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# Bramford to Twinstead Reinforcement

## Volume 7: Other Documents

Document 7.5.2 (D): CEMP Appendix B – Register of Environmental  
Actions and Commitments (REAC)

Final Issue D  
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Version History			
Date	Issue	Status	Description / Changes
April 2023	A	Final	For DCO submission
October 2023	B	Final	Update in response to Action Point 20 in Action Points from Issue Specific Hearing 14 September 2023 [ <b>EV-018</b> ] and other updates identified in responses received at Deadline 1 and 2.
November 2023	C	Final	Update in response to Action Point 19 in Action Points from Issue Specific Hearing 14 September 2023 [ <b>EV-018</b> ] to extend the information in the Register of Environmental Actions and Commitments to provide a full mitigation route map for all commitments that are listed.
December 2023	D	Final	Update in response to comments received at Deadline 4 and 5.

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# 1. Introduction

## 1.1 Overview

- 1.1.1 National Grid Electricity Transmission plc (here on referred to as the Applicant) has made an application for development consent to reinforce the transmission network between Bramford Substation in Suffolk, and Twinstead Tee in Essex. The Bramford to Twinstead Reinforcement ('the project') will be achieved by the construction and operation of a new electricity transmission line over a distance of approximately 29km comprising of overhead lines, underground cables and grid supply point substation. It also includes the removal of 25km of the existing distribution network, 2km of the 400kV overhead line transmission network and various ancillary works.

## 1.2 Purpose of the Register of Environmental Actions and Commitments

- 1.2.1 This Register of Environmental Actions and Commitments (REAC) has been produced to record all commitments made by the Applicant during the iterative development of the designs on the project. It includes embedded measures, which are typically intrinsic to the design submitted as part of the application for development consent, and good practice measures outlined within the Code of Construction Practice (CoCP) (**document 7.5.1**). It also includes the additional mitigation measures that have been identified through the environmental impact assessment (EIA) to avoid or reduce likely significant effects.
- 1.2.2 This REAC forms Appendix B of the Construction Environmental Management Plan (CEMP) (**document 7.5**) and compliance with the REAC is secured through Requirement 4 of the draft Development Consent Order (DCO) (**document 3.1**). As outlined in the CEMP (**document 7.5**), the Applicant will put in place robust procedures to audit and inspect the project, including its supply chain of contractors, to make sure the control measures set out in the REAC are adopted when constructing the project. The REAC will apply to all areas of the project delivered pursuant to the DCO and the contractor(s) will be expected to demonstrate compliance with these measures.

## 1.3 Terminology and Referencing

- 1.3.1 The embedded measures in Table 2.1 includes those that are intrinsic to and built into the design of the project, some of which are inherent to the draft DCO (**document 3.1**) and / or shown on the Works Plans (**document 2.5**). It also includes measures that have been identified through the environmental assessment as part of the iterative design and have been committed to as part of the application of the mitigation hierarchy, to avoid or reduce likely significant environmental effects to support a proportionate assessment. These have been given an 'EM' prefix and reference number to make it easy to cross reference them. The location specific embedded measures are shown on Figure 4.1: The Project (**document 6.4**).
- 1.3.2 Good practice measures are generally measures that will typically be implemented on a well-run construction site, but also include a number of good practice measures that have been identified through the environmental assessment process to support a proportionate assessment. Each good practice measure has been assigned a reference number (for example GG01) for ease of cross-reference in other documents.
- 1.3.3 Table 2.1 also presents the additional mitigation that has been identified during the EIA process as being necessary to avoid or reduce significant impacts on the environment. These measures are secured through one of the management plans outlined in Requirement 4 of the draft DCO (**document 3.1**). These have been given an 'EIA' prefix and reference number to make it easy to cross reference them in the ES Chapters.

## 1.4 Changes Made During Examination

- 1.4.1 The Examining Authority requested that the Applicant explores the feasibility of extending the information in the REAC submitted at application for development consent to provide a full mitigation route map for all commitments that are listed in Action Point 19 in the Action Points from the Issue Specific Hearing 14 September 2023 [**EV-018**]. The Applicant provided an example template for the REAC in its response to the Applicant's Response to Issue Specific Hearing 1 Action Points [**REP1-034**] submitted at Deadline 1. The Examining Authority later confirmed that the Applicant should follow the structure and template style of Environmental Statement (ES) Chapter 3 Appendix 3A – Embedded Measures Schedule produced by Yorkshire Green Energy Enablement (GREEN) Project. Therefore, the table in Chapter 2 of this document is the full REAC in a template based on the Yorkshire GREEN example.
- 1.4.2 The reference to Policy, Guidance and Legislation column provides examples of the most relevant guidance. There are potentially many other references that could be included, and this list is not considered to be exhaustive. Additional relevant policy, guidance and legislation can be found in ES Appendix 2.1: Legislation, Policy and Guidance [**APP-088**].

## 2. Register of Environmental Actions and Commitments

- 2.1.1

Table 2.1 presents the full REAC incorporating all measures assumed within the ES, including the embedded measures (EM reference), good practice measures (including GG references and other specific to the discipline) and additional mitigation (EIA reference). The measures in Table 2.1 have been grouped by topic, with general measures that relate to more than one topic listed first, then measures relating to specific environmental topics (e.g. air quality, biodiversity, noise and vibration). For each topic, embedded measures are listed first, then good practice measures, then additional mitigation.
- 2.1.2

The environmental measures outlined in Table 2.1 are provided as a summary of all environmental measures proposed. For further details the relevant document (see ‘Delivery Mechanism’ column) should be consulted. The measures will be implemented as described below unless otherwise outlined in a management plan or agreed by the Relevant Planning Authority and/or statutory consultee under the associated requirement of the draft DCO (**document 3.1**).

Table 2.1 – Register of Environmental Actions and Commitments

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
General (Relating to More Than One Topic)									
EM-P01	ES Chapter 4: Project Description [APP-072]	Increase environmental value (including biodiversity)	The project has committed to deliver net gain by at least 10% or greater in environmental value (including biodiversity) on this project.	Order Limits	N/A	Operation	Environmental Gain Report [APP-176]	Requirement 13	Relevant Planning Authority
EM-P02	ES Chapter 4: Project Description [APP-072]	Reduce the number of overhead lines within the landscape; beneficial landscape and visual effects	Approximately 25km of the existing 132kV overhead line will be removed between Burstall Bridge and Twinstead Tee.	Order Limits	N/A	Construction	Work Plans [APP-010]	Article 3(7) and Schedule 2	Relevant Planning Authority
EM-P04	ES Chapter 4: Project Description [APP-072]	Harm to human health from exposure to electric and magnetic fields.	The project will be designed in accordance with National Grid design standards and will be compliant with the guidelines and policies relating to electric and magnetic fields stated in National Policy Statement EN-5 (Department of Energy and Climate Change, 2011b), including the International Commission on Non-Ionizing Radiation Protection guidelines (1998).	Order Limits	National Policy Statement for Electricity Networks Infrastructure (EN-5) (2011)  International Commission on Non-Ionizing Radiation Protection guidelines (1998)	Operation	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
EM-P05	ES Chapter 4: Project Description [APP-072]	Non-compliance with design safety standards	The project will be designed to comply with design safety standards including National Electricity Transmission System Security and Quality of Supply Standards and the suite of National Grid policies and processes which contains details on design standards required to be met when designing, constructing and operating its project.	Order Limits	National Electricity Transmission System Security and Quality of Supply Standards	Construction / Operation	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
EM-P06	ES Chapter 4: Project Description [APP-072]	Impacts from terminal pylons (e.g. landscape and visual impact)	Full line tension gantries are proposed at all four of the proposed cable sealing end (CSE) compounds.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG01	N/A	Non-compliance with legislation, consents and permits	The project will be delivered and operated in compliance with all relevant legislation, consents and permits.	Order Limits	Various legislation would apply	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
GG02	N/A	Harm to human health from exposure to electric and magnetic fields	The project design will be compliant with the guidelines and policies relating to electromagnetic fields stated in National Policy Statement for Electricity Networks Infrastructure (EN-5) (2011b), including the International Commission on Non-Ionizing Radiation Protection guidelines (1998).	Order Limits	National Policy Statement for Electricity Networks Infrastructure (EN-5) (Department of Energy and Climate Change, 2011) International Commission on Non-Ionizing Radiation Protection guidelines (1998)	Operation	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG03	N/A	Construction-related activities and emissions resulting in environmental effects on receptors	A Construction Environmental Management Plan (CEMP) (document 7.5), a Landscape and Ecological Management Plan (LEMP) (document 7.8) and a Construction Traffic Management Plan (CTMP) (document 7.6) have been produced. The CEMP includes measures to manage dust, waste, water, noise, vibration and soil during construction. The contractor(s) will undertake inspections to check conformance to the Management Plans.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG04	N/A	Construction-related activities and emissions resulting in environmental effects on receptors	A suitably experienced Environmental Manager will be appointed for the duration of the construction phase. In addition, a qualified and experienced Environmental Clerk of Works will be available during the construction phase to advise, supervise and report on the delivery of the mitigation methods and controls outlined in the CEMP. The Environmental Clerk of Works will monitor that the works proceed in accordance with relevant environmental DCO requirements and adhere to the required good practice and mitigation measures. The Environmental Clerk of Works will be supported by appropriate specialists, including ecologists and arboriculturalists depending on the location and potential impacts.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG05	N/A	N/A	Construction workers will undergo training to increase their awareness of environmental issues on the project. Topics will include but not be limited to: <ul style="list-style-type: none"> <li>Pollution prevention and pollution incident response;</li> <li>Dust management and control measures;</li> <li>Location and protection of sensitive environmental sites and features;</li> <li>Adherence to protected environmental areas around sensitive features;</li> <li>Working hours and noise and vibration reduction measures;</li> <li>Working with potentially contaminated materials;</li> <li>Waste management and storage;</li> <li>Working in or near water;</li> <li>Flood risk response actions; and</li> <li>Agreed traffic routes and access points.</li> </ul>	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority



ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
GG06	N/A	Risk that reinstatement does not meet the necessary standard	A full record of condition will be carried out (photographic and descriptive) of the working areas affected by the construction activities. This record will be available for comparison following reinstatement after the works have been completed to ensure that the standard of reinstatement at least meets that recorded in the pre-condition survey or as agreed in the LEMP ( <b>document 7.8</b> ) or if the DCO provides otherwise, then in accordance with the DCO.	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
GG07	N/A	Temporary change in land use, habitat loss and vegetation clearance	Land used temporarily will be reinstated where practicable (bearing in mind any restrictions on planting and land use) to its pre-construction condition and use. Hedgerows, fences and walls (including associated earthworks and boundary features) will be reinstated to a similar style and quality to those that were removed, in consultation with the landowner.	Order Limits	The Natural Environment and Rural Communities Act 2006	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
GG08	N/A	Avoid impacts on sensitive features to be retained	Where sensitive features are to be retained within or immediately adjacent to the Order Limits, an appropriate protective area will be established specific to the feature being protected. The sensitive feature will be demarcated and signed. The demarcation and signage will be inspected, repaired and replaced as necessary, for example if damaged. Sensitive features will be shown on the Vegetation Removal and Retention Plan ( <b>document 7.8.1</b> ) and the Vegetation Reinstatement Plan ( <b>document 7.8.2</b> ) contained within the LEMP.	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
GG09	N/A	N/A	The name and contact details for the project will be displayed at the entrance to all compounds. This will include an emergency number.	Compounds	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
GG10	ES Chapter 14: Noise and Vibration [APP-082]	Impacts on sensitive receptors from construction-related nuisance	Any activity carried out or equipment located within a construction compound that may produce a noticeable nuisance, including but not limited to dust, noise, vibration and lighting, will be located away from sensitive receptors such as residential properties or designated ecological sites where practicable.	Compounds	British Standard 5228-1:2009+A1:2014. Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
GG11	N/A	N/A	Site layout and housekeeping measures will be implemented by the contractor(s) at all construction sites. This will include but not be limited to: <ul style="list-style-type: none"> <li>Preventing pests and vermin control and treating any infestation promptly, including arrangements for the proper storage and disposal of waste produced on site;</li> <li>Inspecting and collecting any waste or litter found on site;</li> <li>Locating or designing site offices and welfare facilities to limit the overlooking of residential properties;</li> <li>Locating designated smoking/vaping areas to avoid nuisance to neighbours;</li> <li>Managing staff/vehicles entering or leaving site, especially at the beginning and end of the working day; and</li> </ul>	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
			<ul style="list-style-type: none"> <li>Managing potential off-site contractor and visitor parking.</li> </ul>						
GG12	ES Chapter 14: Noise and Vibration [APP-082]	N/A	<p>Plant and vehicles will conform to relevant standards for the vehicle or plant type as follows:</p> <ul style="list-style-type: none"> <li>Euro 4 (nitrogen oxides (NOx)) for petrol cars, vans and minibuses;</li> <li>Euro 6 (NOx and particulate matter (PM)) for diesel cars, vans and minibuses;</li> <li>Euro VI (NOx and PM) for lorries, buses, coaches and Heavy Goods Vehicles (excluding specialist abnormal indivisible loads); and</li> <li>Stage V (NOx, PM, hydrocarbons, carbon monoxide (CO) and sulphur dioxide (SO<sub>2</sub>)) for non-road engines (static plant and non-road mobile machinery).</li> </ul> <p>Vehicles will be correctly maintained and operated in accordance with manufacturer's recommendations and in a responsible manner. All plant and vehicles will be required to switch off their engines when not in use and when it is safe to do so.</p>	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG13	N/A	N/A	Materials and equipment will not be moved or handled unnecessarily. When loading and unloading materials from vehicles, including cable drums and excavated materials, drop heights will be limited.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG14	ES Chapter 9: Water Environment [APP-077]	Contamination of the water environment from fuels, oils or chemicals	Fuels, oils and chemicals will be stored responsibly, away from sensitive water receptors and in accordance with The Control of Pollution (Oil Storage) (England) Regulations 2001. Where practicable, they will be stored >15m from watercourses, ponds and groundwater dependent terrestrial ecosystems. Where it is not practicable to maintain a >15m distance (for example refuelling a water pump adjacent to a watercourse), additional pollution prevention measures will be identified. All refuelling, oiling and greasing of construction plant and equipment will take place above drip trays (or similar) and also away from drains. Vehicles and plant will not be left unattended during refuelling. Spill kits will be made easily accessible for these activities. Potentially hazardous materials used during construction will be safely and securely stored including use of secondary containment where appropriate. Stored flammable liquids such as diesel will be protected either by double walled tanks or stored in a bunded area with a capacity of 110% of the maximum stored volume. Spill kits will be located nearby.	Order Limits	The Control of Pollution (Oil Storage) (England) Regulations 2001	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority



ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
GG15	ES Chapter 9: Water Environment [ <b>APP-077</b> ]	Contamination of the water environment from site runoff	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 silted or otherwise contaminated site runoff to ditches, watercourses, drains or sewers without appropriate treatment and agreement of the appropriate authority (except in the case of an emergency). Watercourses near work sites will be inspected daily where work activity is being carried out. Inspections will look for signs of siltation or other forms of pollution for the duration of the period of ground disturbance and work site drainage will be inspected and maintained as required, so that they continue to operate to their design standard, safeguarding surface and groundwater quality.	Watercourses	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
GG16	N/A	Contamination of the water environment from wash down of site vehicles and equipment	Wash down of vehicles and equipment will take place in designated washdown areas within construction compounds and will be contained. Wash water will be prevented from passing untreated into watercourses and groundwater. Washdown water containing detergent must not pass through an interceptor. Appropriate measures will include use of sediment traps.	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
GG17	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on sensitive receptors from excessive dust or mud deposits	Wheel washing or other wheel cleaning systems will be provided at each main compound access point on to the highway where a need has been identified through the design process. An adequate supply of water will be made available at these locations at all times. Road sweepers will be deployed on public roads to prevent excessive dust or mud deposits from construction activities.	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
GG18	N/A	Impacts on receptors from unprotected earthworks or stockpiled soil	Earthworks and stockpiled soil will be protected by covering, seeding or using water suppression depending on duration of stockpile and local conditions such as weather and exposure of the site.	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
GG19	ES Chapter 13: Air Quality [ <b>APP-081</b> ]	Increase in dust emissions and adverse effects on human and ecological receptors	Bonfires and the burning of waste material will be prohibited.	Order Limits	Institute of Air Quality Management (IAQM) (2014) Guidance on the assessment of dust from demolition and construction	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
GG20	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on human and ecological receptors from construction lighting	Construction lighting will be of the lowest luminosity necessary to safely perform each task. It will be designed, positioned and directed to reduce the intrusion into adjacent properties, protected species and sensitive habitats.	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
GG21	N/A	Increase in waste and risk of damage or contamination of waste, increasing the amount of waste sent to landfill	A Materials and Waste Management Plan (MWMP) has been developed and contains details about how the contractor(s) will implement and monitor the MWMP throughout the construction phase and oversee that any sub-contractor(s) adhere to the MWMP. The MWMP sets out, in an auditable manner, how waste will be reduced, reused, managed and disposed of in accordance with the waste hierarchy. Dedicated areas will be identified on the construction plans to allow materials and wastes to be segregated at source, reducing the risk of damage or contamination.	Order Limits	Environment Act 2021	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG22	ES Chapter 9: Water Environment [APP-077]	Occurrence of unplanned events (e.g. site flooding, pollution incidents)	An Emergency Action Plan will be developed for the construction phase which will outline procedures to be implemented in case of unplanned events, including but not limited to site flooding and pollution incidents.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG23	N/A	Impacts on receptors from ground disturbance	Stone pads will be installed in areas where heavy equipment, such as cranes and piling rigs, are to be used. The stone pads will provide stable working areas and will reduce disturbance to the ground. The stone pad area will be stripped of the topsoil, which will be stored and reinstated in accordance with the soil management measures contained in the CEMP.	Order Limits	Defra (2009a) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG24	N/A	Fencing security requirements	Where working areas are fenced 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. For some locations the fence used may also serve to provide acoustic and visual screening of the work sites and reduce the potential for disturbance of users in the surrounding areas. Fencing will be regularly inspected and maintained and removed as part of the demobilisation unless otherwise specified.	Areas requiring fencing	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG25	ES Chapter 14: Noise and Vibration [APP-082]	Impacts on human receptors from noise during construction works	Members of the community and local businesses will be kept informed regularly of the works through active community liaison, for example notification of noisy activities and start and end dates of key phasing. A contact number will be provided which members of the public can use to raise any concerns or complaints about the project. All construction-related complaints will be logged by the contractor(s) in a complaints register, together with a record of the responses given and actions taken.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG26	ES Chapter 13: Air Quality [APP-081]	Increase in dust emissions and adverse effects on human and ecological receptors	A speed limit for vehicles travelling on temporary access routes will be implemented. This will be a maximum of 15mph on surfaced and 10mph on unsurfaced temporary access routes.	Temporary access routes	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GG27	N/A	Impacts on vehicles from potholes and road defects	The Contractor will undertake regular inspections of the temporary access routes and bellmouths to check for potholes or other defects. These will be repaired in a timely manner.	Temporary access routes and bellmouths	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
N/A	N/A	Non-compliance with ISO 14001 requirements	The contractor 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.	Order Limits	ISO 14001	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
N/A	N/A	Risk of poor community engagement	The contractor will implement a system for the provision of information to local residents and occupiers about the works. A community relations team will be appointed to provide dedicated community relations and external communication support during construction. The information to be provided to local residents will be specific to the works to be carried out, describing the nature of the works, the location and extent of the works, the duration of works and the hours to be worked.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
N/A	N/A	Risk of poor community engagement	Local residents will be informed of the commencement and likely duration of the construction work activities through a letter drop. The letter(s) will be tailored to a specific area and reflects the works to be carried out and the duration of works. The letter will include a contact telephone number for public information. In addition, good practice measure GG09 states that an emergency number will also be displayed at the entrance to the compounds.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
N/A	N/A	Risk of poor community engagement	A free telephone project helpline and project website will be maintained and managed by the National Grid community relations team. The project helpline and website information will be visible on boards placed in appropriate locations where they will be visible to the public, including the main site compound. The telephone number and project website details will be provided to the local authorities and other relevant parties.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
N/A	N/A	Risk of complaints	The community relations team will record the details of any complaints and how these are to be investigated and appropriately managed. Further details about the complaints procedure can be found in Section 15.4 of the CEMP.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
Landscape and Visual									
EM-D01	ES Chapter 4: Project Description [APP-072] ES Chapter 6: Landscape and Visual [APP-074] ES Chapter 8: Historic Environment [APP-076]	Impacts on landscape and visual receptors from vegetation clearance and Dedham Vale East CSE compound	The design allows for an area of landscape planting around the CSE compound at Dedham Vale East. The embedded planting will be maintained for the life of the CSE compound.	CSE Compound, Dedham Vale East	N/A	Operation	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
EM-D03	ES Chapter 6: Landscape and Visual [APP-074] ES Chapter 7: Biodiversity [APP-075]	Impacts on landscape and visual receptors from vegetation clearance	The works adjacent to Millfield Wood South are for landscape planting only. The work within this area will be undertaken in accordance with the Vegetation Reinstatement Plan in Appendix B of the LEMP (application document 7.8.2).	Millfield Wood South	N/A	Operation	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-E01	ES Chapter 6: Landscape and Visual [APP-074]	Impacts on landscape and visual receptors from new overhead lines	The project includes a section of underground cable through Section E: Dedham Vale AONB.	Section E: Dedham Vale AONB	Countryside and Rights of Way Act 2000	Operation	Work Plans [APP-010]	Article 3(7) and Schedule 2	Relevant Planning Authority
EM-E07	ES Chapter 6: Landscape and Visual [APP-074]	Impacts on landscape and visual receptors from vegetation clearance	Works adjacent to Bushy Park Wood are for planting only. The work within this area will be undertaken by a landscape contractor and in accordance with the Vegetation Reinstatement Plan in Appendix B of the LEMP (application document 7.8.2).	Bushy Park Wood	N/A	Operation	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-F01	ES Chapter 6: Landscape and Visual [APP-074] ES Chapter 8: Historic Environment [APP-076] ES Chapter 11: Agriculture and Soils [APP-079]	Impacts on landscape and visual receptors from vegetation clearance and Dedham Vale West CSE compound	The design allows for an area of landscape planting around the CSE compound at Dedham Vale West. The embedded planting will be maintained for the life of the CSE compound.	Dedham Vale West CSE compound	N/A	Operation	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-G01	ES Chapter 6: Landscape and Visual [APP-074] ES Chapter 8: Historic Environment [APP-076]	Impacts on landscape and visual receptors from overhead lines	Approximately 2km of the existing 400kV overhead line will be removed to the south of Twinstead Tee.	South of Twinstead Tee	N/A	Operation	Work Plans [APP-010]	Article 3(7) and Schedule 2	Relevant Planning Authority
EM-G02	ES Chapter 6: Landscape and Visual [APP-074] ES Chapter 8: Historic Environment [APP-076]	Impacts on landscape and visual receptors from new overhead lines	The project includes a section of underground cable through parts of the Section G: Stour Valley.	Section G: Stour Valley	N/A	Operation	Work Plans [APP-010]	Article 3(7) and Schedule 2	Relevant Planning Authority
EM-G03	ES Chapter 6: Landscape and Visual [APP-074]	Impacts on landscape and visual receptors from vegetation clearance and Stour Valley East CSE compound	The design allows for an area of landscape planting around the CSE compound at Stour Valley East. The embedded planting will be maintained for the life of the CSE compound.	Stour Valley East CSE compound	N/A	Operation	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority

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EM-G06	ES Chapter 6: Landscape and Visual [APP-074]	Impacts on landscape and visual receptors from vegetation clearance and Stour Valley West CSE compound	The design allows for an area of landscape planting around the CSE compound at Stour Valley West. The embedded planting will be maintained for the life of the CSE compound.	Stour Valley West CSE compound	N/A	Operation	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-G14	N/A	Impacts on landscape and visual receptors from the permanent access route at Stour Valley East CSE compound	A landscape architect will be involved in the detailed design to advise on suitable finishes for the permanent access route at Stour Valley East CSE compound with the aim of reducing the landscape and visual effects of this feature.	Stour Valley East CSE compound	N/A	Operation	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-H02	ES Chapter 6: Landscape and Visual [APP-074] ES Chapter 8: Historic Environment [APP-076]	Impacts on landscape and visual receptors from vegetation clearance and GSP substation	Landscape planting has been proposed to the east and west of the GSP substation. This will be maintained for the life of the GSP substation.	GSP substation	N/A	Operation	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-H04	ES Chapter 6: Landscape and Visual [APP-074] ES Chapter 8: Historic Environment [APP-076] ES Chapter 11: Agriculture and Soils [APP-079]	Increase in visual receptors from GSP substation	Low mounds are proposed to the west of the A131 and to the west of the proposed GSP substation. These will be planted to help filter views of the GSP substation from the A131 and from Wickham St Paul. The western mound would be approximately 2.5m high while the eastern mound would be approximately 1.5m high.	Section H: GSP substation	N/A	Operation	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
LV01	ES Chapter 6: Landscape and Visual [APP-074] ES Chapter 7: Biodiversity [APP-075] ES Chapter 8: Historic Environment [APP-076]	Impacts on landscape and visual receptors and biodiversity receptors from vegetation clearance	The contractor(s) will retain vegetation where practicable and in accordance with LEMP Appendix A - Vegetation Retention and Removal Plan (document 7.8.1). Where vegetation is lost and hedgerows and trees cannot be replaced in situ due to the restrictions associated with operational requirements of planting near the line and/or safety requirements, replacement vegetation will be planted as close by as practicable and will complement landscape character and be sympathetic to the local habitat type in order to provide a high biodiversity value.	Order Limits	The Hedgerows Regulations 1997 (amended 2003), The Natural Environment and Rural Communities Act 2006	Construction/operation	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority



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LV02	ES Chapter 6: Landscape and Visual [APP-074] ES Chapter 7: Biodiversity [APP-075]	Impacts on trees during construction	The contractor(s) will apply the relevant protective principles set out in British Standard 5837:2012: Trees in relation to design, demolition and construction. This will be applied to those trees within the Order Limits which will be preserved through the construction phase, and to trees outside of the Order Limits where such measures do not hinder or prevent the use of the relevant working width for construction. All works to high grade trees, including trees under Tree Preservation Orders and veteran trees, will be undertaken or supervised by a suitably qualified arboriculturist.	Order Limits	British Standard 5837:2012: Trees in Relation to Design, Demolition and Construction, British Standard 3998:2010 Tree Work, Recommendations	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
LV03	ES Chapter 6: Landscape and Visual [APP-074]	Impacts on landscape and views from failure of reinstatement and mitigation planting	A five-year aftercare period will be established for all reinstatement and mitigation planting.	Order Limits	N/A	Operation	CEMP (document 7.5)	Requirement 4 Requirement 10(3)	Relevant Planning Authority
EIA_LV01	ES Chapter 6: Landscape and Visual [APP-074]	Beneficial effects on visual receptors	Proposed woodland and scrub planting at Bramford Substation (MM01) will benefit properties on Church Lane by filtering views of the substation.	Bramford Substation	N/A	Operation	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EIA_LV02	ES Chapter 6: Landscape and Visual [APP-074]	Beneficial effects on visual receptors	Proposed hedgerow planting (MM06) will benefit properties along the A1071 by filtering views of the new 400kV overhead line.	Along the A1071	N/A	Operation	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
<b>Biodiversity</b>									
EM-P08	ES Chapter 7: Biodiversity [APP-075]	Disruption to owls during construction.	A pre-construction survey will be completed on the owl boxes at the following locations in Section AB (606008, 242971) and (605795, 242182), Section D (601723, 240239) and Section G (587727, 236150) and (587107, 236009). If occupied and nesting, no trenchless crossing launching or piling works are to be undertaken within 40m of the owl box, until the nest box is unoccupied, which will be confirmed on-site by the Environmental Clerk of Works. The 40m buffer will be marked / fenced off if deemed necessary by an ecologist.	Owl boxes in Sections AB, D and G	Wildlife and Countryside Act 1981 (as amended)	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-P09	ES Chapter 7: Biodiversity [APP-075]	Impacts on habitats of principal importance from vegetation clearance	The following measures will be undertaken at these Habitats of Principal Importance: <ul style="list-style-type: none"> <li>Section AB: W1d – Wet woodland (Polygon ID H_A_882) from approximate X,Y 609117, 242911 to 609069, 242902 will be protected and retained;</li> <li>Section D: G1a6 - Other lowland dry acid grassland (polygon ID HL_26) from approximate X,Y 598853, 239095, 598807, 239079 will be protected and retained;</li> <li>Section D: W1f - Lowland mixed deciduous woodland (Polygon ID HL_255) from approximate X,Y 599972, 239524 to 599884, 239511 to the south of the 132kV overhead line to be removed will be protected and retained;</li> </ul>	Order Limits	The Natural Environment and Rural Communities Act 2006	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority



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			<ul style="list-style-type: none"> <li>Section E: W1f - Lowland mixed deciduous woodland (Polygon ID HL_43a) from approximate X,Y 598887, 239111 to 598856, 239069 will be maintained;</li> <li>Section F: U1a - Open Mosaic Habitats on Previously Developed Land (HL_137) from approximate X,Y 593804, 237199 to 593679, 237184 will be protected and retained;</li> <li>Section F: W1f - Lowland mixed deciduous woodland (Polygon ID HL_295) from approximate X,Y 595782, 237791 to 595738, 237814 will be protected and retained (subject to required visibility splays at F-AP4);</li> <li>Section G: G1a - Lowland dry acid grassland (Polygon ID A_1265) from approximate X,Y 587366 , 236661 to X,Y 587377, 236629 will be protected and retained; and</li> <li>Section H: W1d - Wet woodland (Polygon ID H_A_875) from approximate X,Y 5582150, 236926 to 582114, 236960 will be protected and retained (subject to maintaining operational safety clearance in relation to the existing overhead line).</li> </ul>						
EM-AB02	ES Chapter 4: Project Description [APP-072] ES Chapter 7: Biodiversity [APP-075]	Impacts on Hintlesham Woods SSSI from vegetation clearance and other construction activities	The new 400kV overhead line will reuse the existing pylons (RB12 and RB13) at Hintlesham Woods Site of Special Scientific Interest (SSSI).	Hintlesham Woods	Wildlife and Countryside Act 1981 (as amended), Countryside and Rights of Way Act 2000	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-AB03	ES Chapter 7: Biodiversity [APP-075]	Impacts on Valley Farm Meadows CWS from vegetation clearance and soil stripping	No new pylon will be located within Valley Farm Meadows County Wildlife Site (CWS) (Babergh 61). Soil stripping within the CWS will be confined to the construction of the temporary access route. All vehicle access, including the temporary access route, through Valley Farm Meadow CWS will avoid the Priority Habitat w1d - Wet woodland (polygon ID H_A_944) and f2 - Fen marsh and swamp (Polygon ID H_A_809) located near the southern edge of the Order Limits.	Valley Farm Meadows CWS	The Natural Environment and Rural Communities Act 2006	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-AB04	ES Chapter 7: Biodiversity [APP-075]	Disruption to bat roosts from temporary access route	The proposed temporary access route to the south of Hintlesham Woods (AB-AP9) will not be used during dusk, dawn and night time hours during the months of May to August, to reduce the impacts to bat roosts, including a Barbastelle maternity roost and bat foraging corridor. Approximately from X, Y 606951, 242382 to 606750, 242945.	South of Hintlesham Woods	Wildlife and Countryside Act 1981 (as amended)	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-AB05	ES Chapter 7: Biodiversity [APP-075]	Impacts on biodiversity receptors from vegetation clearance and soil stripping	The tree belt to the north of Hintlesham Woods (PoAWS5) will be retained other than at a 5m gap where the proposed temporary access route will cross the tree belt. Soil from the PoAWS5 will be stored separate to general soil storage so that it can be replaced at PoAWS5, where soil is suitable for reuse (for example, not contaminated).	North of Hintlesham Woods	N/A	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority

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EM-AB06	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on biodiversity receptors from vegetation clearance	The works adjacent to Keeble's Grove and Wolves Wood are for planting and the temporary access track. The work within these areas will be in accordance with the Vegetation Reinstatement Plan in Appendix B of the LEMP ( <b>application document 7.8.2</b> ).	Keebles Grove and Wolves Wood	N/A	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-AB07	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Disturbance to Toms Wood ancient woodland from construction activities	Construction of the new 400kV overhead line (including pylon foundations) and any ground excavation work (excluding removal of the existing 132kV pylons) will lie a minimum of 15m away from the designated ancient woodland (Toms Wood) boundary.	Toms Wood ancient woodland	N/A	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-AB08	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on priority habitat trees from root removal	No root removal along the temporary access route will be undertaken through w1f – Lowland mixed deciduous woodland (Priority Habitat) (Polygon ID HL_262), located within Section AB: Bramford Substation/Hintlesham, from approximate X, Y 608910, 244710 to 608851, 244685.	Section AB: Bramford Substation /Hintlesham	The Natural Environment and Rural Communities Act 2006	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-AB09	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on breeding birds during construction works	For the construction works in and around Hintlesham Woods (between pylons 4YL011 and 4YL017A) construction works will be undertaken outside of bird breeding season except for the following activities which need to take place within agreed outages: <ul style="list-style-type: none"> <li>Install conductors / transposition works;</li> <li>Construction of pylon 4YL12A and removal of the existing 4YL12; and</li> <li>Assembly and removal of temporary pylon RB12T.</li> </ul>	Hintlesham Woods SSSI	Wildlife and Countryside Act 1981 (as amended), Countryside and Rights of Way Act 2000	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-AB10	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Disturbance to Hintlesham Woods SSSI during construction works	No intrusive construction activities will take place within 15m of the north and western edge of Hintlesham Woods SSSI (excluding planting proposals and works to the existing 400kV overhead line). This includes tracking of heavy vehicles or material storage and soil excavation. Demarcation fencing will be used to identify the exclusion zone.	Hintlesham Woods SSSI	Wildlife and Countryside Act 1981 (as amended), Countryside and Rights of Way Act 2000	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-AB11	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Disturbance to Hintlesham Woods SSSI during construction works	The temporary access routes used to move between pylons to the north and west of Hintlesham Woods SSSI will be located to the north and west of the proposed overhead line.	Hintlesham Woods SSSI	Wildlife and Countryside Act 1981 (as amended), Countryside and Rights of Way Act 2000	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-AB12	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Disturbance to Hintlesham Woods SSSI during construction works	Vegetation management for works to the existing overhead line within Hintlesham Woods SSSI will comprise coppicing to ground level for a width of up to 20m along the existing operational maintenance swathe. In addition, the trees will be managed at graduated heights for up to an additional 12.5m on either side of the 20m swathe for construction activities and to allow the conductors to be installed onto the arms of the existing pylons. Vegetation will be permanently managed to achieve operational safety clearances during operation as is currently undertaken with the existing overhead line. No heavy good vehicle access will be undertaken within the woods.	Hintlesham Woods SSSI	Wildlife and Countryside Act 1981 (as amended), Countryside and Rights of Way Act 2000	Construction and Operation	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority

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EM-AB13	ES Chapter 7: Biodiversity [APP-075]	Disturbance to Hintlesham Woods SSSI during construction works	The temporary access route through Hintlesham Woods SSSI will use protective matting (such as trackway) to facilitate works to the existing overhead line and will be micrositied using data gathered during the arboricultural and habitat surveys within the 20m coppiced area.	Hintlesham Woods SSSI	Wildlife and Countryside Act 1981 (as amended), Countryside and Rights of Way Act 2000	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-AB14	ES Chapter 7: Biodiversity [APP-075]	Disturbance to Hintlesham Woods SSSI during construction works	Percussive piling will not be used to construct the foundations of temporary pylon RB12T (607067, 243469), to reduce the maximum (peak) noise levels associated with this construction method to avoid subsequent disturbance on sensitive species at Hintlesham Woods SSSI.	Hintlesham Woods SSSI	Wildlife and Countryside Act 1981 (as amended), Countryside and Rights of Way Act 2000	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-AB15	ES Chapter 7: Biodiversity [APP-075]	Disturbance to Hintlesham Little Wood and Hintlesham Great Wood during construction works	No topsoil stripping is to be undertaken within 15m of the ancient woodland boundary at Hintlesham Little Wood and Hintlesham Great Wood. Temporary matting/trackway will be used where the temporary access route is located within 15m of PoAWS4, Hintlesham Great Wood and Hintlesham Little Wood to avoid compaction of the root protection area.	Hintlesham Great Wood / Hintlesham Little Wood	Wildlife and Countryside Act 1981 (as amended), Countryside and Rights of Way Act 2000	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-AB16	ES Chapter 7: Biodiversity [APP-075]	Disturbance to Keeble's Grove during construction works	The temporary access route adjacent to Keeble's Grove (Access AB-EAP2a) will solely be used for the implementation of ecological and landscape mitigation measures and will not be topsoil stripped in order to avoid impacts to the root protection area of this woodland.	Keeble's Grove	Wildlife and Countryside Act 1981 (as amended), Countryside and Rights of Way Act 2000	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-AB17	ES Chapter 7: Biodiversity [APP-075]	Disturbance to Hintlesham Woods SSSI during construction works	The Order Limits at Hintlesham Woods will be demarcated so that construction activities do not stray beyond the maintained swathe which is the same as the vegetation management that took place during the 2013 reconductoring works energisation.	Hintlesham Woods SSSI	Wildlife and Countryside Act 1981 (as amended), Countryside and Rights of Way Act 2000	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-C01	ES Chapter 4: Project Description [APP-072] ES Chapter 7: Biodiversity [APP-075] ES Chapter 12: Traffic and Transport [APP-080]	Disruption to access to Hadleigh Railway Walk Local Nature Reserve (LNR)	Scaffolding and netting will be used during construction of the overhead line (conducting installation works) over Hadleigh Railway Walk to maintain access during construction.	Hadleigh Railway Walk LNR	N/A	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-C02	ES Chapter 7: Biodiversity [APP-075]	Impacts on trees at Hadleigh Railway Walk due to vegetation clearance	At Hadleigh Railway Walk, efforts will be made to reduce the impact on trees however, some vegetation may have to be cut in order to put netting over the scaffold crossing in order to keep access open for users of this walk. No temporary access route will be located within Railway Walk LNR, Hadleigh, located in Section C: Brett Valley (between approximate X, Y 604355, 241072 to 604145, 241135).	Hadleigh Railway Walk LNR	N/A	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority

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EM-D02	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Disruption to Millfield Wood north during construction activities	Construction of the new 400kV underground cables and any ground excavation work (e.g. associated with the temporary access route or new service connection pursuant to the DCO) will lie a minimum of 15m away from the designated ancient woodland (Millfield Wood north) boundary.	Millfield Wood north ancient woodland	N/A	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-E02	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Disruption to The Dollops during construction activities	The 132kV overhead line will be removed at The Dollops (Babergh 185). At this location, construction activities will be confined to the existing operational maintenance swathe. The conductors will be lowered down and pulled out. Light vehicles will use existing tracks within the woodland.	The Dollops	N/A	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-E04	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on biodiversity receptors from vegetation clearance	The Order Limits have been narrowed to avoid removal of trees at Alder Carr. An arboriculturalist and ecologist will be consulted on the detailed design and construction methods to advise on sensitive working within the RPA in accordance with British Standard 5837: 2012 Trees in Relation to Design, Demolition and Construction.	Alder Carr	British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-E06	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts to Broom Hill ancient woodland during construction activities	Construction of the new 400kV underground cables and any ground excavation work (e.g. associated with the underground cable temporary access route) will lie a minimum of 15m away from the designated ancient woodland (Broom Hill) boundary. Construction access for the existing 132kV overhead line will use the existing track. Temporary matting/trackway will be used where the temporary access route is located within 15m of the ancient woodland unless advised otherwise by an arboriculturalist.	Broom Hill ancient woodland	N/A	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-E08	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts to woodland and pond	The proposed temporary access route between PCB54 and PCB55 in Section E: Dedham Vale AONB will avoid woodland and the pond.	Section E: Dedham Vale AONB	N/A	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-F02	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts to Leadenhall ancient woodland during construction activities	Site specific measures will be employed for the excavation of the trench for the service connection where they are delivered pursuant to the DCO to reduce the effects on the RPA of the Leadenhall ancient woodland. A method statement will be prepared with input from an arboriculturalist. Measures may include but not be limited to hand digging and vacuum excavation under arboricultural supervision.	Leadenhall ancient woodland	N/A	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-G07	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts to Ansell's Grove/Ash Ground LWS during construction activities	The 132kV overhead line will be removed at Ansell's Grove/Ash Ground LWS (from approximate X,Y: 587022.00, 236075.00 and 587016.00, 236202.00) located in Section G: Stour Valley. At this location, construction activities will be confined to the existing operational maintenance swathe. The conductors will be lowered down and pulled out. Light vehicles will use existing tracks within the woodland.	Ansell's Grove/Ash Ground LWS	N/A	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority



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EM-G08	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts to Alphamstone Meadows LoWS during construction activities	A trenchless crossing is proposed to avoid habitats to the south of Ansell's Grove including Alphamstone Meadows Local Wildlife Site (LoWS), as shown on the General Arrangement Plans (application document 2.10). Existing routes through the woods will be used where practicable by light good vehicles or tracked vehicles. Otherwise, pedestrian access will be maintained over the top of the trenchless crossing. There will be no temporary access route along the trenchless crossing.	Alphamstone Meadows LoWS	The Natural Environment and Rural Communities Act 2006	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-G09	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on woodland from vegetation clearance	Where installation of underground cabling is required across the lowland mixed deciduous woodland (Habitat ID H_A_1029) in Section G: Stour Valley, a reduced working width of 60m will be implemented.	Section G: Stour Valley	The Natural Environment and Rural Communities Act 2006	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-G10	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on Twinstead Marsh LWS from vegetation clearance	Vegetation clearance will be limited to the existing access track and the base of the existing pylon within Twinstead Marsh Local Wildlife Site (Bra222) in Section G: Stour Valley from approximate X,Y: 586168, 237057 and only light good vehicles will be used during construction in this area.	Twinstead Marsh LWS	The Natural Environment and Rural Communities Act 2006	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-G11	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on Ansell's Grove from vegetation clearance	The temporary construction works to remove the existing 400kV overhead line at Ansell's Grove (PoAWS10) will be limited to the existing operational maintained swathe within the woodland. There will be no temporary access route installed within the woodland. Light vehicles will use existing tracks within the woodland.	Ansell's Grove Potential Ancient Woodland Site (PoAWS)	The Natural Environment and Rural Communities Act 2006	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-G12	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on woodland from vegetation clearance	Vegetation will be retained where practicable, (and in accordance with LEMP Appendix A: Vegetation Retention and Removal Plan) using gaps in existing hedgerows/trees, at w1d -wet woodland HL_108, located in Section G: Stour Valley from approximate 587186, 236634 and 586972, 236616).	Section G: Stour Valley	The Hedgerows Regulations 1997 (amended 2003)	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-G13	N/A	Impacts on veteran tree (T378)	Veteran tree T378 has a historic primary union failure at 3m which has internal hollowing within large cavities and deadwood present. It is likely that it will need to be felled due to its location within the cable swathe. Where the removal of the tree is necessary, the compensation will comprise soft felling of the tree (in accordance with the final bat licence where applicable). If the limbs are not rotten and have suitable veteran features, then these will be attached to a suitable retained tree(s) within the Order Limits as close as practicable to the lost tree. Where attaching the limbs is not suitable (e.g. if rotten or if these have no veteran features), then the wood will be retained on site as a log pile to retain a habitat function. In addition, another tree will be veteranized as compensation for the loss of T378. The tree to be veteranized will be identified by an arboriculturalist who will also advise on the method for veteranisation, with advice from an ecologist on how to achieve the most habitat value.	T378 in Section G: Stour Valley	Standing Advice on Ancient woodland, ancient trees and veteran trees: advice for making planning decisions	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority

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EM-H03	ES Chapter 7: Biodiversity [APP-075]	Impacts on Butler's Wood during construction works	The proposed GSP substation has been located away from the southern edge of Butler's Wood. Construction works will not encroach into or beyond the ditch that runs east west along the northern and southern edges of the GSP substation.	Butler's Wood	N/A	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
EM-H05	ES Chapter 7: Biodiversity [APP-075]	Impacts on priority habitat from vegetation clearance	Priority Habitat w1d - Wet woodland (Polygon ID H_A_875) located within Section H: GSP Substation, from approximate X,Y 582150, 236926 to 582114, 236960 will be retained and protected.	Section H: GSP Substation	The Natural Environment and Rural Communities Act 2006	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
B01	ES Chapter 7: Biodiversity [APP-075]	Impacts on protected species	The contractor(s) will comply with relevant protected species legislation. Licences will be obtained where required from Natural England for all works affecting protected species as identified by the Environmental Statement and through pre-construction surveys. All applicable works will be undertaken in accordance with the relevant requirements and conditions set out in those licences.	Order Limits	Various protected species legislation	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
B02	ES Chapter 7: Biodiversity [APP-075]	Impacts on breeding birds from vegetation clearance	Vegetation with the potential to support breeding birds will be programmed to be removed outside of breeding bird season (March to August inclusive) where practicable. If any vegetation clearance is required during the breeding bird season, vegetation will be checked by an ecologist for nesting birds prior to removal. Appropriate protection measures will be put in place should active nests be found. These will include exclusion zones around active nests until chicks fledge or nests become inactive as determined by monitoring by the ecologist.	Order Limits	Wildlife and Countryside Act 1981 (as amended)	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
B03	ES Chapter 7: Biodiversity [APP-075]	Impacts on biodiversity receptors from potential animal entrapment	Where there will be a risk of animal entrapment, a means of escape will be installed into all excavations left open overnight.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
B04	ES Chapter 7: Biodiversity [APP-075]	Impacts on biodiversity receptors from potential spread of invasive species	To control the spread of invasive species in accordance with the Wildlife and Countryside Act 1981, any plant or machinery that has been used in areas with invasive species (both terrestrial and aquatic), such as Japanese knotweed or invasive aquatic fauna, will be thoroughly cleaned. Water used to clean plant or machinery will be controlled to prevent the spread of the plant (through direct transfer or of seeds, rhizomes, fragments, etc.). The area will be cordoned off to prevent any inadvertent spreading.	Order Limits	Wildlife and Countryside Act 1981 (as amended)	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority



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B05	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on common reptiles from vegetation clearance	All habitats suitable for common reptiles will be subject to two-stage habitat manipulation that will take place between mid-March and mid-October (with consideration of other protected and notable species potentially present). Firstly, vegetation will be cut to approximately 150mm (with the arisings removed) under the supervision of an ecologist and the site left for a minimum of two days to allow reptiles to naturally disperse from the area. Secondly, vegetation will be cleared down to ground level under the supervision of an ecologist. Vegetation will be cleared using appropriate equipment based on the type of vegetation to be removed, the area affected, and the risk of mortality or injuring reptiles. Construction works could commence immediately after completion of the second stage. Reptile hibernacula will be retained and protected during construction where practicable. If unavoidable, the removal of vegetation and groundworks at hibernacula will be timed to avoid the hibernation season (late October to early March). Replacement hibernacula and refugia will be provided.	Order Limits	Wildlife and Countryside Act 1981 (as amended)	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
B06	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on bat roosts from vegetation clearance	Alternative roost structures (bat boxes) will be provided on retained trees within the Order Limits or areas outside of the Order Limits agreed with landowners. Two artificial bat boxes will be deployed on retained trees to every one tree with high or moderate bat roosting potential felled. Where high potential roosting features are present, the project will soft fell these. The limbs will be attached to retained trees where practicable.	Order Limits	Wildlife and Countryside Act 1981 (as amended)	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
B07	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on hedgerows and hedgerow fauna during construction works	Where the works require the crossing or removal of hedgerows, the gap will be reduced to a width required for safe working. Where hedge removals are necessary and the hedgerow is identified as having value for bats, dormouse or other relevant species, then 'dead hedging' would be used where practicable, in the interim periods to retain connectivity during construction. Dead hedging can comprise vegetation arisings or artificial provision, such as hazel hurdles, willow screening panels or Heras fencing covered in camouflage netting.	Hedgerows	The Hedgerows Regulations 1997 (amended 2003)	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
B08	ES Chapter 7: Biodiversity [ <b>APP-075</b> ]	Impacts on habitats from vegetation clearance	As an important habitat for terrestrial invertebrates, decaying and dead wood within the Order Limits, in consultation with the landowner, will be retained and protected during construction. Further details can be found in the LEMP ( <b>document 7.8</b> ).	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
B09	ES Chapter 7: Biodiversity [ <b>APP-075</b> ] ES Chapter 9: Water Environment [ <b>APP-077</b> ]	Impacts on aquatic species due to loss of riverine connectivity	Where watercourses are to be crossed by a culvert, this will be appropriately sized to maintain natural riverine connectivity throughout the year, at both high and low flows. Culverts will be designed to maintain natural slope/water velocities and have buried inlet/outlets.	Watercourses crossed by a culvert	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority

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B10	ES Chapter 7: Biodiversity [APP-075]	Impacts on woodland, hedgerows and field boundaries during removal of existing pylons	Removal of existing pylons which includes ‘felling’ will be directional and away from woodland, hedgerows and field boundaries.	Order Limits	The Hedgerows Regulations 1997 (amended 2003)	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
B11	ES Chapter 7: Biodiversity [APP-075]	Impacts on badger setts during construction works	Badger setts within the Order Limits that are confirmed as disused will either be left in-situ with the entrance holes ‘hard stopped’ (e.g. with wooden stakes) or destroyed under the supervision of an ecologist to prevent badgers from taking residence in them during the construction period. Evidence will be recorded of the survey and/or monitoring activity that was undertaken to conclude that there were no signs of use by badger. Hard-stopped entrances will be re-opened on completion of construction works at that location. A licence will not be required for these activities.	Order Limits	Protection of Badgers Act 1992	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
B12	ES Chapter 7: Biodiversity [APP-075]	Impacts on GCN during construction works	All works will be undertaken in accordance with the Natural England Great Crested Newt (GCN) District Level Licence (DLL). If a GCN is located during construction, an ecologist will be consulted to advise as to the way forward. Measures may include a Natural England GCN licensed ecologist handling and relocating GCN to outside the working area.	Order Limits	Wildlife and Countryside Act 1981 (as amended)	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
B13	ES Chapter 7: Biodiversity [APP-075]	Impacts on fish during construction works	Where pre-construction surveys have identified a likely fish presence and opencut crossings are proposed and over pumping will be used. The pump will be screened to prevent entrainment or impingement of fish or fish friendly pumps will be used to facilitate the downstream passage of fish through the pumps. The use of pumps to move water will require 2mm screening to avoid the impingement offish and juvenile eels.	Watercourses with fish presence	The Eel (England and Wales) Regulations 2009 Salmon and Freshwater Fisheries Act 1975	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
EIA_B01	ES Chapter 7: Biodiversity [APP-075]	Beneficial habitat connectivity	Mitigation woodland creation (natural regeneration and planting), proposed at two locations connected to Hintlesham Woods: MM09 and MM10.	Hintlesham Woods	N/A	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
N/A	N/A	Impacts on biodiversity from biosecurity risks	A framework of good practice in biosecurity policy around trees and woody vegetation is provided by the Arboricultural Association (2018) and will be used by the contractor to inform working methods in areas where biosecurity risks have been identified. National Grid and its contractor 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.	Order Limits	Arboricultural Association (2018) Guidance Note 2 - Application of Biosecurity in Arboriculture	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority

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Historic Environment									
EM-AB01	ES Chapter 4: Project Description [APP-072]  ES Chapter 8: Historic Environment [APP-076]	Impacts on Hintlesham Hall	The Proposed Alignment to the north of Hintlesham Hall is based on the pylon locations from the optimised alignment discussed with English Heritage (now Historic England) in 2013. National Grid will continue to work with Historic England as the designs develop to identify the most suitable location for the pylons in relation to the setting of Hintlesham Hall, taking into account the limits of deviation and technical considerations such as distance between conductor spans. In utilising the LoD, National Grid will not position a pylon between the access track to Kennels Cottage (608128, 244214) and 100m to the south west of the track (608027, 244151) in order to avoid its visibility in key views from the Grade II* listed ancillary buildings located to the north of Hintlesham Hall, which comprise the converted service ranges, stables, coach house and brewhouse.	Hintlesham Hall	Planning (Listed Buildings and Conservation Areas) Act 1990 (as amended)	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority
H01	ES Chapter 8: Historic Environment [APP-076]	Damage to locations of archaeological interest/value during construction works	Locations of known archaeological interest/value where archaeological work is planned or where preservation 'in situ' is proposed, will be annotated on plans within the Outline Written Scheme of Investigation (OWSI) and signposted/fenced off to avoid unintentional damage.	Order Limits	ClfA (2014) Standard and Guidance for Archaeological Field Evaluation	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
H02	ES Chapter 8: Historic Environment [APP-076]	Impacts on potential assets of archaeological interest during construction works	In the event that an as yet unknown heritage asset with archaeological interest is discovered, or a known heritage asset proves to be more significant than foreseen at the time of application, works in that area will be halted. The project will inform the relevant planning authority archaeologist, and Historic England where relevant, and will agree a solution that protects the significance of the new discovery, so far as is practicable, within the project parameters.	Order Limits	ClfA (2014) Standard and Guidance for Archaeological Field Evaluation	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
H03	ES Chapter 8: Historic Environment [APP-076]	Impacts on finds of human remains, or 'treasure' during construction works	In the event that finds of human remains, or 'treasure' as defined by the Treasure Act, 1996 (as amended), the contractor(s) will comply with the requirements of the relevant legislation and best practice guidance.	Order Limits	Treasure Act 1996	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
H04	ES Chapter 8: Historic Environment [APP-076]	Damage to designated heritage assets during construction works	Any designated heritage assets that lie within or immediately adjacent to the Order Limits will be annotated on plans with the OWSI and signed on site, if needed, to ensure that the assets are preserved and to avoid any unintentional damage.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
H05	ES Chapter 8: Historic Environment [APP-076]	Impacts on historic earthwork features during construction works	A topographic survey will be undertaken in advance of construction of each Protected Lane (Essex) and Historic Lane (Suffolk) within the Order Limits where likely to be affected by physical works. The survey will include mapping of any historic earthwork features associated with the lane, including banks and ditches. During construction, the contractor will seek to limit the working area to the narrowest section of the lane that is practicable for the specific works. Any historic features associated with the lane will be reinstated at the end of construction to the pre-work condition, including the replanting of hedgerows and reinstatement of historic earthworks.	Order Limits	The Hedgerows Regulations 1997 (amended 2003)	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority

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EIA_H01	ES Chapter 8: Historic Environment [APP-076]	Damage/removal of archaeology features	Archaeological recording (preservation by record) as per the Archaeological Framework Strategy ( <b>application document 7.9</b> ) and Outline Written Scheme of Investigation ( <b>application document 7.10</b> ).	Order Limits	ClfA (2014) Standard and Guidance for Archaeological Field Evaluation	Construction	Archaeological Framework Strategy (AFS) [APP-186] OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	The Archaeological Contractor will be an experienced professional body competent to carry out multiple archaeological interventions of different types across a large-scale development. As some of these interventions will be simultaneous, the organisation will need access to sufficient qualified staff to fulfil all the obligations in this OWSI.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	Archaeological fieldwork not designed or carried out following guidance	No stage of the authorised development will commence until a Detailed Written Scheme of Investigation (DWSI) of areas of archaeological interest relevant to that stage (if any) as identified within the OWSI or identified through evaluation work as set out in the OWSI has been submitted to and approved by the County Archaeologist.	Order Limits	ClfA (2012) Archaeological Archives Forum, Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation ClfA (2020a) Standard and guidance for archaeological excavation ClfA (2020b) Standard and guidance for an archaeological watching brief	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	Archaeological fieldwork not designed or carried out following guidance	The Archaeological Contractor will design the archaeological fieldwork in a DWSI, which will be in accordance with the OWSI and will carry out the mitigation works to the relevant ClfA standards and guidance (ClfA 2012, 2020a and 2020b).	Order Limits	ClfA (2012) Archaeological Archives Forum, Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation ClfA (2020a) Standard and guidance for archaeological excavation ClfA (2020b) Standard and guidance for an archaeological watching brief	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	The Archaeological Contractor's site staff will have passed all the relevant construction industry certifications and staff will wear appropriate personal protective equipment for the task in hand and in accordance with National Grid policy.	Order Limits	National Grid policy	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority

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N/A	N/A	N/A	The project will be managed in accordance with all relevant health and safety legislation, including the Health and Safety at Work Act, 1974, Health and Safety Policy and the Workplace (Health, Safety and Welfare) Regulations 1992 (as amended).	Order Limits	Health and Safety at Work Act 1974 Health and Safety Policy and the Workplace (Health, Safety and Welfare) Regulations 1992 (as amended)	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	The Archaeological Contractor will need to provide health and safety documentation demonstrating how they would safely deliver the mitigation work in accordance with National Grid’s own policies. This will include but would not be limited to the production of task method statements and risk assessments. A method statement will be completed by staff prior to undertaking site tasks and will be compiled on a daily basis and updated as and when there is a change to the specified task.	Order Limits	National Grid policy	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	In addition, a first aid kit will always be available on site with an accompanying accident book.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	The Archaeological Contractor will provide weekly reports to National Grid and / or the Main Works Contractor on progress with project design, fieldwork preparation, implementation, post-excavation analysis and processing and reporting.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	Disruption to archaeological features during construction works	The Archaeological Contractor will produce a DWSI for areas of archaeology requiring targeted archaeological OAE. These will be issued to the local authority advisors for comment prior to the commencement of fieldwork. The DWSI will use methodological parameters regarding the methods of overburden removal, hand excavation, environmental sampling etc set out below.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	<p>The excavation and recording policies set out below are in line with good practice and adhere to the ClfA standards and guidance for archaeological excavation (ClfA, 2020a).</p> <ul style="list-style-type: none"> <li>Overburden Removal – the method of overburden removal will be detailed in the Archaeological Contractor’s DWSI, which will include the provision for separation of topsoil and subsoil during excavation;</li> <li>Hand Excavation Policy – the Archaeological Contractor’s DWSI will stipulate a strategy for identifying archaeological remains and how they will carry out archaeological hand-excavation of the same in accordance with an agreed sampling strategy;</li> <li>Archaeological Recording – the Archaeological Contractor’s DWSI will contain detailed methodologies for the production of hand-written and drawn records and photography in accordance with current professional guidance and good practice;</li> </ul>	Order Limits	ClfA (2020a) Standard and guidance for archaeological excavation	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority



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			<ul style="list-style-type: none"> <li>Environmental Sampling Policy – the Archaeological Contractor’s DWSI will contain detailed methodologies for the collection of soil samples, the treatment of waterlogged remains and the most appropriate methods of scientific dating. The Archaeological Contractor’s DWSI will also detail the proposed treatment of human remains; and</li> <li>Artefact Policies – the retrieval, conservation and analysis of archaeological artefacts will be detailed in the Archaeological Contractor’s DWSI.</li> </ul>						
N/A	N/A	Impacts on archaeological remains	<p>SMS will be applied in areas of the project where the ATT and other field surveys have located the presence of archaeological remains warranting preservation by record and the project is anticipated to require topsoil removal. Areas currently identified for SMS are shown on Figure 1: Proposed Archaeological Mitigation and include:</p> <ul style="list-style-type: none"> <li>Section F: Leavenheath/Assington, immediately to the north of Leavenheath village in the location of the proposed construction compound where potentially prehistoric remains were identified during ATT, including a cremation burial; and</li> <li>Section G: Stour Valley, to the east of St Edmund’s Hill, where kiln remains were found during ATT.</li> </ul>	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	Impacts on areas of archaeology	The Archaeological Contractor will produce a DWSI for areas of archaeology requiring SMS mitigation. These will be submitted to the local authority advisors for comment prior to the commencement of earthworks. The DWSI will use the methodological parameters set out above (Section 4.3) and supplement these where necessary, with location or asset-specific approaches.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	Impacts on archaeological remains	Watching brief will be implemented in areas of topsoil removal along the sections of underground cables and overhead lines where archaeological remains are present, or potentially present, with the exception of those areas where preservation <i>in situ</i> , OAE or SMS will be carried out, or areas where the ATT has demonstrated that there is no archaeological interest. These areas are indicated on Figure 1: Proposed Archaeological Mitigation.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	Impacts on archaeological features	An area of proposed watching brief mitigation is also proposed at the GSP substation (Figure 1: Proposed Archaeological Mitigation), where some undated archaeological features were located during ATT. A watching brief would also in general, be undertaken along the sections of new overhead line where there is a requirement to remove topsoil unless the level of archaeological potential warranted otherwise.	GSP Substation	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority



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N/A	N/A	Impacts on archaeological features	The Archaeological Contractor will produce a DWSI for areas of archaeology requiring a watching brief. These will be submitted to the local authority advisors for comment prior to the commencement of earthworks. The DWSI will use the methodological parameters set out above (Section 4.3) and supplement these where necessary, with location or asset-specific approaches.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	Impacts on geoarchaeological deposits	The mitigation proposed at the River Box and the River Stour will include a programme of geoarchaeological assessment that is proportionate to the project impact and the potential significance of the deposits, with details to be determined within the DWSI.	River Box River Stour	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	Impacts on geoarchaeological areas	The Archaeological Contractor will produce a DWSI for areas requiring geoarchaeological mitigation. This will be submitted to the local authority advisors for comment prior to the commencement of earthworks.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	A single Post-Excavation Assessment (PEA) Report and an Updated Project Design (UPD), as defined in the Management of Research Projects in the Historic Environment (MoRPHE) (Historic England, 2015) will be produced by the Archaeological Contractor on completion of the mitigation fieldwork. The results of the assessment will be shared with the local authority advisors.	Order Limits	Historic England (2015) MoRPHE: The MoRPHE Project Manager's Guide	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	The draft PEA Report and UPD will be submitted to the local authority advisors for comment within a reasonable agreed timescale. In finalising the report, the Archaeological Contractor will consider any comments made by the local authority advisors and amend the report accordingly. The final report will be submitted to National Grid within an agreed timescale.	N/A	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	<p>The results of the previous archaeological studies will be summarised in the PEA Report and analytical programmes. The PEA Report will be prepared in line with the principles set out in Appendix 1 in MoRPHE (Historic England, 2015), and will include as a minimum:</p> <ul style="list-style-type: none"> <li>• A non-technical summary;</li> <li>• Site code and project number;</li> <li>• Planning Reference number and Historic Environmental Record event codes;</li> <li>• Dates when the fieldwork took place;</li> <li>• A description of the background to, and circumstances of the work;</li> <li>• A brief description of the previously known archaeology of each site;</li> <li>• A description of the methodology used;</li> <li>• An objective description of the results ('factual data' in Appendix 1 of MoRPHE (Historic England, 2015));</li> </ul>	N/A	Historic England (2015) MoRPHE: The MoRPHE Project Manager's Guide	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority

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			<ul style="list-style-type: none"> <li>A specialist assessment of each category of data ('statement of potential' in Appendix 1; P2 of MoRPHE);</li> <li>Details of archive location and destination (with accession number, where known), together with a catalogue of what is contained in that archive;</li> <li>An assessment of the archaeological significance of the deposits identified, in relation to other sites in the region;</li> <li>A conclusion with recommendations for further post-excavation work, if required;</li> <li>A statement of the storage and curation requirements for each category of data;</li> <li>General and detailed plans at appropriate scales, showing the location of each site accurately positioned on an up-to-date Ordnance Survey base;</li> <li>Plans of each site at appropriate scales, with keys and north points;</li> <li>Detailed plans and sections of individual features where necessary;</li> <li>All scales used on any drawings will be standard scales such as would appear on a normal scale ruler;</li> <li>A copy of the specification and/or project design; and</li> <li>References and bibliography of all sources used.</li> </ul>						
N/A	N/A	N/A	The UPD will set out the further analytical and archiving works, if any, required to achieve the potential identified in the PEA Report and will make a recommendation as to the scope of further reporting works, including the form of any publication required. The UPD will include a programme, task list and table of resources required to complete the works. A costed task/resource table will be attached as an Appendix. This will include costs for publication. Note that, if only minor remains have been identified, there may be no value in further analysis, and in such circumstances the UPD should clearly state that this is the case	N/A	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	The PFA Report will be produced in line with the PEA Report and UPD and the scope set out therein. It will be produced within the timescales specified in the programme provided as part of the approved UPD.	N/A	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	The Archaeological Contractor will allow for updating the local authority advisors during the post-fieldwork analysis phase. Where necessary, National Grid and the Archaeological Contractor can arrange meetings with the local authority advisors to discuss the results in matters arising for the production of the PFA Report.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	The post-fieldwork analysis will consist of detailed work on the stratigraphy, artefacts and environmental data and will lead to the production of fully synthetic and integrated report texts.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
N/A	N/A	N/A	The draft PFA Report will be submitted to the local authority advisors. In finalising the report, the Archaeological Contractor will consider any comments made by the local authority advisors. The final report will be delivered to the local authority advisors in electronic .pdf format, all inclusive of figures and other appendices.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	Where publication of a report in an academic journal or as a monograph has been recommended in the PFA Report and agreed with the local authority advisors, this should be accepted for publication within a timescale specified on the programme within the final UPD and agreed in advance with the local authority advisors. One digital copy of the draft Publication Report will be submitted to the local authority advisor for information. In finalising the report, the Archaeological Contractor will consider any comments made by the local authority advisors received within ten working days.	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	Avenues for community outreach will be explored during the project development and may comprise activities such as: <ul style="list-style-type: none"><li>• Presentations for local community groups;</li><li>• Temporary exhibitions;</li><li>• Work with schools; and</li><li>• Web-based initiatives.</li></ul>	Order Limits	N/A	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
N/A	N/A	N/A	The Archaeological Contractor will integrate the archives from all project archaeological mitigation into a single archive. Archive consolidation will be undertaken following the conclusion of fieldwork. The site record will be checked, cross-referenced, and indexed as necessary. The archive (finds and records) will be retained by the Archaeological Contractor before being deposited with the appropriate repository. A security copy of the archive will be made in an appropriate medium. All archive preparation will be undertaken in accordance with guidelines published by the ClfA on behalf of the Archaeological Archives Forum (ClfA, 2012).	Order Limits	ClfA (2012) Archaeological Archives Forum, Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation	Construction	OWSI [APP-187]	Requirement 6	Relevant Planning Authority
Water Environment									
EM-P07	ES Chapter 4: Project Description [APP-072]  ES Chapter 9: Water Environment [APP-077]	Changes to flood risk from new permanent infrastructure	The GSP substation and the CSE compounds including their Limits of Deviation have been located outside of areas at medium and high risk of river flooding (Flood Zones 2 and 3).	Order Limits	Land Drainage Act 1991/1994, Flood and Water Management Act 2010	Construction / Operation	Work Plans [APP-010]	Article 3(7) and Schedule 2	Relevant Planning Authority

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
EM-E05	ES Chapter 9: Water Environment [ <b>APP-077</b> ]	Changes to flood risk at trenchless crossings	A trenchless crossing is proposed at the River Box. The drive pits will be located outside of Flood Zone 3 where practicable or will be managed in accordance with the flood risk action plan (W08 in the CoCP). On receipt of a severe flood warning, the Contractor would deploy suitable flood protection measures to safeguard work site personal and equipment.	River Box	Land Drainage Act 1991/1994, Flood and Water Management Act 2010	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-G04	ES Chapter 9: Water Environment [ <b>APP-077</b> ]	Changes to flood risk at trenchless crossings	A trenchless crossing is proposed at the River Stour and beneath the Sudbury Branch Railway Line. The drive pits will be located outside of Flood Zone 3 where practicable or will be managed in accordance with the flood risk action plan (W08 in the CoCP). On receipt of a severe flood warning, the Contractor would deploy suitable flood protection measures to safeguard work site personal and equipment.	River Stour and Sudbury Branch Railway Line	Land Drainage Act 1991/1994, Flood and Water Management Act 2010	Construction	LEMP ( <b>document 7.8</b> )	Requirement 4	Relevant Planning Authority
EM-G05	ES Chapter 9: Water Environment [ <b>APP-077</b> ] ES Chapter 11: Agriculture and Soils [ <b>APP-079</b> ]	Changes to flood risk due to soil storage	The Order Limits have been widened at the crossing of the River Stour to accommodate soil storage outside of Flood Zone 3 where practicable or to allow placement of soil leaving gaps to avoid blocking floodplain flow paths.	River Stour crossing	Land Drainage Act 1991/1994, Flood and Water Management Act 2010	Operation	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
W01	ES Chapter 9: Water Environment [ <b>APP-077</b> ]	Risk of not complying with environmental legislation	All works within main rivers or ordinary watercourses will be in accordance with a method approved under environmental permits issued under the Environmental Permitting Regulations (2016) and the Land Drainage Act (1991), or the protective provisions of the DCO for the benefit of the Environment Agency and the Lead Local Flood Authorities.	Watercourses	Environmental Permitting Regulations 2016 Land Drainage Act 1991	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
W02	ES Chapter 7: Biodiversity [ <b>APP-075</b> ] ES Chapter 9: Water Environment [ <b>APP-077</b> ]	Impacts to watercourses during construction works	For opencut watercourse crossings and installation of vehicle crossing points, good practice measures will include but not be limited to: <ul style="list-style-type: none"> <li>Reducing the working width for opencut crossings of a main or ordinary watercourse whilst still providing safe working;</li> <li>Installation of a pollution boom downstream of opencut works;</li> <li>The use and maintenance of temporary lagoons, tanks, bunds, silt fences or silt screens as required;</li> <li>Have spill kits, straw bales or other appropriate measures readily available for downstream emergency use in the event of a pollution incident;</li> <li>The use of all static plant such as pumps in appropriately sized spill trays;</li> <li>Prevent refuelling of any plant or vehicle within 15m of a watercourse (except for machinery associated with over-pumping);</li> <li>Prevent storing of soil stockpiles within 15m of a main river;</li> <li>Inspect all plant prior to work for leaks of fuel or hydraulic fluids; and</li> </ul>	Watercourses	Water Environment (Water Framework Directive) Regulations 2017, Construction Industry Research and Information Association (CIRIA) (2001) Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors (C532), CIRIA (2006) Control of Water Pollution from Linear Construction Projects (C649)	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority

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			<ul style="list-style-type: none"> <li>Reinstating the riparian vegetation and natural bed of the watercourse, using the material removed where appropriate, on completion of the works and compacting as necessary based on the type of material. If additional material is required, appropriately sized material of similar composition will be used.</li> </ul>						
W03	ES Chapter 7: Biodiversity [APP-075] ES Chapter 9: Water Environment [APP-077]	Impacts to watercourses during construction works	Riverbank, ponds and in-channel vegetation will be retained and protected where not directly affected by installation works. Natural substrate will be provided through temporary watercourse crossings culverts.	Watercourses	Water Environment (Water Framework Directive) Regulations 2017	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W04	ES Chapter 7: Biodiversity [APP-075] ES Chapter 9: Water Environment [APP-077]	Impacts to watercourses during construction works	Where watercourses are to be crossed by construction traffic using a culvert method, the area above the culvert will be backfilled to permit the passage of plant, equipment, materials and people. The culvert will be sized to reflect the channel width and the estimated flow characteristics of the watercourse under peak flow conditions and kept free from debris. These installation works will be timed to avoid flood flow conditions where practicable, or if periods of work were necessary when higher flow conditions could be expected, suitable pumping provision will be put in place, with standby pumps also made available.	Watercourses	Water Environment (Water Framework Directive) Regulations 2017	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W05	ES Chapter 9: Water Environment [APP-077] ES Chapter 10: Geology and Hydrogeology [APP-078]	Impacts to the water environment due to de-watering and discharge activities	The contractor(s) will comply with all relevant consent conditions or DCO provisions regarding de-watering and discharge activities. This will particularly be with regard to discharge volumes, rates and locations, and will include discharges to land, water bodies or third-party drains/sewers.	Order Limits	Water Resources Act 1991 as amended by the Water Act 2003	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W06	ES Chapter 9: Water Environment [APP-077]	Changes to flood risk due to permanent land raising	There will be no permanent land raising undertaken in locations identified as Flood Zone 3.	Order Limits	Land Drainage Act 1991/1994, Flood and Water Management Act 2010	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority



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W07	ES Chapter 9: Water Environment [APP-077]	Changes to flood risk due to temporary working areas and access routes	Where new or additional surfacing is required on any access tracks and compound areas, these will be permeable surfaces where ground conditions allow or will be designed to achieve green field rates. The project will incorporate surface water drainage measures into its final design for the temporary access routes so that they do not lead to a significant increase in flood risk. Temporary access routes within Flood Zone 3 and areas of high and medium risk of flooding from surface water will be removed at the end of the construction phase and the ground surface will be reinstated to pre-project levels. Construction materials or stockpiles of soils/arising will not be stored within Flood Zone 3 and areas of high and medium risk of flooding from surface water. Where this cannot be avoided, stockpiles would be aligned to avoid creating continuous barriers to floodplain flows (other measures have been included in the CEMP). All construction compounds will be located in Flood Zone 1. Where this is not practicable, additional measures will be identified within a flood risk action plan.	Order Limits	Land Drainage Act 1991/1994, Flood and Water Management Act 2010	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W08	ES Chapter 9: Water Environment [APP-077]	Unsafe working due to flooding incidents	The contractor(s) will subscribe to the Environment Agency's Floodline service, which provides advance warning of potential local flooding events, and subscribe to the Met Office's Weather Warnings email alerts system and any other relevant flood warning information. The contractor(s) will implement a suitable flood risk action plan, which will include evacuation procedures should a flood occur or be forecast.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W09	ES Chapter 9: Water Environment [APP-077] ES Chapter 10: Geology and Hydrogeology [APP-078]	Impacts on private water supplies during construction works	Active private water supplies will be identified with landowners through the landowner discussions. Appropriate measures will be considered during construction. In the event of a landowner or tenant reporting that installation activities have affected their private water supplies, an initial response will be provided within 24 hours. Where the installation works have affected a private water supply, an alternative water supply will be provided.	Order Limits	Water Resources Act 1991 as amended by the Water Act 2003	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W10	ES Chapter 9: Water Environment [APP-077] ES Chapter 10: Geology and Hydrogeology [APP-078]	Impacts on private water supplies due to a pollution event	In the event of a significant spill of a polluting substance during construction that could affect a private water supply, an assessment of the potential impact on private water supplies will be undertaken, and where a private water supply is judged likely to be affected, the relevant landowners/tenants will be contacted within 24 hours and an alternative water supply will be provided.	Order Limits	Water Resources Act 1991 as amended by the Water Act 2003, CIRIA (2001) Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors (C532)	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W11	ES Chapter 9: Water Environment [APP-077]	Impacts on River Stour and River Box due to trenchless crossings	Where the River Stour and River Box are crossed by a trenchless crossing, the cables will be laid at least 1m below the hard bed level of the river and will remain at or below this level for a distance of not less than 3m from the edge of the riverbank. Marker posts will also be positioned on each bank of the river to indicate the location of the under-crossing and the nature of the works.	River Stour River Box	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority



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W12	ES Chapter 9: Water Environment [APP-077] ES Chapter 10: Geology and Hydrogeology [APP-078]	Impacts on drainage due to new permanent areas of impermeable land cover	Where new, permanent areas of impermeable land cover are created, the drainage design will be in accordance with the requirements of the Essex County Council Sustainable Drainage System (SuDS) Design Guide (2020) and the Suffolk County Council SuDS Palette (2021) and will include allowances for climate change in accordance with current (May 2022) Environment Agency requirements. The drainage infrastructure will provide the storage necessary to achieve discharges at greenfield rates and will not significantly alter groundwater recharge patterns by transferring a significant recharge quantity from one catchment to another. A specialised drainage contractor will review the designs and will provide advice to National Grid and its contractor during relevant construction and reinstatement activities.	Order Limits	Essex County Council (2020) SuDS Design Guide Suffolk County Council (2021) SuDS Palette Environment Agency (2022) Flood risk assessments: climate change allowances	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W13	ES Chapter 9: Water Environment [APP-077]	Impacts on watercourses due to discharge of wastewater	Wastewater generated from construction compound welfare facilities will be discharged to sewer, subject to the agreements with the utility providers, or in locations where a sewer connection is not reasonably practicable, collected and tankered off site for disposal at a licensed treatment facility.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W14	ES Chapter 7: Biodiversity [APP-075] ES Chapter 9: Water Environment [APP-077]	Changes to flood risk and disturbance to river channels, banks and riparian corridors due to new pylons	Pylons will not be constructed within 8m of the top of bank of main rivers (Belstead Brook and River Brett), in accordance with requirements for regulated activities set out in the guidance for environmental permits for flood risk activities (Environment Agency and Defra, 2019). New 400kV pylons will also not be located within 3m of an ordinary watercourse. This will also reduce disturbance to river channels, banks and riparian corridors. National Grid will seek to avoid situating pylons within Environment Agency Flood Zones 2 or 3. Where this is not practicable, a Flood Risk Activity Permit (FRAP) application would be submitted to the Environment Agency.	Watercourses	Environment Agency and Defra (2019) Guidance for environmental permits for flood risk activities	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W15	ES Chapter 7: Biodiversity [APP-075] ES Chapter 9: Water Environment [APP-077]	Changes to flood risk due to open cut crossings	All main rivers and ordinary watercourses crossed by an open cut methodology will be designed to allow continued downstream flow during construction to reduce flood risk. The works will be timed to avoid flood flow conditions or additional measures will be required.	Watercourses	Land Drainage Act 1991/1994, Flood and Water Management Act 2010	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority

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W16	ES Chapter 9: Water Environment [ <b>APP-077</b> ]	Impacts on the water environment due to temporary dewatering, contamination or flooding during construction works	Where appropriate, pre-construction field drainage will be installed within the working area to help prevent possible water-logging of the working area and therefore the need for temporary dewatering during construction. This will also enable current drainage systems to continue working throughout the period of construction. Landowners will be consulted on the design of the land drainage proposals. The design will pay particular attention to the need to reduce the risk so that the drains do not act as pathways for contamination or cause flooding off-site, consulting with the Lead Local Flood Authorities where necessary. A specialised drainage contractor will review the designs and provide advice to National Grid and its contractor during relevant construction and reinstatement activities.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W17	ES Chapter 7: Biodiversity [ <b>APP-075</b> ] ES Chapter 9: Water Environment [ <b>APP-077</b> ]	Impacts on watercourses due to temporary access route crossings	Temporary clear span bridge crossings (e.g. bailey bridge) will be used for the temporary access route crossing at the River Stour, River Box and the River Brett. These will be designed with soffits that are raised 600mm above the flood level in accordance with Environment Agency requirements and will be set back 8m (or distance otherwise agreed with the Environment Agency) from the river's edge. Appropriate flood levels will be agreed with the Environment Agency and specified in the FRAP applications for these structures. The temporary bridges will be designed specifically to consider the span length and the weight and size of plant and equipment that will cross the bridge. The bridge designs will include measures to reduce the risk of material falling into the watercourses. These installation works would be timed to avoid flood flow conditions where practicable, or if periods of work were necessary when higher flow conditions could be expected, suitable pumping provision would be put in place, with standby pumps also made available. In addition, the temporary bridge at the River Stour will be of sufficient size and design to allow existing navigation of the river by non-motorised vessels to continue during construction.	River Stour River Box River Brett	Land Drainage Act 1991/1994, Flood and Water Management Act 2010	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
W18	ES Chapter 9: Water Environment [ <b>APP-077</b> ]	Impacts to River Stour flood defence embankment compromising its condition and ability to function normally	The temporary access route and underground cables will cross a flood defence embankment on the River Stour located off Bures Road (Grid reference TL 89599 36718). The crossing designs will avoid impacts on the defence foundations and construction works will be undertaken using methods that limit ground movement/settlement to reduce the potential to compromise the condition and stability of the embankment. In addition, in line with the requirements of the Environment Agency, should the potential for an impact to the flood defences be identified at the detailed design stage, then the flood defence would be monitored to establish a pre-construction baseline and for a period after completion of works to construct the crossings to enable detection of any effects on the structural integrity/condition of the assets during construction. The requirement for any such monitoring will be discussed with the Environment Agency as part of the application for a FRAP.	River Stour, Bures Road flood defence embankment	Land Drainage Act 1991/1994, Flood and Water Management Act 2010	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
N/A	N/A	Impacts on watercourses post-construction	Post-construction, all temporary crossings and/or culverts will be removed unless otherwise agreed in the FRAP/Ordinary Watercourse Consent. Watercourses will be reinstated to at least the same condition as prior to construction and in accordance with the details provided within the relevant FRAP/Ordinary Watercourse Consent. This includes reinstatement of the bank profile and bed levels. It is also anticipated to include replacing any channel substrate that was temporarily removed during the works.	Order Limits	Land Drainage Act 1991/1994, Flood and Water Management Act 2010	Post-construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
N/A	N/A	Impacts on watercourses post-construction	Post-construction drainage plans will be created when it has been necessary to install new or diverted permanent drainage. These will be made available to the landowner and/or occupier at the conclusion of the works. Drainage systems (land drains) will generally not be introduced into areas where they are not currently present. However, underdrainage may need to be installed on land currently supporting arable agriculture, where poor drainage areas resulting from construction are identified.	Order Limits	N/A	Post-construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
Geology and Hydrogeology									
GH01	ES Chapter 10: Geology and Hydrogeology [APP-078]	Impacts on receptors due to contaminated land	For areas where potential contamination is known (excluding Layham quarry), or anticipated to be present, ground investigation will be undertaken to identify the specific ground conditions and obtain samples for laboratory testing to determine the presence and level of any contamination. This will inform the assessment of the risks to receptors, and good practice measures and working methods to control those risks will be developed. The results will be discussed with the Environment Agency and/or relevant planning authority, as appropriate. Made ground and/or materials known or strongly suspected of being contaminated will be segregated from natural and uncontaminated materials and will be sampled and tested to determine the presence and level of any contamination. Material deemed unsuitable for reuse within the project will be removed from site and either disposed of to appropriate landfill or treated at a soil treatment centre to facilitate re-use.	Order Limits	CIRIA (2001b) Contaminated Land Risk Assessment, A Guide to Good Practice (C552)	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GH02	ES Chapter 10: Geology and Hydrogeology [APP-078]	Impacts on receptors during handling of excavation materials	Excavation materials identified as being unsuitable for reuse within the project will be segregated from other material and transported off-site in suitable vehicles for testing and subsequent disposal to a suitable type of landfill. Vehicles will contain and cover the materials to prevent loss of leachate, dust or other material during transport.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GH03	ES Chapter 10: Geology and Hydrogeology [APP-078]	Impacts on areas with active Environmental Permits	Where the project passes through areas where there are active Environmental Permits (for example authorised landfill sites), the contractor(s) will work with the permit holder to comply with the permit requirements.	Order Limits	Environmental Permitting Regulations 2016	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority

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GH04	ES Chapter 10: Geology and Hydrogeology [APP-078]	Risk of encountering unexploded ordnance	The contractor(s) will be responsible for assessing the risk of encountering unexploded ordnance. The contractor(s) will implement any recommendations for further works or further measures advised by the risk assessment.	Order Limits	N/A	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GH05	ES Chapter 10: Geology and Hydrogeology [APP-078]	Impacts on water quality from discharge of water and management of contaminated soils	Measures related to discharge of water from dewatering activities and management of any contaminated soils have been described in the CEMP (document 7.5).	Order Limits	CIRIA (2001b) Contaminated Land Risk Assessment, A Guide to Good Practice (C552)	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GH06	ES Chapter 10: Geology and Hydrogeology [APP-078]	Impacts on water quality from creation of new contamination pathways	A Foundation Works Risk Assessment will be undertaken by the Contractor at pylons, the CSE compounds, GSP substation and temporary bridges where piled foundations are proposed. The Foundation Works Risk Assessment will assess the risk of the piling creating new contamination pathways and will identify any additional measures required to protect groundwater and prevent aquifer mixing. This will be prepared in accordance with ‘Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination’ (Environment Agency, 2001). Pylon foundations will also be designed with suitable corrosion and pH resistant concrete formulas to reduce the risk of leaching harmful compound into soil and groundwater.	Order Limits	Environment Agency (2001) Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
GH07	ES Chapter 9: Water Environment [APP-077] ES Chapter 10: Geology and Hydrogeology [APP-078]	Impacts on water quality due to trenchless crossings	A hydrogeological risk assessment will be undertaken once the trenchless crossing method has been confirmed. This will assess the risks on groundwater or surface water quality associated with the construction method including considering the potential for breakout during drilling and the use of bentonite or other agents proposed. Where the assessment identifies an unacceptable risk to groundwater or surface water quality, then alternative methods and/or additives shall be proposed, assessed and used. The hydrogeological risk assessment will be submitted to the Environment Agency for approval prior to construction. The Environment Agency will have up to 21 working days to respond on the hydrogeological risk assessment and their comments will be considered as part of finalising the risk assessment. This can be supported by a pre-submission draft to reduce the risk of any delays.	Order Limits	CIRIA (2001b) Contaminated Land Risk Assessment, A Guide to Good Practice (C552)	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
Agriculture and Soils									
EM-E03	ES Chapter 11: Agriculture and Soils [APP-079]	Impacts to orchard trees during construction	Suitable methods will be used to protect orchard trees when lowering and removing the 132kV overhead line.	Section E: Dedham Vale AONB	British Standard 5837:2012 Trees in Relation to Design, Demolition and Construction to Construction – Recommendations	Construction	LEMP (document 7.8)	Requirement 4	Relevant Planning Authority

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AS01	ES Chapter 11: Agriculture and Soils [APP-079]	Impacts on soils due to poor management	<p>Soil management measures have been included within the CEMP (<b>document 7.5</b>). Measures include but are not limited to the following:</p> <ul style="list-style-type: none"> <li>How the different topsoil and subsoil resources present will be stripped and stockpiled;</li> <li>Suitable conditions for when handling soil will be undertaken, for example avoiding handling of waterlogged soil;</li> <li>Indicative soil storage locations;</li> <li>How soil stockpiles will be designed taking into consideration site conditions and the nature/composition of the soil;</li> <li>Specific measures for managing sensitive soils, such as heavy-textured soils or those supporting valuable habitats;</li> <li>Suitable protective surfacing (such as Trackway or similar products) where soil stripping can be avoided, based on sensitivity of the environment and proposed works;</li> <li>Approach to reinstating soil that has been compacted; and</li> <li>Details of measures required for soil restoration.</li> </ul>	Order Limits	Defra (2009a) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
AS02	ES Chapter 11: Agriculture and Soils [APP-079]	Impact on soil conditions following construction	Where land is being returned to agricultural use, the appropriate soil conditions (for example through the replacement of stripped layers and the removal of any compaction) will be recreated. This will be achieved to a depth of 1.2m (or the maximum natural soil depth if this is shallower) except over buried cables where the reinstated soil depth will be approximately 0.9m.	Agricultural land	Defra (2009a) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
AS03	ES Chapter 11: Agriculture and Soils [APP-079]	Disruption to access during construction works	Access to and from residential, commercial, community and agricultural land uses will be maintained throughout the construction period or as agreed through the landowner discussions. The latter may require signed diversions or temporary restrictions to access. The means of access to affected properties, facilities and land parcels will be communicated to affected parties in advance of any change being implemented.	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
AS04	ES Chapter 11: Agriculture and Soils [APP-079]	Risk to livestock water supplies during construction works	Existing water supplies for livestock will be identified pre-construction. Where supplies will be lost or compromised by construction works, temporary alternative supplies will be provided. Water supplies will be reinstated following construction.	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
AS05	ES Chapter 11: Agriculture and Soils [APP-079] ES Chapter 9: Water Environment [APP-077]	Impacts to agricultural land drainage during construction works	Consultation with affected landowners will be carried out to investigate the current extent of land drainage. A scheme of pre-construction land drainage will be designed with the intent of maintaining the efficiency of the existing land drainage system and to assist in maintaining the integrity of the working area during construction. The project may include a system of 'cut-off' drains which feed into a new header drain, and the project will also take into account surface water runoff measures.	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority



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AS06	ES Chapter 11: Agriculture and Soils [APP-079]	Discovery of animal bones during construction works	Should animal bones be discovered during construction, which may indicate a potential burial site, works will cease in this area, and advice will be sought from the Animal Health Regional Office on how to proceed, relevant to the origin and age of the materials found.	Order Limits	Environment Act 2021	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
AS07	ES Chapter 11: Agriculture and Soils [APP-079]	Risk of outbreak of disease during construction works	All movement of plant and vehicles between fields will cease in the event of a notification by the Department for Environment, Food and Rural Affairs (Defra) of a disease outbreak in the vicinity of the site that requires the cessation of activities. Advice will be sought from Defra in order to develop suitable working methods required to reduce the biosecurity risk associated with the continuation of works.	Order Limits	Environment Act 2021	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
AS08	ES Chapter 11: Agriculture and Soils [APP-079] ES Chapter 9: Water Environment [APP-077]	Changes to drainage pathways due to trench excavations	Clay bungs or other vertical barriers will be constructed within trench excavations where deemed necessary by a suitably experienced person, to prevent the creation of preferential drainage pathways.	Order Limits	N/A	Construction/operation	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
AS09	ES Chapter 11: Agriculture and Soils [APP-079]	Wastage and disposal of soil during construction	Soil excavated from the project will be reused on site through the backfilling of trenches and for landscaping where practicable and where soil is suitable for reuse (for example, not contaminated and giving consideration to land holdings and applicable biosecurity measures). It is intended that all soil will be reused on site, however if it arises that excess spoil cannot be reused on site, this soil will be taken off site in accordance with measures outlined within the Materials and Waste Management Plan.	Order Limits	Defra (2009a) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
AS10	ES Chapter 11: Agriculture and Soils [APP-079]	Poor handling, movement and reinstatement of soil during construction	Pre-construction soil surveys will be undertaken in areas of underground cable at suitable spacings where soil stripping is proposed and no existing soil survey data is available. This would support the development of detailed soil management measures and will provide soil information to inform the handing, movement and reinstatement of soil during construction.	Order Limits	Defra (2009a) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
Traffic and Transport									
EIA_TT01	ES Chapter 12: Traffic and Transport [APP-080]	Impacts on walker, cyclist and horse riders (WCH) during construction from reduced amenity, fear and intimidation	Install warning signage prior to construction at Church Road, Twinstead to inform users of the road that construction traffic will be using it.	Church Road, Twinstead	N/A	Construction	CEMP (document 7.5)	Requirement 4	Local Highways Authority

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
TT01	ES Chapter 12: Traffic and Transport [APP-080]	Impacts on receptors from traffic and transport changes during construction	The CTMP ( <b>document 7.6</b> ) sets out measures to reduce route and journey mileage to and from and around site, and prevent nuisance to the residents, businesses and the wider community caused by parking, vehicle movements and access restrictions. It also provides suitable control for the means of access and egress to the public highway. The plan also identifies access for emergency vehicles. It also sets out measures to reduce safety risks through construction vehicle and driver quality standards and measures to manage abnormal loads.	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
TT02	ES Chapter 12: Traffic and Transport [APP-080]	Non-compliance with CTMP measures leading to adverse impacts on traffic and transport	The Main Works Contractor will implement a monitoring and reporting system to check compliance with the measures set out within the CTMP ( <b>document 7.6</b> ). This will include the need for a GPS tracking system to be fitted to Heavy Goods Vehicles owned and operated by the Main Works Contractor to check for compliance with authorised construction routes. The contractor(s) will also be expected to monitor the number of construction vehicles between the site and the strategic road network. Deviations from the authorised routes or changes to traffic levels that are higher than the Transport Assessment assumptions will require discussion of the need for additional mitigation measures with highways authorities.	Order Limits	N/A	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
TT03	ES Chapter 12: Traffic and Transport [APP-080]	Disruption to public right of way (PRoW) network during construction works	All designated ProW crossing the working area will be managed with access only closed for short periods while construction activities occur. Any required temporary diversions will be clearly marked at both ends with signage explaining the diversion, the duration of the diversion and a contact number for any concerns.	Order Limits	Countryside and Rights of Way Act 2000	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority
N/A	N/A	Impacts on traffic and transport from transport of abnormal loads	Where an STGO applies to the project, this will be undertaken in accordance with Government guidance transporting abnormal loads (GOV.UK, 2022). This is anticipated to require the use of escort vehicles. Full details for all notice periods are set out in the Special Types enforcement guide (Driver and Vehicle Standards Agency, May 2018).	Order Limits	GOV.UK (2022) Transporting abnormal loads Driver and Vehicle Standards Agency (2018) Special Types enforcement guide	Construction	CTMP ( <b>document 7.6</b> )	Requirement 4	Local Highways Authority
N/A	N/A	Impacts on receptors from programmed diversions and closures	Advance notifications of programmed diversions and closures will be issued to major road users and businesses, including Royal Mail. This will include providing notice of any road closures, diversions or alternative access arrangements that may affect travel on those routes and the agreed hours of working at least one month prior to works taking place.	Order Limits	N/A	Construction	CTMP ( <b>document 7.6</b> )	Requirement 4	Local Highways Authority
Air Quality									
AQ01	ES Chapter 13: Air Quality [APP-081]	To avoid AQMAs	Construction traffic will not be routed through Sudbury Air Quality Management Area (AQMA).	Sudbury AQMA	The Air Quality Strategy for England, Scotland, Wales, and Northern Ireland, 2007	Construction	CEMP ( <b>document 7.5</b> )	Requirement 4	Relevant Planning Authority

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
Noise and Vibration									
EM-P03	ES Chapter 4: Project Description [APP-072] ES Chapter 14: Noise and Vibration [APP-082]	Maintain or improve noise levels created by the project	The project will include triple Araucaria conductors or alternative technology that performs to the same or better standard in relation to noise on standard lattice pylons.	Overhead lines	The Noise Policy Statement for England (2010)	Construction / Operation	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
EM-H01	ES Chapter 4: Project Description [APP-072] ES Chapter 14: Noise and Vibration [APP-082]	Impacts on noise sensitive receptors	The GSP substation will include a noise enclosure around the transformers and this is built into the designs.	GSP substation	The Noise Policy Statement for England (2010)	Operation	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
NV01	ES Chapter 14: Noise and Vibration [APP-082]	Impacts on noise sensitive receptors	Construction working will be undertaken within the agreed working hours set out within the DCO. Examples of best practicable means to reduce construction noise are set out within the CEMP (document 7.5).	Order Limits	Control of Pollution Act 1974, British Standard 5228-1:2009+A1:2014. Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1 and 2	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority
EIA_NV01	ES Chapter 14: Noise and Vibration [APP-082]	Impacts on noise sensitive receptors	<p>Additional temporary noise mitigation measures (site-specific best practicable means) will be put in place to reduce noise levels from construction plant and machinery at the following locations, unless a detailed assessment is undertaken which demonstrates that no significant noise impacts would occur:</p> <ul style="list-style-type: none"> <li>Underground cables approximately 160m to the south of Dews Hall Education Centre, Henny Road, Lamarsh, CO8 5EX (588737, 236699);</li> <li>Pylon 4Y004A (Realignment/construction) (609163, 245621);</li> <li>Pylon RB44 (Construction) (292553, 237006);</li> <li>Pylon RB7 (Construction) (608185, 244251);</li> <li>Pylon RB33 (Construction) (600664, 239851);</li> <li>Pylon RB25 (Construction) (603394, 240956);</li> <li>Pylon 4YLA002 (Removal) (587008, 236421);</li> <li>Trenchless crossing of the River Stour (night-time works) (589271, 236627 and 589846, 236774);</li> <li>Trenchless crossing of the Sudbury Branch Railway Line (night-time works) (588758, 236508 and 589213, 236612); and</li> <li>Trenchless crossing to the south of Ansell's Grove (night-time works) (587186,235954 and 587832, 236098).</li> </ul>	Various locations	Control of Pollution Act 1974, British Standard 5228-1:2009+A1:2014. Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1 and 2	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority

ID	ES Reference(s)	Potential Changes and Effects	Measure Proposed	Location	Reference to Policy, Guidance and Legislation (Where Relevant)	Project Phase	Delivery Mechanism	DCO Requirement or Schedule	Discharging Authority
EIA_NV02	ES Chapter 14: Noise and Vibration [APP-082]	Impacts on noise sensitive receptors	Additional temporary measures will be put in place to reduce vibration levels from construction plant and machinery at pylon 4Y004A, to the east of Hill House Farm, Burstall Hill (609110, 245633), unless a detailed assessment is undertaken which demonstrates that no significant vibration impacts would occur.	Pylon 4Y004A - east of Hill House Farm, Burstall Hill (609110, 245633)	Control of Pollution Act 1974	Construction	CEMP (document 7.5)	Requirement 4	Relevant Planning Authority

# Acronyms

Acronym	Full Reference
AFS	Archaeological Framework Strategy
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
ATT	Archaeological Trial Trenching
CEMP	Construction Environmental Management Plan
CifA	Chartered Institute for Archaeologists
CoCP	Code of Construction Practice
CSE	Cable sealing end
CTMP	Construction Traffic Management Plan
CWS	County Wildlife Site
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DLL	District Level Licensing
DWSI	Detailed Written Scheme of Investigation
EIA	Environmental Impact Assessment
FRAP	Flood Risk Activity Permit
GCN	Great crested newt
GREEN	Green Energy Enablement
GSP	Grid Supply Point
IAQM	Institute of Air Quality Management
kV	kilovolt
LEMP	Landscape and Ecological Management Plan
LNR	Local Nature Reserve
LoWS	Local Wildlife Site
MoRPHE	Management of Research Projects in the Historic Environment
MWMP	Materials and Waste Management Plan
OAE	Open Area Excavation
OWSI	Outline Written Scheme of Investigation



Acronym	Full Reference
PEA	Post-Excavation Assessment
PoAWS	Potential Ancient Woodland Site
REAC	Register of Environmental Actions and Commitments
RPA	Root Protection Area
SMS	Strip Map and Sample
SSSI	Site of Special Scientific Interest
STGO	Special Types General Order
SuDS	Sustainable drainage system
UPD	Updated Project Design

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Flood and Water Management Act 2010.

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Protection of Badgers Act 1992.

Salmon and Freshwater Fisheries Act 1975.

The Control of Pollution (Oil Storage) (England) Regulations 2001.

The Eel (England and Wales) Regulations 2009.

The Hedgerows Regulations 1997 (amended 2003).

The Natural Environment and Rural Communities Act 2006.

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Wildlife and Countryside Act 1981 (as amended).

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