

2.5.5 Great Mount Walk will provide a receptor site for approximately 50% of adders (2 in 4 captured) and all other reptiles captured from the Goose Hill and Kenton Hills Complex donor site. It is also proposed that this site provides a receptor for displaced reptiles currently using the northern sections of the Northern Arable Fields and Black Walks and Fields to South of Sandpytle donor sites. In addition to this, any adder captured from the Northern Arable Fields, 'Campus' Area, Land North of Lovers Lane and Ashwood donor site will be released here. The location of all donor and receptor sites are illustrated on **Figures 1 to 4 in Appendix A**.

## 2.6 Aldhurst Farm

2.6.1 Aldhurst Farm (see **Figure 14C2A.18 [APP-255]**) comprised, up until 2014, approximately 67ha of arable farmland, immediately west of the main development site. Between 2014 and 2016, 6ha of reedbed and 2km of ditch and open water (in the form of four lagoons) were created. In addition, grassland was established on 60ha of adjacent valley sides and is currently managed by failing-off the arable weeds and spreading heather brashings to encourage heathland species to colonise the open grassland. These extensive habitats were supplemented with reptile hibernacula and refugia.

2.6.2 The receptor site has been colonised by adder (low population), grass snake (low) and common lizard (low to good). Adder must not be translocated to this receptor but it is deemed suitable to receive the other three reptile species.

2.6.3 Aldhurst Farm will provide a receptor for displaced reptiles currently using the hedgerows to the north of Lover's Lane donor site. In addition to this, any grass snake, common lizard or slow worm captured from the Northern Arable Fields, 'Campus' Area, Land North of Lovers Lane and Ashwood donor site will be released here. The location of all donor and receptor sites are illustrated on Appendix 14C.2A.1: Figures.

## 2.7 Habitat Suitability Assessment

2.7.1 Before any receptor site receives reptiles, a final habitat suitability assessment of each site will be undertaken, and the results used to highlight any necessary habitat management/modification requirements to maintain or improve suitability. The same assessment process will also be used to monitor the receptor sites on a regular basis during-, and post-construction. The monitoring and survey requirements are set out and secured by the **TEMMP** (Doc Ref.10.28).

2.7.2 A checklist has been developed to facilitate this assessment (see **Appendix E**), taking on board the principles outlined in Brady & Phillips [Ref. 1.4] and using professional judgement, that identifies three possible suitability grades of receptor site as follows:

- moderate – the minimum requirements to allow reptiles to survive; the majority of the lifecycle features are provided but vegetation structure requires considerable improvement, and prey availability may be limited;
- good – the standard for use as a receptor site; all of the life cycle features required for reptiles are present, but the site may benefit from some further management (and/or additional time) to further improve its suitability;
- exceptional – all life cycle features are present and vegetation structure is considered to be optimal for reptiles. The receptor sites have an abundance of well-established and well-designed life cycle features present and are considered resilient to change under their adopted management regime.

2.7.3 Habitat suitability assessments were carried out for the three most advanced receptor sites (Kenton Hills, St James and Studio Field) based on the information available to November 2015; see **Appendix F**: The assessment indicated that three receptor sites are either already at ‘Good ’status or should reach this level prior to any translocation programme (i.e. for those receptor sites that do not yet reach ‘Good’ status, management actions are in place to address this).

2.7.4 The habitat suitability assessment process will be repeated following the completion of habitat creation works and then annually, as part of ongoing monitoring, so that any changes or improvements in habitat suitability can be assessed. Unless otherwise approved by the ERG, receptor sites will not be used unless they have achieved at least good status.

## 2.8 Carrying Capacity

2.8.1 There is a relationship between the suitability grade of a receptor site and its reptile carrying capacity in that a receptor site of exceptional suitability will support a greater number of reptiles than a site of moderate suitability grade of the same extent.

2.8.2 Based on patch quality and quantity alone, the receptor sites identified in **Section 2.2 to 2.6** provide sufficient habitat to support the reptile populations that currently reside within the donor sites (i.e. regardless of the number of individuals). However, estimated the total number of individual reptiles that will be translocated from the donor sites and a the carrying capacity of the receptor sites (**Appendix G**). These estimations were further refined within **Reptile Survey Report 2020 [AS-036]** based on further survey information and assessment.

2.8.3 **Table 2.1** compares the theoretical carrying capacity for optimal habitat within the receptor sites (combined), with estimated number of reptiles to be moved, and indicates the proportion of this theoretical carrying capacity that this estimated figure represents.

**Table 2-1: Receptor sites optimal habitat estimated carrying capacity (estimated reptile numbers rounded to nearest 10).**

Species	Max estimated reptile numbers for translocation	Max estimated available carrying capacity of receptor sites (based on 32 ha of suitable habitat)	Ratio of donor site to receptor carrying capacity
Adder	499	711	1:1.43
Grass Snake	471	628	1:1.33

Species	Max estimated reptile numbers for translocation	Max estimated available carrying capacity of receptor sites (based on 32 ha of suitable habitat)	Ratio of donor site to receptor carrying capacity
Common Lizard	1500	2052	1:1.37
Slow Worm	4410	5918	1:1.34

2.8.4 The number of reptiles being translocated into the various receptor sites must be recorded during the capture and exclusion exercise. This shall be used to monitor when a receptor site is potentially approaching carrying capacity and inform if intervention (such as greater habitat provision) is necessary as per **Section 2.8**. It should be noted that final carrying capacity estimates will be made, in advance of translocation, but following completion of habitat management/creation within these receptors. The final carry capacity of each receptor site must be agreed within the EWG.

### 3. Reptile Capture and Exclusion

#### 3.1 Overview

3.1.1 The reptile translocation will follow broad principles as given in HGBI (Ref 1.5), and McClean (Ref. 1.6) and as set out below.

3.1.2 To mitigate for the risk of death or injury to reptiles during the construction period, a combination of exclusion: using reptile proof fencing (RPF – some of which will remain in place for the duration of construction), drift fencing (used to compartmentalise the capture and translocation areas), capture and translocation of reptiles and habitat manipulation will be undertaken. The location where these methods are proposed (i.e. the donor sites) are highlighted within **Figures 1 to 4** in **Appendix A**; collectively this area is hereafter referred to as the 'mitigation area'.

3.1.3 A phased approach will be adopted during the translocation exercise. The details of the phased translocation will be submitted to the EWG and implemented as approved.

3.1.4 The **Reptile Non-Licensable Method Statement: Main Development Site** (Appendix E of Part B of the CoCP (Doc Ref. 10.2)) provides for tool box talk requirements and precautionary working methods which includes methods of vegetation clearance. All works that have the potential to impact reptiles must be undertaken in accordance with **Reptile Non-Licensable Method Statement: Main Development Site** (Appendix E of Part B of the CoCP (Doc Ref. 10.2)), unless otherwise approved by the EWG. These works must be overseen by an Ecological Clerk of Works (ECoW).

#### 3.2 Capture and translocation

3.2.1 Reptile translocation must only take place during the period when reptiles are above ground and active (March to late October), and during suitable weather conditions as per Froglife criteria (Ref 1.1).

3.2.2 Translocation will comprise compartmentalising areas to be cleared of reptiles to allow the sequential phasing of the clearance operation, so capture efforts may be focussed upon particular areas or features of the donor site (especially those areas with the highest populations and/or where the reptiles would be hardest to capture). This approach will be set out in the details of the phased translocation referred to above and approved by the EWG.

3.2.3 A number of techniques will be used to capture the reptiles from the donor sites, including:

- Laying artificial cover object (ACO's; also referred to as 'reptiles tins' or 'artificial refugia'). ACO's will comprise a variety of materials at different sizes and will be distributed within donor sites at a density of at least 100/ha of suitable habitat (for very small sites this density may be increased appropriately with a justification provided).
- Checking natural refugia and hibernacula features that are present within donor sites.
- Walking pre-defined transects and attempting to hand-catch any observed reptiles (e.g. basking reptiles).

3.2.4 Any reptiles caught will be placed in a suitable container and moved to the relevant receptor site, as defined above.

3.2.5 In non-linear habitats refugia must be placed at a density of at least 100/ha (for very small sites this density will be increased appropriately with a justification provided). In linear habitats of less than 10m in width (e.g. hedgerows, road verges etc.) refugia must be placed at a frequency of at least one every 10m of suitable habitat. The default will be a 50 : 50 ratio of corrugated iron to felt ACOs. Where varying from this standard a justification will be provided, based on the habitat type and target species concerned (and agreed with the EWG). All refugia will be number marked and their location accurately recorded to an accuracy of <5m where terrain/vegetation allows. Once placed, artificial refugia will be left to settle for 14 days prior to conducting the first survey. Note that ACO density will be measured based on the total area of suitable habitat but that habitat manipulation, see below, will be used within any large areas of suitable habitat to focus the capture effort

3.2.6 Each morning or afternoon visit will be counted as a separate capture visit with a possible two capture visits per day. The number of visits necessary will be determined by the pattern of reptile captures but will continue until there have been at least seven consecutive visits with no animals caught or sighted during suitable weather conditions.

### 3.3 Habitat Manipulation

3.3.1 Habitat manipulation will be used as the sole method for the displacement of reptiles and in conjunction with capture and translocation techniques to improve efficiency. Details of how and where habitat manipulation will be used, along with a justification at each location, must be in accordance with the **Reptile Non-Licensable Method Statement: Main Development Site**

(Appendix E of Part B of the CoCP (Doc Ref. 10.2)), unless otherwise approved by the EWG.

3.3.2 In broad terms, habitat manipulation comprises the careful removal of vegetation followed by hand and destructive searches, to render habitats unsuitable for reptiles by removing potential resting places. It can be used alongside other capture techniques to produce 'edges' within habitat that are attractive to reptiles and encourage use of deployed ACO's, and similarly, careful strimming can create increasingly small islands of vegetation over time to increase capture rates/focus capture effort.

3.3.3 Conversely, it is proposed as a technique to displace reptiles in areas where: (a) the perceived suitability of habitats for reptiles is poor and/or such small numbers of reptiles are anticipated to be present that the necessary effort associated with capture and translocation methods is considered disproportionate; and (b) where capture and translocation is not possible due to health and safety reasons and in the interest of maintaining access, such as suitable habitats situated adjacent to active roads. All areas where this approach is used must be agreed with the EWG.

3.3.4 For example, habitat manipulation will be used:

- Within Goosehill and Kenton Hills Complex, to clear large areas of suboptimal coniferous plantation woodland and displace individuals into suitable habitats that are then subjected to capture and translocation.
- The small areas of suitable habitat associated with the hedgerows to the north of Lover's Lane, to displace individuals into Aldhurst Farm.

## 3.4 Vegetation Removal

3.4.1 Vegetation must be removed in two phases:

- Phase 1: Vegetation within the mitigation area will be cut to 150mm above ground level and removed from the works footprint, in conjunction with a hand search (see **Section 3.5** for details). The area must then be left undisturbed for at least 24 hours during suitable weather conditions. Clearance must be undertaken by hand tools or flail mounted attachments that do not require heavy machinery to be tracked over vegetation. Low-pressure vehicles may be used dependent on the ground conditions and at the discretion of a supervising ECoW.

- Phase 2: Where vegetation within the mitigation area remains dense, this must be cleared to ground level, with arisings removed. The area must again be left undisturbed for at least 24 hours during suitable weather conditions. Phase 2 clearance must commence on completion of a capture and translocation exercise or in line with habitat manipulation in target areas.

3.4.2 Following at least 24 hours from the second phase of vegetation removal, soil stripping of the mitigation area will commence with arisings removed from the works footprint. Where necessary, this must be undertaken in conjunction with a secondary hand search and destructive search (see below for details).

3.4.3 The working area must be maintained free of vegetation for the duration of the works.

### 3.5 Hand and Destructive Searches

3.5.1 Such activities must only be carried out in the presence of an ECoW. Hand searches comprise the dismantling and removal of potential refuges by hand. In areas subject to translocation, hand searches must be undertaken throughout the process to aid captures. For habitat manipulation, this must be undertaken during the first phase of vegetation removal and again prior to soil stripping to ensure any potential refugia obscured by vegetation is identified and removed.

3.5.2 Destructive searches comprise the careful stripping of potential refuge areas or habitat piles that could not be easily dismantled by hand (i.e. larger/heavier/partially buried/labour intensive refugia). Where possible, stripping of these areas will first be undertaken with use of non-mechanical hand tools, followed by machinery for any remaining areas. Where translocation is proposed, destructive searches must not be conducted until the translocation effort is deemed complete.

### 3.6 Data Record

3.6.1 To maximise the efficiency of data recording and facilitate the supply of data in a digital format, the use of hand-held data loggers (with an in-built camera, OS-base map and GIS capability) shall be used. The following information must be recorded: Species; Sex; Age class; Location of capture (which part of the donor site) and release (which receptor site); Time of capture; Date of capture; Weather conditions and Health status (an option for any other information would also be provided).

### 3.7 Welfare

- 3.7.1 Welfare measures must be implemented to minimise stress to the animals and/or the risk of injury or death. Translocated animals must be kept in captivity only for as long as is necessary and must be transported in a suitable container (such as cloth bags and/or plastic vivaria) between the donor habitats and the reptile receptor areas. Adders and grass snakes must be transported separately from the other species to avoid the risk of predation and reduce stress.
- 3.7.2 The staff responsible for undertaking the mitigation measures, and specifically the capture and translocation exercise, must be experienced reptile handlers. They may be assisted at times by trainees who would undergo training on the identification of reptiles, and safe/appropriate handling techniques, particularly for venomous snakes.

### 3.8 Non-Target Species

- 3.8.1 Vegetation clearance used as part of the Reptile Mitigation Strategy must consider other ecological constraints, for example nesting birds and hedgehogs. Any other small mammals and amphibians captured during the reptile translocation process will also be moved to the reptile receptor sites. Vegetation clearance will be undertaken in accordance with Table 6.1 of the **Part C** of the **Code of Construction Practice** (Doc Ref.10.2) .
- 3.8.2 The area of Sizewell Marshes SSSI which would be subject to construction works is difficult to access to trap reptiles, and health and safety issues will be addressed given the presence of deep water and silt. This area also supports water voles and nesting birds, and any programme to clear reptiles from this area will be aligned to the programmes for water vole and vegetation clearance (with their own seasonal restrictions). Likewise, natterjack toads present within Retsom's Field and any programme to clear reptiles from this area will be aligned with the mitigation strategy and/or licences for this species.

## 4. Monitoring and Management

### 4.1 Monitoring effectiveness of receptor sites

4.1.1 Monitoring is proposed to ensure that habitat suitability of the receptor sites is maintained or enhanced, and that they support viable populations of reptiles equal to or greater than those estimated within the donor sites.

4.1.2 The monitoring strategy for reptiles is set out within the **TEMMP** (Doc Ref. 10.28) and the **Reptile Non-Licensable Method Statement: Main Development Site** (Appendix E of Part B of the CoCP (Doc Ref. 10.2)). Any updates to the monitoring strategy must be submitted to and by the EWG.

4.1.3 The receptor sites must be monitored on a regular basis during the pre-construction period to confirm that agreed reptile habitat features have been appropriately created, to assess how the establishment of grassland and landscape planting is proceeding, and to confirm that appropriate management is occurring. This would allow any problems to be quickly addressed. Similar long-term monitoring would occur during and after the translocation process as set out in the **TEMMP** (Doc Ref. 10.28)

4.1.4 The qualitative assessment described in **Section 2.8** shall be used to determine when an individual receptor site is suitable to be included in the translocation programme.

### 4.2 Management of receptor sites

4.2.1 It is important that the receptor sites continue to provide suitable conditions to support the populations of reptiles that have been translocated from the donor areas, for the duration of the proposed ten-year construction programme and beyond. Each of the receptor sites will be actively managed to maximise their reptile population carrying capacity. This will be implemented through the production of a management plan for each receptor site to cover the construction period. This management plan will be produced in consultation with site managers who would be responsible for the longer-term management of these sites. The management plans must be agreed with the EWG in advance of the translocation and would be a working document, flexible and adaptable and is secured via this strategy. Following completion of construction work, the management plan would be reviewed and revised in accordance with the wider landscape aspirations for the EDF Energy estate as set out in the **Estate Wide Management Plan** (Doc Ref.10.15).

a) Integration with wider landscape and ecology strategy

4.2.2 The **outline Landscape and Ecology Management Plan (oLEMP)** (Doc Ref. 10.22) sets out the approach to the long term management and maintenance of the landscape and ecological habitats created on the main development site. Requirement 14 then secures the more detailed arrangements that will be included in the main development site **Landscape and Ecology Management Plan (LEMP)**, which must be submitted and approved by East Suffolk Council. The habitats of the wider EDF Energy estate would be managed as set out in the **Estate Wide Management Plan** (Doc Ref. 10.15) which is secured by requirement 5C.

4.2.3 Part of the long-term aspiration is to recreate habitats characteristic of the Suffolk Sandlings, which are of particular value to reptiles, and to ensure that linkages exist across the whole of the EDF Energy estate to optimise movement and minimise the effects of fragmentation. Following the construction of Sizewell C, there would be a much larger (and better-linked) area of habitat suitable for reptiles than is currently the case, enabling the expansion and dispersal of the existing reptile populations. The **oLEMP** (Doc Ref. 10.22) 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 application within the wider context of the EDF Energy estate. The aim of the **oLEMP** (Doc Ref. 10.22) is to complement the existing management aims of the site to ensure newly created post-construction habitats are integrated within the wider estate and the surrounding landscape.

4.2.4 The habitat creation proposals for receptor sites are aligned with the long-term aspirations of the **oLEMP** (Doc Ref. 10.22). Whilst sufficient area has been included in the mitigation strategy to accommodate those reptiles that would need to be translocated from the construction area, it is anticipated that the longer-term proposals for the main development site, including the extensive creation of ‘Sandlings’ acid grassland and additional areas of scrub and trees on the temporary construction area, would facilitate a significant long term expansion of the populations of reptile species at Sizewell. Furthermore, the receptor sites that have been selected would serve to enhance connections for reptiles to designated sites to the north and south of the main development site, as well as to wider landscape features. This is in accordance with “Making Space for Nature” (Ref. 1.7) and the ability of reptiles to move within the wider landscape would be enhanced. These benefits have already begun to be realised in the short to medium term through the early establishment of reptile receptor sites prior to the construction of Sizewell C.

4.2.5 **Figure 4** of the **EWMP** (Doc Ref. 10.15) provides a current overview of the long-term landscape strategy post construction.

b) **Seasonality and timing of management activities**

4.2.6 Management activities often involve large pieces of machinery and can cause harm or injury to reptiles and other species, such as ground-nesting birds. Therefore, management activities on the receptor sites will only be undertaken at an appropriate time of year to avoid causing incidental harm or injury. An indicative reptile management calendar is outlined in **Table 4.1** (adapted from Edgar *et al.* (Ref. 1.1)).

**Table 4-1: Reptile habitat management calendar.**

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mowing or flailing of vegetation			Avoid cutting vegetation from mid-Feb until Aug to avoid nesting birds.									
Scrub/tree coppicing or cutting												
Stump treatment												
Bracken cutting												
Bracken or bramble spot spraying												
Birch spot spraying												
Maintenance of reptile habitat features such as brash piles and hay bales												
Tree and shrub planting												
	<b>Most effective and least damaging time of year for both reptiles and ground nesting birds</b>											
	<b>Work may be less effective and requires more care to avoid disturbance</b>											

c) **Short-term site-specific management actions of receptor sites**

4.2.7 This section provides a summary of the works already completed to establish the receptor sites, followed by any outstanding actions to be completed for individual receptor sites to ensure that each contain the range of habitat

features required to support reptiles, and therefore meet ‘Good’ habitat suitability.

4.2.8 Although individual receptor sites are discussed, it is not the intention to consider each in isolation. St James Covert, Broom Covert, Studio Field, land west of Studio, Halfway and Lovers, form a contiguous block of well-connected habitat. These areas are considered as a single extensive tract of reptile habitat with management actions aimed at linking existing reptile-suitable features, creating corridors of dense cover to enable reptiles to move across the landscape and populate the whole area.

4.2.9 **Table 4.2** summarises the ongoing receptor site management actions for each of the below sites, which will be maintained.

**Table 4-2: Receptor site management actions.**

Site and Area (ha)	Management
Kenton Hills (3.9)	Management of scrub and open ground to create and maintain habitat mosaic, with areas within fencing partially flailed to maintain a diverse mosaic of low grassy vegetation with irregularly spaced clumps of shrubs and low birch. Twice-yearly strimming 1m around edge on both sides of the reptile fencing and regular checking for any damage to the fencing.
St James Covert (1.4)	Management of scrub and open ground to create and maintain a rich mosaic of open grassland, native woodland and scrub. Twice-yearly strimming 1m around edge on both sides of the reptile fencing and regular checking for any damage to the fencing.  Coppicing (down to 100cm) within compartment of any trees from the redundant woodland areas (then coppiced on a 5-7 year rotation).  Trees to the southern edges of both compartments between receptor site and Broom Covert have been scalloped at edges and thinned to allow more light into receptor area. Maintenance to continue as required.
Studio Complex (50.7)	To maintain a diversity of sward height, a short cut of the existing tracks (to a width of ~5m) around the site to maintain areas of short sward, before skylarks start to nest. Scalloped landscape planting along the west and southern boundaries to increase the barrier between the field and Lover’s Lane to discourage reptiles from moving onto road.  Management of a number of small wetland features to create habitat suitable for grass snakes. Manage large piles of composting vegetation to act as egg-laying sites for grass snakes.  Within Broom Covert, management (including shrub planting) also required to link up existing gorse patches and provide connectivity between Studio complex and St. James Covert/Sizewell Marshes.  Create 3-4 large piles of composting vegetation (such as old hay bales) to act as egg laying sites for grass snakes.
Great Mount	Sown to create short-sward acid grassland as part of dual-purpose marsh harrier/reptile mitigation area.

Site and Area (ha)	Management
Walk (47.2)	Hibernacula, brash piles and composting hay piles required to create features for reptiles on southern and eastern edges and to connect existing features within fields with existing boundary hedgerows and woodland habitats.
Aldhurst Farm (67)	Continuation of grassland management by flailing-off the arable weeds.
Total area: 170.2	

d) Monitoring on-going management of receptor sites

4.2.10 During construction of Sizewell C, management objectives and actions required to maintain good habitat suitability of each receptor site must be agreed with the EWG on an annual basis and is secured pursuant to this strategy.

4.2.11 In the longer term, following the construction of Sizewell C, the **oLEMP** (Doc Ref. 10.22), and the EWMP for the wider estate, will create and maintain a landscape-scale mosaic of habitats suitable for reptiles. There would be minimal fragmentation and reptiles would still be able to move within the wider landscape following the removal of any exclusion fencing that may be needed at some sites.

4.3 Criteria for Success

4.3.1 Surveying and monitoring of reptiles and their habitat (at donor and receptor sites) would provide evidence to assess the success of the reptile mitigation strategy. Targets and effectiveness measures are outlined in Table 4.5 of the **TEMMP** (Doc Ref. 10.29) to ensure the success of the reptile translocation process.

4.3.2 Success shall be measured by maintaining and enhancing the conservation status of the reptile assemblage, as determined by the following criteria:

- successful capture and translocation of reptiles from the construction footprint, delivering a reptile-free site construction footprint in line with the timings required for the construction programme;
- maintain and continue to develop receptor site habitats, to accommodate any translocated reptiles from the construction footprint;

- successful establishment of reptiles in the receptor sites (as determined by reptile and habitat monitoring);
- no incidental mortality to reptiles during construction;
- long-term, landscape-wide increase in reptile habitat.

4.3.3 SZC Co. will have overall responsibility for the implementation of this reptile mitigation strategy, for ensuring the criteria for success are met. If monitoring shows long-term impacts on the reptile population, the EWG may recommend additional measures that SZC Co. must undertake to identify why this is occurring and the necessary measures that need to be implemented.

## 5. Conclusions

- 5.1.1 The population of reptiles that occupy parts of the EDF Energy estate would be affected by the development within the main development site. Compensation and mitigation measures within this Reptile Mitigation Strategy are aimed at maintaining the area as a ‘Key Reptile Site’ (see **Section 1**) and avoiding breaches of relevant legislation and policy.
- 5.1.2 Reptile survey work at potential donor sites has provided reliable density estimates for the four common reptile species found on site. These figures, along with a literature review on carrying capacity, have been used in the mitigation strategy provide an updated understanding of the numbers of reptiles likely to be translocated, and the carrying capacities of the potential receptor sites.
- 5.1.3 Reptile receptor sites have been established, and a survey comparing reptile prey availability at donor and receptor sites has demonstrated that there would be suitable amounts of prey available in the receptor sites. The receptor sites cover a larger area than reptile-suitable habitat lost and have enhanced features for reptiles (see **Section 2**).
- 5.1.4 A detailed pro-forma for assessing and monitoring receptor site suitability for reptiles has been developed and trialled. All receptor sites pass the simple receptor site checklist based on Natural England guidelines. Current assessments indicate that some of the receptor sites are either already at ‘Good’ status or should reach this level prior to any translocation programme (i.e. for those receptor sites that do not yet reach ‘Good’ status, management actions are in place to address this).
- 5.1.5 The approach to the mitigation solution has been to ensure an increase in area of better-quality habitat and that these habitats are well connected to the wider landscape. The receptor sites provide a total area of approximately 130ha and approximately 45.9ha of this is regarded as optimal reptile habitat; it is estimated that 32ha of optimal reptile habitat will be lost to facilitate the proposals. Comparing estimates of the numbers of reptiles likely to be translocated from the construction footprint, to the theoretical carrying capacity of the receptor sites (assuming they are ‘good’ quality), indicates that there is sufficient receptor site area to accommodate the number of reptiles likely to require moving whilst still allowing for a substantial margin of error.
- 5.1.6 The reptile monitoring programme is set out in the Table 4.5 of the **TEMMP** (Doc Ref. 10.29) On-going mitigation and monitoring work pre-translocation will include:

- completion of vegetation management and creation of habitat features;
- review the habitat assessment scores for each receptor site to ensure suitability has been maintained or if possible enhanced;
- on-going monitoring of the receptor sites;
- undertaking surveys to establish (if possible) the location of hibernation features within areas of habitat to be affected by the development proposals to aid the prioritisation of the translocation programme;
- development of a detailed construction phasing plan.

5.1.7 Although the construction phase will result in temporary habitat fragmentation across the EDF Energy estate, this will be mitigated in the long term by greater landscape-wide opportunities for reptiles through enhanced connectivity, including to the north of the EDF Energy estate (through management of Great Mount Walk); the middle of the estate (through management of the receptor sites at Kenton Hills); to the south-west (through management of Aldhurst Farm); and to the south (through management of Broom Covert and the Studio Field complex).

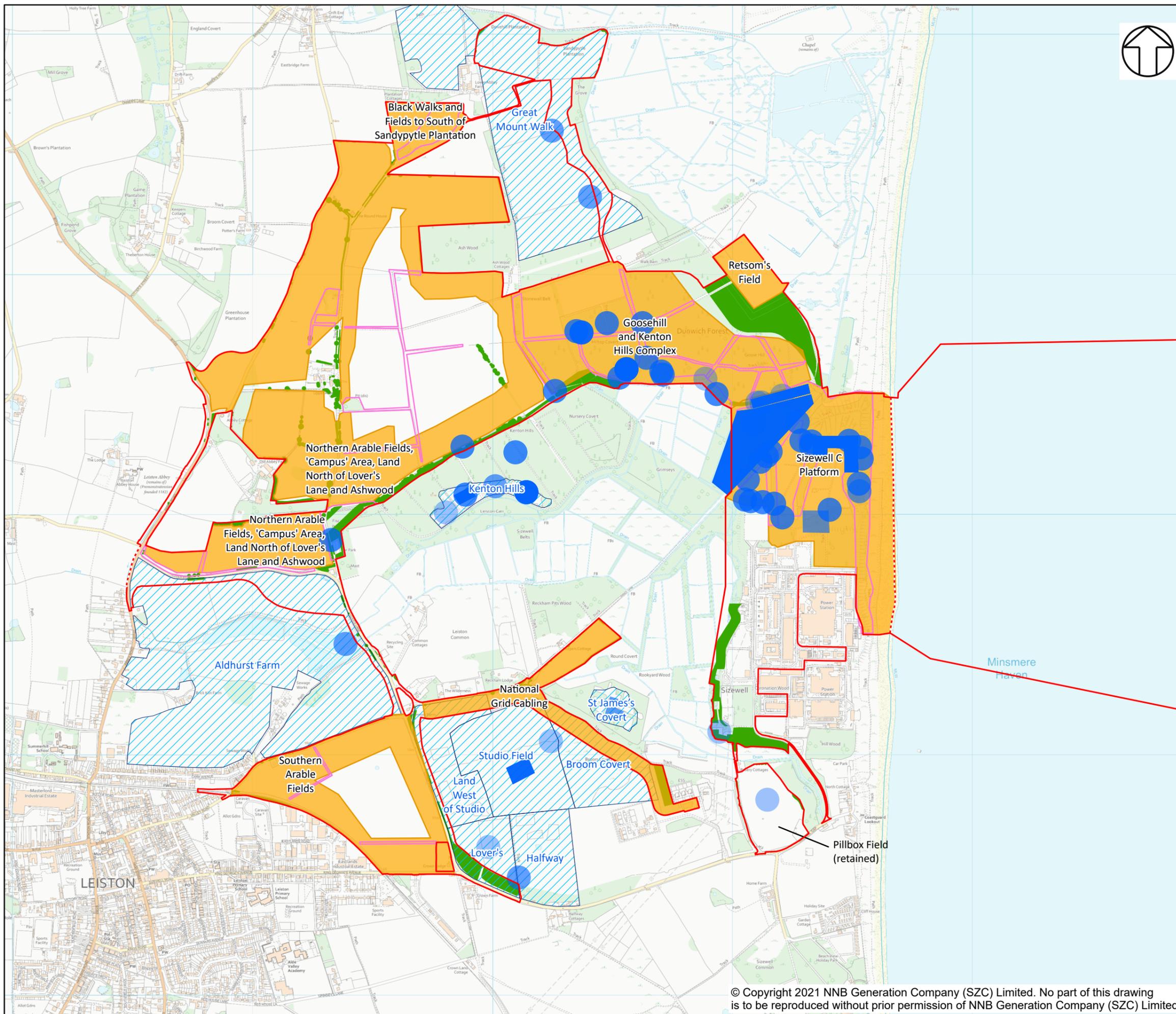


## SIZEWELL C PROJECT – REPTILE MITIGATION STRATEGY

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### APPENDIX A: Figures



NOTES

KEY

- SIZEWELL C MAIN DEVELOPMENT SITE BOUNDARY
- DEMARCATION LINE
- ADDER PRESENCE
- REPTILE RECEPTOR SITE
- REPTILE DONOR SITES
- OPTIMAL REPTILE HABITAT
- RETAINED VEGETATION

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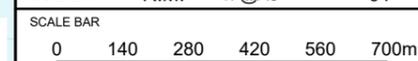


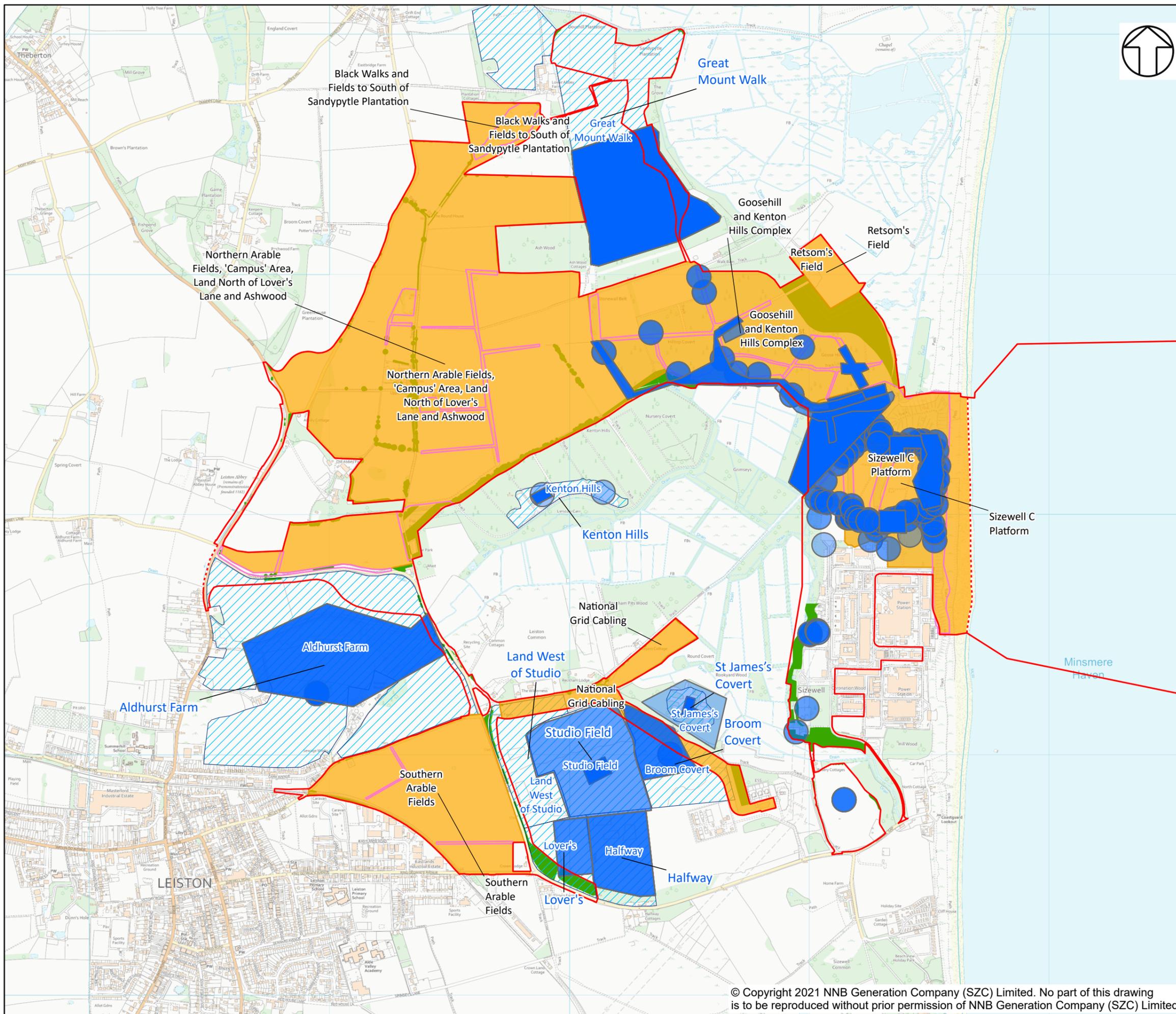
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DRAWING TITLE:  
 DONOR AND RECEPTOR SITE PLAN: ADDER

DRAWING NO:  
 FIGURE 1

DATE: JUL 21    DRAWN: R.M.    SCALE: 1: @A3    REV: 01





**NOTES**

**KEY**

- SIZEWELL C MAIN DEVELOPMENT SITE BOUNDARY
- DEMARCATION LINE
- COMMON LIZARD PRESENCE (WITHIN STUDY AREA SINCE 2007)
- OPTIMAL REPTILE HABITAT
- REPTILE DONOR SITES
- REPTILE RECEPTOR SITE
- RETAINED VEGETATION

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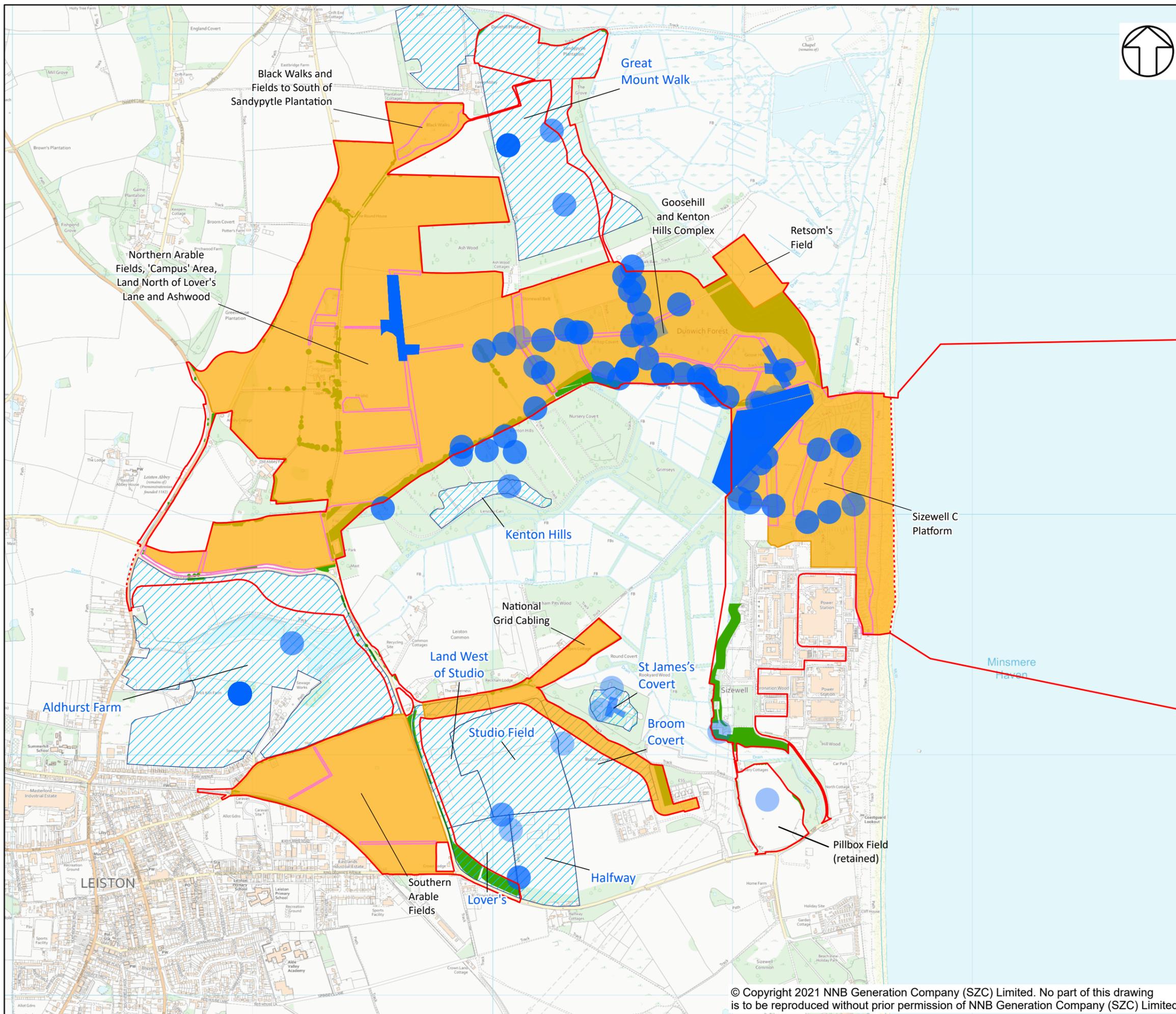
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**NOTES**

**KEY**

- SIZEWELL C MAIN DEVELOPMENT SITE BOUNDARY**
- DEMARICATION LINE**
- GRASS SNAKE PRESENCE (WITHIN STUDY AREA SINCE 2007)**
- OPTIMAL REPTILE HABITAT**
- REPTILE DONOR SITES**
- REPTILE RECEPTOR SITE**
- RETAINED VEGETATION**

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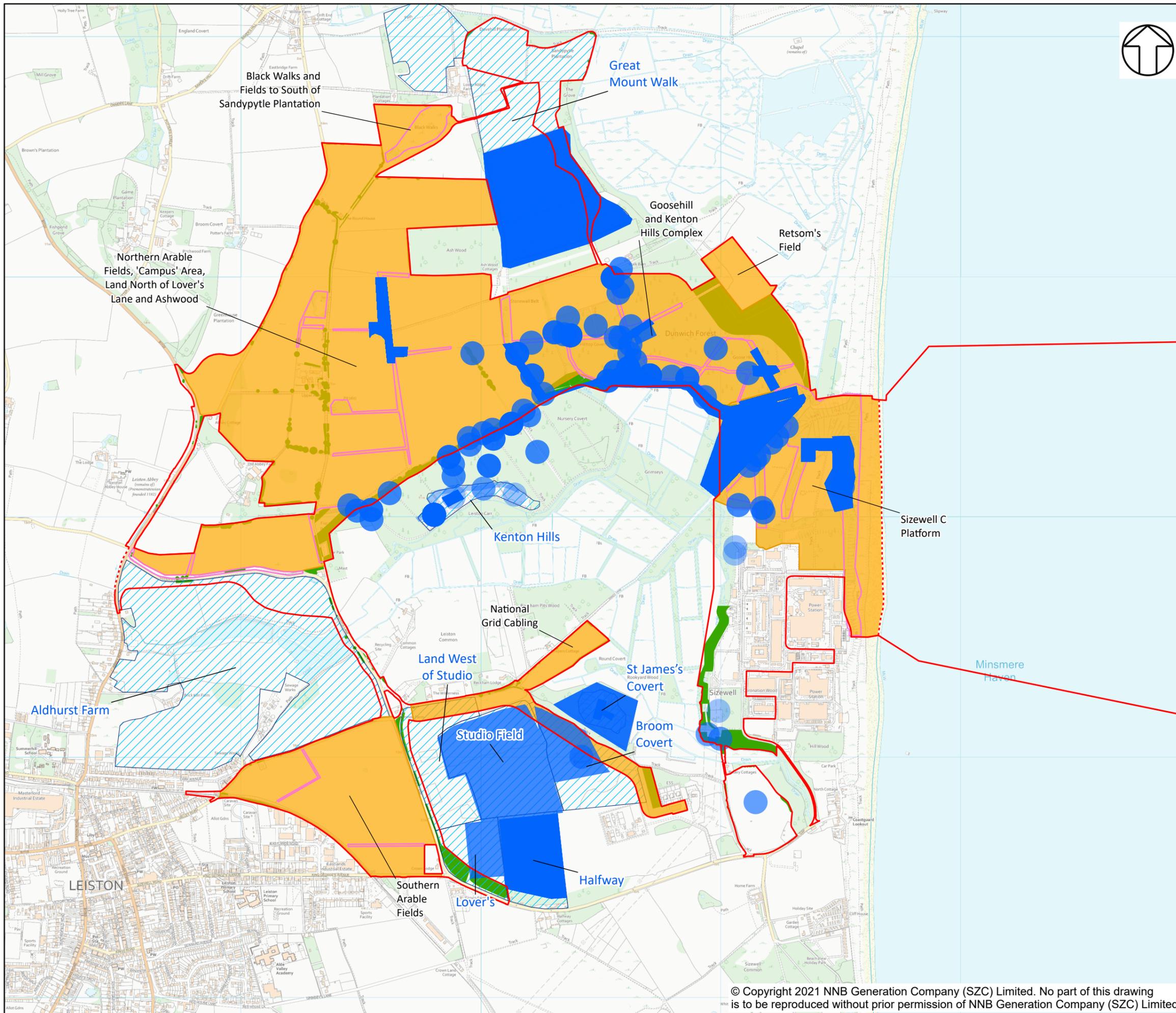
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 DONOR AND RECEPTOR SITE PLAN:  
 GRASS SNAKE

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 FIGURE 3

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**NOTES**

**KEY**

- SIZEWELL C MAIN DEVELOPMENT SITE BOUNDARY
- DEMARCATION LINE
- SLOW WORM PRESENCE (WITHIN STUDY AREA SINCE 2007)
- OPTIMAL REPTILE HABITAT
- REPTILE DONOR SITES
- REPTILE RECEPTOR SITE
- RETAINED VEGETATION

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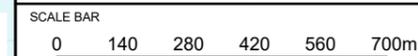


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**DRAWING TITLE:**  
 DONOR AND RECEPTOR SITE PLAN:  
 SLOW WORM

**DRAWING NO:**  
 FIGURE 4

**DATE:** AUG 21    **DRAWN:** R.M.    **SCALE:** 1: @A3    **REV:** 01



## APPENDIX B: Legislative Framework

### B.1 Legislation

B.1.1 There are four common and widespread species of reptile that are native to Britain: common or viviparous lizard, slow worm, adder and grass snake.

B.1.2 All are are protected via part of Section 9(1) of the Wildlife & Countryside Act 1981 (as amended) against intentional killing and injuring and via part of Section 9(5) of the Wildlife & Countryside Act 1981 (as amended) against:

- selling, offering or exposing for sale, or having in possession or transporting for the purpose of sale, any live or dead wild animal or any part of, or anything derived from, such an animal; or
- publishing or causing to be published any advertisement likely to be understood as conveying buying or selling, or intending to buy or sell, any of those things.

B.1.3 Section 40 of the Natural Environment and Rural Communities Act 2006 places a duty on every public authority, in exercising its functions, to have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity (and, in particular, to have regard to the United Nations Environmental Programme Convention on Biological Diversity of 1992).

B.1.4 Section 41 and 42 respectively require the Secretary of State as respects England, to publish a list of the living organisms and types of habitat which in their opinion are of principal importance for the purpose of conserving biodiversity. They are required to (i) take such steps as to further the conservation of these and (ii) keep the lists under review. All four common reptile species are included on the list of species in Section 41.

### B.2 Licensing

B.2.1 None of the four common species identified requires a licence to capture and move (translocate) to a new (receptor) site.

## APPENDIX C: Minimum specifications of reptile mitigation features

C.1.1 Minimum specifications for reptile mitigation features can be found in Highways Agency (Ref. 1.8) and Edgar *et al.* (Ref. 1.3). This Appendix details what these minimum specifications are, and shows how they have been attained and/or exceeded for the Sizewell C Project reptile mitigation work. Materials for windrow construction and other refugia would be provided from planned forestry thinning operations within Kenton and Goose Hills. Landscape planting would be locally-sourced where possible, as would heathland brushings applied on some receptor sites to increase heathland plant establishment and diversity.

### C.2 Habitat and lifecycle features required

C.2.1 There are a number of factors that need to be taken into account when selecting potential receptor sites (English Nature 2004 (Ref. 1.9)), and each reptile species has slightly different niche preferences. All species favour edge habitat (i.e. the interface between shorter and longer vegetation) as this provides basking sites in close proximity to the safety provided by cover.

C.2.2 The habitat creation and improvement works within the receptor sites have aimed to provide a diverse range of habitats and features to support all four species of reptiles, which are considered to be as follows:

- areas of habitat suitable to support thriving populations of prey items the reptiles require;
- south-facing banks and areas of bare ground to allow reptiles to bask and raise their body temperature;
- areas of dense scrub and other vegetation, located close to basking sites, into which reptiles can move to avoid predators;
- structures that provide an area below ground that is dry and frost-free for hibernation during the winter period;
- piles of cut/composting vegetation (for grass snakes to use as egg-laying sites); and
- log piles and piles of brash to introduce cover (and additional hibernation sites) for reptiles, and also to provide habitat structure supporting prey species.

C.2.3 All of the above aspects have been considered when designing the receptor site assessment methodology and criteria. Specifications for the creation of basking banks, hibernacula, log/brush piles and grass snake egg-laying heaps are provided below.

### C.3 Basking banks

C.3.1 South facing banks should be excavated to a depth of 600mm with logs and brush piled on top, before capping with turf and topsoil to create a dry, frost-free refuge earth pile to a height of 1m with a base of at least 5m wide to ensure stability. The banks should be sown with an acid grassland mix and some scattered shrub. It would be advantageous if a hibernaculum could be incorporated into the bank.

**Plate 1.1: Basking banks incorporating hibernacula in St James and the Studio.**



### C.4 Specifications for the creation of hibernacula

C.4.1 The key design features of hibernacula are as follows:

- a sunny position;
- a well-drained site not prone to flooding;
- orientation so that one of the long banks faces south;
- access for reptiles through openings;
- location in a patch of habitat such as tussocky grassland;
- minimal public disturbance; and

- size - at least 4m long and 2m wide, by 1m high, but can be much larger.

**C.4.2** Hibernacula can be made of a range of materials including timber, brash, inert hardcore and bricks, grubbed up roots, or general building rubble. Hibernacula can be constructed by digging a pit and then placing the materials partially buried inside, rather than creating a mound on the surface. There is no risk of winter flooding at any of the proposed receptor sites, so partially buried hibernacula are suitable. The top surface of the hibernacula should be covered in soil and seeded or have excavated turves from the base placed on top. It is important to create access holes that are continuous with voids deeper within the structure. Shrubs on the northern side of the hibernacula also provide shelter and cover. There are many excavated tree root plates that have been placed in receptor sites to act as hibernacula.

**Plate 1.2: Tree root plate (St James) and log piles (Studio Field) providing hibernacula.**



**C.5 Specifications for the creation of log and brash piles**

**C.5.1** Log and brash piles should be at least 10m by 10m in area and 1m high. The material should only be moderately compacted. They should be in sunny locations and preferably set within existing vegetation; for example, on the edge of shrub areas.

**C.5.2** There is no shortage of conifer logs and brash at Sizewell, but the material must be uneven in size and the piles should have an uneven, complex shape. Log piles would need to be regularly topped up as the material decomposes, particularly as they would be predominantly softwood.

## C.6 Specifications for maintenance of diverse sward height

- C.6.1 To prevent regeneration of scrub/bracken and to create a mosaic of different grass heights in a receptor area, the core area needs to be cut/flailed twice a year to keep the sward short and the various ‘fingers’ of this area should be cut on a three year rotation to allow a range of different heights of grass to be maintained (e.g. cut one area one year, a second area the next year and the final area the third year, then start again at the first area on the fourth year). Some areas of the short grass should be scraped on an annual basis to maintain bare earth – to be delayed until the year before translocation.

### Plate 1.5: Diverse sward height and cover (Studio Field).



## C.7 Specifications for the creation of grass snake egg-laying heaps

- C.7.1 Grass snakes usually nest in heaps of decaying vegetation where the heat of decomposition incubates the eggs. Suitable material for the heaps can include grass cuttings, manure, sawdust, leaf mould, old straw, hay bales or cut reeds, but the material must be actively decomposing and producing heat. Grass snake egg-laying heaps can also be constructed by piling cuttings on top of a log base which aerates the heap and creates easy access for females. The decaying vegetation could comprise old hay bales, which are available at Sizewell.
- C.7.2 The heaps need to be large, at least 1m tall, and ideally much larger. They should be placed in sunny or partially sunny areas. The heaps would need replenishing, or alternatively new egg-laying sites should be regularly created. The heaps should not be interfered with between June and September, to avoid disturbance. Topping up of the heaps should therefore

be undertaken at least every two years, in April or October (potentially with arising from grass management). Grass snakes require access to wetland habitat such as ponds, marshes and ditches that support amphibians which are their principal prey species, which may dictate the locations for the grass snake egg-laying heaps.

**Plate 1.6: Grass snake grass heap (St James).**



## APPENDIX D: Indicative long-term management plan for receptor sites

**Table D.5-1: Indicative annual long-term management plan.**

Objective	Management activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ensure continued availability of hibernation and foraging features	Monitor the windrows, log and brush pile features provided, and add more material to these as required to replace loss of material through decomposition												
	Replace a fresh layer of hay or other material to each of the grass snake egg laying piles. This should occur in the spring of each year.												
	Monitor the hibernacula features provided and if required place additional logs and brush on top of these features replace loss of material through decomposition.												
Ensure continued availability of dense cover	Replant any failed areas of shrub planting to maintain the correct proportion of scrub planting.												
	Maintain areas of low, thick scrub cover (in particular gorse) by cutting or coppicing selected												

**SIZEWELL C PROJECT – REPTILE MITIGATION STRATEGY**

**NOT PROTECTIVELY MARKED**

Objective	Management activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	areas at intervals to ensure scrub does not become open and gappy at the bottom.												
	Control naturally regenerating birch by cutting individual trees or weed-wiping in the spring to ensure that individual tall trees do not become established in dense scrub areas.												
	Control self-seeded conifers by cutting of at ground level in spring to ensure that individual tall trees do not become established in dense scrub areas.												
	Maintain diversity of dense scrub planting by the control of dominant species such as gorse and bramble by occasional cutting.												
Ensure continued availability of open areas	Repair any slumping to south facing banks.												
	Flail mow vegetation on banks on rotation to ensure a mosaic of short and longer patches of vegetation.												
	Maintain a diversity of sward heights and diversity of species by flail mowing. The frequency to be												

NOT PROTECTIVELY MARKED

**SIZEWELL C PROJECT – REPTILE MITIGATION STRATEGY**

**NOT PROTECTIVELY MARKED**

Objective	Management activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	determined based on the extent of rabbit browsing and which problem plant species may require control.  Control regenerating birch and conifers by weed-wiping and cutting, as required.												
	Control bracken by flailing to reduce the vigour of the rhizomes, or spot treatment, whilst allowing some bracken to remain and become established and spot treatment if required.												
	Control low growing bramble by flailing lower to the ground in some areas on a rotational basis.												
	Review (with the exception of Kenton Hills and St James Covert) when it may be appropriate to introduce low intensity grazing to maintain open areas.	Review as appropriate after receptor sites have been established for 5- 6 years											
Keep the public informed about the reptile capture and	Implement appropriate signage or other activities to keep the public informed about the reptile translocation works.	Review and implement as appropriate throughout the year											

NOT PROTECTIVELY MARKED

**SIZEWELL C PROJECT – REPTILE MITIGATION STRATEGY**

**NOT PROTECTIVELY MARKED**

Objective	Management activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
translocation process													
Monitor the establishment and development of heath and acid grassland	Implement a botanical monitoring programme to review establishment of heath and acid grassland vegetation.  Review monitoring programme after completion of translocation exercise												
Monitor the effectiveness of the capture and translocation exercise	Implement a programme to monitor the capture and translocation programme.	On-going throughout translocation exercise.											
Ensure receptor sites are kept free from excessive disturbance	Fence the northern boundary of Lovers, adjacent to Sandy Lane with stock proof fencing to restrict access to the established bridleway.												

NOT PROTECTIVELY MARKED

## APPENDIX E: Reptile Habitat Suitability Form Assessment Form

**Table E.1 Reptile Habitat Suitability Form Assessment Form**

Variable to be assessed	Assessment Criteria	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
Area (ha)	0.5 ha considered to be minimum area required		-	0.5ha	0.6-10 ha	>10 ha
Appropriate management regime in place	Site is in secure ownership with sufficient access to enable management activities to occur and agreed management aims and objectives in place (Y or N )	Y/N	-	-	-	-
Site subject to public pressure	Site is located in an area subject to excessive public pressure and fencing and other works unlikely to mitigate for the effects of this (None/Minor/Moderate/Major). These to be determined by professional judgement on site.	-	Major	Moderate	Minor	None
Vegetation Complexity	Overall appearance and impression of vegetation Absent: no vegetation Simple: generally short (<1cm), or if taller, sward lacks variability in height and apparent structure. No mature clumps of vegetation present Moderate: Medium to high sward (> 1cm) that may show some variability in height and structure. Few vegetation clumps and dead stems visible in sward	-	Absent	Simple	Moderate	Complex

**SIZEWELL C PROJECT – REPTILE MITIGATION  
STRATEGY**

**NOT PROTECTIVELY MARKED**

Variable to be assessed	Assessment Criteria	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
	Complex: medium to high sward with significant variability in height and structure. Many vegetation clumps, dead stems etc. visible in sward					
Detailed Vegetation Attributes	Areas of bare ground present (bare ground good for basking and catching prey; too large an extent increases predation risk)	-	-	< 5% bare ground present or > 30% bare ground present	5-10% bare ground present or > 30% bare ground present	10-15% bare ground present
	Short sward grassland < 2cm	-	-	<10% of area	10-30% of area	30% of area
	Medium sward height grassland 2-10cm	-	-	<5% of area	5-10% of area	15% of area
	Tall grass sward present > 10cm)	-	-	< 5% of area	5-10% of area	15% of area
	Scrub: extent of scrub/bramble/bracken and other dense cover patches at least 3m x 3m in area	-	-	<5% of area or > 30%	5-10% of area or 15-30% of area	10-15% of area
	Shrub/trees >1.5m	-	-	<2% or >30%	2-5% or > 20%	5-10 % of area

NOT PROTECTIVELY MARKED

**SIZEWELL C PROJECT – REPTILE MITIGATION  
STRATEGY**

**NOT PROTECTIVELY MARKED**

Variable to be assessed	Assessment Criteria	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
Sufficient dense cover to act as refuge from avian predators	Number and extent of areas of dense cover/large brush piles at least 2m x 2m in extent in close proximity to basking sites	-	None	At least 2 such structures in close (less than 2m) proximity to sunny basking sites	At least 4 such structures in close (less than 2m) proximity to sunny basking sites	At least 6 such structures in close (less than 2m) proximity to sunny basking sites
Access to south facing basking sites	Number and extent of south facing basking structures at least 2m long by 0.6m high	-	None	At least 1 such structure	At least 2 such structures	At least 3 such structures
Access to egg laying habitat (grass snake)	Number and extent of large piles of composting material at least 2m x 2m in area and 1m high	-	None	At least 1 such structure	At least 2 such structures	At least 3 such structure
Evidence of breeding	Evidence that translocated reptiles have established and breed successfully	-	No evidence of young	Evidence of young from all reptiles species translocated over 1 breeding season	Evidence of young from all reptiles species translocated over 2 breeding season	Evidence of young from all reptiles species translocated over 3 breeding season

NOT PROTECTIVELY MARKED

**SIZEWELL C PROJECT – REPTILE MITIGATION  
STRATEGY**

**NOT PROTECTIVELY MARKED**

Variable to be assessed	Assessment Criteria	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
Access to hibernation features	Number and extent of man-made or natural hibernation structures (including linear structures at least 0.6m deep, 1m wide and 1m or longer; and log piles/root plates).	-	None	At least 4m of linear structure and or 2 buried root plates or similar	At least 10m of linear structure and 5 buried root plates or similar	At least 30m of linear structure and 10 buried root plates or similar
Access to sufficient prey species (invertebrates and small mammals)	Density and abundance of small mammal populations and invertebrate families. Survey work undertaken in 2015 has established that receptor sites Kenton Hills, St James Covert and Studio already support sufficient small mammal and invertebrate prey items to support reptiles. It is reasonable to assume that as habitat diversity and heterogeneity increases so would prey suitability	-	Site fails to meet all of the vegetation attribute requirements for moderate standard	Site meets all of the vegetation attribute requirements for moderate standard.	Site meets all of the vegetation attributes requirements for good standard.	Site meets all of the vegetation attributes requirements for exceptional standard.
Grazing pressure	None/Below average/Above average  (the results of grazing pressure would be assessed against the detailed vegetation attributes but no stock grazing is proposed in the short term management of the sites)	-	Above average grazing pressure is poor for reptiles resulting in poor vegetation structure	Below average grazing pressure is moderate creating moderate vegetation structure	Below average grazing pressure is moderate creating moderate vegetation structure	No (none) grazing pressure creating good vegetation structure for reptiles

**SIZEWELL C PROJECT – REPTILE MITIGATION STRATEGY**

**NOT PROTECTIVELY MARKED**

Variable to be assessed	Assessment Criteria	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
Connectivity	Low/Moderate/High	-	Low connectivity – no other suitable reptile habitat within 500m	Moderate – Suitable reptile habitat within 200m but currently isolated due to reptile fencing.	Good – no barriers to dispersal and adjacent good quality reptile habitat	High – no barriers to dispersal on a substantial landscape scale and adjacent good quality reptile habitat
Wetland feature density	Number of wetland habitats and features (ponds/scrapes/ditches) within 1km. The greater the number the better for reptiles, assessed as None/Moderate/Good	-	None	1-3	3 - 10	>10

NOT PROTECTIVELY MARKED

## APPENDIX F: Habitat Suitability Assessments

**Table F.1: Reptile RHSF assessment for St James (November 2015).**

Variable to be assessed	Field Assessment		Receptor Site Suitability Grading				
			Y/N	Poor	Moderate	Good	Exceptional
			Habitat suitability for reptiles improves as further to the right in this column				
Area (ha)	1.4 ha		-			Good (1.4 ha)	
Appropriate management regime in place	Y		Y	-	-	-	-
Site subject to public pressure	N		-				None - Exceptional
Vegetation Complexity	Complex		-				Complex
Detailed Vegetation Attributes	Bare ground	0%	-			Vegetation meets majority of Good Suitability except for bare ground attribute (would become exceptional once some bare ground established and management regime in place to maintain sward diversity and extent of cover)	
	Short / close-grazed grass <2cm	30%					
	Medium grass 2-10cm	30%					
	Tall grasses >10cm	25%					
	Scrub	10%					

Variable to be assessed	Field Assessment		Receptor Site Suitability Grading				
			Y/N	Poor	Moderate	Good	Exceptional
			Habitat suitability for reptiles improves as further to the right in this column				
	Shrub/trees: (height > 1.5m)	5%					
Sufficient dense cover to act as refuge from avian predators	20		-				Exceptional (at least 20 such piles of cover good mix of areas of scrub and large brush piles)
Access to south facing basking sites	8		-				Exceptional (eight earth-covered large brush piles built)
Access to egg laying habitat (grass snake)	2		-			Good (2 hay piles)	
Evidence of breeding	Young slow-worms observed in 2015		-		Moderate (NB reptiles would be removed from		

Variable to be assessed	Field Assessment	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
				the fenced area in 2016)		
Access to hibernation features	15 log piles/tree root plates and 110m of linear feature	-				Exceptional
Access to sufficient prey species (invertebrates and small mammals)	Good diversity and abundance of invertebrates, and good numbers of small mammals	-			Site meets Good suitability for the detailed vegetation attributes criteria	
Grazing pressure	None	-				Exceptional
Connectivity	Currently moderate due to reptile fencing	-		Currently moderate due to reptile fencing but would be Good or Exceptional once this is removed		-
Wetland feature density	Currently None due to reptile fencing	-	Currently None due to reptile			-

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Variable to be assessed	Field Assessment	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
			fencing limiting access but once this is removed, there would be at least 8 significant ditches/ponds or other wetland features within 1km which would be raise suitability for this criteria to Good.			

**Table F.2: Reptile RHSF assessment for Kenton Hills (November 2015).**

Variable to be assessed	Field Assessment	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
Area (ha)	3.9 ha	-			Good (3.9 ha)	
Appropriate management regime in place	Y	Y	-	-	-	-

**SIZEWELL C PROJECT – REPTILE MITIGATION STRATEGY**

**NOT PROTECTIVELY MARKED**

Variable to be assessed	Field Assessment	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
Site subject to public pressure	Limited public pressure currently due to reptile fencing, but may increase when this is removed although clear rides in Kenton hills should reduce this becoming excessive	-			Limited - good	
Vegetation Complexity	Complex	-				Complex
Detailed Vegetation Attributes	Currently meets Good suitability	-			Vegetation meets majority of Good Suitability except for bare ground attribute and extent of scrub  (would become Exceptional once some bare ground established and management regime in place to control scrub cover)	
Sufficient dense cover to act as refuge	Exceptional	-				Exceptional  (Exceptional mix of areas of scrub and large brush piles)

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**SIZEWELL C PROJECT – REPTILE MITIGATION STRATEGY**

**NOT PROTECTIVELY MARKED**

Variable to be assessed	Field Assessment	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
from avian predators						
Access to south facing basking sites	At least 4 large earth-covered brush piles	-			Good (four earth-covered large brush piles built and areas at south of each sub-sector would be managed as shorter sward for basking)	
Access to egg laying habitat (grass snake)	At least 4	-			Good (4 hay piles)	
Evidence of breeding	Young slow-worms and adders observed in 2015	-		Moderate (NB reptiles would be removed from the fenced area in 2016)		
Access to hibernation features	28 log piles/tree root plates and ~400m of linear feature	-				Exceptional
Access to sufficient prey species (invertebrates)	Survey work in 2015 showed Good abundance but low diversity of	-		Despite vegetation attributes criteria meeting		

NOT PROTECTIVELY MARKED

**NOT PROTECTIVELY MARKED**

Variable to be assessed	Field Assessment	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
and small mammals)	invertebrates, and moderate numbers of small mammals			Good suitability, survey work recorded only moderate prey abundance (numbers of small mammals likely to increase once scrub managed over winter 2015)		
Grazing pressure	None	-				Exceptional
Connectivity	Currently moderate due to reptile fencing	-		Currently moderate due to reptile fencing but would be Good or Exceptional once this is removed		-

NOT PROTECTIVELY MARKED

NOT PROTECTIVELY MARKED

Variable to be assessed	Field Assessment	Receptor Site Suitability Grading				
		Y/N	Poor	Moderate	Good	Exceptional
Habitat suitability for reptiles improves as further to the right in this column						
Wetland feature density	Currently None due to reptile fencing	-	Currently None due to reptile fencing limiting access but once this is removed, there would be at least 6 significant ditches/ponds or other wetland features (mainly in Sizewell Belts/Marshes) within 1km which would be Good suitability.			-

**Table F.3: Reptile HS assessment for Studio (November 2015).**

Variable to be assessed	Field Assessment	Receptor Site Suitability Grading				
		Y/N	Below Moderate	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
Area (ha)	16.7 ha	-				Exceptional (16.7ha)
Appropriate management regime in place		Y	-	-	-	-
Site subject to public pressure	No public pressure and would be fenced off in the future	-				None
Vegetation Complexity	Meets moderate suitability	-		Moderate		Complex
Detailed Vegetation Attributes	Meets moderate suitability	-		Vegetation meets majority of Moderate Suitability except for bare ground attribute and establishment of scrub  (would become good once some bare ground established and management regime in place to control scrub cover)		

Variable to be assessed	Field Assessment	Receptor Site Suitability Grading				
		Y/N	Below Moderate	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
Sufficient dense cover to act as refuge from avian predators	Meets goods suitability	-			Good ( more than 6 structures (brash piles and windrows and areas of scrub becoming established)	
Access to south facing basking sites	2 large bunds built across site running east-west	-			Good	
Access to egg laying habitat (grass snake)	Meets goods suitability 3 piles of hay present	-			Good	
Evidence of breeding	One gravid adder observed in 2015	-		Moderate (NB reptiles would be removed from the fenced area in 2016)		
Access to hibernation features	37 log piles/tree root plates and similar features	-				Exceptional
Access to sufficient prey species (invertebrates and small mammals)	Good diversity but low abundance of invertebrates, and good	-			Vegetation attributes criteria only reaches moderate but survey wok in 2015 identified	

Variable to be assessed	Field Assessment	Receptor Site Suitability Grading				
		Y/N	Below Moderate	Moderate	Good	Exceptional
		Habitat suitability for reptiles improves as further to the right in this column				
	numbers of small mammals.				good numbers small mammals and good diversity invertebrates	
Grazing pressure	None	-				Exceptional
Connectivity	High connectivity (see Figure 14C2A.12)	-			High - good	
Wetland feature density	At least 10 significant ditches/ponds/wetland features within 1km	-				Exceptional

## APPENDIX G: Original Assessment of Carrying Capacity

**Table G.1 Indicative carrying capacity of individual receptor sites and estimated number of reptiles to be translocated, excluding adders from Aldhurst Farm and grass snakes from Kenton Hills and St James Covert.**

Species	Area available (ha)	“Theoretical” carrying capacity	50% threshold review trigger	Estimated numbers of reptiles to be moved	% of the theoretical carrying capacity of the estimated numbers to be moved
Common lizard	142.2	28,440	14,220	1935	5%
Slow worm	142.2	85,320	42,660	5300	5%
Adder	75.2	1,504	752	1116	75%
Grass snake	136.2	1362	681	271	20%

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## APPENDIX H: REFERENCES

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