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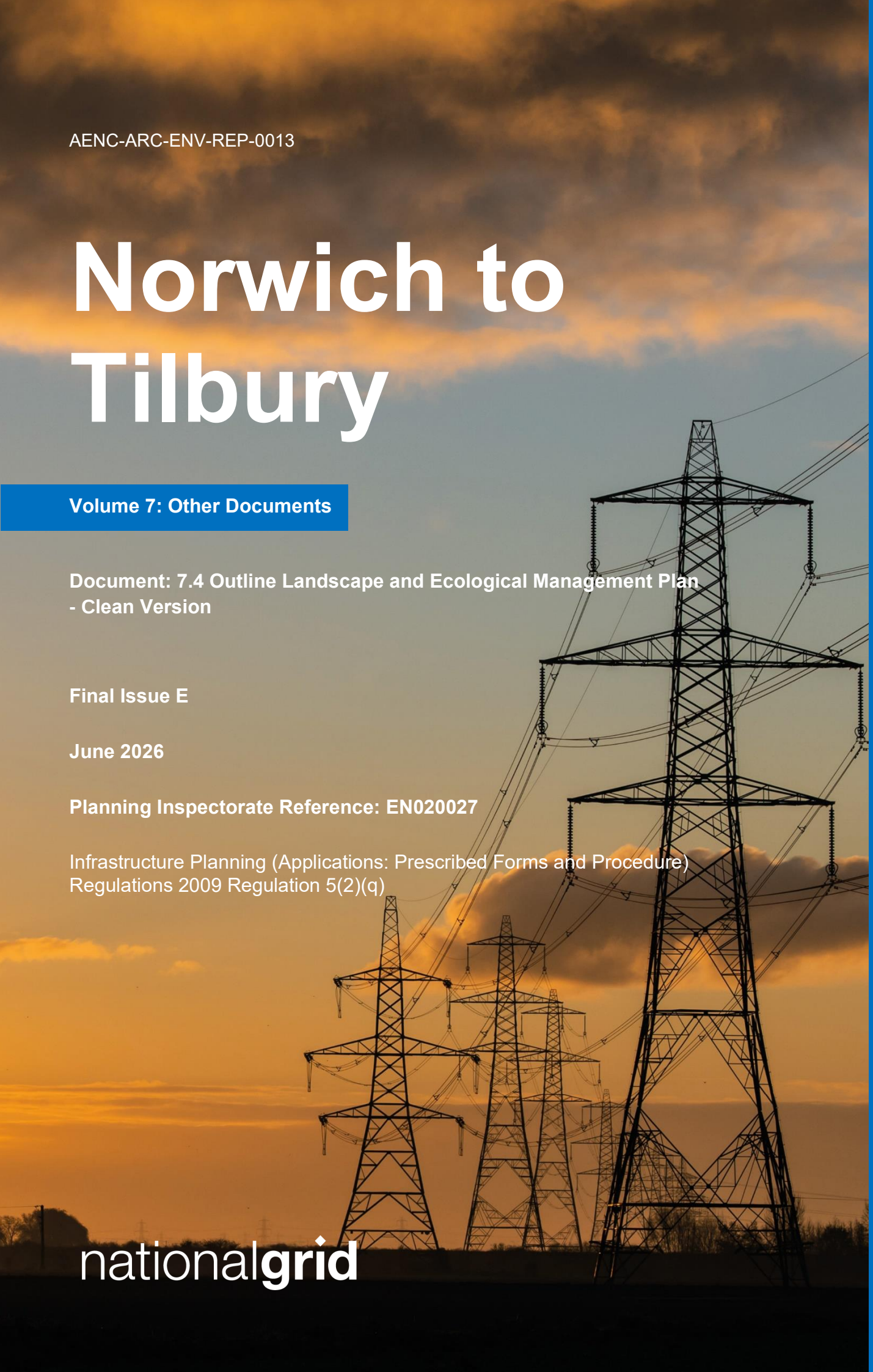


nationalgrid

Revision History

Version	Date	Submitted at
A	29 August 2025	DCO Application
B	13 November 2025	Providing supplementary environmental information to Responses to advice provided under section 51 of the Planning Act 2008 by the Planning Inspectorate
C	12 March 2026	Updates following Relevant Representation responses and ongoing consultation following DCO submission. Updated following confirmation of Scenario B being progressed south of Tilbury North.
D	10 April 2026	Updates following: • Natural England updated their ancient woodland inventory in July 2025 (Essex) and November 2025 (Suffolk). Updates to this Outline LEMP are as a result of those updates which could not be included within the DCO submission documents due to the dates they were updated i.e. just before the DCO submission (Essex) and post DCO submission (Suffolk). • Commitments made in response to Examining Authority's Written Questions 1 [PD-014].
E	10 June 2026	Updates following: • Conversations with Local Planning Authorities and other stakeholders. • Comments made as part of the Applicant's responses to an Additional Submission from Suffolk County Council **[REP4-335]** • Update to Tilbury North Cable Sealing End Compound design.

Contents

Executive Summary

National Grid Electricity Transmission plc ('National Grid') owns and maintains the national high voltage electricity transmission network throughout England and Wales.

National Grid has developed plans for Norwich to Tilbury (the 'Project'). The Project would support the UK's net zero target through the connection of new low carbon energy generation in East Anglia and by reinforcing the transmission network.

The Project comprises reinforcement of the transmission network between the existing Norwich Main Substation in Norfolk and Tilbury Substation in Essex, via Bramford Substation, the new East Anglia Connection Node (EACN) Substation and the new Tilbury North Substation.

The Landscape and Ecological Management Plan (LEMP) has been prepared on behalf of National Grid to support the Application for a Development Consent Order (DCO).

This document provides the preliminary framework for the principles and procedures that the Main Works Contractor(s) must implement to minimise, manage and mitigate the potential environmental impacts of construction works associated with the Project. This outline management plan will be fully developed based on detailed design information to be provided by the Main Works Contractor(s). The final version will be submitted for approval in accordance with Requirement 4 (construction management plans) of the draft DCO (document reference 3.1) (Revision E) prior to commencement of development. This process ensures that detailed design is developed with clear alignment to the principles and procedures within this document.

This Outline LEMP sets out how the land, vegetation and habitats would be reinstated following construction. It includes details on additional mitigation measures required for ecology and landscape during and post construction, as well as detailing any required management of these features post-construction.

The measures detailed in the Outline Code of Construction Practice (document reference 7.2) (Revision E) and Outline LEMP would ensure legislation and best practice guidance to avoid, reduce, mitigate or compensate for any negative impacts on landscape and visual or ecological features are followed.

The objectives of the Outline LEMP are as follows:

- To provide a mechanism for the delivery of landscape and ecological measures (accordance with Requirement 4 (construction management plans) of the draft DCO (document reference 3.1) (Revision E)), to mitigate or compensate for environmental effects identified in the ES
- To provide details of what vegetation would be affected by the Project, how vegetation would be retained and protected on the Project and where vegetation would be removed, how this would be undertaken
- To provide details of the vegetation which would be provided as part of the embedded measures, standard mitigation (reinstatement) or additional mitigation proposals
- To highlight the roles and responsibilities for implementing the identified mitigation measures
- To ensure that legislation and best practice is adhered to by the Project.

1. Introduction

1.1 Summary

1.1.1 National Grid Electricity Transmission plc ('National Grid') owns and maintains the national high voltage electricity transmission network throughout England and Wales.

1.1.2 National Grid has developed plans for Norwich to Tilbury (the 'Project'). The Project would support the UK's net zero target through the connection of new low carbon energy generation in East Anglia and by reinforcing the transmission network.

1.1.3 The Project comprises reinforcement of the transmission network between the existing Norwich Main Substation in Norfolk and Tilbury Substation in Essex, via Bramford Substation, the new East Anglia Connection Node (EACN) Substation and the new Tilbury North Substation.

1.1.4 The reinforcement is needed because the existing transmission network, even with current upgrading, will not have sufficient capacity for the new renewable energy (a substantial proportion of which would be generated by offshore wind) that is expected to connect to the network over the next 10 years and beyond. Completion of the Project, together with other new reinforcements across the country, will meet this future energy transmission demand both in East Anglia and across the UK.

1.1.5 The Project is a Nationally Significant Infrastructure Project (NSIP), and National Grid is seeking development consent under statutory procedures set by government. NSIPs are projects of certain types, over a certain size, which are considered by the government to be of national importance, hence permission to build them needs to be given at a national level, by the relevant Secretary of State. Instead of applying to the local planning authority for planning permission, the developer must apply to the Planning Inspectorate for a Development Consent Order (DCO) that would grant development consent.

1.1.6 This document is an outline management plan that forms part of a suite of outline management plans that provide the preliminary framework for the principles, standards and procedures that the Main Works Contractor(s) must implement to minimise and manage the potential environmental impacts of construction and operation (and maintenance) activities associated with the Project. This outline management plan will be fully developed based on detailed design and construction methodology information to be provided by the Main Works Contractor(s). The final version will be submitted for approval in accordance with Requirement 4 (construction management plans) of the draft DCO (document reference 3.1) (Revision E) prior to commencement of development. This process ensures that detailed design is developed with clear alignment to the principles and procedures within this document.

1.1.7 This Outline Landscape and Ecological Management Plan (LEMP) forms part of the DCO application and sets out the principal measures that are required to help avoid, minimise, mitigate and compensate (where relevant) for the potential ecological and landscape and visual effects of the Project during and post construction, as per the mitigation hierarchy. Standard mitigation measures are included within the Outline Code of Construction Practice (CoCP) (document reference 7.2) (Revision E) and

should be read in conjunction with this Outline LEMP. The Outline LEMP is based on the Project description as submitted with the application for development consent (Environmental Statement (ES) Chapter 4: Project Description (document reference 6.4)). It is recognised that there may be minor refinements through the examination process as part of the application for development consent.

1.1.8 All pre-commencement operations (as defined in Article 2(1) of the draft DCO (document reference 3.1) (Revision E)) must be carried out in accordance with the Outline LEMP. In doing so, where any measures referenced in the Outline LEMP are to be agreed with the relevant Local Planning Authority (LPA), National Grid and / or its Main Works Contractor(s) must seek the agreement of the relevant LPA before carrying out any pre-commencement operations to which those measures are relevant.

1.2 Project Overview

1.2.1 A full description of the Project is detailed in ES Chapter 4: Project Description (document reference 6.4). The Project is a proposal by National Grid to upgrade the electricity transmission system in East Anglia between Norwich and Tilbury, comprising:

- A new 400 kilovolt (kV) electricity transmission connection of approximately 180 km overall length from Norwich Main Substation to Tilbury Substation via Bramford Substation, a new East Anglia Connection Node (EACN) Substation and a new Tilbury North Substation, including:
  - Approximately 159 km of new overhead line supported on approximately 509 pylons, either standard steel lattice pylons (approximately 50 m in height) or low height steel lattice pylons (approximately 40 m in height) and some of which would be gantries (typically up to 15 m in height) within proposed Cable Sealing End (CSE) compounds or existing or proposed substations
  - Approximately 21 km of 400 kV underground cabling, some of which would be located through the Dedham Vale National Landscape (an Area of Outstanding Natural Beauty (AONB[1])
- Up to seven new CSE compounds (with permanent access) to connect the overhead lines to the underground cables
- Modification works to connect into the existing Norwich Main Substation and a substation extension at the existing Bramford Substation
- A new 400 kV substation on the Tendring Peninsula, referred to as the EACN Substation (with a new permanent access). This is proposed to be an Air Insulated Switchgear (AIS) substation
- A new 400 kV substation to the south of Orsett Golf Course in Essex, referred to as the Tilbury North Substation (with a new permanent access). This is proposed to be a Gas Insulated Switchgear (GIS) substation

[1] National Landscape is the rebranded name of an Area of Outstanding Natural Beauty (AONB) from 22 November 2023

- Modifications to the existing National Grid Electricity Transmission overhead lines to facilitate the connection of the existing network into the new Tilbury North Substation to provide connection to the Tilbury Substation
- Ancillary and/or temporary works associated with the construction of the Project.

1.2.2 In addition, third party utilities diversions and/or modifications would be required to facilitate the construction of the Project. There would also be land required for environmental mitigation and Biodiversity Net Gain (BNG).

1.2.3 As well as the permanent infrastructure, land would also be required temporarily for construction activities including, for example, working areas for construction equipment and machinery, site offices, welfare, storage and temporary construction access.

1.2.4 The Project would be designed, constructed and operated in accordance with applicable health and safety legislation. The Project will need to comply with design safety standards including the Security and Quality of Supply Standard (SQSS), which sets out the criteria and methodology for planning and operating the National Electricity Transmission System (NETS). This informs a suite of National Grid policies and processes, which contain details on design standards required to be met when designing, constructing and operating assets such as those proposed for the Project.

1.2.5 The Outline LEMP describes the works undertaken pursuant to the DCO whether this is undertaken by National Grid, UK Power Networks (UKPN) and any appointed contractors appointed by these organisations. This document refers to the 'contractors' when referring to any organisation responsible for constructing components of the Project.

1.2.6 National Grid, UKPN and any appointed contractors would carry out all work in accordance with this Outline LEMP during the construction, reinstatement and five-year aftercare period of the Project.

1.3 Purpose of the Outline LEMP

1.3.1 The Outline LEMP has been produced to detail the environmental measures that would be implemented to avoid, minimise, mitigate and compensate the landscape and visual and ecological features likely to be impacted during construction and operation, as reported in ES Chapter 13: Landscape and Visual (document reference 6.13) and ES Chapter 8: Ecology and Biodiversity (document reference 6.8) (Revision B).

1.3.2 This Outline LEMP sets out how the land, vegetation and habitats would be reinstated following construction. It includes details on additional mitigation measures required for ecology and landscape during and post construction, as well as detailing any required management of these features post-construction.

1.3.3 The measures detailed in the Outline CoCP (document reference 7.2) (Revision E) and Outline LEMP would ensure legislation and best practice guidance to avoid, reduce, mitigate or compensate for any negative impacts on landscape and visual or ecological features are followed.

1.3.4 The Outline LEMP should be read alongside ES Chapter 13: Landscape and Visual (document reference 6.13) and ES Chapter 8: Ecology and Biodiversity (document reference 6.8) (Revision B), and the mitigation measures described in the Outline CoCP (document reference 7.2) (Revision E).

1.3.5 The objectives of the Outline LEMP are as follows:

- To provide a mechanism for the delivery of landscape and ecological measures (accordance with Requirement 4 (construction management plans) of the draft DCO (document reference 3.1) (Revision E)), to mitigate or compensate for environmental effects identified in the ES
- To provide details of what vegetation would be affected by the Project, how vegetation would be retained and protected on the Project and where vegetation would be removed, how this would be undertaken
- To provide details of the vegetation which would be provided as part of the embedded measures, standard mitigation (reinstatement) or additional mitigation proposals
- To highlight the roles and responsibilities for implementing the identified mitigation measures
- To ensure that legislation and best practice is adhered to by the Project.

1.4 Environmental Gain

1.4.1 National Grid has developed a RIIO[2]-T3 Business Plan (2026-2031), which sets firm targets for the five-year period (National Grid, 2024). National Grid has committed that by 2031 it will *'Deliver BNG (Net Biodiversity Benefit in Wales) alongside wider environmental and societal benefits'* and this will be measured by delivery of '*10% or greater BNG alongside wider environmental and societal benefits for all developments requiring formal planning consent*'.

1.4.2 The RIIO-T3 Business Plan (2026-2031) has nature positive as a priority area, which includes National Grid's commitment to take a '*proactive approach to preserve, restore and enhance the natural environment'*.

1.4.3 Within the RIIO-T3 Business Plan (2026-2031), National Grid has made commitments to the use of 10% BNG as a '*catalyst to deliver wider environmental and societal benefits, working with strategic partners and communities to deliver large-scale actions supporting nature recovery strategies*' and to the use of '*BNG is our chosen route to working with strategic partners to facilitate investment in nature that will deliver long-term sustainable benefits for biodiversity and communities*'.

1.4.4 Although not yet mandatory, the Environment Act 2021 includes a requirement for NSIP to deliver at least 10% biodiversity gain, which is expected to come into effect in May 2026. The Overarching National Policy Statement for Energy (EN-1) (Department for Energy Security and Net Zero, 2024) also states in paragraph 4.6.1 '*Although achieving biodiversity net gain is not currently an obligation on applicants, Schedule 15 of the Environment Act 2021 contains provisions which, when commenced, mean the Secretary of State may not grant an application for a Development Consent Order unless satisfied that a biodiversity gain objective is met in relation to the onshore development in England to which the application relates'* and in paragraph 4.6.6 *'Energy NSIP proposals, whether onshore or offshore, should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, and the wider environment where possible'.*

[2] RIIO: Revenue = Incentives + Innovation + Outputs

1.4.5 Therefore, although not yet a mandatory requirement, National Grid is committed to delivering at least a 10% Biodiversity Net Gain with wider environmental and societal benefits on this Project.

1.4.6 A summary of the proposals is presented in the BNG Report (document reference 7.1) submitted with the draft DCO (document reference 3.1) (Revision E). This report presents the initial (application stage) results of the biodiversity metric undertaken for the Project, using the Statutory Biodiversity Metric. The metric is based on the Project description described in ES Chapter 4: Project Description (document reference 6.4).

1.4.7 This Outline LEMP refers to retention, replacement planting and onsite habitat creation and enhancement of habitats (onsite mitigation) in line with the BNG Report (document reference 7.1) within the Order Limits, it excludes offsite BNG habitat requirements. It is anticipated that any offsite BNG, considered to be enhancement, would be delivered through alternative mechanisms outside of the main construction works. Any offsite BNG requirement will go through a careful site selection process, which will ensure that the location of any offsite BNG units also delivers other environmental and societal benefits. The relevant Local Nature Recovery Strategies (LNRS) will be a key part of the site selection criteria for offsite BNG. The added environmental and societal value will be reported through the final iteration of the BNG report post consent based on final detailed design and an updated metric, in line with details in the Unilateral Undertaking, given by National Grid, pursuant to s.106 of the Town and Country Planning Act 1990.

1.5 Structure of the Outline LEMP

1.5.1 The Outline LEMP structure is set out in Table 1.1.

Table 1.1 Structure of the Outline LEMP

Chapter/ Appendix	Content
1. Introduction	This sets out the purpose of the Outline LEMP and how it is structured.
2. Project Commitments	This section outlines the embedded mitigation, standard mitigation and additional mitigation for the Project. This also sets out the ecological and arboricultural survey work that has been done to date to inform the Outline LEMP.
3. Project Team Roles and Responsibilities	This sets out the main roles and responsibilities relevant to the Outline LEMP and the training and awareness that will be completed.
4. Engagement on the Outline LEMP	The Outline LEMP was issued to relevant consultees for comment. This chapter summarises how the comments have been considered when developing the Outline LEMP.
5. Landscape and Ecological Features	This sets out the landscape resources and ecological designations relevant to the Outline LEMP and summarises the main land uses crossed by the Project.
6. Ecology Species Specific Mitigation	This chapter sets out the ecology species specific mitigation required pre-construction and during works.

Chapter/ Appendix	Content
7. Vegetation Retention and Protection	This sets out how vegetation and habitat features that are to be retained on site will be protected during construction.
8. Vegetation and Tree Removal	This sets out how vegetation and habitat features will be removed during construction, with reference to the Arboricultural Impacts Plan in Appendix A.
9. Landscape and Ecological Reinstatement and Other Mitigation	This sets out how vegetation and habitat features will be reinstated following construction. This includes outline landscape design information for the Environmental Areas.
10. Aftercare	This sets out the aftercare proposed on the Project with regards to vegetation.
11. Implementation	This explains procedures in relation to site checks and reporting and how Material or Non-material change would be managed, if change were necessary to implement the Project.
Appendix A	Arboricultural Impacts Plan
Appendix B	Ancient Woodland and Veteran Tree Strategy (Revision B)
Appendix C	Planting Schedules
Appendix D	Outline Landscape Proposals (Revision B)
Appendix E	Bat Flyway Locations
Appendix F	Bird Diverter Locations

2. Project Commitments

2.1 Overview

2.1.1 The Project design is a result of an iterative design process that has taken into account environmental considerations from the Project inception. Knowledge gained through the Environmental Impact Assessment (EIA) process, following baseline surveys and assessment of impacts, along with consultation with interested parties have influenced the Project design. Where practicable key environmental constraints have been avoided and/or impacts reduced. These measures are considered embedded mitigation as they are intrinsic to and built into the Project design. Embedded mitigation measures relevant to landscape are set out in ES Chapter 13: Landscape and Visual (document reference 6.13) and those relevant to ecology are set out in ES Chapter 8: Ecology and Biodiversity (document reference 6.8) (Revision B). Embedded mitigation measures include landscape proposals within the Environmental Areas, where habitat creation and enhancement measures are proposed. Further details on the Environmental Areas are included within this document.

2.1.2 Standard mitigation measures, comprising management activities and techniques, would be implemented during construction of the Project to limit effects through adherence to good site practices and achieving legal compliance. The Outline CoCP (document reference 7.2) (Revision E) contains relevant standard / good practice mitigation measures relating specifically to landscape, ecology and biodiversity. This Outline LEMP includes details relating to habitat retention and reinstatement which is considered a standard mitigation measure during and post construction.

2.1.3 Additional mitigation comprises measures over and above any embedded and standard mitigation measures to further reduce significant environmental effects.

2.2 Construction and Landscaping Schedule

2.2.1 Prior to the grant of DCO consent, a number of pre-construction environmental surveys would be undertaken in 2026. Should consent be granted, it is anticipated that construction of the Project would commence in 2027 and continue through to 2031 (four years). Certain pre-commencement operations could take place following the grant of DCO consent and in advance of construction. However, the detailed construction programme would be subject to change based on factors such as procurement, system access requirements (outages), resource and material availability, weather and ground conditions.

2.2.2 Advance works may also take place prior to development consent, where consented under alternative regimes. Any such early works would be controlled under the terms of the relevant planning permission and would not relate to development that can only be carried out under the DCO, i.e. for any advanced works consented under other regimes, e.g. Town and County Planning Applications, refer to the development control documents as part of the planning application, there is no duplication of commitments within the LEMP.

2.2.3 The construction schedule would be included within the Stage Plan submitted to the relevant LPAs in accordance with Requirement 3 of the draft DCO (document reference 3.1) (Revision E) prior to commencement.

2.2.4 Construction activities would be sequenced and of a transient nature given the linear construction site. However, there are likely to be a number of construction work fronts working at the same time on different Project elements. This would reduce the overall construction programme and would help with Project efficiencies such as delivery of goods to site.

2.2.5 Habitat reinstatement for all areas where works are considered temporary, would be undertaken at the earliest opportunity and no later than by the first available planting season after that part of the authorised development, to which the habitat reinstatement works apply, is first brought into operational use.

2.2.6 A specific landscape planting schedule will be created by the relevant Main Works Contractor(s) for each Environmental Area, which will identify where advanced planting/habitat enhancement works ahead of or during construction can take place and where planting will be undertaken on completion of construction works (before operational use).

2.2.7 The final landscape planting schedule will take into account timings relevant to the EIA and other seasonal restrictions set out within the Environmental Statement or relevant European Protected Species (EPS) licence.

2.3 Construction Working Hours

2.3.1 It is assumed that the core working hours for construction (as set out within Requirement 6 of the draft DCO (document reference 3.1) (Revision E)) would be:

- Mondays to Fridays: 07:00 to 19:00
- Saturdays, Sundays, Bank Holidays and other public holidays: 07:00 to 17:00.

2.3.2 No percussive piling works would take place outside of the hours of 07:00 to 19:00 Monday to Friday and 07:00 to 17:00 on Saturdays.

2.3.3 Unless otherwise agreed with the local highway authority, no Heavy Good Vehicle (HGV) deliveries would be made to site outside of the hours of 07:00 to 19:00 Monday to Friday and 07:00 to 17:00 on Saturdays.

2.3.4 The following operations may take place outside of the core working hours:

- Trenchless crossing operations including at landfalls and beneath highways, railway lines, woodlands, nature reserves, Sites of Special Scientific Interest or watercourses
- The installation and removal of conductors, pilot wires and associated protective netting (included but not limited to) across highways, railway lines or watercourses
- The jointing of underground cables
- The continuation of any work activity commenced during the core working hours to a point where they can securely and or safely be paused
- Any highway works requested by the highway authority to be undertaken on a Saturday or Sunday or outside the core working hours

- The testing or commissioning of any electrical plant installed as part of the authorised development including undertaking of any identified corrective activities
- The completion of works delayed or held up by severe weather conditions which disrupted or interrupted normal construction activities[3]
- Activity necessary in the instance of an emergency where there is a risk to persons or property
- Security monitoring
- Non-intrusive surveys
- Intrusive surveys
- Oil processing of transformers or reactors in substation sites
- Delivery to the transmission works of abnormal loads and any highway works requested by the highway authority to be undertaken outside the core working hours
- Mechanical and electrical installation works within buildings once erected and enclosed.

2.3.5 The core working hours exclude start up and close down activities, which can take place up to one hour either side of the core working hours.

2.4 Surveys Supporting the Outline LEMP

2.4.1 Surveys undertaken to provide a baseline assessment for the EIA are fully detailed in their respective documents. A summary is provided in Table 2.1.

Table 2.1 Baseline surveys supporting the Outline LEMP

Baseline Surveys	Document Reference
Phase 1 and UK Habitat Classification survey	ES Appendix 8.1: Habitat Report (document reference 6.8.A1) (Revision B)
National Vegetation Classification survey	ES Appendix 8.2: National Vegetation Classification Report (document reference 6.8.A2)
Hedgerows Regulations survey	ES Appendix 8.3: Hedgerows Regulations Report (document reference 6.8.A3)

[3] The severe weather conditions mean any weather which prevents work from taking place during the core working hours by reason of physical incapacity (whether for reasons of visibility, ground conditions, power availability, site access or otherwise) or being contrary to safe working practices.

Baseline Surveys	Document Reference
Protected Species surveys	ES Appendix 8.4: Aquatic Report (document reference 6.8.A4)
	ES Appendix 8.5: Terrestrial Invertebrate Report (document reference 6.8.A5)
	ES Appendix 8.6: Reptile Report (document reference 6.8.A6)
	ES Appendix 8.7: Breeding Bird Report (document reference 6.8.A7) (Revision B)
	ES Appendix 8.8: Wintering and Passage Bird Report (document reference 6.8.A8)
	ES Appendix 8.9: Bat Roost Report (document reference 6.8.A9) (Revision B)
	ES Appendix 8.10: Bat Activity Report (document reference 6.8.A10) (Revision B)
	ES Appendix 8.11: Bat Radio-tracking Report (document reference 6.8.A11)
	ES Appendix 8.12: Dormouse Report (document reference 6.8.A12)
	ES Appendix 8.13: Otter and Water Vole Report (document reference 6.8.A13) (Revision B)
	ES Appendix 8.14: Species of Principal Importance Report (document reference 6.8.A14)
	ES Appendix 8.15: Badger Report (confidential) (document reference 6.8.A15) (Revision B)
Designated sites support	ES Appendix 8.16: Designated Sites (document reference 6.8.A16)
Arboricultural surveys	Arboricultural Impact Assessment (AIA) (document reference 6.13.A6)
Modular River Physical (MoRPh) survey	Biodiversity Net Gain Report (document reference 7.1)
Landscape and visual field work	ES Chapter 13: Landscape and Visual (document reference 6.13)

3. Project Team Roles and Responsibilities

3.1 Environmental Management Systems

3.1.1 National Grid will implement management processes and briefings so that the works are carried out in accordance with current legislation and guidance. This will be achieved by application of well-established work processes that apply the recognised BS EN ISO 14001:2015 or equivalent.

3.1.2 All Main Works Contractor(s) will have an Environmental Policy that meets the requirements of ISO 14001 or equivalent, through their internal Business Management System procedures. The policy statement will be displayed on the site notice boards, publicised to all site staff and operatives, and made available to interested parties upon request.

3.2 Project Responsibilities

3.2.1 All Main Works Contractor(s) will undertake the works in accordance with the DCO and its associated documents including the LEMP. A briefing on the contents of the LEMP will be given by the Main Works Contractor(s) to all relevant contractors at commencement of works, to highlight the environment commitments and responsibilities to those undertaking the works.

3.2.2 Overall roles and responsibilities relevant to this Outline LEMP are presented in Table 3.1. These roles may be delivered by multiple individuals across the Project, depending on the specific requirement.

Table 3.1 Overall roles and responsibilities relevant to the Outline LEMP

Role	Organisation	Responsibilities
Environmental Manager(s)	Main Works Contractor(s)	The Environmental Manager(s) will be responsible for the maintenance of all environmental plans and registers, including providing appropriate training, monitoring that the environmental measures and mitigations are implemented on site in accordance with the Outline CoCP (document reference 7.2) (Revision E). They will be the main point of contact for all environmental matters on the Project. They will also develop and maintain working relationships with external stakeholders such as the Environment Agency, Natural England, and the relevant LPAs.

Role	Organisation	Responsibilities
Environmental Clerk of Works (EnvCoW)	National Grid	The EnvCoW(s) will monitor the works and ensure compliance with management plans and mitigation measures as required by the DCO. The EnvCoW will be supported by appropriate technical specialist advisors depending on the location and potential effects.
Ecological Clerk of Works (ECoW)	Main Works Contractor(s)	The ECoW(s) will monitor the works to ensure compliance with any licences, permits and consents obtained to avoid effects on protected species and habitats, along with ensuring compliance with environmental legislation. The ECoW will oversee ecological pre-construction surveys and will also manage ecological operatives engaged in ecological mitigation activities – such as undertaking toolbox talks, ecological watching briefs and translocation of protected species. The ECoW will be suitably qualified for the specific task to be undertaken. What classifies as a suitably qualified ECoW will depend on the specific task to be undertaken and the protected species or habitat in question. Some examples of minimum standards which would be required include a minimum of 3 years relevant post-graduate experience in ecological supervision of construction works; Membership (or eligibility for membership) of a relevant professional body, such as the Chartered Institute of Ecology and Environmental Management (CIEEM); and holding any species-specific licences required to supervise works affecting legally protected species, where applicable.
Arboricultural Clerk of Works (ArbCoW)	Main Works Contractor(s)	The ArbCoW(s) will monitor works conducted by a suitably qualified and experienced arborist to/within proximity to all retained trees, including trees under Tree Preservation Orders and veteran trees, to ensure relevant control measures are in place to protect these trees.
Archaeological Clerk of Works (ACoW)	Main Works Contractor(s)	The ACoW will monitor the works to ensure compliance with the Outline Archaeological Mitigation Strategy and Outline Written Scheme of Investigation (AMS-OWSI) (document reference 7.5) (Revision B) and relevant Detailed Written Scheme of Investigations (WSIs).
Landscape Clerk of Works (LCoW	Main Works Contractor(s)	The LCoW will oversee the implementation and establishment of landscape works, ensuring compliance with design specifications and quality standards.
Permits and Consent Manager(s)	Main Works Contractor(s)	The Permits and Consents Manager(s) will collaborate with the Environmental Manager to draft and submit permits and consents on behalf of the Project, track the progress, provide updates, and communicate approvals.

Role	Organisation	Responsibilities
Works Supervisor(s)	Main Works Contractor(s)	It is anticipated that the Works Supervisor(s) will be responsible for delivering the site works in accordance with the requirements of the Outline LEMP (document reference 7.4) (Revision E) and implementing good environmental practices required by the Environmental Manager(s). They are responsible for managing operatives, plant and their areas of work, providing appropriate training, in accordance with the principles of good environmental practice.
Land Officer(s)	Main Works Contractor(s)	The Land Officer(s) will provide a single point of contact for both the Main Works Contractor(s) and the landowner/occupier of the land. They will be responsible for delivering site access in line with pre-agreed timescales, help facilitate the dialogue between the Main Works Contractor(s) and the landowner/ occupier as necessary and will be the first point of contact for any issues escalated by the landowner/ occupier or the Main Works Contractor(s). They will be responsible for witnessing and agreeing all land condition surveys conducted by the Main Works Contractor(s).
Technical specialist advisors	Main Works Contractor(s)/ National Grid	The Main Works Contractor(s) will appoint technical specialists who will have the relevant experience to supervise the relevant aspects of the works including an ECoW, LCoW, ArbCoW and ACoW as required.

3.3 Information Training Awareness

3.3.1 In accordance with the Outline CoCP (document reference 7.2) (Revision E) good practice measures, all staff and operatives working on the Project will undergo a site-specific induction, which is anticipated to include the following environmental topics:

- Working in or adjacent to protected sites and priority habitats, invasive flora, protected species management, mitigation and controls
- Working around tree/hedgerow root protection zones
- Working in or near water
- Soil management and protection of soil quality
- Working around archaeology.

3.3.2 Environmental toolbox talks will be provided by the Main Works Contractor(s). These will give targeted information about site-specific issues or activities taking place at that time.

4. Engagement on the Outline LEMP

4.1 Introduction

4.1.1 This chapter sets out the engagement that has been undertaken on the Outline LEMP and how the comments were considered when developing the final iteration of the Outline LEMP for submission with the application for development consent.

4.2 Engagement

4.2.1 The Outline LEMP was issued to the relevant LPAs and other relevant statutory consultees to seek feedback on the contents and structure before producing the final iteration of the Outline LEMP for the application for development consent. The Outline LEMP was issued to the following organisations:

- Environment Agency
- Natural England
- Babergh and Mid Suffolk District Councils
- Basildon Borough Council
- Braintree District Council
- Brentwood Borough Council
- Chelmsford City Council
- Colchester City Council
- Essex County Council
- Norfolk County Council
- South Norfolk and Broadlands District Council
- Suffolk County Council
- Tendring District Council
- Thurrock Council.

4.3 Feedback on the Outline LEMP

4.3.1 The Outline LEMP has been shared with the above organisations for comment as presented in Table 4.1. The comments received at each stage have been reviewed and this document has been updated where applicable.

Table 4.1 Stakeholder engagement for Outline LEMP

Documents Shared	Date
Draft Outline LEMP - Structure	27 September 2024
Draft Outline LEMP - Draft Mitigation Drawings	2 October 2024
Draft Outline LEMP - Meeting	9 October 2024
Draft Outline LEMP - Meeting Minutes	18 October 2024
Updated Outline LEMP V1	24 January 2025
Updated Outline LEMP – Meeting	29 January 2025
Updated Outline LEMP – Meeting Minutes	19 March 2025
Updated Outline LEMP V2	16 May 2025

5. Landscape and Ecological Features

5.1 Landscape Character and Designated Landscapes

5.1.1 Landscape character within the Project Study Area is described at the national, regional and local scales, in a series of Landscape Character Assessment publications. The following Appendix F describes landscape character at the regional scale, with reference to the East of England Landscape Typology (Landscape East, 2010) and Project sections A to H. The eight sections are described below and shown on Figure 1.1: Site Location Plan and Project Sections (document reference 6.1.F1). The East of England Landscape Character Types (LCTs) are shown on ES Figure 13.5 (document reference 6.13.F5):

- Section A – South Norfolk Council
- Section B – Mid-Suffolk District Council
- Section C – Babergh District Council, Colchester City Council and Tendring District Council
- Section D – Colchester City Council
- Section E – Braintree District Council
- Section F – Chelmsford City Council and Brentwood Borough Council
- Section G – Basildon Borough Council and Brentwood Borough Council (and part of Chelmsford City Council)
- Section H – Thurrock Council.

5.1.2 Potential effects on regional/ local landscape character are described in ES Chapter 13: Landscape and Visual (document reference 6.13) and ES Appendix 13.2: Landscape Baseline and Assessment (document reference 6.13.A2). Potential effects on designated landscapes are described in Appendix 13.5: National Landscape Assessment Study (document reference 6.13.A5).

Section A

5.1.3 Section A is located between Norwich in the north and Diss in the south. The landscape comprises a flat to gently undulating plateau, dissected by river valleys including the valleys of the River Tas and River Waveney. The River Waveney is characterised by its relatively large-scale open valley landscape. The valley is flat and low-lying, with regular pastoral fields and dense tree and scrub cover. The settlement of Diss / Roydon occupies part of the valley. The plateau is characterised as part of the Settled Plateau Claylands LCT and Wooded Plateau Claylands LCT, the latter containing a higher proportion of woodland. The tributary valleys are classified as Valley Meadowlands LCT along the valley floors, with Valley Settled Farmlands LCT on the valley sides.

Section B

5.1.4 Section B is located between Diss in the north and Bramford in the south. The landscape comprises a flat to gently undulating plateau, dissected by tributary streams including the River Waveney and River Gipping. The plateau is characterised as part of the Settled Plateau Claylands LCT and Wooded Plateau Claylands LCT, the latter containing a higher proportion of woodland. The tributary valleys which dissect the plateau are classified as Valley Meadowlands LCT along the valley floors, with Valley Settled Farmlands LCT on the valley sides.

Section C

5.1.5 Section C is located between Bramford in the north and Ardleigh in the south. The landscape comprises a wide plateau crossed by numerous valleys including the broad valley of the River Stour. The northern end of Section C is part of the Wooded Plateau Claylands LCT, crossed by the Valley Settled Farmlands LCT along the course of the Wash Brook. Along the Stour Valley, the floor is part of the Valley Meadowlands LCT, with Valley Settled Farmlands LCT on the upper sides and Plateau Estate Farmlands LCT on the wooded plateau above the valley. To the south, around Ardleigh, the Plateau Estate Farmlands LCT predominates.

5.1.6 The River Stour and its enclosing valley sides and plateau edge form part of the Dedham Vale National Landscape. The National Landscape is a lowland river valley landscape, located on the Essex/Suffolk border. It covers the lower reaches of the River Stour and is very low-lying, with the valley floor typically lying at between 0 m and 20 m Above Ordnance Datum (AOD), rising to gentle ridges to the north and south, lying at between 30 m and 60 m AOD.

Section D

5.1.7 Section D is located between Ardleigh in the east and Coggeshall in the west. The landscape comprises a flat to gently undulating plateau, dissected by the broad valley of the River Colne which runs west to east. The plateau is part of the Plateau Estate Farmlands LCT and Wooded Plateau Farmlands LCT. The Colne Valley is identified as Valley Meadowlands LCT along the valley floor, rising to Valley Settled Farmlands LCT on the valley sides. The northern and western extents of Colchester are identified as being of urban character. Section D lies to the south of Dedham Vale National Landscape.

Section E

5.1.8 Section E is located between Coggeshall in the east and Great Leighs in the west. The landscape is an undulating plateau dissected by numerous river valleys, including of the River Blackwater and River Brain. The plateau is part of the Wooded Plateau Farmlands LCT, dissected by the Valley Settled Farmlands LCT along the river valleys. The settlement of Witham is identified as an area of urban character.

Section F

5.1.9 Section F is located between Great Leighs in the north-east and Ingatestone in the south-west, around the northern and western sides of Chelmsford. The landscape is an undulating plateau dissected by numerous river valleys, including of the River Ter, River Chelmer, and River Can. The plateau is part of the Wooded Plateau Farmlands

LCT, dissected by the Valley Settled Farmlands LCT along the river valleys. At the southern end of the route, it passes through the Wooded Hills and Ridges LCT, south-west of Chelmsford. Chelmsford is identified as being of urban character.

Section G

5.1.10 Section G is located between Ingatestone in the north and West Horndon in the south. The landscape comprises a wide plateau divided by river valleys. Section G is mostly within the Wooded Hills and Ridges LCT. At the southern end of Section G, a small area is within the Lowland Settled Claylands LCT. There are areas of urban character at Brentwood and Basildon.

Section H

5.1.11 Section H is located between West Horndon in the north and Chadwell St Mary in the south. The landscape is characterised by its extensive tracts of flat land, and forms part of a low-lying coastal landscape in its southern extents. The landscape is part of the Lowland Settled Claylands LCT in the north and Lowland Settled Farmlands LCT in the south. Coastal areas are part of the Coastal Levels LCT which encompasses the north side of the Thames Estuary. There are areas of urban character at Basildon, Chadwell St Mary and Stanford-le-Hope. The Wooded Hills and Ridges LCT extends around the western and southern sides of Basildon.

5.2 Ecology Designations

5.2.1 All statutory sites designated for biodiversity that were identified within the Study Area are presented within ES Chapter 8: Biodiversity and Ecology (document reference 6.8) (Revision B) and ES Appendix 8.16: Designated Sites (document reference 6.8.A16).

5.2.2 Table 5.1 summarises the twelve statutory ecological designated sites where specific potential impacts have been identified within ES Chapter 8: Biodiversity and Ecology (document reference 6.8) (Revision B) and therefore those that are relevant to the Outline LEMP.

Table 5.1 Statutory ecological designated sites relevant to the Outline LEMP

Project Section	Site Name	Designation[4]	Distance/ Direction From Order Limits
A	Norfolk Valley Fens	Special Area of Conservation (SAC)	0.29 km south-east
A	Roydon Fen	Local Nature Reserve (LNR)	0.01 km east
A	Flordon Common	Sites of Special Scientific Interest (SSSI)	0.29 km south-east
A	Aslacton Parish Land	SSSI	1.27 km east
A	Forncett Meadows	SSSI	1.14 km east

[4] Designated site acronyms defined - Special Area of Conservation (SAC), Special Protection Area (SPA), Site of Special Scientific Interest (SSSI) & Local Nature Reserve (LNR).

Project Section	Site Name	Designation[4]	Distance/ Direction From Order Limits
A	Shelfanger Meadows	SSSI	0.16 km north-west
B	Bramford Meadows	LNR	0.58 km east
B	Needham Lake	LNR	1.52 km east
C	Stour and Orwell Estuaries	Ramsar	3.07 km east
C	Stour and Orwell Estuaries	SPA	3.07 km east
E	Brockwell Meadows	LNR	1.93 km south-east
F	Chelmer Valley Riverside	LNR	1.79 km east

5.2.3 Table 5.2 summarises the non-statutory ecological designated sites that are relevant to the Outline LEMP, and their location in relation to the Order Limits.

Table 5.2 Non-statutory ecological designated sites relevant to the Outline LEMP

Project Section	Site Name	Distance From Order Limits (m)	Proximity/Direction from Order Limits
A	Norton's Wood County Wildlife Site (CWS)	0.00	Adjacent
A	Meadow Wood Nature Reserve CWS	0.00	Within
B	Bullen Wood CWS	0.00	Within
B	Fore and Bushey Groves CWS	0.00	Within
B	Miller's Wood CWS	0.00	Within
B	River Gipping (Sections) CWS	0.00	Within
B	River Waveney (Sections) CWS	0.00	Adjacent
B	Round Wood and Elms Grove CWS	0.00	Within
B	Roadside Nature Reserve (RNR) 200	0.00	Within
B	Somersham Park CWS	0.00	Within
B	Thrandeston Marsh CWS	0.00	Within
C	Higham Meadow CWS	0.00	Within
C	Sproughton Park CWS	0.00	Within
C	Black Brook Local Wildlife Site (LWS)	0.00	Within

Project Section	Site Name	Distance From Order Limits (m)	Proximity/Direction from Order Limits
D	Harrow Wood LWS	0.00	Within
E	Coggeshall Hall Farm LWS	0.00	Within
E	Hallhook Row LWS	0.00	Within
E	Rivenhall Thicks LWS	0.00	Within
E	Sandy Wood LWS	0.00	Adjacent
F	Great/Little Edney Woods LWS	0.00	Within
F	Langleys Deer Park LWS	0.00	Within
F	Osborne's Wood LWS	0.00	Adjacent
F	Parson's and Queen's Wood LWS	0.00	Within
F	Writtlepark Woods LWS	0.00	Within
G	Blind Lane LWS	0.00	Within
G	Bluntswall Wood LWS	0.26	East
G	Clapgate Wood LWS	0.00	Within
G	Little Bladen's Wood LWS	0.00	Within
G	St Margarets Wood and Lane LWS	0.00	Within
H	Blackshots Nature Area LWS	0.00	Within
H	Buckingham Hill LWS	0.00	Within
H	Linford Pit LWS	0.00	Within
H	Mucking Heath Complex, Southfields LWS	0.00	Within
H	Rainbow Wood and Ashen Shaw LWS	0.00	Within

5.2.4 Other important ecological features which are found within the Order Limits, but which are not formally designated, comprise:

- Habitats of Principal Importance in England, i.e., Priority Habitats that include: coastal and floodplain grazing marsh; lowland dry acid grassland; wet woodland, lowland mixed deciduous woodland; arable field margins, open mosaic habitat on previously developed land; reedbeds; hedgerows; rivers; and ponds
- Notable plants
- Protected and notable species e.g., bats; badger; breeding birds; hazel dormouse; reptile species; riparian mammals; invertebrates and fish.

5.2.5 Ancient woodland, potential ancient woodland, ancient trees, trees subject to a Tree Preservation Order (TPO) and veteran trees are summarised in Section 7.5 of this

report and more detail provided within Appendix B: Ancient Woodland and Veteran Tree Strategy (Revision B).

5.3 Designated Sites Mitigation

Statutory Designated Sites

5.3.1 Embedded and standard mitigation measures set out within the Outline CoCP (document reference 7.2) (Revision E) will remove potential significant effects on most statutory designated sites within the Study Area. The only exceptions being the Stour and Orwell Estuaries SPA and Ramsar Site, where specific habitat replacement and protection measures are required.

5.3.2 Where embedded/ standard mitigation measures set out in the Outline CoCP (document reference 7.2) (Revision E), associated with a statutory designated site, are required these have been included within Table 5.3 for clarity. This predominantly relates to pollution prevention measures, which within the Outline CoCP (document reference 7.2) (Revision E) under GG32 states '*Runoff across the site will be controlled through a variety of methods including header drains, buffer zones around watercourses, on-site ditches, silt traps and bunding. There will be no intentional discharge of site runoff to ditches, watercourses, drains, including highways drainage systems, or sewers without appropriate treatment and agreement of the appropriate authority. All practicable steps would be put in place to prevent pollution of watercourses in the case of an emergency, with protocols in place to address accidental spills and severe weather events'*.

5.3.3 Additional mitigation measures associated with the remaining two statutory sites (Stour and Orwell Estuaries SPA and Ramsar Site) have also been summarised within Table 5.3).

Table 5.3 Statutory ecological designated sites relevant to the Outline LEMP

Project Section	Site Name	Designation	Distance From Order Limits	Impact	Mitigation
A	Norfolk Valley Fens	SAC	0.29 km	Potential hydrological changes which may degrade habitats and associated groundwater dependent terrestrial ecosystems (GWDTE).	Standard pollution prevention measures set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).

Project Section	Site Name	Designation	Distance From Order Limits	Impact	Mitigation
A	Roydon Fen	LNR	0.01 km	Potential hydrological changes which may degrade habitats and associated GWDTE.	Standard pollution prevention measures set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).
A	Flordon Common	SSSI	0.29 km	Potential hydrological changes which may degrade habitats and associated GWDTE.	Standard pollution prevention measures set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).
A	Aslacton Parish Land	SSSI	1.27 km	Potential hydrological changes which may degrade habitats and associated GWDTE.	Standard pollution prevention measures set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).
A	Forncett Meadows	SSSI	1.14 km	Potential hydrological changes which may degrade habitats and associated GWDTE.	Standard pollution prevention measures set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).
A	Shelfanger Meadows	SSSI	0.16 km	Potential hydrological changes which may degrade habitats and associated GWDTE.	Standard pollution prevention measures set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).
B	Bramford Meadows	LNR	0.58 km	Potential hydrological changes which may degrade habitats and associated GWDTE.	Standard pollution prevention measures set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).

Project Section	Site Name	Designation	Distance From Order Limits	Impact	Mitigation
B	Middle Wood	SSSI	0.00 km	Middle Wood SSSI and the associated ancient woodland is adjacent to the works area for third-party mitigation to dismantle an existing 132 kV overhead line (PI Route). The woodland is also 8 m east of the pulling location for the proposed location of 400 kV pylon RG188, and over 100m from the proposed location for the pylon. No direct impacts anticipated.	Proposed mitigation linked to the associated ancient woodlands are discussed within the ancient woodland section and within the Ancient Woodland and Veteran Tree Strategy (Revision B) as shown in Appendix B.
B	Needham Lake	LNR	1.52 km	Potential hydrological changes which may degrade habitats and associated GWDTE.	Standard pollution prevention measures set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).
C	Stour and Orwell Estuaries	Ramsar	3.07 km	Temporary loss/ damage to habitat considered functionally linked land. Potential hydrological changes which may degrade habitats within functionally linked land associated with SPA.	Habitat reinstatement of arable habitat within areas of functionally linked land to be completed as soon as practicable. Standard pollution prevention measures set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).
C	Stour and Orwell Estuaries	SPA	3.07 km	Temporary loss/ damage to habitat considered functionally linked land. Potential hydrological changes which may degrade habitats	Habitat reinstatement of arable habitat within areas of functionally linked land to be completed as soon as practicable. Standard pollution prevention measures

Project Section	Site Name	Designation	Distance From Order Limits	Impact	Mitigation
				within functionally linked land associated with SPA.	set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).
E	Brockwell Meadows	LNR	1.93 km	Potential hydrological changes which may degrade habitats and associated GWDTE.	Standard pollution prevention measures set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).
F	Chelmer Valley Riverside	LNR	1.79 km	Potential hydrological changes which may degrade habitats and associated GWDTE.	Standard pollution prevention measures set out in commitment GG32 of the Outline CoCP (document reference 7.2) (Revision E).

Non-Statutory Designated Sites

5.3.4 There are 36 Local Wildlife Sites (LWS), County Wildlife Sites (CWS) or Roadside Nature Reserves (RNR) that have been identified as having potential direct/indirect impacts as a result of the proposed works area. Embedded and standard construction measures set out within the Outline CoCP (document reference 7.2) (Revision E) would mitigate for some of these effects and details on any specific additional mitigation bespoke for each LWS/ CWS/ RNR have been provided where relevant in Table 5.4.

5.3.5 Where a non-statutory designated sites includes ancient woodland within the boundary of the designation, this is referenced in Table 5.4 below, with further detail provided within Section 7.5 of this Outline LEMP and within Appendix B: Ancient Woodland and Veteran Tree Strategy (Revision B).

Table 5.4 Non-statutory ecological designated sites relevant to the Outline LEMP

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
A	Norton's Wood CWS	0.00	Temporary construction haul road within 2 m at closest point but no direct impacts. Potential for accidental encroachment resulting in habitat loss.	Edge of construction area would be demarcated to ensure no accidental encroachment into the CWS as set out within the Outline CoCP (document reference 7.2) (Revision E).
A	Meadow Wood Nature Reserve CWS	0.00	The 400 kV overhead line would oversail the southern corner of the CWS. The meadow habitat would not be affected. A small area of tree loss/management within 28 m of the overhead line would be required within the CWS to allow for electrical clearance (0.06 ha). The trees in this area are native broad-leaved species that would re-grow from coppice stools or pollards that would be created within the electrical clearance zone. The route selected avoids removal of the veteran trees within the CWS. The existing UKPN 11 kV overhead line that currently passes through the CWS would be removed and replaced underground outside of the CWS boundary. Potential for accidental encroachment.	The woodland beneath the 400 kV overhead line will regenerate naturally in line with the natural regeneration of woodland principles within Chapter 9 of this report. Where deemed necessary, supplementary planting of saplings will be added to the woodland (not directly under the overhead line). The edge of construction area would be demarcated to ensure no accidental encroachment into the CWS as set out within the Outline CoCP (document reference 7.2) (Revision E). The ECoW/ACoW would give a briefing to all contractors working within the CWS on the ecological constraints ahead of works.
B	Bullen Wood CWS	0.00	Existing Bramford Substation directly adjacent to woodland. Permanent existing access route 4 m to the south (right of access only). Potential for accidental encroachment.	Edge of woodland would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E).

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
B	Fore and Bushey Groves CWS	0.00	The existing 33 kV overhead line that goes through the CWS and associated ancient woodlands will be removed and undergrounded on the same alignment through Bushey Grove ancient woodland (part of Fore and Bushey Groves CWS), resulting in temporary habitat impacts. Temporary construction haul road is 21 m from Fore Grove ancient woodland and 15 m from associated works area, however, is 12 m from the haul road LoD. The 400 kV overhead line LoD is 14 m west of the woodland, with the current alignment designed to be approximately 65 m west. Potential for hydrological impacts.	Habitats would be reinstated in line with the habitat reinstatement principles within Chapter 9 of this report. Additional proposed mitigation linked to the associated ancient woodlands are discussed within the ancient woodland section and within the Ancient Woodland and Veteran Tree Strategy (Revision B) as shown in Appendix B. The ECoW would give a briefing to all contractors working within the CWS / ancient woodland on the ecological constraints ahead of works. Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E).
B	Miller's Wood CWS	0.00	Partially within Order Limits for primary access route H10-A2 (existing road) and visibility splay. Vegetation management works will be within the visibility splay for safety reasons. No excavation required within 15 m of the woodland required. As the visibility splay is situated on a pre-existing road, it is expected that there is likely already some degree of roadside management of vegetation in-place. Potential for accidental encroachment.	Use of existing road as primary access route, no additional mitigation required. Management of roadside habitat along southern side of Bullen Lane only. No trees/ vegetation will be removed from CWS. Edge of Order Limits would be demarcated adjacent to the CWS to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E).

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
B	River Gipping (Sections) CWS	0.00	CWS would be over sailed by the new 400 kV overhead line. Any trees within 20 m either side of the centre line would be permanently removed and any within an additional 8 m either side managed for safety reasons. No other direct impacts on the CWS are anticipated. Potential for hydrological impacts from construction of pylon RG165 working area and temporary haul road within 10 m of watercourse and associated GWDTE.	Habitats would be reinstated in line with the habitat reinstatement principles within Chapter 9 of this report. Replacement tree planting would be undertaken outside of the electrical clearance distances but within the CWS or adjacent Order Limits where practicable. Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E).
B	River Waveney (Sections) CWS	0.00	No direct impacts to CWS. Temporary haul road crosses a watercourse that flows into the CWS (80 m downstream), using a temporary single span bridge. The permanent access route for pylon RG88 would also cross this watercourse 70 m upstream of the CWS. Potential for accidental encroachment and hydrological impacts to habitat and associated GWDTE.	Edge of construction area would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E). Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E).
B	Round Wood and Elms Grove CWS	0.00	Existing 132 kV UKPN line through the CWS and associated ancient woodland which is to be dismantled. Long term benefit to the woodland from the removal. Permanent existing access route 4 m to the north (right of access only). Potential for accidental encroachment.	Negligible additional impact on ancient woodland expected as a result of dismantling of existing 132 kV line as woodland already managed around overhead line. Edge of CWS and ancient woodland would be demarcated to ensure no accidental encroachment as set out

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
				within the Outline CoCP (document reference 7.2) (Revision E). Additional proposed mitigation linked to the associated ancient woodland (Round Wood) is discussed within the ancient woodland section and within the Ancient Woodland and Veteran Tree Strategy (Revision B) as shown in Appendix B.
B	RNR 200	0.00	Visibility splay lies adjacent but not within the RNR. No direct impacts but adjacent vegetation management required. Potential for accidental encroachment.	Edge of RNR would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E).
B	Somersham Park CWS	0.00	No direct impact on the CWS or excavation within 15 m of the CWS which also includes ancient woodland. Permanent right of access in the operational phase within 10 m, but no excavation required and minimal future use (right of access only).	A 15 m buffer from edge of the CWS / ancient woodland would be demarcated to ensure no accidental encroachment during construction as set out within the Outline CoCP (document reference 7.2) (Revision E).
B	Thrandeston Marsh CWS	0.00	Undergrounding of 132 kV cables would be undertaken on the very eastern edge of the CWS. This will involve crossing of a watercourse within the CWS. Potential for hydrological impacts to habitat and associated GWDTE.	The undergrounding swathe (working area) has been reduced to 20 m in width through the designation to reduce direct impacts. The ECoW would give a briefing to all contractors working within the CWS on the ecological constraints ahead of works. Any temporarily lost habitats would be reinstated in line with the habitat

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
				reinstatement principles within Chapter 9 of this report. Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E).
C	Higham Meadow CWS	0.00	Temporary drainage outfall and channel within the eastern edge of designated site. Potential for hydrological impacts to habitat and associated GWDTE.	Limit of Deviation (LoD) of drainage channel allows for micro-siting to avoid loss of mature trees. Any minor vegetation loss would be allowed to naturally regenerate following completion of works based on existing seed bank. Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E).
C	Sproughton Park CWS	0.00	Pylon JC16 is positioned within the CWS and will therefore require a small area of temporary habitat loss during works and even smaller area of permanent habitat loss associated with the pylon feet. The new 400 kV overhead line would over sail the CWS north to south and require any trees beneath (40 m swathe to be removed). A temporary haul road would be required up to the pylon JC16 working area from the north but does not cross the river to the south. The existing 132 kV overhead line that currently crosses the CWS would be removed and	The 132 kV undergrounding swathe (working area) would be reduced to 25 m in width through the designation to reduce direct impacts. The ECoW would give a briefing to all contractors working within the CWS on the ecological constraints ahead of works. Any temporarily lost habitats would be reinstated in line with the habitat reinstatement principles within Chapter 9 of this report.

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
			undergrounded on mostly the same alignment through the CWS. The very eastern extent of the CWS is crossed by a permanent access (right of way only), an existing track required for ongoing maintenance. Potential for accidental encroachment and hydrological impacts.	Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E).
C	Black Brook LWS	0.00	Two temporary drainage outfalls and channels within the eastern parcel of the LWS. The JC underground cables cross Black Brook (not part of the LWS) using an open cut installation method, this crossing point is directly upstream from the LWS by 260 m. Therefore, there are potential for hydrological impacts on the LWS to habitat and associated GWDTE.	LoD of drainage channel allows for micro-siting to avoid loss of mature trees. Any minor vegetation loss would be allowed to naturally regenerate following completion of works based on existing seed bank. Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E); this will include protection measures for open cut cable installation methods.
D	Harrow Wood LWS	0.00	No direct impact. Permanent access road within 6 m of the LWS and associated ancient woodland (named Harrow Corner). No proposed works required for permanent access route as existing track (right of access only). Environmental Area lies up to the edge of woodland for habitat creation and enhancement measures only. Potential for accidental encroachment.	Edge of LWS and associated ancient woodland would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E).

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
D	Stonefield Strip LWS	8 m	Potential impact linked to associated ancient woodland. Potential impacts are therefore discussed within the ancient woodland section and within the Ancient Woodland and Veteran Tree Strategy (Revision B) as shown in Appendix B.	Proposed mitigation linked to associated ancient woodland. Proposed mitigation is therefore discussed within the ancient woodland section and within the Ancient Woodland and Veteran Tree Strategy (Revision B) as shown in Appendix B.
E	Coggeshall Hall Farm LWS	0.00	The new 400 kV overhead line would over sail the LWS at its thinnest point. Some tree loss would be required to facilitate safety clearances, but this would be minimal. A new single span bridge will be installed over the River Blackwater and associated temporary haul road. It is anticipated that the bridge will not impact the bank habitat and will allow continued movement of otter (a designating feature of the LWS). A small amount of temporary habitat loss, to install the bridge within the LWS, will be required. A permanent access road also would cross the LWS to the north, but this is an existing track (right of access only).	The ECoW would give a briefing to all contractors working within the LWS on the ecological constraints ahead of works. Any temporarily lost habitats would be reinstated in line with the habitat reinstatement principles within Chapter 9 of this report. Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E). Pre-construction otter surveys will be undertaken – see otter section (paragraphs 6.1.36 to 6.1.40).
E	Hallhook Row LWS	0.00	The LWS is located 1 m from 400 kV overhead line LoD extent but over 50 m from current alignment. No direct loss of LWS or associated ancient woodland but potential for accidental encroachment.	Edge of Order Limits would be demarcated to ensure no accidental encroachment into LWS/ ancient woodland as set out within the Outline CoCP (document reference 7.2) (Revision E).

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
E	Rivenhall Thicks LWS	0.00	Existing 33 kV pole on corner of LWS and ancient woodland requires dismantling. The existing presence of the 33 kV that will be undergrounded on the same route will mean there will be some excavation (albeit minor) to install cable 3 m from the woodland edge. No additional tree loss anticipated as vegetation already managed under existing line. There will be short-term minimal impact on low lying vegetation within the LWS during removal works and underground works (3 m). Short section of temporary haul road 10 m from LWS and associated ancient woodland edge. Long term benefit to LWS through removal of third-party infrastructure. Potential for accidental encroachment.	Habitat including woodland will be allowed to regenerate naturally using existing seed bank following removal of 33 kV line. A 100 m length of temporary haul road within 15 m buffer, located 10m from edge of LWS and associated ancient woodland. Non-excavation construction measures for this short stretch of haul road will be used to ensure no impact on root protection zone. The ArbCoW/ ECoW would give a briefing to all contractors working within the LWS / ancient woodland on the ecological constraints ahead of works techniques. Edge of LWS/ ancient woodland would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E). Additional proposed mitigation linked to the associated ancient woodland is discussed within the ancient woodland section and within the Ancient Woodland and Veteran Tree Strategy (Revision B) as shown in Appendix B.
E	Sandy Wood LWS	0.00	Temporary haul road to facilitate 132 kV existing overhead line removal and subsequent underground cabling lies within 10 m of the LWS woodland edge and crosses the River Ter. This watercourse flows	Edge of Order Limits would be demarcated to ensure no accidental encroachment to LWS and associated ancient woodland as set out within the

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
			adjacent to the LWS but does not form part of the designated site. This haul road follows an existing track.	Outline CoCP (document reference 7.2) (Revision E). Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E).
F	Great/Little Edney Woods LWS	0.00	Partially within the Order Limits. The new 400 kV overhead line would over sail the LWS at its thinnest point. Some tree removal will be required to facilitate electrical clearances, but this will be minimal. The site would also be crossed by a temporary haul road required for construction; this would use an existing track through the LWS and associated ancient woodland (named Edney Woods). The overhead line would not over sail Edney Woods ancient woodland. Potential for accidental encroachment.	The ECoW would give a briefing to all contractors working within the LWS on the ecological constraints ahead of works. Any temporarily lost habitats would be reinstated in line with the habitat reinstatement principles within Chapter 9 of this report. Proposed mitigation linked to associated ancient woodland. Proposed mitigation is therefore discussed within the ancient woodland section and within the Ancient Woodland and Veteran Tree Strategy (Revision B) as shown in Appendix B. Edge of LWS and associated ancient woodland would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E).
F	Langleys Deer Park LWS	0.00	Partially within the Order Limits. An eastern section of the site sits within the 400 kV overhead line LoD but located 30 m away from the current alignment.	Any temporarily lost habitats would be reinstated in line with the habitat

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
			Possible for small amount of tree loss within the LWS due to LoD. Potential for accidental encroachment and hydrological impacts.	reinstatement principles within Section 9. The ECoW would give a briefing to all contractors working within the LWS on the ecological constraints ahead of works. Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E).
F	Osborne's Wood LWS	0.00	The LWS and associated ancient woodland is located 5 m from 400 kV overhead line LoD extent but over 53 m from current alignment. No direct loss of woodland expected. The LWS is located 5 m from permanent access route (right of access only). Potential for accidental encroachment.	Edge of Order Limits adjacent to LWS / ancient woodland would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E).
F	Parson's and Queen's Wood LWS	0.00	Lies adjacent to Order Limits. Adjacent to existing 132 kV UKPN overhead line due to be removed and undergrounded. Removal works will have minimal impact, and subsequent undergrounding has been sited outside of the 15 m buffer. CSE platform located 15 m from LWS edge to facilitate undergrounding of existing 132 kV overhead line. No excavation required within 15 m buffer, however, works area/ LoD currently extending into the 15 m buffer. Potential for accidental encroachment.	Location of CSE platform and associated construction working areas to be restricted to outside the 15 m buffer from the LWS and associated ancient woodland. The edge of the 15 m buffer would be demarcated to ensure no accidental encroachment as set out in commitment B20 within the Outline CoCP (document reference 7.2) (Revision E). The ECoW/ ArbCoW would give a briefing to all contractors working within

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
				the LWS on the ecological constraints ahead of works.
F	Writtlepark Woods LWS	0.00	Partially within Order Limits for existing 11 kV UKPN overhead line removal (one pole). Removal of wood pole will cause minimal temporary loss of low-lying habitats within the LWS / associated ancient woodland and undergrounding will only extend 4 m into LWS where woodland is already managed due to the presence of the existing line. Long term benefit to the woodland from removal. Potential for accidental encroachment.	Due to the very small area of impact (4 m), woodland and other habitats within the LWS will be allowed to regenerate naturally using existing seed bank following the removal of the 11 kV overhead line. The ArbCoW/ ECoW would give a briefing to all contractors working within the LWS on the ecological constraints ahead of works techniques. Edge of LWS would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E). Additional proposed mitigation linked to the associated ancient woodland is discussed within the ancient woodland section and within the Ancient Woodland and Veteran Tree Strategy (Revision B) as shown in Appendix B.
G	Blind Lane LWS	0.00	Site is directly adjacent to permanent access track (right of access only) and public right of way diversion. Potential for accidental encroachment.	Edge of LWS would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E).
G	Bluntswall Wood LWS	0.26	The temporary haul road crosses (via single span bridge) a watercourse that flows directly into the LWS. The LWS is approximately 460 m downstream of the	Hydrological protection measures would be followed as set out within the Outline

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
			proposed crossing point. Potential for hydrological impact.	CoCP (document reference 7.2) (Revision E).
G	Botneyhill Wood LWS	9 m	Potential impact linked to associated ancient woodland. Potential impacts are therefore discussed within the ancient woodland section and within the Ancient Woodland and Veteran Tree Strategy (Revision B) as shown in Appendix B.	Proposed mitigation linked to associated ancient woodland. Proposed mitigation is therefore discussed within the ancient woodland section and within the Ancient Woodland and Veteran Tree Strategy (Revision B) as shown in Appendix B.
G	Clapgate Wood LWS	0.00	Adjacent to Order Limits. The underground cabling of UKPN 11 kV lies adjacent to the LWS and associated ancient woodland, with works 12 to 15 m away. Potential for accidental encroachment.	Edge of LWS would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E).
G	Little Bladen's Wood LWS	0.00	Within the Order Limits. Modification of existing 132 kV pylon PUB40 within corner of LWS and associated ancient woodland. Works area within LWS and surrounding buffer but no excavation works required. No habitat loss but possible temporary damage to low lying vegetation during works. The LWS is located 5 m from the permanent access route (right of access only). Potential for accidental encroachment.	The ECoW/ ArbCoW would give a briefing to all contractors working within the LWS/ ancient woodland on the ecological constraints ahead of works. Working areas to be beyond the 15 m buffer wherever practicable. Limited machinery will be allowed within the buffer. Habitat will be allowed to re-establish naturally using existing seed bank following any small areas of damage. Demarcate around the edge of the construction work area to ensure no works encroach further into the LWS/ ancient woodland than is necessary.

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
G	St Margarets Wood and Lane LWS	0.00	A narrow section of the LWS would be over sailed by the new 400 kV overhead line which would require some tree loss. A temporary haul road would also cross the LWS which would involve temporary culvert installation over the ditch. Potential for accidental encroachment and hydrological impacts.	The ECoW would give a briefing to all contractors working within the LWS on the ecological constraints ahead of works. Any temporarily lost habitats would be reinstated in line with the habitat reinstatement principles within Chapter 9 of this report. Edge of LWS would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E). Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E).
H	Blackshots Nature Area LWS	0.00	Within Order Limits. Existing pylons (YYJ115 and ZB23) sit within the LWS. There would be minor modification works to these existing pylon structures. No habitat impacts are anticipated. Temporary haul roads would be required within the LWS to access the existing pylons which would result in small scale temporary habitat loss. Potential for accidental encroachment.	The ECoW would give a briefing to all contractors working within the LWS on the ecological constraints ahead of works. Any temporarily lost habitats would be reinstated in line with the habitat reinstatement principles within Chapter 9 of this report. Edge of LWS would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E). Edge of works area would be demarcated to ensure no accidental

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
				encroachment into the rest of the LWS as set out within the Outline CoCP (document reference 7.2) (Revision E).
H	Buckingham Hill LWS	0.00	Within Order Limits, pylon TB258 would be positioned within the LWS and would therefore require a small area of temporary habitat loss during works and even smaller area of permanent habitat loss associated with the pylon feet. The new 400 kV overhead line would over sail the western corner of the LWS and would require some tree loss. Temporary features would be required during construction including a temporary haul road, pulling location and Sustainable Drainage Systems (SuDSs) which would require temporary habitat loss. The LWS would be crossed by a permanent access (right of way only), an existing track required for ongoing maintenance. Potential for accidental encroachment to the rest of LWS and hydrological impacts.	The ECoW would give a briefing to all contractors working within the LWS on the ecological constraints ahead of works. Any temporarily lost habitats would be reinstated in line with the habitat reinstatement principles within Chapter 9 of this report. Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E). Edge of works area would be demarcated to ensure no accidental encroachment into the rest of the LWS as set out within the Outline CoCP (document reference 7.2) (Revision E).
H	Linford Pit LWS	0.00	UKPN 132 kV overhead line working areas and a temporary UKPN diversion tower and overhead line are located within the LWS. Involving modification of one pylon and a new temporary pylon within the LWS. Some temporary habitat loss would be required. A permanent access route for the new Tilbury North Substation lies adjacent to the north-western boundary of the LWS but no impact on the LWS anticipated.	The ECoW would give a briefing to all contractors working within the LWS on the ecological constraints ahead of works. Any temporarily lost habitats would be reinstated in line with the habitat reinstatement principles within Chapter 9 of this report.

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
				Edge of LWS would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E).
H	Mucking Heath Complex, Southfields LWS	0.00	Within the Order Limits. Pylon TB262 is positioned within the LWS and would therefore require a small area of temporary habitat loss during works and even smaller area of permanent habitat loss associated with the pylon feet. The new 400 kV overhead line would over sail the LWS requiring some tree loss within the golf course section. The new Tilbury North Substation borders the eastern edge of the LWS. A temporary haul road is required up to the pylon TB262 working area during construction; this only extends to pylon TB262 and does not connect to further pylons. This will result in temporary loss of habitat. The existing 132 kV overhead line that currently crosses the LWS would be removed and undergrounded on a different alignment outside of the LWS. While there may be temporary damage of habitats during the dismantling of the 132 kV existing overhead line, no habitat loss is anticipated. The LWS is crossed by a permanent access (right of way only), an existing track required for ongoing maintenance.	The ECoW would give a briefing to all contractors working within the CWS on the ecological constraints ahead of works. Any temporarily lost habitats would be reinstated in line with the habitat reinstatement principles within Chapter 9 of this report. Hydrological protection measures would be followed as set out within the Outline CoCP (document reference 7.2) (Revision E). Southern and eastern edge of LWS would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E).

Project Section	Site Name (LWS/ CWS)	Distance From Order Limits (m)	Potential Impact	Mitigation Summary
			A permanent access road to the new Tilbury North Substation lies outside but adjacent to the southern boundary of the LWS. A soil storage area, works compounds, and SuDS features also lie to the east of the LWS. Potential for accidental encroachment and hydrological impacts.	
H	Rainbow Wood and Ashen Shaw LWS	0.00	Removal of part of this woodland would be required under Lower Thames Crossing (LTC) project DCO proposals. National Grid proposals would not impact these woodlands. The Project would impact LTC's proposed location for replacement ancient woodland planting.	Alternative ancient woodland mitigation site included within Order Limits and agreed with LTC. No loss of ancient woodland mitigation in terms of area. The edge of the retained LWS would be demarcated to ensure no accidental encroachment as set out within the Outline CoCP (document reference 7.2) (Revision E). The ECoW would give a briefing to all contractors working within the LWS on the ecological constraints ahead of works.

6. Ecology Species Specific Mitigation

6.1 Protected Species Mitigation

6.1.1 This chapter provides outline details of measures to minimise and mitigate potential impacts on protected and notable species and ensure compliance with relevant wildlife-related legislation e.g., the Wildlife and Countryside Act 1981 and The Conservation of Habitats and Species Regulations 2017.

6.1.2 Due to the time that will have elapsed since the last surveys and the possibility that species presence or activity could have changed in the intervening period, pre-construction surveys will be undertaken for several species/ species groups. Where pre-construction surveys are deemed to be required this has been outlined within the relevant species sections below.

6.1.3 The results of the pre-construction surveys will be used to identify whether any changes to the mitigation measures are required and the Final LEMP will be updated to reflect the survey results, as required.

Bats

Roosting Bats

6.1.4 As agreed with Natural England, updated ground-based bat tree assessments of all impacted trees will be undertaken pre-construction. The extent of trees included within the pre-construction surveys will be informed by detailed design.

6.1.5 Following the ground-based assessment update, aerial inspections/emergence surveys where Preliminary Roost Features – Maternity (PRF-M) features have been identified will be undertaken. These surveys will be undertaken in advance of each phase of construction works, to identify bat roost species, size and type. Surveys will be undertaken in line with Bat Conservation Trust (BCT) guidelines (Collins, 2023) between May and October of the relevant year and will comprise of either three aerial tree inspections or dusk emergence surveys, if not suitable to climb, spaced at least three weeks apart.

6.1.6 If no bat roost is identified during the pre-construction aerial inspections/emergence survey(s), the tree can be felled, or the PRF-M destructively searched and blocked up, immediately after the conclusion of those surveys. Trees may be felled at a later date so long as the PRF-M has been blocked up, the blockages remain intact and no new PRFs have developed.

6.1.7 Any tree assessed as a Preliminary Roost Feature - Individual (PRF-I) or PRF-M (where the PRF hasn't been immediately blocked or blocking is dislodged following pre-construction surveys) will require a single inspection under the supervision of a bat licenced ecologist immediately prior to being impacted to determine the presence / absence of bats.

6.1.8 Should an impacted tree be found to support a feature with hibernation potential, felling should be undertaken outside of the hibernation window (November to end

February inclusive) where practicable. Where the hibernation window is unavoidable a single inspection under the supervision of a bat licenced ecologist, immediately prior to being impacted, will be undertaken to determine the presence/absence of hibernating bats within the tree. Should the feature be able to be fully inspected and no hibernating bats identified, the feature can be felled / pruned immediately or can be blocked and felled at a later date. If the feature cannot be fully inspected due to the extent/type of hibernation feature present, felling of the tree will need to be delayed until after the hibernation window (March to end October). Should a hibernation bat roost be confirmed, works will need to stop, a 20 m exclusion buffer applied and a Natural England bat licence obtained.

6.1.9 Where the presence of a bat roost is confirmed during surveys/inspections, every effort will be made through micro-siting to retain the tree and associated bat roost, where practicable. Where unavoidable, any direct loss of a known bat tree roost will be carried out under a Natural England licence. A 20 m exclusion buffer will be demarcated at any known bat roosts when works are occurring nearby, to ensure no accidental encroachment of construction activities that may cause a disturbance impact. If temporary construction lighting is required during certain periods of the year, the Project will seek to avoid directly lighting potential bat roosting features to avoid disturbance (month and roost-type dependant).

6.1.10 Where trees containing bat roosts require felling, a programme of exclusion and/or destructive search will be used to ensure that no bats remain within the roost prior to felling. This will be undertaken in accordance with the methods detailed within the Natural England licence.

6.1.11 A programme of installation of replacement bat roosting habitat (e.g. bat boxes) on nearby retained trees and/or veteranisation of retained trees to create a potential roosting feature will be undertaken in line with requirements set out in the Natural England licence, dependent on bat species and type of roost.

Bat Foraging/ Commuting

6.1.12 Replacement planting of all bat foraging and commuting routes on completion of works irrespective of bat usage will be undertaken in line with Chapter 9 of this report. This will include replacement tree planting where practicable, outside of the clearance distance for overhead lines and underground cables, but as a minimum native hedgerow and scrub planting to restore linear features acting as bat foraging and commuting routes.

6.1.13 In certain locations where temporary vegetation removal is more than 15 m in width, and the bat species assemblage and a high bat usage feature has been identified, temporary artificial bat flyways will be installed during construction to maintain bat commuting routes. The artificial flyways will be in place overnight during the May to September period inclusive. Artificial flyways will be installed along the line of the baseline linear feature which will have been removed to facilitate construction, excluding the construction haul road, to ensure the gap in vegetation is no bigger than 10 m. The 30 locations where temporary artificial bat flyways will be installed are presented in Table 6.1 and shown at Appendix E.

Table 6.1 Temporary bat flyway locations

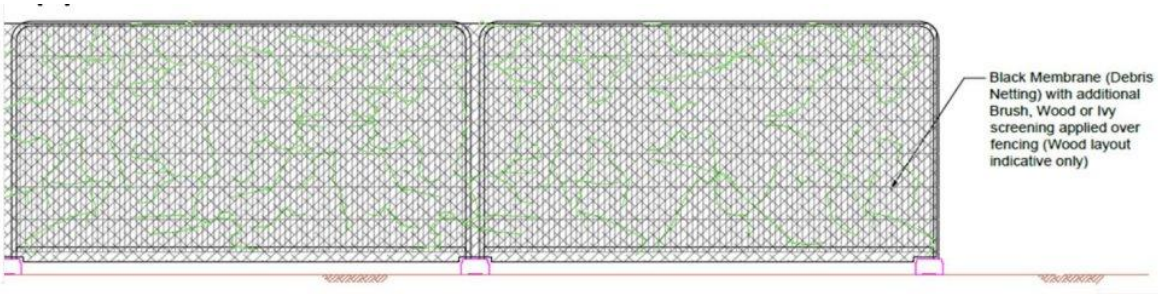
Bat Static Location	Ordnance Survey Grid Reference	Habitat Description	Construction Impact	Likely Habitat Loss >15 m?	Temporary Flyway Required
2	TG 21315 01654	Strip of woodland between arable fields.	400 kV overhead line and temporary construction haul road.	Yes	Yes
3	TM 17548 97592	Woodland between grassland and arable fields.	400 kV overhead line	Yes	Yes
5	TM 16895 97060	Strip of woodland between arable fields.	400 kV overhead line and temporary construction haul road.	Yes	Yes
8	TM 12749 90786	Strip of woodland along the River Tas.	400 kV overhead line and temporary construction haul road.	Yes	Yes
14	TM 09167 80304	Woodland and hedgerow along The Doit.	400 kV overhead line and temporary construction haul road.	Yes	Yes
16	TM 09898 79365	Woodland and hedgerow along Ling Road.	400 kV overhead line, temporary construction haul road and visibility splay.	Yes	Yes
21	TM 07950 69488	Woodland along Wickham Road.	400 kV overhead line	Yes	Yes
24	TM 06755 54425	Woodland between arable fields.	400 kV overhead line, temporary construction haul road and 132 kV UKPN underground cabling.	Yes	Yes
25	TM 06114 53129	Woodland between arable fields.	400 kV overhead line and temporary construction haul road.	Yes	Yes
28	TM 06610 48468	Woodland and hedgerows adjacent to grassland and arable fields.	400 kV overhead line and temporary construction haul road.	Yes	Yes
30	TM 09406 46071	Hedgerow between grassland and arable fields.	400 kV overhead line and temporary construction haul road.	Yes	Yes
32	TM 11043 43261	Area of scrub adjacent to grassland habitat.	400 kV overhead line	Yes	Yes

Bat Static Location	Ordnance Survey Grid Reference	Habitat Description	Construction Impact	Likely Habitat Loss >15 m?	Temporary Flyway Required
35	TM 04392 35810	Line of trees between arable fields.	400 kV underground cabling.	Yes	Yes
41	TM 04886 30883	Woodland along Dedham Road.	400 kV underground cabling and visibility splays.	Yes	Yes
42	TM 06050 29373	Hedgerows along Little Bromley Road.	400 kV overhead line and temporary construction haul road.	Yes	Yes
50	TL 92560 26913	Woodland between arable fields.	400 kV overhead line and temporary construction haul road.	Yes	Yes
51	TL 86854 22066	Woodland between arable fields.	400 kV overhead line.	Yes	Yes
52	TM 00598 30202	Woodland and hedgerows near Langham Lane	400 kV overhead line and temporary construction haul road.	Yes	Yes
54	TL 82604 18798	Woodland between arable fields.	400 kV overhead line and temporary construction haul road.	Yes	Yes
56	TM 07141 55542	Woodland adjacent to arable fields and grassland.	400 kV overhead line and temporary construction haul road.	Yes	Yes
58	TL 73408 16270	Woodland between arable fields.	400 kV overhead line.	Yes	Yes
60	TL 70472 13055	Line of trees along the River Chelmer.	400 kV overhead line.	Yes	Yes
62	TL 66554 03648	Woodland between arable fields.	400 kV overhead line and temporary construction haul road.	Yes	Yes
65	TM 15479 95151	Woodland between arable fields	400 kV overhead line and temporary construction haul road.	Yes	Yes
66	TM 10272 77034	Woodland between arable fields	400 kV overhead line and temporary construction haul road.	Yes	Yes
67	TM 10292 76409	Hedgerow between grassland and arable fields.	400 kV overhead line, pylon working area, pulling location, UKPN overhead line mitigation working area and	Yes	Yes

Bat Static Location	Ordnance Survey Grid Reference	Habitat Description	Construction Impact	Likely Habitat Loss >15 m?	Temporary Flyway Required
			temporary construction haul road.		
69	TM 02647 33877	Line of mature trees along side of road.	Temporary construction haul road and visibility swathe.	Yes	Yes
70	TM 02196 33327	Hedgerow with trees connected to block of woodland to the east.	400 kV underground cable.	Yes	Yes
71	TM 02432 33051	Hedgerow and mature trees along Dedham Road	400 kV underground cable, temporary construction Haul Road and visibility swathe.	Yes	Yes
72	TL 86247 20964	Line of trees connected to woodland in the wider landscape	400 kV overhead line and temporary construction haul road.	Yes	Yes

6.1.14 The bat flyway will consist of either Heras, or post and rail, fencing with either membrane, and/or brushwood or ivy applied to create an artificial feature that bats can follow during the construction period. Image 6.1 gives a visual representation of the required design for a bat flyway.

Image 6.1 Visual representation of an artificial bat flyway



6.1.15 If temporary construction lighting is required this will avoid direct lighting of key bat commuting and foraging routes, to ensure dark corridors relied upon by foraging and commuting bats are maintained.

6.1.16 Where operational lighting is required at substation sites, lighting will be sensitively designed for bats (and other nocturnal species) in line with the Institute of Lighting Professionals guidance and the BCT, to avoid key commuting and foraging boundary features.

Birds

Wintering/Passage Birds

6.1.17 Collision risk has been assessed through a suite of wintering / passage bird surveys to determine whether the proposed overhead lines could fragment movement corridors that are used by birds when moving between habitat on the estuaries / coast and inland habitat. The trigger point for collision that would require mitigation was not met at any locations. On a precautionary basis mitigation in the form of orange spacers and bird diverters on the earth wire is to be applied at the River Waveney and Ardleigh Reservoir for the following reasons:

6.1.18 **Future Baseline along the River Waveney**: The current condition of the habitats at the Waveney crossing are sub-optimal for waterbirds. The river course is narrow, scrub/tree lined with woodland in the vicinity and intensely grazed sheep fields or arable land in the vicinity. The Waveney and Little Ouse Recovery project has developed a strategy to restore and enhance the river catchment this would make the river corridor more suitable for waterbirds assuming funding is available. Mitigation measures have been incorporated into the Project design on the precautionary basis that these habitat enhancements would take place and the area be enhanced for waterbirds.

6.1.19 **Ardleigh Reservoir:** The threshold was not reached to warrant mitigation measures, but desk study records indicate that the large waterbody provides habitat for a range of waterbirds. Mitigation measures have been incorporated into the design on a precautionary basis.

6.1.20 The following precautionary mitigation is proposed:

- Orange spacers and bird diverters applied to the earth wire at the River Waveney between pylons RG87 and RG88 and Ardleigh Reservoir between pylons TB15 and TB16 these locations are shown in Appendix F: Bird Diverter Locations. The spacers should simply be swapped for a bright orange one to increase visibility of the conductors. Typical diverters that will be considered are spiral diverters (twisted plastic coils that reflect light and move in the wind), flappers or swinging plates (move with the wind to alert birds) and reflective or UV-visible materials.

Breeding Birds

6.1.21 All hedgerows, shrubs, trees or dense vegetation will be retained as far as is reasonably practicable. Where vegetation loss is unavoidable, removal will be undertaken outside of the nesting bird season of March to August inclusive. Where these measures are not possible and works need to be carried out during the bird breeding season, all areas to be affected will be checked for evidence of nesting birds 24 hours (as standard) prior to the vegetation modification or removal or tree felling works taking place by the ECoW. There may be some instances where 24 hours is not practical, therefore a maximum period of 48 hours is permitted with all contractors having a duty of care to look out for birds prior to removal. If any active bird nests are discovered these will be given a minimum standoff of 5 m (this may increase depending on species, proposed works and location) where no potentially disturbing works will take place until the young have fledged and the nest vacated. A second nesting bird check would then be undertaken to ensure the tree or vegetation does not contain any further active nests prior to felling or removal works taking place.

6.1.22 Where the Project passes through open fields which are suitable to support ground nesting birds during the period where an effect may occur, a nesting bird check would be carried out by an ecologist to establish whether ground nesting birds such as lapwing and skylark are nesting within that location. If active bird nests are located or suspected, the nest will be marked and all potentially disturbing works within a suitable buffer of the nest location (as defined by the ECoW) will be stopped. A minimum disturbance buffer of 5 m will be marked out (this may increase depending on species, proposed works and location), where no potentially disturbing works will take place until the young have fledged and the nest vacated. Prior to works in the area commencing a further nesting bird survey would be required to establish that no active bird nests were present within the area.

Barn Owl (Schedule 1)

6.1.23 A pre-construction check of potential barn owl nest sites (trees), as identified during 2023 to 2025 ground-based surveys, will be undertaken, by a licensed barn owl ecologist 24 hrs prior to works commencing. As barn owl are known to breed throughout the year, pre-construction checks will be required from January to December inclusive.

6.1.24 If no active barn owl nest is found and no other protected species are found to be occupying the feature, the potential nesting feature will be temporarily blocked up or if required to facilitate construction the tree will be removed and alternative barn owl box installed nearby. If an active barn owl nest is identified, then a 50 m works exclusion buffer will be applied and maintained until the young have fledged.

6.1.25 Based on current survey information 34 artificial barn owl boxes are proposed (25 for direct loss and a further nine for disturbance) across the route, which will be installed on either a suitable retained tree or pole depending on the availability of suitable features at each location. Replacement barn owl boxes will be installed, on a 1:1 ratio, either within the Order Limits or on adjacent land in agreement with landowners.

Kingfisher (Schedule 1)

6.1.26 Where watercourse crossings are required, a pre-construction kingfisher survey will be undertaken by an ecologist prior to works 50 m up and downstream of the crossing to determine if the banks are suitable to support breeding kingfisher. If the habitat is deemed suitable, a further kingfisher survey will be undertaken by a suitably qualified ecologist to confirm breeding and establish a buffer of at least 20 m. Works within this buffer will be delayed until confirmation of the chicks fledging, or the nest is abandoned. If a kingfisher nest is found to be directly lost during the construction phase, depending on the level of alternative bankside habitat available the provision of an artificial kingfisher tunnel may be required.

Other Schedule 1 Birds

6.1.27 All hedges, shrubs, trees or dense vegetation will be retained as far as is reasonably practicable. Where vegetation loss is unavoidable, removal will be undertaken outside of the nesting bird season of March to August inclusive. Where these measures are not possible and works need to be carried out within the bird breeding season, all affected vegetation will be checked for evidence of nesting birds 24 hours (as standard) and no more than 48 hours prior to the removal of vegetation. If any bird listed on Schedule 1 is suspected to be nesting, a relevant licensed ecologist

may be required to check the nest directly. If the confirmed breeding of a Schedule 1 bird is identified, a minimum standoff of 20 m will be applied to the nest. This disturbance buffer may be increased at the discretion of the licensed ecologist depending on the proposed works, species identified and the habitats present.

6.1.28 Where there is potentially suitable habitat for other Schedule 1 birds adjacent to the works area and other Schedule 1 bird/s are suspected within 500 m, the need for a wider nesting bird survey for Schedule 1 bird species will be reviewed by the ECoW. This survey will determine where there is Schedule 1 breeding activity in adjacent habitat and determine the disturbance buffer required. The requirement/extent of disturbance buffer will depend on the sensitivity of the bird species that may be present, the type of works proposed and the time of year.

Dormouse

6.1.29 A Natural England licence will be obtained prior to works to cover the eight dormouse 'sites' where presence has been confirmed across the Project. The licence will set out the staged vegetation clearance measures, timings of works, requirement for hand searching by licensed surveyor and the mitigation provision that will allow for displacement of dormouse into the wider suitable dormouse habitat.

6.1.30 Within the counties of Suffolk and Essex, in areas where dormouse was not confirmed to be present during surveys, but where habitat is considered to offer some (albeit negligible value) habitat for dormouse by the ECoW, vegetation removal will also be subject to precautionary clearance measures. For larger areas of woodland or hedgerow removal, this will include a two-stage clearance operation, with removal of surface vegetation (to around <0.3 m) in winter (between November and March inclusive) followed by stump extraction and earth removal in the following summer (April to September) where programme allows.

6.1.31 For smaller areas of vegetation loss, clearance in Spring and/or Autumn is considered an acceptable alternative, should it be deemed necessary due to programme constraints in line with The Hazel Dormouse Mitigation Handbook (Wells *et al.*, 2025). Prior to removal of hedgerows or woodland habitat the ECoW will instigate hand searches for evidence of dormouse, dormouse nests and, where relevant, feeding remains. Vegetation will be cleared in the direction which will disperse dormouse towards retained habitat. Should the presence of dormouse be confirmed outside of the known eight dormouse sites covered under the Natural England licence, works will cease and a mitigation licence from Natural England obtained.

Water Vole

6.1.32 An 8 m buffer will be applied to all retained ditches/watercourses and demarcated to ensure protection of these retained features and no accidental encroachment on water vole habitat.

6.1.33 Standard pollution prevention measures will be included within the Outline CoCP (document reference 7.2) (Revision E) which will ensure no indirect impacts on the riparian habitat.

6.1.34 Detailed habitat suitability and presence/absence water vole surveys have been undertaken at each watercourse crossing point over the 2023 to 2025 surveys. Where works unavoidably encroach within 5 m from the top of the bank on suitable

water vole habitat or where there is impact to the banks of the watercourse directly, a pre-construction water vole survey will be undertaken ahead of any works. The assessment of what constitutes suitable water vole habitat will be based on a combination of previous habitat assessment, survey results and an updated walkover survey. Pre-construction surveys will be undertaken in line with guidelines (The Water Vole Mitigation Handbook) (Dean *et al.*, 2016) at each watercourse crossing point within the period of April to September, to identify the presence/absence of water vole and to map any burrow locations.

6.1.35 Where water vole presence is confirmed within a works area, and habitat removal is less than or equal to a 50 m linear length of bankside vegetation (unless otherwise agreed with Natural England), displacement techniques will be used to degrade the bankside habitat suitability either through the use of a CL31 water vole displacement class licence or a standard (A11) mitigation licence obtained from Natural England. Displacement activities will be undertaken either during February to April or September to October and then maintained until construction works have been completed. Mitigation will follow measures set out within the draft water vole licence and agreed with Natural England.

Otter

6.1.36 Pre-construction otter surveys will be undertaken a maximum of four months prior to the start of the construction works. Pre-construction surveys will inspect for natal dens, holts, couches and resting places. In the event that otter holts or other resting sites are found during pre-construction checks, works within 30 m will cease, Natural England will be consulted and a licence sought to allow works to continue. In the event that an active natal den is found within 150 m of the working area, works (within 150 m) will cease and ecological advice sought on how to avoid disturbance to otter.

6.1.37 An otter licence will be obtained from Natural England for any works proposed that will directly impact an otter resting site, holt or natal den or have a disturbance impact on these features. A no works exclusion buffer (in the absence of a licence) of 30 m for any known otter holt or other resting site and/or 150 m for a natal holt will be applied. Any works proposed within these exclusion zones will be subject to mitigation measures as set out within the draft otter licence and agreed with Natural England, including the provision of artificial otter holts where required.

6.1.38 Access to the riparian corridor utilised by otter will be retained at all times. Impacts to established otter paths and traditional routes between such areas (such as field drains) during the construction phase will be minimised. Clear span bridges over important otter commuting corridors will be used instead of culverts (where crossings are required) and where technically possible.

6.1.39 Standard pollution prevention measures will be included within the Outline CoCP (document reference 7.2) (Revision E) which will ensure no indirect impacts on the riparian habitat.

6.1.40 Excavations and trenches will be boarded or fenced if works are not completed daily. In exceptional circumstances, if trenches are required to be left open overnight then measures will be put in place to ensure otters cannot become trapped in them. This will include the provision of ramps or mammal ladders to ensure animals can exit excavations. This must be agreed in advance with the ECoW who will also be responsible for placing a means of egress in the excavations.

Badger

6.1.41 Pre-construction surveys will be undertaken in advance of each phase of construction works commencing. The surveys will be undertaken a maximum of 12 months prior to the start of construction.

6.1.42 All active setts will be marked using tape prior to any works commencing. The distance of the exclusion zone from the sett will be determined by the ECoW on a case-by-case basis. No works will be undertaken within the badger sett exclusion zone until agreed by the ECoW.

6.1.43 All required ground excavation works within 30 m of known badger setts (main, annex, subsidiary or outlier) will be reviewed by the ECoW and carried out under Natural England licence as required. Either a CL35 badger sett interference class licence or a standard (A24) mitigation licence will be obtained from Natural England.

6.1.44 Where a main badger sett is identified as requiring full closure an artificial sett will be created in advance of works unless otherwise agreed with Natural England. The location of the artificial sett and specifics of the main sett closure will be agreed with Natural England through the licensing process and the location will consider flood risk and archaeological impacts.

6.1.45 Where known badger pathways enter works areas or other recent badger field signs are present nearby, excavations and trenches will be boarded if works are not completed daily. In exceptional circumstances, if trenches are required to be left open overnight then measures will be put in place to ensure badgers cannot become trapped in them. This will include the provision of ramps or mammal ladders to ensure animals can exit excavations. This must be agreed in advance with the ECoW who will also be responsible for placing a means of egress in the excavations.

6.1.46 Where significant lengths of construction fencing are installed along haul roads or underground construction swathes, it will be made permeable to badger to allow movement across the local landscape.

Reptiles

6.1.47 Reptile Reasonable Avoidance Measures will be implemented at ‘Key Reptile Sites’ under supervision of the ECoW. Vegetation manipulation to degrade confirmed key reptile sites and sites of reptile potential, as identified within the Reptile Appendix 8.6 (document reference 6.8.A6) of the ES and shown on Figure A8.6.4 will be undertaken ahead of works. Should the ECoW identify other suitable reptile habitat elsewhere along the route, that cannot be avoided through micro-siting, this will also be subject to vegetation manipulation.

6.1.48 Vegetation manipulation will involve a staged strimming regime to encourage reptiles to leave the working area and dissuade reptiles from re-entering the site. Firstly, vegetation will be cut to approximately 150 mm under the supervision of an ecologist, the arisings will be removed from the work area and the site will be left undisturbed for a minimum of 24 hours of dry weather. Secondly, the vegetation will be cleared down to ground level under the supervision of an ecologist. Clearence works will be undertaken using appropriate equipment based on the type of vegetation removed, the area affected and the risk of killing or injuring reptiles. Following the second strim the arising will either be spread across the area or removed from site, no vegetation piles within the works area will be created. These displacement works will take place between March and November, during suitable weather conditions. Progressive

cutting from the centre of the working area to the edge, taking care not to affect the ground surface, will encourage movement of reptiles into the adjacent habitats.

6.1.49 Following the initial strimming works, potential sheltering and hibernation features will be removed by hand where size allows (destructive search). This will include features such as log piles, branches and piles of stone and rubble. These will be placed in the adjacent habitats, outside of the working area, to provide replacement hibernacula for use by reptiles.

6.1.50 Following completion of vegetation clearance, the vegetation in working areas will be retained short to prevent reptiles re-entering the area.

Great Crested Newts (GCN)

6.1.51 GCN District Level Licence (DLL) will be obtained from Natural England. Through consultation Natural England have agreed to facilitate the Project through the DLL process following consent of the DCO. The DLL will permit acts subject to licence conditions, including killing, injury, disturbance, capture and transport of GCN; as well as damage and destruction of GCN breeding sites and resting places. A countersigned Impact Assessment and Conservation Payment Certificate (IACPC) has been submitted as part of the DCO application. Impacts of the development will be fully compensated for by off-site habitat provision, paid for by the applicant and delivered by Natural England. No additional restrictions on working practices will be applied specifically for GCN.

Other Amphibians

6.1.52 The ECoW will identify areas where there is considered to be potential to support common toad such as at hedgerows and watercourse crossings and will undertake Reasonable Avoidance Measures, including a hand search ahead of any vegetation clearance. Any toads or other amphibians (including GCN) captured will be translocated to areas of similar habitat outside of the construction footprint.

6.1.53 Where pond drain down is required to facilitate construction, Reasonable Avoidance Measures will be applied. This will include the avoidance of the spring period where at all possible, as amphibians are more likely to be using the pond for breeding purposes during this period. Ponds will be subject to a controlled pond drain down, with the use of a low-flow submersible pump designed for gradual water removal. A fine mesh, typically with holes no larger than 5 mm, should be fitted to the pump to prevent amphibians passing through. The use of hand searches, nets, and other appropriate methods to capture amphibians during the drain-down process will be implemented by the ECoW. Any captured amphibians will be relocated to nearby suitable habitat. Any vegetation or silt present within the pond, will be placed on the edge of the pond and left for at least 24 hours to allow any amphibians to naturally disperse. All pond drain down works will be supervised by the ECoW.

Terrestrial Invertebrates

6.1.54 Where areas of terrestrial habitat have been identified through surveys as offering moderate value for terrestrial invertebrates, suitable mitigation during construction will be implemented. This will include micro-siting of the associated works to avoid the best quality areas for terrestrial invertebrates.

6.1.55 Alternative habitat for terrestrial invertebrates will also be created and available during the construction period at specific locations (e.g. Black Brook, Langham). This will include measures such as the creation of small soil bunds of sandy soils with south facing banks suitable for burrowing invertebrates and the creation of habitat/log piles from the removed vegetation.

6.1.56 The Outline Soil Resource Plan (Appendix C of the Outline CoCP (document reference 7.2) (Revision B)) will also include measures to ensure that soils removed from land of particular interest for its floristic diversity, are returned back to the same area on completion of works. This will ensure the seed bank is retained and the habitat can naturally regenerate.

Aquatic Species (Including Fish and Aquatic Invertebrates)

6.1.57 Sensitive working methods will be employed at all watercourse crossings. Dams either side of any de-watered working area (sandbags, piling or other material) will be carefully installed under supervision of the ECoW to avoid killing or injury of fish or aquatic invertebrates.

6.1.58 Watercourses with significant flow will be over-pumped or have temporary culverts installed during the dewatered stage or alternatively the works will be undertaken in two stages allowing works to be undertaken on one bank at a time.

6.1.59 Fish rescues will be carried out in the latter stages of de-watering operations. Fish will be released in suitable habitat downstream.

6.1.60 Any vegetation or silt present within the channel once de-watering has been complete, will be placed on the top of the ditch bank (outside of the dewatered section) and left for at least 24 hours to allow aquatic invertebrates to make their way back into the water.

6.1.61 Culverts/bridges will be temporary construction features in most cases. All temporary watercourse impacts will be reinstated on completion of works, with bank vegetation and in-channel vegetation allowed to re-establish naturally.

Other Species of Principal Importance

6.1.62 Vegetation removal to facilitate construction will be carried out in the presence of an ECoW. Pre-construction checks for brown hare, polecat, harvest mouse and hedgehog will be made by the ECoW immediately ahead of site clearance in suitable habitat. Should these species be encountered, the following mitigation measures will be followed:

- Brown hare: works will pause to allow any individuals to safely disperse into an area of adjacent retained habitat
- Polecat: works will pause to allow any individuals to safely disperse into an area of adjacent retained habitat
- Harvest mouse: if an individual harvest mouse is found within a nest, the nest and the mouse will be moved to an area of adjacent retained habitat. If a nest with young is encountered, the nest will be covered and retained within a buffer of retained vegetation until the young have left the nest

- Hedgehog: if an active hedgehog is encountered it should be allowed to safely vacate into an area of adjacent retained habitat. If a hibernating hedgehog is encountered it should be left undisturbed with a suitable buffer of undisturbed vegetation, as determined by the ECoW, until their hibernation period is over, and the nest vacated.

6.1.63 Excavations will be boarded at the end of each day to prevent mammals becoming trapped. Where closing excavations is not possible, ramps will be provided to allow any trapped animals to escape.

7. Vegetation Retention and Protection

7.1 General Approach

7.1.1 The overarching aim will be to retain vegetation wherever practicable in accordance with good practice measures as outlined within the Outline CoCP (document reference 7.2) (Revision E). Where reasonably practicable, construction elements (such as working swathes, accesses, laydown and temporary construction compounds) will be kept to the strict minimum required and micro-sited to avoid impacts on ecologically important features. The Project ArbCoW will demarcate sensitive habitats to ensure contractors protect as much vegetation as possible.

7.1.2 All construction elements likely to impact on retained trees will be addressed within an Arboricultural Method Statement (AMS) to be produced following detailed design and agreed with the relevant LPAs prior to construction activity commencing. The AMS will include protection measures including tree protection fencing as discussed in Section 7.3. and illustrated in a Tree Protection Plan.

7.1.3 In accordance with good practice measures, a full record of condition will be carried out (photographic and descriptive) of the site and surrounding areas that may be affected by the construction activities, such as trees, woodland, hedgerows, walls and fences. This record will be available for comparison following reinstatement after the works have been completed to demonstrate that the standard of reinstatement at least meets that recorded in the pre-condition survey or as agreed in the Outline LEMP.

7.1.4 Access into and out of the working area will be along agreed routes only. Machinery and vehicles will not be permitted to move outside the agreed access routes and working area.

7.1.5 In accordance with good practice measures, working areas will be fenced to ensure no accidental encroachment into retained habitats. Tree protection fencing is discussed further in Section 7.3 below. The type of fencing installed will take into consideration the level of security required in relation to the surrounding land and public access, rural or urban environment and arable or stock farming. Fencing will be regularly inspected and maintained and removed as part of the demobilisation unless otherwise agreed with the relevant landowner to meet ecological objectives. It is anticipated that the Project Arboriculturist / ArbCoW will contribute to discussions on appropriate signage and/or fencing to protect environmentally sensitive features.

7.1.6 Areas of the Order Limits that are only identified to be used for landscape and ecological mitigation (i.e. not part of the construction working area) are anticipated to be inherently low impact works. These include Environmental Areas and areas where dormouse, bat and bird boxes would be installed. In these areas, access may be required on foot or by a small van and works would be completed without recourse to tree felling or pruning. It is not intended that works to mitigate for effects on landscape and visual receptors and biodiversity will give rise to other effects on trees.

7.2 Working Near Trees

7.2.1 All trees (which may include individual trees or collectively as groups, tree belts and woodlands) within the Order Limits and immediate surrounds have been surveyed in accordance with BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations, where land access was granted. The results of the survey can be found in the AIA (document reference 6.13.A6).

7.2.2 Retained trees will be protected during construction in accordance with the measures set out in BS 5837:2012 and BS 3998:2010 Tree work - Recommendations. Works to trees to be undertaken by qualified arborists following BS 3998:2010 and the agreement of relevant protection measures will be undertaken under the supervision of the Project Arboriculturist or ArbCoW.

7.2.3 No building materials shall be stored within Root Protection Areas (RPAs) of retained trees. Spoil from any site activity, including demolition and any materials from the Project designated for re-use, shall either be removed from site; or, if kept on site, shall be stored or piled well clear of RPAs of retained trees.

7.2.4 The delivery, storage, mixing and use of concrete and all other cement-based materials shall be carried out so that there is no run-off and spillage near the RPAs of retained trees. No substances that are potentially injurious to plant tissue (including diesel, bitumen, concrete, mortar and other phyto-toxic materials) shall be stored, discharged, prepared or used, where direct contact, infiltration or run-off might reasonably be considered liable to harmfully affect existing root growth or other parts of retained trees. Where chemicals are stored, it is now standard practice to have emergency spillage kits available to minimise the impacts of any accidental spillages to the local environment. All cement mixing, vehicle washing or any other activity where toxic chemicals are used shall have the provision to contain any accidental spillage. This can be achieved using suitable soil bunding or using a supporting timber framework sealed with heavy duty plastic sheeting.

7.3 Tree Protection Measures

7.3.1 Working in accordance with clause 6.2 of BS 5387:2012, barriers and / or ground protection will be used to safeguard RPA on site of trees to be retained and illustrated on a Tree Protection Plan in accordance with clause 5.5 of BS 5337:2012. A precautionary RPA has been provided around groups of trees with the RPA reflecting the maximum calculated extent. In accordance with clause 6.2.1.1 of BS 5387:2012, all barriers and ground protection will be installed prior to construction at each relevant location.

7.3.2 The type of barrier installed will be dependent on the level of risk posed to the RPA and to suit the location in accordance with clause 6.2.2.3 of BS 5387:2012, as agreed with the Project Arboriculturist / ArbCoW on site. For example, this may be post and rope, or netlon-type fencing in low-risk areas, or, in high-risk areas, welded mesh panels on rubber feet with stabiliser struts, commonly known as Heras-type fencing. Barrier types will be submitted for approval under Requirement 4 of the draft DCO (document reference 3.1) (Revision E) to the relevant LPAs as part of the final iteration of the LEMP.

7.3.3 A physical barrier is to be erected to demarcate the RPA and to prevent works encroaching into the RPA. In accordance with clause 6.2.2.1 of BS 5387:2012, the

barriers are to be maintained so that they remain rigid and complete for as long as they are in situ.

Tree Protection Fencing

7.3.4 Tree protection fencing will be used to prevent access to the root protection area of retained trees. In all instances the following specification will be strictly adhered to:

- The area to the rear of the tree protection fencing shall be considered to form a Construction Exclusion Zone. No construction activities, storage of materials or pedestrian or vehicular access shall take place within this area
- All weather notices will be attached to the tree protection fencing at suitable intervals of 20 m and shall include suitably sized informative text containing the following statement: **TREE PROTECTION FENCING CONSTRUCTION EXCLUSION ZONE – NO ACCESS.**

7.3.5 Tree protection fencing shall be fit for the purpose of excluding construction activity and appropriate for the degree and proximity of work taking place. Frequent checks by the Main Works Contractor(s) are to be undertaken to ensure that fencing is complete and remains as is set out in the specifications.

7.3.6 Tree protection fencing types are expected to include:

- Level 3 Protection: Level 3 Protection is to be the default level of protection; only with ArbCoW sign off may lower levels be implemented. This will be used to protect all retained trees within areas of high construction activity. It could include measures such as braced Heras-type panels with signage or solid hoarding in areas where it provides a combined function of protecting trees and providing security and screening
- Level 2 Protection: This will be used to reduce the risk of construction encroachment for example trees at the edge of the working area. This may include rigid pedestrian barriers
- Level 1 Protection: This will be used in areas with a low risk to trees, for example marking the RPA of trees lying outside of the working area. This may include orange netting on steel pins (or similar) to mark out the extent of the RPA for trees beyond the working area.

7.3.7 It is assumed that physical barriers will not be provided where retained vegetation is in a location where there is a very low risk of accidental damage being caused, for example at the top of a steep cutting where the cutting itself provides protection.

7.3.8 Tree protection fencing is to remain in situ until construction has been completed and the Project Arboriculturist / ArbCoW has advised that it is safe to remove.

Ground Protection within RPAs

7.3.9 It is not always practicable to keep construction vehicles outside of the RPA of retained trees, as temporary access for construction activities may be required. In such cases, suitable ground protection is to be used when access into the RPA of a retained tree is required. Specification for the ground protection is to be advised by the Project Arboriculturist / Project ArbCoW.

7.3.10 Suitable ground protection with the objective of avoiding soil compaction should be installed where the RPAs for retained trees exceeds the perimeter of the tree protection fencing. To accord with British Standard BS 5837:2012 ground protection shall comply with the following specification:

- Areas of Unmade Ground For pedestrians only, access ground protection measures shall include a single thickness of scaffold boards placed on top of 100 mm depth of compression resistant material (e.g. woodchip) laid onto a geotextile membrane. In order to avoid the introduction of pests and diseases, woodchip will only be used where it has been generated as a result of the tree pruning / removal works generated from offcuts within the immediate working area
- For pedestrian activities and plant up to 2 tonnes in weight proprietary interlinked ground protection boards will be used and placed on top of 150 mm depth of compression resistant material (e.g. woodchip) laid onto a geotextile membrane
- For wheeled or tracked equipment exceeding 2 tonnes in weight a structural engineer will design an alternative system. This may include the use of temporary cellular confinement systems, reinforced concrete slabs or track board systems, details of which are to be approved by the Project Arboriculturist and relevant LPA before construction commences
- Areas of Existing Hard Surfacing
- Areas of existing hard surfacing identified for use as ground protection shall not be removed during site clearance and shall be retained throughout the construction period
- Areas of existing hard surfacing shall be assessed by an engineer to ensure that they are sufficient to prevent damage or disturbance to the underlying soil. A precautionary approach to any anticipated loadings should be adopted.

7.3.11 In instances where the engineer identifies existing surfacing as inadequate then a specification for additional protection must be provided and any requirements actioned onsite.

7.3.12 On completion of all works, and upon the approval of the Project Arboriculturist / Project ArbCoW, the above systems shall be removed and surface de-compaction and root zone enhancement measures may then be undertaken. This may include spiking, aeration and/or injection of rhizobium inoculants. Any such works that require sub-surface activity would be reviewed in accordance with the Outline AMS-OWSI (document reference 7.5) and relevant Detailed WSIs for areas of archaeological sensitivity.

7.4 General Principles of Tree Work

Working Around Roots in Roads

7.4.1 Where roots are encountered in an existing road RPA, as described in clause 6.2.3.1 of BS 5837:2012, the existing road pavement will be left in place to provide the ground protection, where practicable. The Project Arboriculturist / ArbCoW will confirm that the existing road pavement is suitable to provide appropriate ground protection to tree roots or will advise on alternative methods if retaining the pavement is not practicable.

Opencut Works Within an RPA

7.4.2 It is anticipated that excavation in an RPA of a tree that is to be retained will be detailed within the AMS and undertaken under the supervision of an arboriculturist. It is anticipated that the following excavation techniques, individually or in combination, will be used to reduce any potential damage to the roots during opencut works, as agreed with the Project Arboriculturist / ArbCoW:

- Use of an air lance or air spade: This provides a concentrated air flow in a high velocity stream jet which penetrates and dislodges the soil without damage to roots. An air compressor is used to power the lance/spade. An experienced operator will be able to effectively dislodge the soil around the roots for removal. This method may be used with a vacuum excavation wagon, which sucks up the displaced soil without damaging the roots and is an accepted method of excavating safely in accordance with clause 7.2.1 of BS 5837:2012. The soil displaced during excavation can be stored to use later for reinstatement activities.
- Hand excavation: This involves hand digging the soil around tree roots using a spade or other suitable non-mechanised tools. The soil would typically be stored so that it is available for reuse after works are completed. Hand digging would be used to allow placement of Project components around or between roots without impacting them where practicable, or in worst case it is to allow clean severance of roots with sharp saw or secateurs.

7.4.3 Where on initial excavation there is an absence of roots within the works area, and in agreement with the Project Arboriculturist / ArbCoW, a small rubber tracked excavator may be used to excavate the soil. All excavated spoil will be removed from the area or placed on temporary ground protection to be used for back filling upon completion.

7.4.4 It is assumed that any roots uncovered during the works will be assessed and treated in accordance with clauses 7.2.2, 7.2.3 and 7.2.4 of BS 5837:2012.

7.4.5 Roots, whilst exposed, will be wrapped in damp hessian or covered to prevent desiccation and to protect them from temperature changes. Any wrapping will be removed prior to backfilling, which will take place as soon as practicable once construction is complete.

7.4.6 Upon reinstatement the roots will be surrounded with topsoil, sharp sand (builders sand will not be used due to its high salt content which would harm the trees and soil) or other loose inert granular fill, before soil or other medium is replaced. This material should be uncontaminated and free from injurious objects. Temporary ground protection will be removed in a backwards direction away from the tree so as always to be positioned on protected and not on unprotected ground. Once the work area is cleared of ground protection the recently backfilled spoil will be watered.

7.5 Working Near Designated Woodland/ Trees

Approach for Ancient Woodland

7.5.1 The Project has considered the Forestry Commission and Natural England Standing Advice (2022) which states that '*For ancient woodlands, you should have a buffer zone of at least 15 m to avoid root damage*…'. This 15 m buffer has been accommodated where practicable.

7.5.2 A comprehensive explanation of the Project approach to ancient woodland avoidance and minimisation of impact on ancient woodland is detailed in Appendix B: Ancient Woodland and Veteran Tree Strategy (Appendix B) (Revision B), following revisions to the Ancient Woodland Inventory in July and October 2025. The strategy has been produced in order to:

- Demonstrate how National Grid has sought to avoid effects on ancient woodland as identified in ES Chapter 8: Ecology and Biodiversity (document reference 6.8) (Revision B)
- Detail the location of the ancient woodland and the associated 15 m buffer relevant to the Project
- Set out the specific Project construction impacts on ancient woodland and/or the associated 15 m buffer
- Prescribe suitable mitigation measures where impacts on ancient woodland are unavoidable
- To provide a mechanism for the delivery of bespoke ancient woodland mitigation that sits outside of BNG
- To ensure that legislation and best practice is adhered to by the Project.

7.5.3 Seventy-three ancient woodlands were identified within 200 m of the Project Order Limits, this includes additional ancient woodlands added to the ancient woodland inventory by Natural England since submission of the DCO application. Figure B.A.1 Ancient Woodland Locations (Study Area) (Revision B) illustrates the locations of these woodlands in relation to the Project.

7.5.4 Potential impacts (excavation and non-excavation), in the absence of mitigation, were identified at 17 ancient woodland parcels (10 within ancient woodlands themselves and seven within the 15 m buffer root protection area (RPA)).

7.5.5 Specific Project commitments (B21-24, B28, B33 and B34) as identified within the Outline CoCP (document reference 7.2) (Revision E), have been made as standard mitigation to remove impacts on seven ancient woodlands. As a result of these Project commitments impacts associated with seven ancient woodlands have been completely removed:

- Middle Wood (Offton) (Section B)
- Millers Wood (Section B)
- Wenham Grove (Section C)
- Stonefield Strip (Section D)
- An unnamed woodland referred to as ‘North-west of Great Horkesley’ (Section D)
- Sheepcote’s wood (Section F)
- Botneyhill Wood (Section G)

7.5.6 Specific Project commitments (B25, B27, B29, B30-B32 and B35) as identified within the Outline CoCP (document reference 7.2) (Revision E), have been made as additional mitigation to minimise impacts to ancient woodland by tightening working areas, adjusting access and plant movements, and adopting lower-impact techniques.

7.5.7 While impacts have been minimised where practicable, complete removal of impacts on ten ancient woodlands and / or the associated 15 m buffer, are unavoidable as proposed works relate to either:

- The removal, undergrounding or modification of existing third-party infrastructure (11 kV, 33 kV, 132 kV), with the existing assets already located within the associated woodland or root protection zone (Bushey Grove (Section B), Round Wood (Section B), Rivenhall Thicks (Section E), Writtle-Writtlepark Woods (Section F), North-east of Bladen's Wood (Section G), Little Bladen's Wood (Section G) and Clapgate Wood (Section G));
- The use of an existing feature to be used by the Project, such as existing drainage ditch or an existing track (Horkesley Plantation (Section D) and Edney Woods (Section F)); or
- The implementation and maintenance of sufficient electrical clearance associated with the 400 kV overhead line (Lodgefield Row (Section B)), the alignment of which is constrained by another ancient woodland to the east (Great Newton Wood).

7.5.8 Horkesley Plantation (Section D), and an additional ancient woodland known as Wenham Grove (Section C), will also be subject to woodland enhancement measures associated with the landscape proposals at the relevant Environmental Area. This adjacent woodland planting is expected to deliver a long-term significant benefit to the woodlands at Wenham Grove (Section C) and Horkesley Plantation (Section D).

7.5.9 Mitigation measures associated with these sites have been proposed to ensure **no significant long term residual effects** on ancient woodland are encountered as a result of the Project.

7.5.10 Rainbow Wood and Ashen Shaw (Section H) are discussed within Appendix B, only in the context of Lower Thames Crossing (LTC). Whilst no impact to either Rainbow Wood or Ashen Shaw Wood results from the Norwich to Tilbury Project directly, the proposals do require the relocation of LTC's ancient woodland compensatory replanting. A suitable alternative location has been provided within the Norwich to Tilbury Order Limits to accommodate this compensatory planting by LTC. Management of any replacement ancient woodland compensatory replanting will be undertaken pursuant to the management regime contained in LTC's control documents.

Approach for Veteran Trees

7.5.11 The approach for working near veteran trees remains the same as it would for any retained tree with protection measures to be implemented as outlined in Section and Section 7.4. However, the Project has applied the Standing Advice from the Forestry Commission and Natural England, (2022, paragraph 7.5.1) which on protecting veteran trees from development states '*A buffer zone around [a]… veteran tree should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's diameter*'.

7.5.12 Any tree works undertaken on veteran trees are to be undertaken by a suitably qualified arborist with Vetcert qualifications and experience in undertaking works on veteran trees.

Table 7.1 Mitigation hierarchy for veteran trees

Mitigation Category	Potential Measures
Avoid	Design refined to avoid buffer zones of veteran trees. Protective measures during construction (as set out in the Outline CoCP (document reference 7.2) (Revision E)) to ensure health and vitality of trees is maintained, addressing the rooting and above-ground environments of trees, together with ongoing monitoring and maintenance. Protective measures may include construction methodologies, micro-siting, and/or use of fencing to exclude construction traffic from buffer zones.
Minimise	Same protective measures as above, as well as ground, stem and limb protection. Assumes that avoidance and protective measures will not fully mitigate impacts. May include targeted facilitation pruning, so as to minimise uncontrolled damage to above ground components of trees. Pruning techniques adopted for veteran trees (i.e. coronet cuts, fracture pruning) to be advised by Project Arboriculturist / ArbCoW. Where excavation within buffer zones occurs, Root pruning / severance may be specified to minimise uncontrolled damage caused unintentionally during the process (to be specified by Project Arboriculturist / ArbCoW).
Rectify	Will primarily focus on post construction remediation works (i.e. soil improvements, competition removal, halo pruning) to be specified by Project Arboriculturist / ArbCoW. Remedial pruning works may be required following unforeseen mechanical damage during construction. Pruning to be specified by the Project Arboriculturist / ArbCoW.
Compensate	Where avoid, minimise or rectify are not suitable options then suitable compensation is required. Different compensation options are available and should be specified on a case-by-case basis by the Project Arboriculturist / ArbCoW. These may include but are not limited to the below and may be used in conjunction with each other: • Phased tree surgery appropriate for tree species and subject to individual tree assessments • Veteranisation of nearby mature trees to maintain habitat continuity. Genetic Conservation: To preserve the genetic heritage of the veteran trees identified for removal, seeds could be collected before any clearing begins (generally between September and November). This seed collection would focus on gathering a diverse range of native tree and understory species, ensuring that the genetic material from the original tree can be used for propagation in the new planting areas, thereby maintaining a direct ecological link to the lost habitat. Sapling relocation where appropriate. Compensation Planting: Veteran trees are acknowledged as being irreplaceable, therefore full compensation is unachievable. Compensation Planting will include a combination of new planting, sapling relocation, seed bank for local provenance, and financial

Mitigation Category	Potential Measures
	contributions to local tree planting organisations to plant and maintain new areas of planting off-site. The Applicant commits to maintain and monitor compensation measures for 30 years.

Table 7.2 Definitions of Project activity

Project Activity	Definition
Excavations	Construction activities that break the soil surface
Overhead Lines	Construction activities associated with the stringing and final strung locations of conductors.
Temporary Construction	All temporary access routes / haul roads, any works that will not remain post construction

7.5.13 A total of 112 veteran trees and four veteran tree groups have been identified within the Study Area, of which 108 veteran trees and all veteran tree groups will be retained with appropriate mitigation measures in place. Four veteran trees require removal and 15 veteran trees and two veteran groups require crown management to facilitate construction of the Project.

7.5.14 A list of surveyed veteran trees within the Study Area (Order Limits plus up to 30 m) is provided in Table 7.3.

Table 7.3 Surveyed veteran trees

Tree ID	Species	Buffer Zone	Location in Relation to Project	Project Activity (Refer to Table 7.2 for Details of Impact)	Assumed Mitigation (Refer to Table 7.1 for Details)
T7	English oak	21 m	Tree within Order Limits	Excavations, Overhead Lines, Temporary Construction	Minimise
T10	English oak	21 m	Tree within Order Limits	Excavations, Overhead Lines, Temporary Construction	Minimise
T11	English oak	18.75 m	Tree within Order Limits	Excavations, Overhead Lines, Temporary Construction	Avoid
T12	English oak	27 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T13	Holly	10.5 m	Buffer Zone within Order Limits	Temporary Construction	Avoid

Tree ID	Species	Buffer Zone	Location in Relation to Project	Project Activity (Refer to Table 7.2 for Details of Impact)	Assumed Mitigation (Refer to Table 7.1 for Details)
T17	English oak	24 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T20	English oak	21 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T33	English oak	18.45 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T53	English oak	19.5 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T57	English oak	22.5 m	Tree within Order Limits	Excavations, Temporary Construction	Minimise
T61	English oak	15.75 m	Tree within Order Limits	Overhead Lines, Temporary Construction, Excavations	Minimise
T62	English oak	16.5 m	Tree within Order Limits	Overhead Lines, Temporary Construction, Excavations	Minimise
T64	English oak	27.9 m	Tree within Order Limits	Temporary Construction	Minimise
T65	English oak	33 m	Tree within Order Limits	Temporary Construction, Excavations	Minimise
T67	English oak	37.5 m	Buffer Zone within Order Limits	Temporary Construction, Excavations	Minimise
T68	English oak	33 m	Buffer Zone within Order Limits	Temporary Construction, Excavations	Minimise
T70	English oak	18 m	Tree within Order Limits	Overhead Lines	Minimise
T71	English oak	37.5 m	Tree within Order Limits	Temporary Construction, Excavations	Minimise
T72	English oak	28.5 m	Tree within Order Limits	Temporary Construction, Excavations	Minimise
T73	English oak	24.75 m	Buffer Zone within Order Limits	Excavations	Minimise
T82	English oak	21.75 m	Tree within Order Limits	Temporary Construction, Excavations	Minimise

Tree ID	Species	Buffer Zone	Location in Relation to Project	Project Activity (Refer to Table 7.2 for Details of Impact)	Assumed Mitigation (Refer to Table 7.1 for Details)
T84	English oak	29.85 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T85	Common ash	14.25 m	Tree within Order Limits	Temporary Construction, Excavations	Minimise
T91	English oak	23.4 m	Buffer Zone within Order Limits	Temporary Construction, Overhead Lines	Minimise
T106	English oak	24.75 m	Tree within Order Limits	Temporary Construction	Avoid
T107	English oak	18 m	Tree within Order Limits	Overhead Lines. Temporary Construction	Minimise
T108	English oak	27 m	Tree within Order Limits	Temporary Construction, Excavations	Avoid
T182	English oak	13.2 m	Tree within Order Limits	Overhead Lines, Temporary Construction	Avoid
T195	Field maple	15 m	Tree within Order Limits	Overhead Lines, Temporary Construction	Minimise
T210	Alder	17.85 m	Tree within Order Limits	Overhead Lines, Temporary Construction	Minimise
T211	Alder	22.5 m	Buffer Zone within Order Limits	Temporary Construction	Minimise
T231	Oak sp.	19.8 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T233	Oak sp.	12 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T236	English oak	29.25 m	Buffer Zone within Order Limits	Excavations	Avoid
T241	English oak	14.25 m	Tree within Order Limits	Overhead Lines, Excavations, Temporary Construction	Avoid
T247	Ash	18 m	Buffer Zone within Order Limits	Excavations	Minimise
T278	English oak	32.4 m	Buffer Zone within Order Limits	Temporary Construction, Excavations	Avoid

Tree ID	Species	Buffer Zone	Location in Relation to Project	Project Activity (Refer to Table 7.2 for Details of Impact)	Assumed Mitigation (Refer to Table 7.1 for Details)
T279	English oak	20.55 m	Tree within Order Limits	Overhead Lines, Temporary Construction	Avoid
T286	English oak	16.5 m	Tree within Order Limits	Overhead Lines	Minimise
T288	English oak	16.5 m	Tree within Order Limits	Overhead Lines	Avoid
T296	English oak	12 m	Buffer Zone within Order Limits	Temporary Construction	Compensate
T318	English oak	12 m	Tree within Order Limits	Overhead Lines	Avoid
T319	English oak	19.5 m	Buffer Zone within Order Limits	Overhead Lines	Minimise
T320	English oak	14.25 m	Tree within Order Limits	Temporary Construction	Avoid
T324	English oak	10.5 m	Tree within Order Limits	Overhead Lines	Avoid
T328	English oak	13.2 m	Tree within Order Limits	Overhead Lines	Compensate
T329	English oak	6.9 m	Buffer Zone within Order Limits	Excavations	Compensate
T340	Wild black poplar	23.55 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T375	English oak	32.25 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T378	Ash	21 m	Tree within Order Limits	Overhead Lines	Avoid
T390	English oak	16.5 m	Tree within Order Limits	Temporary Construction	Minimise
T405	White willow	19.2 m	Tree within Order Limits	Temporary Construction	Avoid
T408	White willow	24.75 m	Tree within Order Limits	Temporary Construction	Avoid
T410	White willow	19.5 m	Tree within Order Limits	Temporary Construction	Avoid
T411	White willow	27 m	Tree within Order Limits	Excavations	Minimise

Tree ID	Species	Buffer Zone	Location in Relation to Project	Project Activity (Refer to Table 7.2 for Details of Impact)	Assumed Mitigation (Refer to Table 7.1 for Details)
T431	English elm	20.25 m	Tree within Order Limits	Excavations	Minimise
T432	English elm	18 m	Tree within Order Limits	Excavations	Minimise
T434	English elm	25.95 m	Tree within Order Limits	Excavations	Minimise
T439	English elm	24 m	Tree within Order Limits	Excavations	Avoid
T440	English elm	24 m	Tree within Order Limits	Excavations	Avoid
T458	English oak	23.25 m	Tree within Order Limits	Temporary Works	Minimise
T467	Ash	15 m	Tree within Order Limits	Temporary Works	Avoid
T472	English oak	23.25 m	Tree within Order Limits	Temporary Works	Minimise
T473	Field maple	15.3 m	Tree within Order Limits	Temporary Works	Minimise
T477	Crack willow	34.5 m	Buffer Zone within Order Limits	Temporary Works	Avoid
T482	English oak	23.25 m	Buffer Zone within Order Limits	Temporary Works	Avoid
T483	English oak	22.65 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T489	English oak	16.95 m	Tree within Order Limits	Temporary Construction	Avoid
T490	English oak	24.3 m	Tree within Order Limits	Temporary Construction, Overhead Lines	Avoid
T492	Ash	24.9 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T514	English oak	17.25 m	Buffer Zone within Order Limits	Excavations	Avoid
T520	Ash	30 m	Buffer Zone within Order Limits	Excavations	Avoid
T522	Ash	27 m	Tree within Order Limits	Excavations	Avoid

Tree ID	Species	Buffer Zone	Location in Relation to Project	Project Activity (Refer to Table 7.2 for Details of Impact)	Assumed Mitigation (Refer to Table 7.1 for Details)
T525	English oak	21.6 m	Buffer Zone within Order Limits	Excavations	Minimise
T527	Oak sp.	20.7 m	Buffer Zone within Order Limits	Temporary Construction, Excavation	Avoid
T549	English oak	21.75 m	Buffer Zone within 5 m of Order Limits	Temporary Construction	Avoid
T550	English oak	13.5 m	Buffer Zone within 5 m of Order Limits	Temporary Construction	Avoid
T552	English oak	21 m	Tree within Order Limits	Temporary Construction, Excavations	Avoid
T563	English oak	25.5 m	Buffer Zone within Order Limits	Excavations	Minimise
T565	English oak	14.85 m	Tree within Order Limits	Temporary Construction	Avoid
T566	English oak	24 m	Buffer Zone within 5 m of Order Limits	Temporary Construction	Compensate
T632	English oak	21.75 m	Buffer Zone within Order Limits	Temporary Construction, Excavation	Avoid
T634	English oak	22.65 m	Tree Within Order Limits	Temporary Construction, Overhead Lines	Avoid
T646	English oak	27.45 m	Buffer Zone within Order Limits	Excavation	Minimise
T662	English oak	24.3 m	Buffer Zone within Order Limits	Temporary Construction, Excavation	Avoid
T718	Ash	27 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T727	Crack willow	36 m	Tree within Order Limits	Temporary Construction, Excavation, Overhead Lines	Avoid
T759	English oak	18 m	Tree within Order Limits	Temporary Construction, Excavation, Overhead Lines	Minimise

Tree ID	Species	Buffer Zone	Location in Relation to Project	Project Activity (Refer to Table 7.2 for Details of Impact)	Assumed Mitigation (Refer to Table 7.1 for Details)
T760	English oak	28.5 m	Tree within Order Limits	Temporary Construction, Excavation, Overhead Lines	Avoid
T775	Oak sp.	19.5 m	Tree within Order Limits	Temporary Construction, Excavation, Overhead Lines	Minimise
T782	English oak	23.25 m	Buffer Zone within Order Limits	Overhead Lines, Temporary Construction, Excavation	Minimise
T785	English oak	22.5 m	Tree within Order Limits	Temporary Construction, Excavation	Minimise
T797	Ash	22.5 m	Buffer Zone within Order Limits	Temporary Construction	Minimise
T805	Oak sp.	18 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T820	English oak	21.6 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T908	English oak	18.3 m	Tree within Order Limits	Temporary Construction, Excavation, Overhead Lines	Avoid
T909	English oak	28.8 m	Buffer Zone within 5 m of Order Limits	Temporary Construction, Excavation	Minimise
T966	Ash	19.35 m	Tree within Order Limits	Overhead Lines, Temporary Construction,	Avoid
T970	Hornbe-am	13.5 m	Tree within Order Limits	Overhead Lines	Minimise
T1045	English oak	26.25 m	Tree within Order Limits	Temporary Construction, Excavation, Overhead Lines	Minimise
T1064	English oak	24.75 m	Tree within Order Limits	Temporary Construction, Excavation	Minimise
T1085	Ash	13.5 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T1087	English oak	14.85 m	Tree within Order Limits	Overhead Lines, Temporary Construction, Excavation	Avoid
T1113	English oak	18 m	Tree within Order Limits	Temporary Construction	Minimise

Tree ID	Species	Buffer Zone	Location in Relation to Project	Project Activity (Refer to Table 7.2 for Details of Impact)	Assumed Mitigation (Refer to Table 7.1 for Details)
T1131	English oak	14.4 m	Tree within Order Limits	Overhead Lines, Temporary Construction	Avoid
T1178	Field maple	20.25 m	Tree within Order Limits	Temporary Construction	Minimise
T1179	English oak	20.55 m	Buffer Zone within Order Limits	Temporary Construction	Minimise
T1182	Ash	37.5 m	Buffer Zone within Order Limits	Temporary Construction	Avoid
T1184	English oak	17.25 m	Tree within Order Limits	Overhead Lines, Temporary Construction	Minimise
T1187	English oak	17.1 m	Buffer Zone within Order Limits	Temporary Construction	Minimise
T1188	English oak	20.25 m	Buffer Zone within Order Limits	Temporary Construction	Minimise
T1189	English oak	20.4 m	Buffer Zone within Order Limits	Temporary Construction	Minimise
VG163	Hunting-don elm	17.4 m	Group within Order Limits	Overhead Lines, Temporary Construction, Excavation	Minimise
VG213	Plum sp.	8.4 m	Buffer zone within Order Limits	Temporary Construction	Avoid
VG404	Alder	24.75 m	Group Within Order Limits	Temporary Construction	Minimise
VG406	English Oak	0.00 m	Group Within Order Limits	Overhead Lines, Temporary Construction	Minimise

Veteran Trees Potentially Removed

7.5.15 Four veteran trees require removal, while 15 veteran trees and two veteran groups require crown management to facilitate construction of the Project.

7.5.16 When removing veteran trees, there are a number of options available i.e. simulated windfall, stem monolith, phased felling, straight felling. All of the above options seek to retain the woody material in situ. All brash, timber and material from the tree should be retained on site in brash / wood piles as close to the original location of the tree as possible. This material provides a niche habitat for specialist fungi, invertebrates and mammals.

Approach for Trees with a Preservation Order

7.5.17 The approach for trees with a preservation order is the same as it is for any retained tree, with principles and guidelines to be followed as set out in Sections 7.3 to 7.4. The complete list of trees with TPOs within the Study Area can be found in the AIA (document reference 6.13.A6).

7.6 Protection of Hedgerows

7.6.1 Many hedgerows lie within the Order Limits, some of which have been identified as important under the Hedgerows Regulations 1997 for either ecological or heritage reasons. Further details can be found within the ES Appendix 8.3: Hedgerows Regulations Report (document reference 6.8.A3).

7.6.2 Prior to construction works commencing in each working area, all sections of hedgerow due for removal or requiring management will be marked out by the Main Works Contractor(s). These markings will differentiate between hedgerows due for removal and those which require management. As set out within the general protection measures section and the vegetation and tree removal section, construction works will be micro-sited to reduce the impact on hedgerows wherever practicable including those identified as important under the Hedgerows Regulations.

7.6.3 A 5 m root protection zone buffer where practicable, should be applied to retained hedgerows, to ensure no damage to the hedgerows root system. This may include use of suitable fencing to protect the hedgerow from accidental encroachment.

7.6.4 In accordance with good practice measures, a full record of the condition of hedgerows will be carried out (photographic and descriptive) prior to construction. This record will be available for comparison following reinstatement after the works have been completed, to demonstrate that the standard of reinstatement meets that recorded in the pre-condition survey or as agreed in the Outline LEMP.

7.7 Protection of Watercourses

7.7.1 A 10 m protection buffer from the top of the bank from all retained watercourses will be applied where practicable and clearly demarcated to avoid accidental encroachment. Measures relating to pollution prevention are set out in the Outline CoCP (document reference 7.2) (Revision E).

7.7.2 Pylons will not be constructed within 8 m of the top of bank of main rivers, in accordance with requirements for regulated activities set out in the guidance for environmental permits for flood risk activities (Environment Agency and the Department for Environment, Food and Rural Affairs (Defra), 2019). It is anticipated that pylons would also not be located within 3.5 m of an ordinary watercourse. This will also reduce disturbance to river channels, banks and riparian corridors. The works to watercourses will require a Flood Risk Activity Permit for main rivers from the Environment Agency. The Project seeks to disapply s23 of the Land Drainage Act 1991.

7.7.3 There are 23 single span bridges currently proposed over Environment Agency Main Rivers and Water Framework Directive waterbodies that achieve high or good status for invertebrates, required to facilitate the temporary construction haul roads for the Project. It may be possible to install a modular bridge, requiring minimal additional construction works. However, the alternative bridge options will require additional

construction works which will likely impact bank side habitats. All bridge types will allow continued water flow and will impact as little of the bank habitat as possible. ES Appendix 4.2: Watercourse Crossing Details (document reference 6.4.A2) provides further details on specific watercourse crossings.

7.7.4 A further 384 minor watercourses will be crossed by the temporary access routes using culvert types where water can continue to flow. Details of proposed watercourse crossings are presented in Appendix 4.2: Watercourse Crossing Details (document reference 6.4.A2). The majority of culverts will be temporary and only in place for up to four years during the construction phase. However, in certain locations where an existing culvert in poor quality has been replaced, this culvert will be retained with agreement from the landowner and consent from any other relevant regulatory body. For culvert installation bank excavation and drain down may be necessary. Once construction works are complete the haul road and associated culverts will be removed and the bank reinstated. The banks will be allowed to naturally re-vegetate.

7.7.5 Where the underground cable needs to be installed beneath a watercourse (other than at trenchless locations), these will be dammed and over-pumped to create a dry working area during installation and maintain downstream flows. The over-pumping will typically last a few weeks in duration, but this would depend on the size of the watercourse and the complexity of the works in any given location. A trench will be cut into the dry channel and the ducts would be installed to be at least 1 m below bed level. The cable working area will be up to 60 m wide (unless restricted to 50 m due to the presence of water vole), although works are not expected to take place along the whole length of the watercourse at a single time. Once installation is complete, the banks will be reinstated and the temporary dam removed.

7.7.6 The only main river located within the underground cable sections of the Project is the River Stour. Where the cable route crosses the River Stour at two points, these will be subject to use of trenchless techniques rather than use of an open cut method. This will protect the banks and channel of the River Stour removing any direct construction impacts.

7.7.7 Riverbank and in-channel vegetation will be retained where not directly affected by installation works in accordance with good practice measures. Prior to carrying out any works to watercourses, a pre-construction check will be undertaken to check for the presence of otter, water vole and any invasive plant species.

7.8 Protection of Soil Resources

7.8.1 All soil resources will be handled in accordance with the soil management measures set out in the Outline Soil Resource Plan (see Appendix C of the Outline CoCP (document reference 7.2) (Revision B)).

7.9 Protected Lanes

7.9.1 Vegetation, earthworks (such as banks or ditches) and other boundary features (such as walls or fencing) that border protected lanes, as designated by the LPAs, will be retained wherever possible as set out in the commitments of the Outline CoCP (document reference 7.2) (Revision E).

7.10 Biosecurity

7.10.1 National Grid and its Main Works Contractor(s) will comply with any measures required by Defra or other statutory bodies regarding biosecurity measures for national outbreaks such as bird flu or foot and mouth disease.

Invasive Plants

7.10.2 Biosecurity is defined as a set of precautions that aim to prevent the introduction and spread of harmful organisms. Under the Wildlife and Countryside Act 1981 it is an offence to '*plant or otherwise course to spread in the wild*' species listed on Schedule 9. The Environmental Protection Act 1990 also imposes a duty of care on persons concerned with controlled waste, which includes some invasive plant species.

7.10.3 Pre-construction surveys will be undertaken in advance of each phase of the works where vegetation removal is required (including aquatic invasive non-native plants). This will accurately identify areas of Japanese knotweed, Himalayan balsam and any other Schedule 9 invasive plant species within or adjacent to the works area.

7.10.4 Prior to works commencing, an exclusion zone will be demarcated by the ECoW around any stands of invasive plant species; the exact buffer distances will be determined by the ECoW based on the species and extent identified (i.e. 7 m for Japanese knotweed) to be in line with standard best practice measures. The exclusion zone will be demarcated by fencing or tape and 'Invasive Species' warning signage to denote species and restrictions imposed. Construction works resulting in ground or soil disturbance will be avoided where feasible within the exclusion zones, as will tracked and/or heavy machinery.

7.10.5 If vegetation clearance works are required within the exclusion zones, cut vegetation and associated soils within the areas containing invasive species will be treated as contaminated waste and appropriately disposed of accordingly. This may require disposal at a licensed landfill site. The Outline Site Waste Management Plan (SWMP) (Revision C) (see Appendix B of the Outline CoCP (document reference 7.2) (Revision E)) should be adhered to with regard to removal and disposal of non-native invasive species.

7.10.6 Removal of aquatic invasive species will be dealt with according to species and location. Methods used may include raking the species out and placing it in a dry stockpile along the bank but away from the working areas until it dies or removing it offsite or spraying.

7.10.7 Use of herbicides along watercourses is subject to Environment Agency permit and will require consultation with the Environment Agency prior to use.

7.10.8 Any machinery working and tools used within these areas would be cleaned prior to use in other areas as appropriate to the risk, for example using wheel washing facilities or using proprietary alcohol-based disinfectants on tools. Construction workers leaving the biosecurity areas would also employ measures suitable to the risk, for example boot washing at the egresses to the site boundary and using alcohol-based disinfectants to clean clothes.

7.10.9 Removal of invasive plant species (terrestrial and aquatic) should also consider the implications for associated protected species as set out within Chapter 6 of this report

7.10.10 Toolbox talks will be undertaken to inform construction workers of applicable biosecurity risks and areas where additional measures would apply. The Reinstatement Planting Plan secured by Requirement 9 in the draft DCO (document reference 3.1) (Revision E) and landscape contract arrangements will be designed based on the findings of pre-construction surveys to avoid further transmission of biosecurity risks.

7.10.11 Construction works around watercourses will follow the Check, Clean, Dry guidelines (GB Non-native Species Secretariat, 2025). This ensures that pre-works checks are undertaken on equipment being brought onto site prior to use, equipment is appropriately cleaned before moving between sites or on completion of site activities and equipment is then allowed to dry before use elsewhere. Appropriate disinfectants will also be used to ensure microscopic propagules or seeds are rendered unviable and are not transferred between sites.

Invasive Fauna

7.10.12 All in-channel works associated with the tributaries of the River Tas, known to support white-clawed crayfish, will follow strict biosecurity procedures in order to avoid the spread of crayfish plague. The 'check, clean, dry' biosecurity procedure will be implemented, this will involve checking of all machinery/equipment, thoroughly cleaning machinery/equipment to remove all mud/debris, disinfecting machinery/equipment and finally drying equipment fully to ensure removal of any crayfish plague spores.

8. Vegetation and Tree Removal

8.1 General Approach

8.1.1 The Arboricultural Impacts Plan in Appendix A shows the locations where tree and hedgerows will be removed. Only vegetation identified as either removed or potentially affected on these plans may be subject to removal as part of the Project. The affected managed category indicates vegetation that may be subject to vegetation management.

8.1.2 Vegetation with the potential to support breeding birds will be removed outside of the breeding bird season (March to August inclusive) where practicable. If vegetation clearance is required within the breeding bird season, an experienced ECoW will conduct a nesting bird check prior to any vegetation removal. In the event that an active nest is found, appropriate protection measures will be put in place. This will include exclusion zones around active nests until chicks fledge or nests become inactive. The size of the exclusion buffer will be determined on a 'case-by-case' basis by the ECoW. There will be a minimum buffer distance of 5 m which will likely be increased in many cases, such as for ground nesting birds or Schedule 1 species.

8.1.3 During the pre-construction survey the ECoW will identify areas suitable to support other protected species as detailed within Chapter 6, such as amphibians and reptiles. Vegetation and tree removal will follow the relevant protected species method statements for vegetation clearance within Chapter 6 of this Outline LEMP.

8.1.4 The treatment of arisings produced by tree/hedgerow removal or pruning will be location specific and determined by the ECoW. If there is an ecological objective, there is sufficient room within Order Limits outside of works areas and where the landowner agrees, habitat piles will be created. Cut vegetation will not be stockpiled within working areas, as this may create suitable habitats for protected species. Cut vegetation will be removed from the working area daily or chipped and spread thinly in areas agreed with the ECoW and subject to landowner agreement. Any vegetation that cannot be accommodated onsite will be removed as green waste, in line with the Outline SWMP (Revision C) (see Appendix B of the Outline CoCP (document reference 7.2) (Revision E)).

8.1.5 Tree removal will be kept to a minimum within these habitats and disturbance to the ground will be avoided where practicable or reduced from standard working practices. The type of ground protection will be selected, either matting, timber, metal, rubberised or similar, dependent on the ground conditions and the machinery/plant being used. Specific commitments have been made in some locations, as detailed in the Outline CoCP (document reference 7.2) (Revision E) for works in proximity to woodlands.

8.1.6 Woodland and tree clearance and any works within the 15 m buffer of ancient woodland or veteran trees will be supervised by the ArbCoW. Measures will be implemented to ensure only the essential works occur within the 15 m buffer during vegetation removal works. Further detail on specific ancient and veteran tree mitigation is provided within Appendix B.

8.1.7 Woodland, tree and hedgerow removal works would be coordinated with archaeological mitigation as set out in the Outline AMS-OWSI (document reference 7.5) and relevant Detailed WSIs for areas of archaeological sensitivity.

8.2 Woodland and Tree Removal

8.2.1 All tree works will comply with BS3998:2010 Tree Work – Recommendations.

8.2.2 Tree removal will be required to facilitate construction of the Project. Micro-siting of the haul road will seek to avoid mature trees where practicable within the restrictions of the LoD.

8.2.3 It is currently assumed and has been assessed within ES Chapter 13: Landscape and Visual (document reference 6.13) and ES Chapter 8: Ecology and Biodiversity (document reference 6.8) (Revision B) that any trees present within the 56 m wide swathe beneath the overhead line will be either removed or managed to facilitate both the construction and operation of the overhead line. However, this is based on a worst-case assumption of tree species and predicted growth over a five-year period. The Outline CoCP (document reference 7.2) (Revision E) includes a commitment that following detailed design and prior to construction (of relevant parts of the Project), relevant surveys will be undertaken of arboricultural features that may be impacted or need to be removed to ensure any tree/ hedgerow removal is reduced as far as practicable.

8.2.4 Significant blocks of tree habitat have been avoided along the 400 kV and 132 kV underground cable swathe or alternative trenchless methods employed wherever possible. One exception to this is the area around Black Brook, Langham, where due to the narrow gap and other constraints, trenchless construction techniques are not possible. While for the 400 kV underground cable in general a 120 m swathe would be required, a restriction of 80 m has been applied at Black Brook due to the sensitive nature of the site.

8.2.5 Other third-party undergrounding works (33 kV,11 kV and BT) are considered minor works and given the flexibility of the works will avoid tree loss where at all possible.

8.2.6 Permanent woodland/tree removal is required at the EACN Substation to facilitate the construction footprint. The band of lowland deciduous woodland was planted in 2002 and is in poor condition based on woodland condition criteria. No other woodland removal is required to facilitate the permanent Project assets (CSE compounds or substations).

8.2.7 Tree removal or management will be required along bellmouths where a visibility splay has been identified for traffic safety reasons. Tree removal required within the visibility splays will be reduced as much as possible and if safe to do so trees will be crown lifted or coppiced instead of removed.

8.3 Hedgerows

8.3.1 All hedgerow works will comply with BS 3998:2010 Tree Work – Recommendations.

8.3.2 Temporary loss of hedgerow will be required to facilitate the construction of the Project. Micro-siting of the haul road should continue to seek using existing gaps in the hedgerow where practicable. A Project commitment has been made that at hedgerows the works areas will be pinched and typically a 12 m swathe of removed

vegetation (including drainage) would be temporarily removed to allow for the construction and operational use of the haul road.

8.3.3 While hedgerows will be retained under the new 400 kV overhead line, there will be minor hedgerow impact (2 m in width) required to facilitate the stringing of the conductors. This will be short term temporary coppicing during stringing only. In these small sections hedgerows will be cut to stump and will be allowed to grow back on completion of stringing works.

8.3.4 Where the 400 kV underground cable crosses existing hedgerows, in general a 70 m gap would be created in the hedgerow which will allow room for both the online haul road and cabling. The remaining working swathe is required for soil storage, but hedgerows will not be removed for soil storage purposes only and therefore the working swathe will be pinched in at hedgerows to 70 m. Hedgerows will be completely removed in these areas, coppiced to ground level and the roots removed via grubbing.

8.3.5 Within the UKPN 132 kV underground cable sections the working swathe is currently 35 m. The 132 kV working swathe will also be pinched at hedgerows to 15 m to reduce the amount of temporary hedgerow loss during construction. A pinch in the hedgerow will be possible where soil storage is not replacing the hedgerow adjacent to the cable.

8.3.6 Other third-party undergrounding works (33 kV,11 kV and BT) are considered minor works and given the flexibility of the works will avoid hedgerow loss where at all possible.

8.3.7 A native species hedgerow (approximately 220 m) requires permanent removal to facilitate the construction of the new EACN Substation. The removal of a former hedgerow, which has become an overgrown hawthorn/bramble band of scrub due to lack of management (0.06 ha), is required to facilitate the construction of Tilbury North Substation. No other permanent hedgerow removal is required to facilitate the construction of the permanent Project assets (CSE compounds and substations). Full details on permanent hedgerow loss are provided within ES Chapter 8: Ecology and Biodiversity (document reference 6.8) (Revision B).

8.3.8 Hedgerow management will be required along bellmouths where a visibility splay has been identified for traffic safety reasons. The amount of hedgerow removal required within the visibility splays will be reduced as much as possible and instead the hedgerows will be cut to stump to allow them to grow back on completion of works. Ongoing management of these hedgerows may be required depending on the duration of the works in the area.

9. Landscape and Ecological Reinstatement and Other Mitigation

9.1 General Approach

9.1.1 This chapter outlines the general principles for landscape and ecological reinstatement on the Project. The Planting Schedules are presented in Appendix C.

9.1.2 As a general principle, all land which is temporarily impacted by the Project will be reinstated where practicable to its pre-construction condition land use. The only exception to this will be restrictions on tree planting below the overhead line and directly on top of the underground cables. Species mixes will allow for low growing and shallow rooted tree/scrub species as an alternative in these locations.

9.1.3 Replacement features will be of a similar type, scale, and material to those lost, wherever possible, reflecting the character and function of the original feature. Design and siting will be informed by local landscape character assessments, historic environment records, and where relevant, consultation with Local Planning Authorities and heritage specialists. Species selection for replanting (e.g., hedgerows) will seek to match historic or locally appropriate species mixes, and construction/restoration of walls or banks will use traditional techniques and materials where feasible. If retention of a feature is not possible, the replacement or reinstatement will be designed to ensure that the heritage, ecological, and landscape value is maintained, or where possible, enhanced.

9.1.4 In addition to the reinstated habitats across the route, there will also be 'Environmental Areas' located around the new/ extended National Grid permanent assets (i.e. CSE compounds and substations). An indicative landscape design has been created for these areas (Appendix D: Outline Landscape Proposals (Revision B)). The habitats to be created and/or enhanced in these areas (onsite mitigation) have been designed to provide landscape and visual mitigation while also offering ecological value. Where created or enhanced habitats within these Environmental Areas will be counted within BNG assessment (onsite mitigation), these habitats will be subject to a 30-year management regime.

9.1.5 Requirement 10 of the 3.1 Draft DCO (Revision E) requires the Applicant to reinstate land used temporarily to its former condition. Where it is not possible to restore the land to its former condition Requirement 10 also includes provision for an alternative restoration to be agreed with the Local Planning Authority.

9.2 Landscape and Ecological Reinstatement Plans

9.2.1 All reinstatement planting will be undertaken by a suitably experienced contractor in line with the current British Standards outlined in BS 4428:1989 Code of Practice for general landscape operations (British Standards Institution, 1989), and BS 8545:2014 Trees: from nursery to independence in the landscape (British Standards Institution, 2014) and will adhere to the following general principles:

9.2.2 Reinstatement planting will occur at the earliest opportunity and no later than the first available planting season after that part of the authorised development is first brought into operational use. Planting shall be carried out in winter (November to March) and shall be timed to avoid periods of frost, drought, or other inclement weather, as far as practicable.

9.2.3 Trees and shrubs will be native and of local provenance to minimise the spread of pests and diseases. Every effort will be made to source planting stock (procured as early as possible) from local nurseries.

9.2.4 Protection from browsing and grazing damage will be installed where necessary to aid establishment. For trees and shrubs this will include biodegradable tree guards and fencing to shelter young trees from browsing animals. Fencing may also be installed around areas of recently planted grassland to protect them from grazing damage.

9.2.5 Where appropriate, the proposed species mixes for reinstatement planting will be selected to reflect the existing species and habitat compositions present on the site. This will be informed by the relevant landscape character assessment for the area. In some cases, it may be inappropriate to reinstate the existing species for example sites containing invasive plants or species at higher risk of disease. In these instances, alternative species mixes will be chosen. If difficulties arise with sourcing the proposed species mixes, alternative species will be discussed and agreed with the relevant LPA.

9.3 Reinstatement of Woodland, Small Groups and Individual Trees

Reinstatement Planting

9.3.1 Replacement tree planting will commence at the earliest suitable time of year following the completion of works for each relevant section; this will generally be between November and January for bare root stock, when the trees are dormant. This will reduce the potential for losses during dry springs. If using cell grown stock, then the planting season could extend from November to February. . Woodland and tree planting will adhere to the following principles:

- Plants will be inspected at the nursery and on delivery, prior to planting
- Trees will be staked in line with industry standard specifications
- Where practicable, trees will be replanted in the same, or close to the location from which they were removed. Exceptions to this include areas where tree planting would be unsuitable for example, areas within overhead line buffer zones (56 m), areas located above underground cables, or areas with existing constraints which preclude tree planting. In these cases, tree planting will be undertaken as close as possible to the original location and still within the Order Limits
- In locations where replacement standard tree planting is unsuitable due to the new overhead lines and underground cables, low height and shallow rooted scrub species will be included as alternative planting
- Where practicable, removed woodland and trees will be replaced on-site with the same species or another locally appropriate species. Consideration will be made

to ecological enhancement of these areas, with a more diverse mix of native species planting. These trees will be sourced from British provenance stock to minimise the spread of pests and diseases. Where relevant, the Forestry Research guide to climate resilient species will be consulted for reinstatement planting

- Use a diverse range of species to minimise overall losses from drought or pests and diseases
- Mature trees will be replaced with a mix of trees which will match the existing species composition and planting density present on the site
- Where replacement planting is to take place within the RPAs of retained trees, hand tools only should be used.

9.3.2 Reinstatement planting will initially be protected to shield young trees from browsing rabbits and deer during establishment, for example using biodegradable tree/ shrub shelters or fencing. Protection, for example fencing will also be considered around planting in fields that are grazed by livestock.

Small groups and individual trees

9.3.3 National Grid has committed to a 3:1 replacement for individual trees and individual trees within small groups. It should be noted that all other tree habitat including scrub and woodland (area habitats) are assessed and mitigated through the BNG metric and captured within the BNG Report (document refence 7.1)). The Project will prioritise the replanting for individual trees and small groups of individual trees within the Order Limits, offsite provision may however be required and will align with the relevant LNRS as far as practicable. The tree replanting will be in accordance with the following site selection principles:

- Within the Order Limits (on-site landscape mitigation)
- Where practicable, trees will be replanted in the same, or in close proximity to, the location from which they were removed
- If constraints preclude tree planting in the same or in close proximity to where they were removed, tree planting will be undertaken as close as possible to the original location
- Use a diverse range of species to minimise overall losses from drought or pests and diseases
- Outside the Order Limits (off-site landscape compensation)
- If it is not possible to replant the trees within the Order Limits, then offsite provision will be provided and will align with the relevant LNRS, as practicable.

9.3.4 Details of the onsite tree planting will be provided in accordance with the final LEMP secured under Requirement 4 (if provided within the Environmental Areas) or the Reinstatement Planting Plan secured under Requirement 9 (as appropriate) of the draft DCO (document reference 3.1) (Revision E).

9.3.5 Offsite tree planting will be secured via a legal agreement. The offsite provision (onsite deficit) can only be finalised once final details of the onsite provision have been approved under the final LEMP through Requirement 4 or Reinstatement

Planting Plan through Requirement 9 of the draft DCO (document reference 3.1) (Revision E).

9.3.6 Offsite tree planting will be delivered through collaboration with landowners and/or third parties. National Grid has been engaging in productive discussions with some partners regarding the provision of offsite tree planting and these discussions will continue.

9.3.7 An Offsite Planting Delivery Scheme will be provided to the relevant LPAs for their information which provides details of the offsite provision.

9.3.8 The Offsite Planting Delivery Scheme will identify the requirement for offsite tree replacement planting, identify (where appropriate) the location of offsite tree replacement planting or provide details of the organisation which shall deliver the offsite replacement trees to be funded by National Grid and identify the proposed timing for delivery of the planting.

Natural Regeneration of Woodland

9.3.9 Natural regeneration of woodland post construction is proposed for woodlands where existing third-party infrastructure is being removed from woodlands and where works are minimal such as the proposed drainage works. Removal of third-party assets is considered a long-term ecological benefit, as the woodland would have been subject to an existing vegetation management regime under the existing overhead lines. Natural regeneration will allow the woodland to regenerate based on existing seed bank within the soil. Where deemed necessary, supplementary planting of saplings will be added to the woodland, which will involve tree species present with the retained woodland habitat.

Woodland Planting Deer and Grey Squirrel Management

Deer Management

9.3.10 During planting and natural regeneration, there is a risk that grazing pressure from deer may negatively affect newly created woodland areas and lead to an increase in failed establishment and mortality of woody species (Forestry Commission, 2020).

9.3.11 The mitigation measures adopted during planting and establishment to reduce the effects of deer grazing pressure will be detailed in the final LEMP, however potential measures include:

- Strategic re-stocking and planting and maintaining open areas
- Physical protection of woodland planting during the establishment period through the use of appropriate tree guards and fencing
- Adaptive management during the establishment period, which will be adjusted depending on the efficacy of mitigation measures.

Grey Squirrel Management

9.3.12 Similar to deer, grey squirrels, *Sciurus carolinensis,* cause significant damage to woodlands, which can result in deformation, stain and decay of the timber and on occasion tree mortality (Forestry Commission, 2019).

9.3.13 The management measures adopted during planting and establishment for grey squirrel will be detailed in the final LEMP, however potential measures include tree protection measures, or adaptive management during the establishment period.

9.4 Reinstatement of Hedgerows

9.4.1 Following completion of works, hedgerows will be reinstated at the earliest appropriate opportunity within the correct planting season. Hedgerows will typically be planted at 300 mm centres in a double staggered row 450 mm apart (six per linear metre) and will use species rich mixes or other locally appropriate species that provide ecological enhancement. Indicative hedgerow species are provided in Appendix C: Planting Schedules. Some of the tree species within the hedgerows will be planted using feathered stock to help establish a robust and traditional hedgerow structure, where appropriate for the landscape. A diverse range of species will be used to minimise overall losses from drought or pests and diseases.

9.4.2 The relevant LNRS will be considered for hedgerow reinstatement, with specific consideration of the type of hedgerow to be reinstated in any one location and the specific species that should be included within the planting mix.

9.4.3 Hedge planting areas will initially be protected to shield young trees from browsing rabbits and deer during establishment, for example using biodegradable tree/shrub shelters or fencing. Protection, for example fencing will also be considered around planting in fields that are grazed by livestock. Dead hedging will be also used where appropriate to provide habitats and ecological connectivity until permanent reinstatement can be undertaken. Organic mulch or mulch mats will be used for weed suppression.

9.4.4 Targeted gap planting of hedgerows, where existing gaps are located within the Order Limits, will be undertaken as a hedgerow enhancement measure. Hedgerow gap planting will utilise appropriate native woody hedgerow species, which are characteristic of the local landscape. This will provide ecological enhancement by increasing the hedgerow species diversity and strengthen the ecological function of the existing hedgerow network.

9.4.5 In addition to this, where new hedgerows are being planted, consideration will be given to the hedgerows heritage value, such as hedgerows on parish boundaries or historic field boundaries.

9.5 Reinstatement of Grassland

9.5.1 Grasslands will be reinstated at the earliest appropriate time of year following the completion of works. In many areas, impacted grasslands and verges will be reinstated using grass seeding. In some more specific locations, where it is deemed more suitable, areas of grassland will be left to regenerate naturally.

Grass Seeding

9.5.2 Most grassland areas will be replanted using an appropriate grass seed mix, suited to the existing soil conditions and land use. Seeds will be sown at a suitable time of year; this will typically be in either autumn or spring but may include other times of year if there is sufficient warmth and moisture. The use of green hay as a means of

acquiring seed of local provenance will be considered where available, for grassland reinstatement within Local Wildlife Site (LWS) / County Wildlife Sites (CWS).

Natural Regeneration of Grassland

9.5.3 In specific areas there is ecological benefit in leaving the grassland to naturally regenerate, such as areas of interesting grassland and parts of ecologically designated sites. This specifically includes the area of land north of Black Brook, Langham where the acidic soils provide species rich vegetation, relied upon by regionally valuable terrestrial invertebrates. Natural regeneration of grassland within this area will follow guidance on how to restore species-rich grassland (Defra, 2022). The soil management plan will commit to soils from this area being returned to ensure the soil type and seed bank is reinstated to allow for natural regeneration to pre-works condition.

9.6 Reinstatement of Watercourses

9.6.1 Following the completion of works, all temporarily impacted watercourses will be reinstated to their former state, or better. All temporary structures such as culverts bridges and dams will be removed and all impacted watercourse features including bank profile, bed levels, and gradients will be reinstated. This will include the replacement of any substrate or vegetation that was temporarily removed.

9.6.2 There may be occasional locations where the crossing (bridge/ culvert) is installed as a replacement to an existing crossing feature or other similar situations where retention is considered logical, in which cases the crossing will be left in situ on completion of works and will become a permanent feature. The permanent watercourse crossing locations are identified within Appendix 4.2: Watercourse Crossing Details (document reference 6.4.A2) of ES Chapter 4: Project Description (document reference 6.4).

9.7 Landscape Mitigation and Compensation

Landscape Mitigation

Environmental Areas

9.7.1 Land around National Grid permanent assets has been defined as Environmental Areas, with the exception of Bramford Substation where there is not sufficient space due to other planned developments. These areas will provide landscape and visual mitigation, as well as offering ecological value. The following sites have currently been identified as Environmental Areas:

- Land around Norwich Main Substation (areas not included in the Norwich Main Substation Extension Planning application)
- Land around EACN Substation
- Land around Tilbury North Substation and Tilbury North (YYJ) CSE Compound
- Land around Wenham Grove CSE Compound
- Land around Great Horkesley (EACN Side) CSE Compound

- Land around Great Horkesley (Tilbury Side) CSE Compound
- Land around Fairstead (EACN Side) and Fairstead (Tilbury Side) CSE Compounds.

9.7.2 Indicative landscape proposals for each of these areas are included in Appendix D and are described in further detail below. The species mixes within the final landscape designs for the Environmental Areas will be guided by the local context of each mitigation area, with reference to information from the LNRS where available and feasible.

Land Around Norwich Main Substation – Landscape Proposals

9.7.3 The Environmental Area around the existing Norwich Main Substation and its consented extension is located within the Tas Tributary Farmland Landscape Character Area (LCA). LCAs are shown on ES Figure 13.6: Landscape Character Types and Landscape Character Areas (document reference 6.13.F6). Within the Order Limits around the substation there are large arable fields and mature belts of deciduous woodland, which provide some visual containment to the existing substation. There are existing overhead lines and underground cables which converge at the substation.

9.7.4 Outline landscape mitigation proposals have been developed for the area around Norwich Main Substation (as shown in Appendix D), to complement the existing landscape structure whilst taking into account existing and proposed infrastructure and associated mitigation related to the consented substation extension. The purpose of these proposals is as follows:

9.7.5 To filter and screen views from the surrounding area, to reduce significant effects on visual receptors including local residents and users of the Public Right of Way (PRoW) network

9.7.6 To connect existing hedgerows and areas of woodland, to improve green networks and enhance landscape character.

9.7.7 The outline landscape mitigation proposals include:

- Retention of existing vegetation to the north, south and west of the substation, reinstatement of vegetation removed to accommodate the haul road to the south of the substation and enhancement with supplementary tree and shrub planting
- Proposed deciduous woodland with scrubby woodland edge to expand existing woodland to the west of the substation extension
- Proposed native hedgerows with native trees to existing field boundaries
- Proposed neutral grassland over existing and proposed underground cables and below existing and proposed overhead lines.

Land Around EACN Substation – Landscape Proposals

9.7.8 The EACN Substation is located within the Bromley Heaths LCA, and the Order Limits around the EACN Substation are approximately 1.2 km to the south of Dedham Vale National Landscape. LCAs and the National Landscape boundary are shown on ES Figure 13.6: Landscape Character Types and Landscape Character Areas (document reference 6.13.F6). Within the Order Limits around the EACN Substation there are large arable fields, enclosed by mature shelterbelts and

hedgerows with hedgerow trees. Existing overhead lines cross the Order Limits, connecting to Lawford Substation to the south.

9.7.9 Outline landscape mitigation proposals (as shown in Appendix D) have been developed for the area around the EACN Substation, to complement the existing landscape structure whilst taking into account existing and proposed infrastructure. The purpose of these proposals is as follows:

- To filter and screen views from the surrounding area, to reduce significant effects on visual receptors including local residents in surrounding communities, and users of the road and PRoW networks
- To connect existing hedgerows and shelterbelts, to improve green networks and enhance landscape character
- To provide replacement woodland and hedgerow planting as close to permanent impacts as possible.

9.7.10 The outline landscape mitigation proposals include:

- Retention and enhancement of existing vegetation where practicable, including retention and protection of mature shelterbelts in the east of the Order Limits and mature trees along Grange Road, and enhancement through supplementary tree and shrub planting
- Proposed deciduous woodland with scrubby woodland edge in the east of the Order Limits, to expand woodland habitat and provide further filtering/screening of views towards the EACN Substation from the east
- Use of suitable spoil material to create subtle landforms north-west of the EACN Substation, which blends into the existing topography and contributes to screening of the EACN Substation for local residential properties. Landforms will be a maximum height of 3 m with a maximum gradient of 1:3. The spoil bunds will be planted with deciduous woodland and scrubby woodland edge to expand woodland habitat and provide further filtering/screening of views
- Proposed native hedgerows with native trees to existing field boundaries, including along the north side of Ardleigh Road
- Proposed native scrub with trees to provide variety in vegetation cover and to provide further filtering/screening of views
- Proposed neutral grassland over proposed underground cables and below existing and proposed overhead lines
- Use of a permanent attenuation drainage pond to create a wetland habitat to introduce habitat diversity.

Land Around Tilbury North Substation and Tilbury North (YYJ) CSE Compound – Landscape Proposals

9.7.11 Tilbury North Substation and Tilbury North (YYJ) CSE Compound are located within the East and West Tilbury Open Undulating Farmland LCA. LCAs are shown on ES Figure 13.6: Landscape Character Types and Landscape Character Areas (document reference 6.13.F6). Within the Order Limits around the substation is a golf course and arable fields, often enclosed by hedgerows, scrubby vegetation and woodland with some mature hedgerow trees. The landscape around the CSE compound is open arable farmland. Based on an assumption that Lower Thames

Crossing is constructed, the landscape around the substation and CSE compound would change to include the road and associated earthworks, infrastructure and Lower Thames Crossing mitigation including species rich grassland, scrub woodland and native woodland and wetland habitats.

9.7.12 Outline landscape mitigation proposals (as shown in Appendix D) have been developed for the area around the new Tilbury North Substation and Tilbury North (YYJ) CSE Compound to complement and strengthen the existing landscape structure and tie into proposals for Lower Thames Crossing. The purpose of these proposals is as follows:

- To filter and screen views from the surrounding area, to reduce significant effects on visual receptors including local residents in surrounding communities, and users of the road and PRoW networks
- To strengthen and connect existing hedgerows and areas of woodland, to improve green networks and enhance landscape character
- To tie into Lower Thames Crossing mitigation and replace Lower Thames Crossing mitigation affected by the Project
- To provide replacement woodland and hedgerow planting as close to permanent impacts as possible.

9.7.13 The outline landscape mitigation proposals include:

- Retention of existing vegetation where practicable, including retention and protection of ancient woodland
- Proposed deciduous woodland with scrubby woodland edge, to expand and connect into existing woodland habitats and provide further filtering/screening of views towards the Tilbury North Substation and Tilbury North (YYJ) CSE Compound from the west
- Use of suitable spoil material to create subtle landforms which blend into the existing topography. Landforms will be a maximum height of 3 m with a maximum gradient of 1:3. The spoil bunds will be planted with deciduous woodland and scrubby woodland edge to expand woodland habitat and provide further filtering/screening of views, particularly from Chadwell St Mary and PRoW to the south
- Proposed native hedgerows with native trees to existing field boundaries
- Proposed native scrub with trees to provide variety in vegetation cover and to provide further filtering/screening of views
- Proposed neutral grassland over proposed underground cables and below existing and proposed overhead lines.

9.7.14 If space allows, following detailed design, there will also be planting to the north-west and east of Tilbury North Substation, and linear planting along Bentley Road.

Land Around Wenham Grove CSE Compound – Landscape Proposals

9.7.15 The Wenham Grove CSE Compound is located within the Ancient Estate Claylands LCT and is approximately 2 km to the north-east of Dedham Vale National Landscape at its closest point. Within the Order Limits around the CSE compound

there are large arable fields, blocks of deciduous woodland and a mature deciduous tree belt along the former railway line to the north of the CSE compound.

9.7.16 Outline landscape mitigation proposals (as shown in Appendix D) have been developed for the area around the Wenham Grove CSE Compound, to complement the existing landscape structure. The purpose of these proposals is as follows:

- To filter and screen views from the surrounding area, to reduce significant effects on visual receptors including local residents and users of the minor road and PRoW networks
- To connect existing hedgerows and woodland, to improve green networks and enhance landscape character.

9.7.17 The outline landscape mitigation proposals include:

- Retention and enhancement of existing vegetation where practicable, including retention and protection of ancient woodland at Wenham Grove and woodland south of the former railway line, and enhancement through supplementary tree and shrub planting
- Proposed deciduous woodland with scrubby woodland edge to expand and connect existing woodland habitat and provide further filtering/screening of views towards the CSE compound from the south and east
- Proposed native scrub with trees to provide variety in vegetation cover and to provide further filtering/screening of views
- Use of suitable spoil material to create a subtle landform south-east of the CSE compound, which blends into the existing topography and contributes to screening of the CSE compound. Landforms will be a maximum height of 3 m with a maximum gradient of 1:3. The spoil bund will be planted with deciduous woodland to expand woodland habitat and provide further filtering/screening of views
- Proposed native hedgerows with native trees to existing field boundaries, including along Hadleigh Railway Walk to the north / north-west of the CSE compound and along Raydon Road and the proposed new permanent access road from the south-east
- Proposed neutral grassland over proposed underground cables and below existing and proposed overhead lines.

Land Around Great Horkesley (EACN Side) CSE Compound – Landscape Proposals

9.7.18 The Great Horkesley (EACN Side) CSE Compound is located within the Great Horkesley Farmland Plateau LCA and is approximately 1.3 km to the south of Dedham Vale National Landscape at its closest point. LCAs and the National Landscape boundary are shown on ES Figure 13.6: Landscape Character Types and Landscape Character Areas (document reference 6.13.F6). Within the Order Limits around the CSE compound there are large arable fields, a block of woodland and hedgerows with mature hedgerow trees. One PRoW (Great Horkesley FP 30) crosses the area to the south of the CSE compound and ties into another (Great Horkesley FP 29) which runs to the east of the CSE compound.

9.7.19 Outline landscape mitigation proposals (as shown in Appendix D) have been developed for the area around the Great Horkesley (EACN Side) CSE Compound, to

complement the existing landscape structure. The purpose of these proposals is as follows:

- To filter and screen views from the surrounding area, to reduce significant effects on visual receptors including local residents and users of the minor road and PRoW networks, including the Essex Way and to further reduce potential visibility in glimpsed views from more distant PRoW within the National Landscape
- To connect existing hedgerows and woodland, to improve green networks and enhance landscape character.

9.7.20 The outline landscape mitigation proposals include:

- Retention and enhancement of existing vegetation where practicable, including retention and protection of the Horkesley Plantation south-west of the CSE compound, and enhancement through supplementary tree and shrub planting
- Five areas of proposed deciduous woodland with scrubby woodland edge to expand and connect existing woodland habitat and provide further filtering/ screening of views towards the CSE compound
- Proposed native scrub with trees to provide variety in vegetation cover and to provide further filtering/screening of views
- Use of suitable spoil material to create a subtle landform south of part of the Essex Way, which blends into the existing topography and contributes to screening of the CSE compound from the Essex Way. Landforms will be a maximum height of 3 m with a maximum gradient of 1:3
- Proposed native hedgerows with native trees to existing field boundaries, including along the south side of Broad Lane/ the Essex Way, north of the CSE compound
- Proposed neutral grassland over proposed underground cables and below proposed overhead lines.

Land Around Great Horkesley (Tilbury Side) CSE Compound – Landscape Proposals

9.7.21 The Great Horkesley (Tilbury Side) CSE Compound is located within the Rochfords Farmland Plateau LCA and is approximately 1.3 km to the south of Dedham Vale National Landscape at its closest point. LCAs and the National Landscape boundary are shown on ES Figure 13.6: Landscape Character Types and Landscape Character Areas (document reference 6.13.F6). Within the Order Limits around the CSE compound there are arable fields, and tree and vegetation cover associated with a drainage channel and watercourse/ waterbody at the head of the valley to the north and west.

9.7.22 Outline landscape mitigation proposals (as shown in Appendix D) have been developed for the area around the Great Horkesley (Tilbury Side) CSE Compound, to complement the existing landscape structure. The purpose of these proposals is as follows:

- To filter and screen views from the surrounding area, to reduce significant effects on visual receptors including local residents and users of the minor road and PRoW networks, including within the National Landscape
- To connect existing hedgerows and woodland, to improve green networks and enhance landscape character.

9.7.23 The outline landscape mitigation proposals include:

- Retention and enhancement of existing vegetation where practicable, including woodland along the watercourses to the north and west of the CSE compound and enhancement through supplementary tree and shrub planting
- Proposed deciduous woodland with scrubby woodland edge to expand and connect existing woodland habitat and provide further filtering/screening of views towards the CSE compound from the north and west
- Proposed native scrub with trees to provide variety in vegetation cover and to provide further filtering/screening of views
- Use of suitable spoil material to create a subtle landform in the north-west, which blends into the existing valley topography and contributes to screening of the CSE compound from the north-west. Landforms will be a maximum height of 3 m with a maximum gradient of 1:3
- Proposed native hedgerows with native trees to existing and historic field boundaries, including along Crabtree Lane to the east of the CSE compound
- Proposed neutral grassland over proposed underground cables and below proposed overhead lines.

Land Around Fairstead (EACN Side) and Fairstead (Tilbury Side) CSE Compounds – Landscape Proposals

9.7.24 The Fairstead (EACN Side) and Fairstead (Tilbury Side) CSE Compounds are located within the Central Essex Farmland LCA. LCAs are shown on ES Figure 13.6: Landscape Character Types and Landscape Character Areas (document reference 6.13.F6). Within the Order Limits around the CSE compounds there are large arable fields enclosed by hedgerows, with some shelterbelts and mature hedgerow trees.

9.7.25 Outline landscape mitigation proposals (as shown in Appendix D) have been developed for the area around the Fairstead (EACN Side) and Fairstead (Tilbury Side) CSE Compounds, to complement the existing landscape structure. The purpose of these proposals is as follows:

- To filter and screen views from the surrounding area, to reduce significant effects on visual receptors including local residents and users of the minor road and PRoW networks
- To connect existing hedgerows and shelterbelts, to improve green networks and enhance landscape character.

9.7.26 The outline landscape mitigation proposals include:

- Retention and enhancement of existing vegetation where practicable, including field boundary hedgerows and mature hedgerow trees and a small block of woodland to the south, and enhancement through supplementary tree and shrub planting
- Five areas of proposed deciduous woodland with scrubby woodland edge to expand and connect existing habitats and provide further filtering/ screening of views towards the CSE compounds
- Proposed native scrub with trees to provide variety in vegetation cover and to provide further filtering/screening of views

- Use of suitable spoil material to create subtle landforms north-east of the CSE compounds, which blends into the existing topography and contributes to screening of the CSE compounds from the north-east. Landforms will be a maximum height of 3 m with a maximum gradient of 1:3
- Proposed native hedgerows with native trees to the western edge of the Order Limits and to the south of the CSE compounds
- Proposed native hedgerow offset from an existing hedgerow to the north to create a ‘green lane’ for the existing bridleway which will help to filter and screen views towards the CSE compounds
- Proposed neutral grassland over proposed underground cables and below proposed overhead lines.

Wider Landscape Mitigation

9.7.27 As set out in Section 9.3, National Grid has committed to a 3:1 replacement for individual trees and trees within groups. The Reinstatement Planting Plan, secured by Requirement 9 of the draft DCO (document reference 3.1) (Revision E), will prioritise replanting within the Order Limits, which is considered to be on-site landscape mitigation.

9.7.28 Additional planting may be considered within the Order Limits at detailed design stage, in locations such as around Tilbury North Substation and the permanent access roads to the EACN and Tilbury North CSE compounds.

Landscape Compensation

9.7.29 Landscape compensation refers to measures that seek to compensate ‘landscape and visual’ residual impacts as far as possible. Compensation forms part of the ‘mitigation hierarchy’, as referred to in NPS EN-1 (DESNZ, 2024). Examples include creating or enhancing natural landscape features outside of the Order Limits and can be secured through a planning obligation. Draft EN-1 (DESNZ, 2025) confirms that compensation, by definition, does not reduce an adverse effect resulting from a development.

9.7.30 Offsite provision for tree replacement may be required; where this is the case, this is considered to be landscape compensation.

9.8 Reinstatement of Protected Lanes

9.8.1 Vegetation, earthworks (such as banks or ditches) and other boundary features (such as walls or fencing) that border protected lanes, as designated by LPAs, will be reinstated as close to their pre-construction condition as possible as set out in the commitments of the Outline CoCP (document reference 7.2) (Revision E). Pre-construction photographs will be taken to ensure a record is available to inform any reinstatement.

9.9 Interaction with Other Projects

Lower Thames Crossing

9.9.1 Under the scenario that Lower Thames Crossing (LTC) is constructed, following the successful consent on their DCO in May 2025, the Project proposals constrain/reduce the extent of the land available for the proposed LTC nitrogen deposition mitigation around the new Tilbury Substation.

9.9.2 A review of the site selection process for this original nitrogen deposition compensation site was undertaken, based on the information available from LTC submitted documentation. Using this same site selection criteria suitable alternative nitrogen deposition compensation planting areas have been identified and included within the Norwich to Tilbury Order Limits. The identified alternative areas are close to the original compensation site (one is on the other side of the Orsett Golf Course), close to the proposed LTC works and larger in extent than required to match the area affected. As per the LTC documentation the required 70:30 planting proposed split between woodland and grassland (or other habitat) planting is proposed within these alternative areas to be undertaken by LTC. The identified areas provide more than sufficient capacity to replicate the commitment made under the LTC DCO with respect to nitrogen deposition compensation planting. Management of any nitrogen deposition compensation planting will be undertaken pursuant to the management regime contained in LTC's control documents.

Waveney and Little Ouse Recovery Project

9.9.3 Within the River Waveney Valley, the Waveney and Little Ouse Recovery (WaLOR) project led by Suffolk Wildlife Trust, interacts with the Project Order Limits. Ongoing consultation with the WaLOR project team has minimised impacts to the WaLOR project as far as practicable. Ongoing consultation with the WaLOR project team will be undertaken by both the Main Works Contractor(s) and UKPN at the detailed design stage for all works between pylons RG84- RG89, to ensure that both from an engineering and programme perspective the two projects remain compatible.

10. Aftercare

10.1 General Aftercare

10.1.1 Habitats reinstated after construction will be returned to the landowner. A five-year adaptive aftercare period has been agreed for sites with reinstated woodland, trees and hedgerows to be carried out by National Grid and their Main Works Contractor(s). Hedgerows and watercourses which have been enhanced to one condition level higher than their baseline level, as part of the BNG mitigation, outside the Environmental Areas, will also be subject to this five-year monitoring and management period. For other habitat types (i.e. grasslands) which are considered easier to replace than tree habitats, a review of the habitat status will be undertaken to ensure successful re-establishment prior to the landowner taking back the rights to the land.

10.1.2 The proposed aftercare measures will be adaptive to reflect the results of the ongoing monitoring of new tree/hedgerow planting. This may include the use of alternative native tree/hedgerow species, should it be found during the monitoring period that a significant number of the original tree/hedgerow species used have failed and are therefore considered unsuitable for the particular location. This will be determined by the Landscape Clerk of Works (LCoW).

10.2 Woodland, Trees and Hedgerows

10.2.1 Sites with woodland, tree or hedgerow reinstatement will be monitored/managed for a five-year period following the completion of the reinstatement works. During the five-year period, activities will be carried out in accordance with a maintenance schedule that will be developed post-consent. Noting the potential for lower than average rainfall levels across the Project, the five-year aftercare period will include inspections by a suitably qualified person to:

- Check and replace any dead or failing plants, each year, between November and end of January for bare root stock, or through to the end of February if using cell grown stock, until the target stock density is achieved. The proposed target stocking density is aimed at creating deciduous woodland that reflects the baseline conditions for woodlands, with a spacing density between 2.5 m and 3 m and hedgerow density of six plants per linear metre
- Replace any dead or failing plants in the first available planting season with a specimen of the same species and size as that originally planted, unless there are context specific reasons for selecting alternative species (such as climatic conditions or disease). Locally native species and/or those suited to drier conditions (with reference to Forestry England) will be considered
- Re-firm plants and inspect, adjust or remove stakes, guards and ties as required
- Spot-treat undesirable species (where necessary), complying with any restrictions on use of herbicides in certain locations, for example, in proximity to watercourses or other sensitive habitats. Selective hand weeding and/or use of mulch/organic mulch mats may be required where there are no suitable alternative methods

- Check mulch level/mulch mats. Where organic mulch or mulch mats have been used for weed suppression, the depth of mulch in individual plant circles shall be inspected at least once per year during the aftercare period and restored to a depth of 75 mm; mulch mats shall be inspected as part of the aftercare inspections and any mats and pegs which are not secure would be re-fixed, and missing ones replaced
- Maintain a 1 m diameter weed-free circle around trees and shrubs, which may be through the use of mulch/organic mulch mats, or by hand weeding (mechanical control involving use of strimmers can damage the plants and so care is required).
- For hedgerows, where mulch/organic mulch mats are a requirement, also maintain a 0.5 m weed free strip either side of the hedgerow through chemical and/or mechanical control (again exercising great care not to damage plants if strimming is used).
- If the combination of mulch/organic mulch mats, hand weeding and mechanical control does not sufficiently control weeds, apply herbicide to maintain weed-free plant circles around base of transplants, taking heed of restrictions on herbicide use described above.
- Check and treat any invasive species that may be identified through the routine inspections
- Water new plants as required to minimise failures during drought, during the five-year aftercare period. All newly planted trees with a trunk diameter of 6 cm or more will be watered, if conditions require it and where practical, with monitoring of this requirement typically extending over three years. Measures could include using a buried watering tube, irrigation bag or irrigation well, where this is practical, for example in areas where there is road access for a bowser
- Consider any other additional remediation works that are required to ensure that establishment is achieved.

10.2.2 Inspections will also be undertaken of any areas that were coppiced during construction to check that the coppicing is re-establishing. This will confirm that these areas are regenerating as planned or will identify the need for further measures, such as additional planting where the coppicing is not leading to successful regrowth. In addition, an arboriculturist will also be consulted to advise on whether veteranising of existing individual trees is appropriate as part of the aftercare and management.

10.2.3 Litter, refuse and debris will be removed from site after every site visit. At the end of the five-year maintenance period, all stakes, ties and plant shelters will be removed from the planting areas.

10.3 Watercourses

10.3.1 Watercourses to be enhanced as part of the BNG mitigation, located outside the Environmental Areas, will be monitored/managed for five-years following the completion of the reinstatement works. The five-year aftercare period will include inspections by a suitably qualified person, to undertake one or more of the following activities as applicable to the specific watercourse:

- Check bank top tree and shrub planting and replace any dead or failing plants. Re-firm plants and inspect, adjust or remove stakes, guards and ties as required.

- Check marginal and aquatic vegetation seeding/ planting (emergent, sub-merged and floating) and replace any dead or failing plants, where required.
- Check and treat any invasive species (mainly Himalayan balsam) that may be identified through the routine inspections.
- Remove any large rubbish in watercourses that may be identified through the routine inspections.
- Remove filamentous algae and duckweed (where applicable).

10.4 Grassland

10.4.1 Grassland will be reinstated at the end of construction and will be handed back to the landowner once the grass sward has re-established to the baseline habitat type identified prior to construction works. The only exceptions to this are areas around permanent assets located within Environmental Areas.

10.5 Environmental Areas

10.5.1 Habitat management and monitoring plans for each Environmental Area will be developed following detailed landscape design (post consent) and included within the Final LEMP. The Final LEMP will clearly set out the required habitat creation and enhancement works and which areas are being considered as part of the BNG Report (document reference 7.1). The areas of habitat creation/enhancement locations, timings and any proactive measures to be undertaken will also be included. Where applicable this plan will link to the BNG Report (document reference 7.1), with the required 'number of years to achieve target condition' clearly indicated.

10.5.2 The Environmental Areas are located on land to be acquired by National Grid and any habitats included within the BNG onsite mitigation will be monitored and managed by National Grid for 30 years in line with commitments made within the BNG Report (document reference 7.1). Regular site visits will be undertaken by experienced ecologists, to ensure the habitat type and condition meet that prescribed within the BNG Report (document reference 7.1). Beyond the 30 year period it is expected that ongoing management will be undertaken by National Grid in line with standard practices around permanent assets.

11. Implementation

11.1 Implementation of the Outline LEMP

11.1.1 National Grid's appointed Main Works Contractor(s), for each phase of construction, will be responsible for implementing the measures outlined within this Outline LEMP. The only exception to this is the long-term management of the Environmental Areas; the responsibility for this will be transferred to National Grid after the first five years.

11.1.2 The Main Works Contractor(s) will brief all operatives on the specific details within the Outline LEMP prior to the commencement of works. The briefings will be delivered by a suitably trained member of the team such as the Environmental Manager or Works Supervisor.

11.1.3 National Grid will put in place robust procedures to inform and supervise all those working on the Project, including its Main Works Contractor(s), to make sure all measures set out within the Outline LEMP are adhered to while undertaking construction works authorised by the DCO.

11.2 Ecology Working Group

11.2.1 An Ecology Working Group will be formed post-DCO consent to provide a long-term interactive and sustainable vehicle for discussing biodiversity matters to meet the requirements of the Norwich to Tilbury Project. The Ecology Working Group will ensure continued communication regarding biodiversity matters between the Project team and relevant stakeholders and discuss progress of biodiversity mitigation and enhancement as laid out in the DCO.

11.2.2 The Ecology Working Group would include the Ecological Clerk of Works and suitably qualified and experienced members from the Local Planning Authorities, Wildlife Trust/s and Natural England on their request and agreement with National Grid.

11.2.3 The Ecology Working Group would be established in consultation with the above bodies following the grant of consent, including agreement of its remit and terms of reference, membership and attendance arrangements, meeting frequency, and the format of progress reporting and information sharing these further details will be included within the Final LEMP. Attendance at Ecology Working Group meetings will be agenda-led and reflective of the stage and scope of the scheme to be discussed. For meetings covering area- or activity-specific matters, only relevant Local Planning Authorities and stakeholders will be invited. For project-wide topics, all relevant authorities and consultees will be invited to attend.

11.2.4 National Grid will fund and administer the Ecology Working Group and, where agreed, the reasonable costs of attendance and technical input from the above bodies as part of the Project's environmental management and compliance arrangements during construction.

11.3 General Site Checks and Reporting

11.3.1 During the construction phase regular site visits will be carried out to monitor compliance with the Outline LEMP. The programme of site visits will be managed by the Environmental Manager, who will draw on appropriate suitably experienced specialists for specific tasks.

11.3.2 Site checks and inspections will include checks against compliance with good practice measures and other commitments made by the Project.

11.3.3 A 'stop work authority' will be granted to those individuals undertaking the site inspections and should be enacted in the event that non-compliance with the measures set out within this Outline LEMP are identified.

11.3.4 Further detail on site checks and reporting will be provided by the Main Works Contractor(s) in the Final LEMP.

11.4 Monitoring of Environmental Areas

11.4.1 Monitoring and reporting is required in order to determine that the functions documented within this Outline LEMP are being achieved and to determine whether any remedial management action may be required. A post-construction monitoring programme and reporting procedures will be formalised, agreed with the relevant planning authority and included within the Final LEMP, prior to construction works commencing.

11.5 Monitoring at Designated Sites

11.5.1 Monitoring of reinstated habitats will be undertaken at statutory designated sites and non-statutory sites that were directly impacted by the Project, as listed within this report.

11.5.2 Monitoring visits will be undertaken during and following the completion of the habitat reinstatement works over a five year period. The pre-construction baseline habitat surveys will be used as the target condition for habitats within each designated site, unless otherwise agreed with either Natural England and/ or the relevant LPA. The aim of the site inspections is to identify whether adaptive measures need to be taken, so that the designated sites return to the required habitat type and condition.

11.5.3 All habitat monitoring will be undertaken by suitably qualified ecologists.

11.6 Monitoring in Relation to Protected Species

11.6.1 The requirement and scope for protected species monitoring will be set out in the draft EPS licence applications and agreed with Natural England. Any corrective actions that may be required will be agreed with Natural England and implemented as required. Completed monitoring forms will be returned to Natural England as part of the licence return process.

11.7 Change Process

11.7.1 The LEMP is one of the plans listed in Requirement 4 of the draft DCO (document reference 3.1) (Revision E).

11.7.2 Requirement 4(1) of the draft DCO (document reference 3.1) (Revision E) states: '*No stage of the authorised development may commence until, for that stage, the following plans as relevant to that stage have been submitted to and approved by the relevant planning authority (in consultation with Natural England in the case of the landscape and ecological management plan) or other discharging authority as may be appropriate to the relevant plan concerned*.'

11.7.3 Where there is a need to update the LEMP beyond derogations addressed pursuant to the above, the below text addresses the process for changing the LEMP itself. This does not cover changes to the DCO (material or non-material) which would be managed through the process set out in Schedule 6 of the Planning Act 2008.

11.7.4 Therefore, the below process is limited to changes to the LEMP.

LEMP Changes

11.7.5 It may be necessary to amend the details contained in the LEMP as a result of the iterative discussion and engagement that will continue after the LEMP has been approved. The resulting changes would not alter any of the underlying commitments, mitigations and methodologies set out in the LEMP. An example may be where a preconstruction survey identifies that a measure already committed to is no longer required in the LEMP. In every case, consideration will be given to any changes to the outcome of the assessment of environmental effects.

11.7.6 Where there is a proposed change to the LEMP, National Grid will provide details to the relevant planning authority together with evidence of relevant stakeholder engagement, where upon, the relevant planning authority will, acting reasonably, endeavour to respond within 28 days to either confirm its consent to the change to the LEMP or provide its reasons why the change is not accepted.

Abbreviations

Abbreviation	Definition
AC	Alternating Current
ACoW	Archaeological Clerk of Works
AIA	Arboricultural Impact Assessment
AIS	Air Insulated Switchgear
AMS	Arboricultural Method Statement
AMS-OWSI	Archaeological Mitigation Strategy and Outline Written Scheme of Investigation
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
APFP	Applications: Prescribed Forms and Procedure
ArbCoW	Arboricultural Clerk of Works
BCT	Bat Conservation Trust
BNG	Biodiversity Net Gain
BS	British Standards
BT	British Telecommunications
CoCP	Code of Construction Practice
CSE	Cable Sealing End
CWS	County Wildlife Site
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DLL	District Level Licence
EACN	East Anglia Connection Node
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EN-1	Overarching National Policy Statement for Energy
EnvCoW	Environmental Clerk of Works
EPS	European Protected Species
ES	Environmental Statement
FRAP	Flood Risk Activity Permit
GCN	Great Crested Newt
GIS	Gas Insulated Switchgear
GWDTE	Groundwater Dependent Terrestrial Ecosystems

Abbreviation	Definition
HGV	Heavy Goods Vehicle
HRA	Habitats Regulations Assessment
IACPC	Impact Assessment and Conservation Payment Certificate
kV	Kilovolt
LCA	Landscape Character Area
LCoW	Landscape Clerk of Works
LCA	Landscape Character Area
LCT	Landscape Character Type
LEMP	Landscape and Ecological Management Plan
LNR	Local Nature Reserve
LNRS	Local Nature Recovery Strategy
LoD	Limits of Deviation
LPA	Local Planning Authority
LTC	Lower Thames Crossing
LWS	Local Wildlife Site
MoRPh	Modular River Physical
NETS	National Electricity Transmission System
NG	National Grid
NSIP	Nationally Significant Infrastructure Project
PRF- I	Preliminary Roost Features – Individual
PRF-M	Preliminary Roost Features – Maternity
PRoW	Public Right of Way
RAM	Reasonable Avoidance Measure
RPA	Root Protection Area
RNR	Roadside Nature Reserve
SAC	Special Area of Conservation
SPA	Special Protection Area
SQSS	Security and Quality of Supply Standard
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
SWMP	Site Waste Management Plan
TPO	Tree Preservation Order
UKPN	UK Power Networks
VP	Vantage Point
WSI	Written Scheme of Investigation

Glossary

Term	Description
Additional mitigation	Additional mitigation refers to measures implemented beyond the initial Project design to further reduce or manage environmental impacts identified during the planning or construction phases. These measures are bespoke to the specific site and its unique constraints, ensuring they address the particular challenges and sensitivities of the location effectively.
Ancient woodland	Land that has been continually wooded since at least 1600 in England. Regarded as 'irreplaceable habitat' in national planning policy and guidance. Ancient woodland greater than 2 ha is recorded on the Natural England Ancient Woodland Inventory.
Ancient Woodland Inventory	A dataset managed by Natural England to identify and record information about ancient woodland sites in England.
Annex 1 Priority habitat	Annex 1 habitats are natural habitats identified by the European Union's Habitats Directive 1992 as needing special conservation efforts. These habitats are either at risk of disappearing, have a limited natural range, or are outstanding examples of their natural environment.
Biodiversity	The variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems.
Biodiversity Net Gain	Biodiversity Net Gain (BNG) is a concept introduced by the Environment Act 2021. It requires developers to ensure their projects not only minimise environmental damage but also actively enhance biodiversity by creating or improving habitats, resulting in a net positive impact on the natural environment of at least 10%.
BS 3998:2010 Tree work - Recommendations.	This is a British Standard that provides recommendations for tree work, covering a wide range of tree care activities, including pruning, tree felling, and tree health assessments. It is a comprehensive guide for managing established trees, including those in urban and rural landscapes.
BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations	This is a British Standard that provides recommendations for trees in relation to design, demolition and construction. It focuses on achieving a harmonious and sustainable relationship between trees and structures, and it is relevant to a wide range of professionals including arboriculturists, construction workers, and planners.
Cable	An insulated conductor designed for underground installation.
Cable Sealing End	Structures used to transfer transmission circuits between underground cables and overhead lines.
Cable Sealing End compound	Electrical infrastructure used as the transition point between overhead lines and underground cables. A compound on the ground acts as the principal transition point.

Term	Description
Cable Sealing End platform	Electrical infrastructure used as the transition point between overhead lines and underground cables. A platform on the pylon acts as the principal transition point.
County Wildlife Site	Non-designated areas of land important for their wildlife and nature conservation value.
Ecosystem	A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.
Embedded mitigation	Embedded mitigation refers to the proactive incorporation of design features and construction practices within a project to inherently minimise environmental and social impacts from the outset.
European Protected Species	Animals and plants listed under the Habitats Directive and protected under the Conservation of Habitats and Species Regulations 2017, as amended.
Fauna	All the animals in a given area.
Final LEMP	The Final Landscape and Ecological Management Plan is produced post-consent by individual Main Works Contractor(s) in a specified area. It is a comprehensive and detailed document that provides management actions, responsibilities, and timelines for implementing landscape and ecological measures which respond directly to the environmental constraints in that specific area.
Flora	The plants within a particular habitat or region.
Groundwater	Water that is in the ground. This is usually referring to water in the saturated zone below the water table.
Groundwater dependent terrestrial ecosystems	Wetlands which critically rely on groundwater flows and/or chemistries.
Habitat	The natural home or environment of an animal, plant, or other organism.
Habitat of Principal Importance	A habitat which has been deemed to be of principal importance for the purpose of conserving biodiversity, currently adopted under s41 of the Natural Environment and Rural Communities Act 2006, formerly listed in the UK Biodiversity Action Plan.
Habitats Regulations Assessment	The process by which plans and projects are assessed as to whether they are likely to have a significant effect on a European site either alone or in combination with other plans or projects, under the Conservation of Habitats and Species Regulations 2017, as amended.
Haul route	Another term used for the temporary access route, which is a temporary route built to carry construction vehicles within the Order Limits.
Horizontal directional drilling	Trenchless method for the installation of pipes, in a shallow arc using a surface-launched drilling rig. It applies to large-scale crossings in which a fluid filled pilot bore is drilled without rotating the drill string, and this is then enlarged by a wash over pipe and back reamer to the size required for the product pipe.

Term	Description
Invasive Non-Native Species (INNS)	An Invasive Non-Native Species is any non-native animal or plant that can spread, causing damage to the environment, the economy, health, and way of life.
Landscape compensation	Landscape compensation refers to measures that seek to compensate 'landscape and visual' residual impacts as far as possible. Compensation forms part of the 'mitigation hierarchy', as referred to in NPS EN-1 (DESNZ, 2024). Examples include creating or enhancing natural landscape features outside of the Order Limits and can be secured through a planning obligation. Draft EN-1 (DESNZ, 2025) confirms that '*Compensation, by definition, does not reduce an adverse effect resulting from a development'.*
Local Nature Reserve	Sites dedicated by the local planning authority under s21 of the National Parks and Access to the Countryside Act 1949 for nature conservation which have wildlife or geological features that are of special interest locally.
Local Planning Authority	The public authority whose duty it is to carry out specific planning functions for a particular area.
Local Wildlife Site	Non-designated areas of land important for their wildlife and nature conservation value.
Mitigation	The action of reducing the severity and magnitude of change (impact) to the environment. Measures to avoid, reduce, remedy or compensate for significant adverse effects as per the Mitigation Hierarchy.
Nationally Significant Infrastructure Projects (NSIPs)	The UK government considers these projects to be of national significance due to their size, impact, and potential benefits to the wider community and economy.
Notable species	Species of Conservation as listed under s41 of the Natural Environment and Rural Communities Act 2006.
Notable bird species	Birds listed under s41 of the Natural Environment and Rural Communities Act 2006, under Schedule 1 of the Wildlife and Countryside Act 1981, as amended and those listed as red or amber in the Birds of Conservation Concern 5 (Stanbury *et al.*, 2021).
National Vegetation Classification	A system of classifying natural habitat types in Great Britain according to their vegetation types.
Order Limits	The maximum extent of land within which the authorised development may take place.
Outline LEMP	The Outline Landscape and Ecological Management Plan outlines the intentions and overarching principles which support the DCO application.
Overhead line	Conductor (wire) carrying electric current, strung from pylon to pylon.
Priority species	Species identified as of principal importance in England, in accordance with requirements of the Natural Environment and Rural Communities Act 2006. These are based on the UK Biodiversity Action Plan Priority Species.

Term	Description
Schedule 1 species	Birds listed under Schedule 1 of the Wildlife and Countryside Act 1981, as amended.
Sites of Special Scientific Interest (SSSIs)	SSSIs are protected by law under the Wildlife and Countryside Act 1981. They are important because they support rare or endangered fauna and flora, and they represent the United Kingdom's best wildlife and geological sites.
Species	A group of living organisms consisting of similar individuals capable of exchanging genes or interbreeding.
Standard mitigation	Mitigations included within the Code of Construction Practice which are considered industry best practice and applied as standard across the Project to ensures legislative compliance.
Substation	Substations are used to control the flow of power through the electricity system. They are also used to change (or transform) the voltage from a higher to lower voltage to allow it to be transmitted to local homes and businesses.
Trenchless crossing	A crossing installation method that has limited above ground disturbance which is used to avoid a sensitive feature such as an environmental feature.
UK Power Networks (UKPN)	UK Power Networks (Operations) Limited (registered company number 03870728) and/or its affiliate Eastern Power Networks plc (registered company number 02366906) as applicable.
Underground cable	An insulated conductor carrying electric current designed for underground installation. Underground cables link together two Cable Sealing End compounds.
Zone of Influence	The defined geographic area within which the Project's environmental receptors are located.

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