Yorkshire GREEN Project

Environmental Impact Assessment

Preliminary Environmental Information Report
Volume two: Chapter 8 Biodiversity

October 2021

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Contents

8. Biodiversity

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8. Biodiversity

8.1 Introduction

8.1.1 This chapter presents the preliminary assessment of the likely significant effects of the Yorkshire Green Energy Enablement (GREEN) Project (hereafter referred to as 'the Project') with respect to biodiversity, including terrestrial and aquatic ecology and ornithology. The preliminary assessment is based on information obtained to date. It should be read in conjunction with the Project description provided in **Chapter 3: Description of the Project** and with respect to relevant parts of the following chapters:

- **Chapter 6: Landscape and Visual Amenity** (due to the close association between some landscape receptors and ecological features (habitats/flora) and the potential for overlapping embedded environmental measures);
- **Chapter 9: Hydrology** and **Chapter 10: Geology and Hydrogeology** (due to the close association between some habitats, flora and fauna, and local hydrology);
- **Chapter 12: Traffic and Transport** (due to the potential for disturbance associated with the Project to negatively affect habitats, flora and fauna, potential for traffic/plant emissions associated with the Project to negatively affect habitats, flora and fauna, and potential for road traffic collisions with fauna associated with the Project);
- **Chapter 13: Air Quality** (due to the potential for emissions and dust associated with the Project to negatively affect habitats, flora and fauna); and
- **Chapter 14: Noise and Vibration** (due to the potential for fauna to be disturbed or displaced by noise and vibration associated with the Project).

8.1.2 This chapter describes the following where relevant to biodiversity:

- the legislation, policy and technical guidance that has informed the assessment (**Section 8.2**);
- consultation and engagement that has been undertaken and how comments from consultees have been addressed (**Section 8.3**);
- the methods used for baseline data gathering (**Section 8.4**);
- overall baseline (**Section 8.5**);
- embedded environmental measures (**Section 8.6**);
- the scope of the assessment (**Section 8.7**);
- the methods used for the assessment (**Section 8.8**);
- the preliminary assessment of effects (**Section 8.9**);
- preliminary assessment of cumulative (inter-project) effects (**Section 8.10**);
- a summary of the preliminary significance conclusions (**Section 8.11**);
- additional measures proposed (**Section 8.12**); and

- an outline of further work to be undertaken for the Environmental Statement (ES) (**Section 8.13**).

8.1.3 This technical chapter has a structure that differs from others within this PEIR to reflect Ecological Impact Assessment (EcIA) guidance provided by the Chartered Institute of Ecology and Environmental Management (CIEEM)[1].

8.1.4 A separate Habitats Regulation Assessment (HRA) Screening Report will be produced to determine whether the Project would have Likely Significant Effects (LSEs) on any European sites (see **Section 8.8**).

Project overview

8.1.5 In summary Yorkshire GREEN comprises the following new infrastructure within the draft Order Limits:

- Shipton North and South 400kV cable sealing end compounds (CSECs);
- The YN 400kV overhead line (north of proposed Overton Substation);
- Overton 400/275kV Substation;
- Two new sections of 275kV overhead line south of Overton Substation: the XC 275 kV overhead line to the west and the SP 275kV overhead line to the east;
- Tadcaster Tee West and East 275kV cable sealing end compounds; and
- Monk Fryston 400kV Substation (adjacent to the existing substation).

8.1.6 Works to existing infrastructure within the draft Order Limits would comprise:

- Replacement of one pylon on the 2TW/YR 400kV overhead line;
- Works to the existing XC/XCP Monk Fryston to Poppleton overhead line comprising a mixture of decommissioning, replacement and realignment east of Moor Monkton and reconductoring works south of Moor Monkton. This overhead line would be reconfigured at its southern end to connect into the proposed substation at Monk Fryston;
- Replacement of one pylon on the Tadcaster Tee to Knaresborough (XD/PHG) 275kV overhead line route;
- Reconfiguration and removal of a short span of the Monk Fryston to Eggborough 400kV 4YS overhead line to connect this overhead line into the proposed substation at Monk Fryston; and
- Minor works at Osbaldwick Substation comprising the installation of a new circuit breaker and isolator along with associated cabling, removal and replacement of one gantry and works to one existing pylon. All works would be within existing operational land.

8.1.7 Please refer to **Chapter 3: Description of the Project** and **Figures 1.1** and **1.2** for an overview of the different components of the Project.

[1] CIEEM (2018, updated 2019). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal. Second Edition v1.1.

Limitations and assumptions

8.1.8 The information provided in this PEIR is preliminary, and the final assessment of likely significant effects will be reported in the ES. The PEIR has been produced to fulfil National Grid Electricity Transmission Plc's (National Grid) consultation duties and enable consultees to develop an informed view of the likely significant effects of the Project, and comment on this during statutory consultation before the design of the Project is finalised and taken forward to submission of the application for development consent.

8.1.9 The assessment within this chapter is based on surveys and data gathered to the point of writing[2], and as such, it cannot be taken as a complete picture of the potential presence and significance of important[3] ecological features[4] that could be affected by the Project. The baseline information and assessment will subsequently be updated as further baseline surveys are undertaken in line with the final design and will be provided in full and final form within the ES. However, the information and assessments undertaken are considered to be sufficient to provide an informed view of the likely significant effects of the Project on biodiversity and on which to base the remaining survey and assessment works.

8.1.10 As indicated in the baseline sections (within **Sections 8.4 – 8.5**), it is intended to conduct surveys for important features in 2021 and early 2022. These surveys are to allow for further design development and to complete habitat and species-specific baseline data collection. This will allow for further assessment of the potential effects of the Project in the ES.

8.1.11 The decision as to whether to carry out further survey is influenced by two factors: the potential presence of important features considered likely to be present in the zone of influence (ZoI), and the potential for likely significant effects to arise as a result of the Project. Further survey may need to be carried out:

- where data are incomplete to date, due to amended or extended draft Order Limits, land access constraints, or seasonal timing of surveys; and
- to inform the design and planning of site-specific design and development of embedded environmental measures and additional mitigation in advance of application for development consent being submitted.

8.1.12 There remains a risk that site access may be refused in a limited number of locations prior to submission of the Development Consent Order (DCO) application. Where gaps in baseline survey data remain, an alternative survey approach will be discussed with relevant stakeholders. The approach will be designed to ensure that the information and assessments undertaken are robust enough to provide a sufficiently informed view of the likely significant effects of the Project on biodiversity. Preliminary discussions with Natural England indicate that this approach is likely to be acceptable[5].

8.1.13 In the interim, a "worst case scenario" has been assumed for the purposes of the assessment. It is considered that the implementation of embedded environmental measures (see **Section 8.6**) and where relevant, any further, detailed mitigation outlined within this Chapter, would prevent any significant effects to the integrity or

[2] To date extended Phase 1 habitat surveys and badger surveys have been carried out across an estimated 66% of land within the draft Order Limits and 50m buffer.
[3] Ecological features can be important for a variety of reasons related for example to the quality or extent of designated sites or habitat, to habitat/species rarity, or to the extent to which they are threatened throughout their range, or to their rate of decline.
[4] Ecological feature is the term used in this chapter to describe terrestrial ecology and nature conservation receptors. This is to maintain consistency of terms between this assessment and the EcIA guidance provided by CIEEM (CIEEM, 2018, updated 2019).
[5] Email setting out proposed alternative survey approach to inaccessible land discussed with Debbie Hall, Natural England, 15/07/21.

favourable conservation status of receptors within these additional areas (either habitat or species), and prevent breaches of legislation. This is discussed in the relevant ecological feature section as applicable.

8.1.14 The specific details of construction activities, effects and thus embedded environmental measures are subject to change. The evaluation of effects on ecological features has been carried out based on the methods and approaches to the delivery of construction works typical of this Project as presented in **Chapter 3: Description of the Project** which are considered to represent a reasonable worst case. Thus, at this point, embedded environmental measures are limited to those described in **Section 8.6**.

8.1.15 The evaluation of effects and significance for all ecological features will be examined and assessed in full in the ES, once precise effects and embedded environmental measures specific to the final design of the Project are available.

8.2 Relevant legislation, planning policy and technical guidance

8.2.1 This section identifies the legislation, planning policy and technical guidance that has informed the assessment of effects with respect to biodiversity. Further information on policies relevant to the Project is provided in **Chapter 5: Legislation and Policy Overview**.

Legislation

8.2.2 A summary of the relevant legislation is given in **Table 8.1**.

Table 8.1 – Legislation relevant to the biodiversity assessment

Legislation	Legislative Context
Convention on Wetlands of International Importance 1972[6].	The UK Government is a signatory to the Convention on Wetlands of International Importance 1972 (“the Ramsar Convention”). The Ramsar Convention provides for the listing of wetlands of international importance. UK Government policy is to give sites listed under this convention (“Ramsar Sites”) the same protection as European sites and the new national site network.
Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[7]	Council Directives 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (“the Habitats Directive”) and 2009/147/EC on the conservation of wild birds (“the Birds Directive”) provide for the designation of sites for the protection of certain species and habitats. The sites designated under these Directives are collectively termed European sites and form part of a network of protected sites across Europe, known as the

[6] United Nations. Convention on Wetlands of International Importance especially as Waterfowl Habitat. 1994. (Online) Available from: https://www.ramsar.org/sites/default/files/documents/library/current_convention_text_e.pdf (Accessed August 2021)..
[7] UK Government. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. 2019. (Online) Available from: https://www.legislation.gov.uk/uksi/2019/579/contents/made (Accessed August 2021).

Legislation	Legislative Context
	Natura 2000 network. In the UK the Habitats Regulations transpose these Directives into national law and apply up to the 12 nautical mile limit of territorial waters. The Conservation of Habitats and Species Regulations 2017 (as amended) are one of the pieces of domestic law that transposed the land and marine aspects of the Habitats Directive and certain elements of the Wild Birds Directive. The changes are made by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the UK no longer form part of the EU's Natura 2000 ecological network. The 2019 Regulations have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes existing SACs and SPAs, and new SACs and SPAs designated under these Regulations. Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new national site network. The Regulations make it an offence to deliberately capture, injure, kill or disturb any European Protected Species (EPS) listed in Schedule 2, or to damage or destroy a breeding site or resting place of such an animal, and plants listed in Schedule 5. The Conservation of Habitats and Species Regulations also provide protection for EPS flora and fauna. The regulations set out the process with regard to the assessment of development.
Natural Environment and Rural Communities (NERC) Act 2006 (as amended)[8]	Section 40 states "*every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.*" The NERC Act also places a duty on the Secretary of State to maintain lists of species and habitats which are regarded as being of principal importance for the conservation of biodiversity in England. These Habitats of Principal Importance (HPI) and Species of Principal Importance (SPI) are used to guide

[8] UK Government. Natural Environment and Rural Communities (NERC) Act 2006 (as amended). 2006. (Online) Available from: https://www.legislation.gov.uk/ukpga/2006/16/contents (Accessed August 2021).

Legislation	Legislative Context
	decision makers in implementing their duties to have regard to the conservation of biodiversity in England when carrying out their normal functions.
Wildlife and Countryside Act 1981 (as amended)[9]	The Wildlife and Countryside Act 1981 (as amended) is the principal mechanism for the legislative protection of wildlife in England. This legislation is the means by which the Convention on the Conservation of European Wildlife and Natural Habitats (the 'Bern Convention') and the European Union Directives on the Conservation of Wild Birds (79/409/EEC) and Natural Habitats and Wild Fauna and Flora (92/43/FFC) are implemented in England. It affords various levels of protection to species of plants and animals listed in Schedules one, five, six and eight of the Act, with Schedule nine listing species which it is an offence to allow to spread in the wild.
Badger Act 1992[10]	Provides legal protection for badgers (*Meles meles*) by making it illegal to kill or injure a badger, disturb a badger while occupying a sett, or to damage or obstruct a badger sett.
Countryside and Rights of Way Act 2000 ('the CRoW Act')[11]	The CRoW Act, amongst other elements, details further measures for the management and protection of Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation.
Hedgerow Regulations 1997[12]	Legislation that protects 'important' hedgerows from damage or destruction.
The Eels Regulations (England and Wales) 2009[13]	The Environment Agency must be notified of the construction, alteration or maintenance of any structure (or removal of) likely to affect the passage of eels (*Anguilla anguilla*). Where any such structure exists an eel pass must be constructed to allow free passage. Measures are also required at any water abstraction or discharge points.

[9] UK Government. Wildlife and Countryside Act 1981. 1981. (Online) Available from: https://www.legislation.gov.uk/ukpga/1981/69/contents (Accessed August 2021).
[10] UK Government. Protection of Badgers Act 1992. 1992. (Online) Available from: https://www.legislation.gov.uk/ukpga/1992/51/contents (Accessed August 2021).
[11] UK Government. Countryside and Rights of Way Act 2000. 2000. (Online) Available from: https://www.legislation.gov.uk/ukpga/2000/37/contents (Accessed August 2021).
[12] UK Government. The Hedgerows Regulations 1997. 1997. (Online) Available from: https://www.legislation.gov.uk/uksi/1997/1160/contents/made (Accessed August 2021).
[13] UK Government. The Eels Regulations (England and Wales) 2009. 2009. (Online) Available from: https://www.legislation.gov.uk/uksi/2009/3344/contents (Accessed August 2021).

Planning policy

8.2.3 A summary of the relevant national and local planning policy is given in **Table 8.2**.

Table 8.2 – Planning policy relevant to the biodiversity assessment

Policy	Policy Context
National planning policy	
Overarching National Policy Statement for Energy (EN-1)[14]	Section 4.3.1: Notes that prior to an order to grant development consent, due consideration must be given by the IPC (now the Secretary of State) as to whether the project may have a significant effect on a European site, or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects in respect of the Habitats and Species Regulations. Section 5.3: Discusses the generic biodiversity and geological conservation effects associated with energy infrastructure, recognising the need to protect the most important biodiversity and geological conservation interests. It states that the applicant should ensure the ES clearly sets out any effects on internationally, nationally and locally designated sites of ecological importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity. *International Sites*: most important sites for biodiversity identified through international conventions and European Directives. The Habitats Regulations provide statutory protection for these sites. Listed Ramsar Sites should also receive the same protection. *Sites of Special Scientific Interest (SSSIs)*: for development considered likely to have an adverse effect on an SSSI consent should not normally be granted. For adverse effects after mitigation, consent should only be made where the benefits clearly outweigh the impact on features of the site and the national network of SSSIs. *Regional/Local sites*: given the need for new infrastructure, these should not be used in themselves to refuse consent.

[14] Department of Energy and Climate Change (2011), Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf (Accessed August 2021)

Policy	Policy Context
	Ancient woodland: consent should not be granted that results in loss/damage unless outweighed by the benefits. The loss of aged/veteran trees outside of areas of ancient woodland should be avoided and where affected all reasonable alternatives considered prior. *Species of Principal Importance (SPI) and Habitats of Principal Importance (HPI)*: important for the conservation of biodiversity in England and therefore should be protected from adverse effects.
National Policy Statement for Electricity Networks Infrastructure (EN-5)[15]	Section 2.7:States that consideration needs to be made of the potential for large birds to collide with overhead lines during flight or be electrocuted when perching, both with the potential to cause injury/death. If there is a risk of this occurring, avoidance or reduction measures should be implemented. Particular consideration should be given to feeding and hunting grounds, migration corridors and breeding grounds and appropriate mitigation such as the placement of the line and its visibility should be proposed where necessary.
National Planning Policy Framework (NPPF)[16]	Section 15: Focuses on the natural environment. It requires planning policies and decisions to contribute to and enhance the natural and local environment by protecting and enhancing sites of biodiversity proportionately to statutory status or identified quality; recognising wider benefits from natural capital and ecosystem services; and minimising impacts on and providing net gains for biodiversity (paragraph 174). Plans should identify, map and safeguard biodiversity interest and networks, including wildlife corridors, the hierarchy of designated sites, and areas identified by national and local, partnerships. They should also promote conservation, restoration and enhancement including HPI and SPI, as well as securing measurable net gain (paragraph 174).

[15] Department of Energy and Climate Change (2011), National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37050/1942-national-policy-statement-electricity-networks.pdf [Accessed August 2021]
[16] Ministry of Housing, Communities and Local Government (2021). The National Planning Policy Framework (NPPF). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1004408/NPPF_JULY_2021.pdf (Accessed August 2021)

Policy	Policy Context
	If significant harm to biodiversity will result from a development that cannot be avoided, mitigated, or compensated for, permission will be refused unless the benefits of development outweigh impacts, or exceptional reasons and compensation apply, and opportunities to improve biodiversity should be in their design, especially where this can secure measurable net gains or enhance public access (paragraph 180). Potential, possible, listed or proposed sites, and those that are an identified compensatory measure, are to be protected as the equivalent designation (paragraph 181). Potential impacts on sites requiring appropriate assessment will be considered ahead of the presumption for sustainable development (paragraph 182).
Local planning policy	
Harrogate District Local Plan, 2014-2035[17]	Policy HP2: Heritage Assets Proposals for development that would affect heritage assets will be determined in accordance with national planning policy. Policy HP3: Local Distinctiveness Development should incorporate high quality building, urban and landscape design that protects, enhances or reinforces features that contribute to local distinctiveness. Policy NE3: Protecting the Natural Environment states proposals that protect/ enhance and provide net gains in biodiversity will be supported. To be achieved by considering proposals affecting designated sites within the context of their statutory protection and permitting development that impacts local sites only where alternate sites are considered and harm can be avoided, mitigated or compensated for. Permitting proposals impacting HPI/SPI/Harrogate priority habitats/species only if harm can be avoided or mitigated and refusing permission for development resulting in the loss or deterioration of irreplaceable habitats unless the need for development clearly outweigh the loss. Lastly proposals for developments should

17 Harrogate Borough Council (2020). Harrogate District Local Plan 2014-2035. [online]. Available at: https://www.harrogate.gov.uk/planning-policy-guidance/harrogate-district-local-plan-2014-2035 [Accessed 31 March 2021].

Policy	Policy Context
	avoid net loss of biodiversity and provide net gain increasing connectivity of habitats and restoring HPI/other natural habitats if possible. Furthermore paragraph 9.25 notes that permission should be refused that likely adversely effects biodiversity unless the need for development clearly outweighs the loss. If avoidance/mitigation is not possible on-site, then off-site compensation may be required.
Hambleton Local Development Framework: Core Strategy Development Plan Document, 2007 [18]	Policy CP16: Protecting And Enhancing Natural And Man-Made Assets stipulates that development that harms biodiversity assets will not be supported but support will be given to development that improves the natural environment. Policy DP31: Protecting natural resources: biodiversity/nature conservation states permission will not be given for development causing harm to sites/habitats of nature conservation or protected/notable species. Support will be given to habitat enhancement specifically Local Biodiversity Action Plan habitats. Furthermore, sites designated under national legislation will be protected while locally important sites will be protected and enhanced as appropriate to their local importance.
Hambleton draft Local Plan – Publication Draft, 2019[19]	Policy E3: The Natural Environment shows how the council will consider biodiversity and development in that any development that may impact a SINC, or a non-designated site or feature of biodiversity interest will only be supported where the mitigation hierarchy is followed, and the need outweighs the loss of any affected biodiversity features. Development that impacts an international site will only be supported where there will be no likely significant effects and no adverse effects on the integrity of the site unless there are no alternatives, and it is justified by an 'imperative reasons of overriding public interest' (IROPI) assessment.

[18] Hambleton District Council (2007). Local Development Framework Development Plan Document Core Framework. (Online) Available from: https://www.hambleton.gov.uk/downloads/file/1667/core-strategy-local-development-framework-development-plan-document (Accessed August 2021).
[19] Hambleton District Council. Hambleton Local Plan – Publication Draft. 2019. (Online) Available from: https://www.hambleton.gov.uk/downloads/download/224/local-plan-submission-core-documents (Accessed August 2021).

Policy	Policy Context
Saved Policies of the York Local Plan, 2005[20]	Policy NE1: Trees, Woodlands and Hedgerows Trees, woodlands and hedgerows which are of value will be protected. Policy NE2: River and Stream Corridors, Ponds and Wetland Habitats Development impacting river and stream corridors, ponds or wetland habitats will not be permitted. Policy NE4a: International and National Nature Conservation Sites and Policy NE5a: Local Nature Conservation Sites Development adversely affecting a designated site will only be permitted where need outweighs the loss. Policy NE5b: Avoidance of, Mitigation and Compensation for Harm to Designated Nature Conservation Sites If development is allowed, compensation is a last resort and there needs to be a net gain to the overall nature conservation interest. NE6: Species Protected by Law Development having an effect on protected species/habitats will be expected to undertake an appropriate assessment demonstrating mitigation measures. Policy NE7: Habitat Protection and Creation Development should retain natural habitats and, where possible, enhance these. Policy NE8: Green Corridors Permission will not be granted where green corridors will be destroyed.
City of York draft Local Plan - Publication Draft, 2018[21]	Policy GI2: Biodiversity and Access to Nature Any development should avoid loss/harm to SINCs unless there is a need for the development that outweighs the loss. The mitigation hierarchy should be considered for loss and developments should where possible result in net gain to, and help to improve, biodiversity. Policy GI3: Green Infrastructure Network

[20] City of York Council (2005). Local Plan Incorporating the 4th Set of Changes (April 2005). Available at: https://www.york.gov.uk/downloads/file/2822/the-local-plan-2005-development-control-local-plan-full-document-and-appendices (Accessed August 2021)

[21] City of York Council. Local Plan – Publication Draft. 2018. (Online) Available from: https://www.york.gov.uk/downloads/file/1314/cd001-city-of-york-local-plan-publication-draft-regulation-19-consultation-february-2018- (Accessed August 2021).

Policy	Policy Context
	In order to protect and enhance green infrastructure, development should create/enhance 'steppingstones and new green corridors improving connectivity between existing biodiversity sites and other open space. Policy GI4: Trees and Hedgerows Development will be supported where it protects overall tree cover. In circumstances where the benefits outweigh retention of significant trees and there are no alternatives, mitigation/compensatory planting will be required.
Upper Poppleton and Nether Poppleton Neighbourhood Plan, 2016 – 2036[22]	Policy PNP 10: Protection of Wooded areas and hedgerows Protects woodland and hedgerows by not supporting removal.
Leeds Saved UDP 2001 and UDP Review 2006 policies[23]	Policy N8: Development should enhance/retain/replace any corridor. Policy N50: Development will not be permitted which harms a designated wildlife site. Policy N51: Design of developments should enhance biodiversity.
Leeds Natural Resources and Waste Local Plan (adopted January 2013 and revised September 2015)[24]	Policy LAND 2: Development and Trees Any development (relating to natural resources or waste) should retain trees and introduce new tree planting. Where trees are removed, replacement should be provided on a minimum three for one basis.
Leeds Core Strategy, 2019[25]	Policy G2: Creation Of New Tree CoverRemoval of ancient woodland or veteran trees will be resisted. Policy G8: Protection Of Important Species And Habitats

[22] Upper Poppleton Parish Council and Nether Poppleton Parish Council. Upper Poppleton and Nether Poppleton Neighbourhood Plan, 2016 – 2036. 2017. (Online) Available from: https://www.york.gov.uk/downloads/file/2832/upper-and-nether-poppleton-neighbourhood-plan-submission-document-2016- (Accessed August 2021).
[23] Leeds City Council. Leeds Unitary Development Plan (Review 2006). 2006. (Online) Available from: https://www.leeds.gov.uk/planning/planning-policy/adopted-local-plan/unitary-development-plan (Accessed August 2021).
[24] Leeds City Council. Adopted Natural Resources and Waste Local Plan. Leeds Local Development Framework. 2015. (Online) Available from: https://www.leeds.gov.uk/docs/Adopted%20Consolidated%20NRWLP%20Inc%20Policies%20Mins%2013-14.pdf (Accessed August 2021).
[25] Leeds City Council. Core Strategy (as amended by the Core Strategy Selective Review 2019) Leeds Local Plan. 2019. (Online) Available from: https://www.leeds.gov.uk/Local%20Plans/Adopted%20Core%20Strategy/Consolidated%20Core%20Strategy%20with%20CSSR%20Policies%20Sept%202019.pdf (Accessed August 2021).

Policy	Policy Context
	Development will not be permitted which harms designated sites, protected species, HPI, SPI or WY BAP unless the need outweighs the loss and impacts are minimised via protection, mitigation, enhancement and compensatory measures. Policy G9: Biodiversity Improvements Requirement to demonstrate a net gain for biodiversity and there is no adverse impact on the Leeds Habitat Network.
Selby District Local Plan, 2005[26]	Development which would harm a Local Nature Reserve (LNR) or SINC (Policy ENV9), ancient woodland (Policy ENV11), river, stream and canal corridors (Policy ENV12) or wildlife value of a pond (Policy ENV13) will not be permitted unless the need outweighs the biodiversity value.
Selby District Core Strategy Local Plan, 2013[27]	Policy SP18: Protecting and Enhancing the Environment Quality of the natural environment will be sustained by safeguarding designated sites from inappropriate development and ensuring development retain and enhance biodiversity features and provide mitigation or as a last resort are compensated for as well as seeking to produce a net gain in biodiversity.
Selby Draft Local Plan - Preferred options, January 2021[28].	Preferred Approach NE4: Protecting Designated Sites and Species Sites/species will be protected by supporting proposals that protect, restore and enhance features of ecological interest. Preferred Approach NE5: Biodiversity Net Gain for Ecological Networks Support proposals that deliver at least a 10% net gain in biodiversity for ecological networks.

Technical guidance

8.2.4 A summary of the technical guidance for biodiversity is given in **Table 8.3**.

[26] Selby District Council. Selby District Local Plan. 2005. (Online) Available at: https://www.selby.gov.uk/selby-district-local-plan-sdlp-2005 (Accessed August 2021).
[27] Selby District Council. Selby District Core Strategy Local Plan. 2013. (Online) Available from: https://www.selby.gov.uk/sites/default/files/Documents/CS_Adoption_Ver_OCT_2013_REDUCED.pdf (Accessed August 2021).
[28] Selby District Council. Preferred Options Local Plan. 2021. (Online) Available from: https://selby-consult.objective.co.uk/kse/event/36012/section/5532748 (Accessed August 2021).

Table 8.3 – Technical guidance relevant to the biodiversity assessment

Technical Guidance Document	Context
CIEEM (2019) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal. Second Edition v1.1[1]	Provides guidance that is relevant to the assessment of potentially significant effects on biodiversity.
IEMA (1995) Guidelines for Baseline Ecological Assessment [29]	Provides guidance that is relevant to the assessment of potentially significant effects on biodiversity.
CIEEM (2017) Guidelines for Preliminary Ecological Appraisal: Second Edition [30]	Provides guidance that is relevant to the assessment of potentially significant effects on biodiversity.
BS 42020:2013. Biodiversity: Code of practice for planning and development[31]	British Standard 42020 "gives recommendations and guidance for those in the planning and development and land use sectors whose work might affect or have implications for the conservation or enhancement of biodiversity. As such it is applicable to professionals working in the fields of ecology, land use planning, land management, architecture, civil engineering, landscape architecture, forestry, arboriculture, surveying, building and construction." It provides guidance on how to produce ecological information to accompany planning applications. It recommends that ecological impacts should be assessed and recommendations for mitigation, compensation and enhancement should be made in accordance with the Guidelines for Ecological Impact Assessment1, and provides guidance on the mitigation hierarchy.

8.3 Consultation and engagement

Overview

8.3.1 The assessment has been informed by consultation responses and ongoing stakeholder engagement. An overview of the approach to consultation is provided in **Section 4.4** of **Chapter 4: Approach to Preparing the PEIR**.

[29] Institute of Environmental Assessment (1995). Institute of Environmental Assessment: Guidelines for Baseline Ecological Assessment. London: Taylor & Francis.
[30] CIEEM (2017). Guidelines for Preliminary Ecological Appraisal: Second Edition. [online] Available at: https://cieem.net/wp-content/uploads/2019/02/Guidelines-for-Preliminary-Ecological-Appraisal-Jan2018-1.pdf [Accessed 11 August 2021].
[31] British Standards Institute (2013). BS 42020:2013. Biodiversity: Code of practice for planning and development.

Scoping Opinion

8.3.2 A Scoping Opinion was adopted by the Secretary of State, administered by the Planning Inspectorate, on 28 April 2021.

8.3.3 The information provided in the PEIR is preliminary and not all of the Scoping Opinion comments have been addressed at this stage, however all comments will be addressed within the ES.

Table 8.4 – Summary of EIA Scoping Opinion responses for biodiversity

Consultee	Consideration	How addressed in this PEIR
Planning Inspectorate	The Inspectorate notes the potential need to carry out an assessment under The Conservation of Habitats and Species Regulations 2017 ('the Habitats Regulations'), as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. This assessment must be co-ordinated with the EIA in accordance with Regulation 26 of the EIA Regulations.	The Habitats Regulations, as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[7]etailed in **Table 8.1** have been considered via the separate HRA which has also informed the assessment of effects with respect to biodiversity.
Planning Inspectorate	The Inspectorate agrees that the Strensall Common SAC can be scoped out of the ES on the basis that significant effects on its qualifying features due to air quality impacts are unlikely to arise due to distance of the Proposed Development (ie approximately 4. 71km east) from the SAC.	Strenshall Common SAC is scoped out of the PEIR. Reference to this site was included in the Scoping Report for context only. As it is beyond the 2km area of search and the Planning Inspectorate has confirmed agreement with scoping out this site it is not referred to further within this PEIR chapter.
Planning Inspectorate	Micklefield Quarry SSSI and Tadcaster Mere SSSI: Given that no ecological features are cited on the designation, the Inspectorate agrees that both sites may be scoped out from further biodiversity assessment.	Micklefield Quarry SSSI and Tadcaster Mere SSSI are both outside the SSSI area of search from the draft Order Limits and are both scoped out of the PEIR.
Planning Inspectorate	The Inspectorate considers that effects on dormice may be scoped out on the basis of the arguments presented.	Effects on dormice (*Muscardinus avellanarius*) are scoped out of the PEIR.
Planning Inspectorate	The Inspectorate does not consider there is sufficient information to reasonably conclude that there will be	Suitable reptile habitat is identified through extended Phase 1 habitat surveys and

Consultee	Consideration	How addressed in this PEIR
	no likely significant effects for [reptiles]. Therefore, this matter should be scoped into assessment where significant effects are likely to occur.	the requirement for targeted reptile surveys to inform the assessment is considered relative to the evolving design should significant effects be likely. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Planning Inspectorate	The Inspectorate agrees that significant effects on white-clawed crayfish populations are unlikely to occur. The Inspectorate is satisfied for this matter to be scoped out of assessment.	Effects on white-clawed crayfish (*Austropotamobius pallipes*) are scoped out the of PEIR[32].
Planning Inspectorate	In the absence of any physical ecological survey data to inform the baseline, and the potential for further changes to the design/extent of the Proposed Development the Inspectorate does not consider there is sufficient information to reasonably conclude that there will be no likely significant effects for [non-Schedule 1 nesting birds]. Therefore, this matter should be scoped into assessment where significant effects are likely to occur.	Where significant effects are likely to occur to non-Schedule 1 nesting birds, they shall be scoped into the assessment. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Planning Inspectorate	In absence of any physical ecological survey data to inform the baseline, and the potential for further changes to the design/ extent of the Proposed Development, the Inspectorate does not consider there is sufficient information to reasonably conclude that there will be no likely significant effects for [waterbird assemblage]. Therefore, this matter should be scoped into assessment where significant effects are likely to occur.	Where significant effects are likely to occur to the waterbird assemblage, they shall be scoped into the assessment. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Planning Inspectorate	Paragraph 7.3.2 states that "During the Yorkshire Green Briefing #2 conference call (23 February 2021) it was confirmed	A copy of the minutes of the meeting, including list of attendees and matters

[32] Although two records of white-clawed crayfish were obtained in the Study Area after publication of the Scoping Report, these are ~1.47km outside the draft Order Limits and from a tributary of the River Wharfe which is dominated by signal crayfish within and upstream of the draft Order Limits. Consequently white-clawed crayfish remain scoped out of this assessment.

Consultee	Consideration	How addressed in this PEIR
	that there was no requirement for bird flight activity surveys to be scoped into the survey schedule, and that the proposed approach to the ornithological survey scope was acceptable". No further information is provided in relation to the 'Yorkshire Green Briefing #2 conference call'; specifically, the Scoping Report does not provide a list of attendees or a summary of matters agreed/ not agreed. In absence of such information or evidence of agreement with the relevant statutory bodies, the Inspectorate cannot agree that bird flight activity surveys should be excluded from the scope of assessment at this stage. This matter should be assessed within the ES where significant effects are likely to occur, or robust evidence and agreement with consultation bodies should be provided to justify its exclusion.	agreed is included in **Appendix 8B** (and will be included in an appendix to the ES) as evidence of agreement to the scoping out of bird flight activity surveys.
Planning Inspectorate	The Inspectorate agrees that the emissions of dust resulting in dust deposition and emissions associated with construction and operational traffic on ecological receptors can be scoped out of the ES, on the basis set out at ID 4.9.2, 4.9.4 and 4.9.5 respectively.	Effects associated with dust deposition and emissions as a result of construction and operational traffic are scoped out of the PEIR.
Planning Inspectorate	The Inspectorate has concluded that water quality during construction and operation should be scoped into the ES on the basis set out at ID 4.5.1. Therefore, the ES should consider the impact of change in water quality to designated sites and HPI with freshwater habitats and species associated with freshwater habitats where significant effects are likely to occur.	Significant effects on ecological features due to changes in water quality during construction and operation are scoped into the assessment (e.g. effects on designated sites and HP) with freshwater habitats and species associated with freshwater habitats) where they are likely to occur. Embedded environmental measures in **Section 8.6** have been designed to minimise effects.
Planning Inspectorate	The desk study assessment identifies European eel as a protected species present within the Scoping red line	The potential for European eel is assessed as part of the extended Phase 1

Consultee	Consideration	How addressed in this PEIR
	boundary and surrounding 2km (table 7.5). The Inspectorate notes that table 7.2 (Legislation relevant to biodiversity) does not include reference to The Eels Regulations (England and Wales) 2009, nor does it include reference to Eel Recovery Plans or Eel Management Plans. The ES should include reference to the Eel Regulations and any relevant requirements. Where proposed works are anticipated to impact eel populations, the Applicant should agree the approach to meeting the requirements of the Eels Regulations with the EA and other relevant bodies, including any requirements for eel survey and the provision of eel and other fish pass facilities	habitat survey. If required, detailed eel surveys will be undertaken prior to production of the ES. The PEIR includes reference to The Eels Regulations (England and Wales) 2009 [33] and Eel Management Plans (see **Table 8.1** and **Table 8.7** respectively) The potential for the evolving design to affect European eel (principally through in-channel works) will be kept under review. Consultation with the Environment Agency will be undertaken where significant effects on European eel are anticipated and survey methodology and mitigation agreed as appropriate. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Planning Inspectorate	At table 7.4 and figure 7.1, the River Derwent is classified as a SSSI; however, it is not reflected that the site is also a SAC. This should be updated in the ES and effects on its qualifying features should be assessed where significant effects are likely to occur.	The PEIR includes reference to the River Derwent SAC (see **Section 8.5**) and clarifies the reasons that it has been scoped out of the assessment. The River Derwent SAC will be taken into account in the Habitat Regulations Assessment process.
Planning Inspectorate	The desk assessment identified several protected/ notable freshwater species within the Scoping red line boundary and surrounding 2km (table 7.5). The Scoping Report does not, however, set	Relevant ZoIs are outlined in **Table 8.15** and in **Appendix 8A,** specifically **Table 8A.2**. The potential for protected/notable freshwater fish species is assessed as

[33] UK Government. The Eels Regulations (England and Wales). 2009 [online] Available at: https://www.legislation.gov.uk/uksi/2009/3344/contents/made?regulation-6-1

Consultee	Consideration	How addressed in this PEIR
	out individual Zones of Influence (ZoI) specific to these ecological features. Furthermore, table 7.11 does not include fish surveys despite the potential for impacts to watercourses and several protected/ notable fish species having been identified in table 7 .5. The Scoping Report does not present a justification for the exclusion of fish surveys from the 'Field survey programme' provided (table 7.11).	part of extended Phase 1 habitat survey. If required, detailed freshwater fish surveys will be undertaken prior to final ES. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Planning Inspectorate	The Inspectorate considers that there is potential for protected and migratory fish species to be present within watercourses potentially impacted by the Proposed Development, including species that move between freshwater and marine environments (eg European eel, Atlantic salmon (Salmo salar), brown/ sea trout (Salmo trutta), and sea lamprey (Petromyzon marinus), as identified in table 7.5) that may be functionally linked to other nearby protected sites. The ES should present this information and assess impacts associated with the construction and operation of the Proposed Development on freshwater species where significant effects are likely to occur.	The potential for protected/notable freshwater fish species is assessed as part of the extended Phase 1 habitat survey. If required, detailed freshwater fish surveys will be undertaken prior to production of the ES. The potential for the evolving design to affect fish (principally through in-channel works) will be kept under review. Consultation with relevant stakeholders will be undertaken where significant effects on fish are anticipated and survey methodology agreed as appropriate. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Planning Inspectorate	The ES should assess the potential for construction and operational activities within proximity of watercourses and/ or drainage ditches to facilitate the spread of INNS. The ES should fully describe any necessary mitigation and/ or biosecurity precautions required to prevent the spread of INNS. Any measures relied upon in the ES should be discussed with relevant consultation bodies, including Natural England and the Environment Agency, in effort to	The potential for the evolving design to facilitate the spread of Invasive Non Native Species (INNS) (and thus result in legal breaches) along watercourses/ditches will be kept under review, with reference to data on INNS collected during the extended Phase 1 habitat survey.

Consultee	Consideration	How addressed in this PEIR
	agree the approach. Measures relied upon in the ES should be adequately secured, eg through a CEMP.	If required, best practice and tried and tested biosecurity measures would be incorporated as embedded environmental measures, designed and described in the ES (and secured in an Outline Construction Environmental Management Plan (CEMP)) which would minimise effects (**Section 8.6**).
Planning Inspectorate	The ES should explain the timing of the proposed construction and/ or - operational activities and any measures to avoid key/sensitive periods for species, such as fish spawning seasons and fish migration periods. The ES should assess the duration of impacts in relation to the ecological cycles (eg life cycles, breeding/spawning seasons, etc.) of the receptors being assessed.	The potential for the evolving design to affect key sensitive periods for relevant species will be kept under review. Embedded environmental measures outlined in **Section 8.6** aim to avoid/key sensitive periods for protected species. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Planning Inspectorate	The Inspectorate notes that table 7. 7 does not include any mitigation measures specific to the management of noise and vibration. The ES should provide detail of any proposed mitigation specific to noise and/ or vibration effects.	Embedded environmental measures outlined in **Section 8.6** are designed to reduce the effects of noise and vibration on biodiversity features.
Planning Inspectorate	The ES should state where alternative designs, other than a culvert, have been considered/ assessed and clearly present the reasons why a culvert was chosen over the alternatives. Where significant effects are likely to occur, the ES should assess the potential construction and operation effects on aquatic/ semiaquatic species, including potential for culvert(s) to act as a barrier to movement or migration.	Where any culverts are proposed within the evolving design, alternative options would be considered if significant effects are likely. The potential for protected/notable freshwater fish species is assessed as part of extended Phase 1 habitat survey. If required, detailed freshwater fish

Consultee	Consideration	How addressed in this PEIR
		surveys would be undertaken prior to production of the ES. Where significant effects on aquatic/semi-aquatic species are likely to occur as a result of culverts, these would be scoped into the assessment. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Planning Inspectorate	The ES should also consider the potential for culverts to negatively impact the ecological status of watercourses under the WFD. The results of the proposed WFD Assessment should be reported in the ES and/ or associated Technical Appendix.	**Chapter 9: Hydrology** considers potential effects on watercourses in relation to the Water Framework Directive (WFD), including the potential for negative effects resulting from the use of culverts. Consideration of the potential for effects on ecological features which are used to determine 'ecological status' under the WFD: fish, aquatic invertebrate and aquatic macrophyte communities is included within **Section 8.9**. Embedded environmental measures in **Section 8.6** reduce the potential for effects upon the ecological status of watercourses.
Planning Inspectorate	Table 7.7: The ES should clearly differentiate between essential mitigation and enhancement that is proposed as part of the DCO.	Differentiation of embedded environmental measures (essential mitigation), additional mitigation and enhancement has been made in **Table 8.11.** Enhancement opportunities (as distinct from mitigation measures) would be designed and described in the ES, as these are dependent on the findings of

Consultee	Consideration	How addressed in this PEIR
		detailed habitat/protected species surveys to be carried out in 2021/2022, and on the final design of the Project. Note that biodiversity enhancements would not be considered when determining whether effects are significant or not.
Planning Inspectorate	Table 7.9 identifies specific construction and operational activities alongside the ecological feature(s) likely to be impacted. For example, the potential for "noise and physical activities" (associated with general construction) to lead to the disturbance of Schedule 1 breeding birds. In such instances, there is no clear explanation as to why only this ecological feature, and no other features or "protected and/or notable species" in general, are anticipated to be impacted by the Proposed Development. This should be clarified in the ES.	Development activities and associated potential environmental changes (impacts) and the relevant ecological features that could be affected are included within this PEIR and described within **Appendix 8A**. The scope of activities, environmental changes and features affected will be kept under review and finalised for the ES.
Planning Inspectorate	The ES should clearly describe where dewatering activities will take place and assess any likely significant effects upon biodiversity. Information relation to dewatering design/ techniques and timetabling should also be included within the ES.	The potential for the evolving design to involve dewatering works and the potential effects on biodiversity features will be kept under review. The potential for protected/notable freshwater fish species is assessed as part of the extended Phase 1 habitat survey. If required, detailed freshwater fish surveys will be undertaken prior to the final ES. Where significant effects on aquatic/semi-aquatic species are likely to occur as a result of culverts, these would be scoped into the assessment. If required, embedded environmental measures would be designed and

Consultee	Consideration	How addressed in this PEIR
		described in the ES which would minimise those effects.
Environment Agency	Table 7.1 We are pleased to see the detail regarding National Policy Statement for Electricity Networks Infrastructure (EN-5) Section 2.7 states that consideration needs to be made of the potential for large birds to collide with overhead lines during flight or be electrocuted when perching, both with the potential to cause injury/death. If there is a risk of this occurring, measures should be implemented to avoid or minimise this. Bird deflectors should be installed on power lines that cross all rivers, flood plains and other wetlands.	The potential for the evolving design to affect key sensitive periods for relevant species will be kept under review. Where significant effects are likely to occur, they shall be scoped into the assessment. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects. Any consideration of the use of bird deflectors would follow National Grid's policy on the use of bird divertors.
Environment Agency	Table 7.7 We are pleased to see an environmental gain (EG) equivalent to a 10% uplift above the current baseline situation will be built into the Project through the design process.	Details on EG (including Biodiversity Net Gain (BNG)) are included within **Section 8.12** and will be finalised as part of the ES[34]. Note that biodiversity enhancements would not be considered when determining whether effects are significant or not.
Environment Agency	The Construction Environmental Management Plan (CEMP) should state that all trenches and excavations should be covered at night to prevent mammals such as otters (Lutra lutra) and hedgehogs (Erinaceus europaeus) falling into them. If this is impossible, then means of allowing trapped mammals to escape should be included.	This will be included within the Outline CEMP.
Environment Agency	Records show the presence of a badger set directly beneath one of the pylons in the vicinity of the Monk Fryston site. Whilst the record is over 10 years old it	The potential for the evolving design to affect key sensitive periods for relevant species will be kept under review.

34 Compensation and enhancements to biodiversity to be delivered as Biodiversity Net Gain (BNG) have been integrated within the project evolution to enable consideration through the design process and within stakeholder engagement. However, the proposed delivery of compensation and BNG has not been used to influence the assessment of significance as laid out in **Section 8.9** as these are applied following the identification of residual effects.

Consultee	Consideration	How addressed in this PEIR
	is likely that badgers may still be present; other parties may hold more up to date records for the set.	Surveys will identify the presence or potential presence of badgers. Current badger baseline data is outlined in **Section 8.5**. Embedded environmental measures are outlined in **Section 8.6**. Where significant effects are likely to occur, they shall be scoped into the assessment. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Environment Agency	Biodiversity Net Gain and Ecological Enhancement As detailed in 9.4.40 and 41 on page 208, opportunity should be taken within the red line area to deliver environmental enhancements in addition to any mitigation. There are lots of opportunities for low cost interventions for river restoration and habitat improvements including simple riparian buffer strips or culvert removal where land owner engagement is taking place. In line with NSIP guidance the application should show how they have taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.	Details on EG (including BNG) are included within **Section 8.12** and will be finalised as part of the ES. Embedded environmental measures are outlined in **Section 8.6** and ecological enhancement measures are summarised in **Section 8.6.** Note that biodiversity enhancements would not be considered when determining whether effects are significant or not. Effects on geological conservation receptors would be considered as part of **Chapter 10: Geology and Hydrogeology**, although have been scoped out of the assessment (as agreed in paragraph 4.6.5 of the Scoping Opinion) due to the absence of designated geological conservation receptors within potential

Consultee	Consideration	How addressed in this PEIR
		influencing distance of the draft Order Limits.
Hambleton District Council	There does not appear to be reference to potential impact on migratory bird species.	Where significant effects are likely to occur to migratory bird species, they shall be scoped into the assessment. This will be confirmed as part of future environmental reporting. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Hambleton District Council	Concern that the matter of agglomeration of wildfowl species on the Ouse Floodplain appears to have been scoped out. From local observation is it clear that these areas are frequented by Swans and Geese and other visiting species.	Where significant effects are likely to occur to wildfowl species, they shall be scoped into the assessment. This will be confirmed as part of future environmental reporting. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Ministry of Defence	The implementation of this development may create a permanent or temporary attractant environment for those large and/flocking bird species that may form a hazard to aviation safety. As such the MOD request to be consulted when final designs are available in order that the impact of the development can, if necessary, be mitigated. This mitigation may require design changes or, where amendments are not possible, the drafting of planning obligations such as Section 106 agreements setting out measures to be taken to manage avian populations secured in perpetuity.	Noted. The final design will take account of the potential risks to aviation safety and ensure that permanent or temporary attractant environment for large and/flocking bird species would be avoided. If required, embedded environmental measures would be designed and described in the ES which would minimise those effects.
Natural England	Natural England advises that the potential impact of the proposal upon features of nature conservation interest and opportunities for habitat	The PEIR and ES follow CIEEM Guidance for EcIA[1]. Potential impacts upon features of nature

Consultee	Consideration	How addressed in this PEIR
	creation/enhancement should be included within this assessment in accordance with appropriate guidance on such matters. EcIA is the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components. EcIA may be carried out as part of the EIA process or to support other forms of environmental assessment or appraisal.	conservation interest and opportunities for habitat creation/enhancement are considered within the assessment (see **Section 8.9**).
Natural England	The ES should thoroughly assess the potential for the proposal to affect designated sites. European sites fall within the scope of the Conservation of Habitats and Species Regulations 2017 (as amended). In addition, paragraph 176 of the National Planning Policy Framework requires that potential Special Protection Areas, possible Special Areas of Conservation, listed or proposed Ramsar sites, and any site identified as being necessary to compensate for adverse impacts on classified, potential or possible SPAs, SACs and Ramsar sites be treated in the same way as classified sites. Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) an appropriate assessment needs to be undertaken in respect of any plan or project which is (a) likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and (b) not directly connected with or necessary to the management of the site. Should a Likely Significant Effect on a European/Internationally designated site be identified or be uncertain, the competent authority (in this case the Local Planning Authority) may need to prepare an Appropriate Assessment, in addition to consideration of impacts through the EIA process. The Environmental Statement should include a full assessment of the direct and indirect effects of the development	The PEIR and ES will assess for the potential of the Project to impact designated sites within the scope of the Habitats and Species Regulations 2017 and in reference to NPFF [16] and National Policy Statement [14]. The PEIR assessment includes the potential for direct and indirect effects resulting from the Project. Embedded environmental measures outlined in **Section 8.6** are designed to avoid, minimise and reduce any adverse effects. HRA screening will be undertaken, and if LSE are identified (either alone or in combination) on any European/ internationally designated sites, a HRA Report will be prepared and submitted.

Consultee	Consideration	How addressed in this PEIR
	on the features of special interest and should identify such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects. We note the scoping report advises Natural England will be consulted on the draft Habitats Regulations Assessment Screening Report.	
Natural England	As identified in the Scoping Report, the development site is in close proximity to several designated nature conservation sites: • Further information on SSSIs and their special interest features can be found at www.magic.gov and on our Designated Sites View website. The Environmental Statement should include a full assessment of the direct and indirect effects of the development on the features of special interest and should identify such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects.	Desk study data in **Section 8.4** includes data on SSSIs sourced from www.magic.org.uk. These sites are included within the assessment and proposals for mitigation (embedded environmental measures and any additional mitigation or compensation required) are included where appropriate.
Natural England	The EIA will need to consider any impacts upon local wildlife and geological sites. Local Sites are identified by the local wildlife trust, geoconservation group or a local forum established for the purposes of identifying and selecting local sites. They are of county importance for wildlife or geodiversity. The Environmental Statement should therefore include an assessment of the likely impacts on the wildlife and geodiversity interests of such sites. The assessment should include proposals for mitigation of any impacts and if appropriate, compensation measures.	Desk study data in **Section 8.4** includes data on local wildlife sites, sourced from various local records centres (detailed in **Table 8.7**). These sites are included within the assessment and proposals for mitigation (embedded environmental measures and any additional mitigation or compensation required) are included where appropriate.
Natural England	The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts (Triturus cristatus), reptiles, birds, water voles (Arvicola amphibius), badgers and bats). Records	Desk study data in **Section 8.4** includes data on local wildlife sites and protected and notable species, sourced from various local records centres (detailed in

Consultee	Consideration	How addressed in this PEIR
	of protected species should be sought from appropriate local biological record centres, nature conservation organisations, groups and individuals; and consideration should be given to the wider context of the site for example in terms of habitat linkages and protected species populations in the wider area, to assist in the impact assessment.	**Table 8.7**). The extent to which data was sought is also detailed in **Section 8.4**. The assessment within the PEIR includes potential impacts from all phases of the Project.
Natural England	Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and where necessary, licensed, consultants. The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List. Section 40 of the NERC Act 2006 places a general duty on all public authorities, including local planning authorities, to conserve and enhance biodiversity. Government Circular 06/2005 states that Biodiversity Action Plan (BAP) species and habitats, 'are capable of being a material consideration…in the making of planning decisions'. Natural England therefore advises that survey, impact assessment and mitigation proposals for Habitats and Species of Principal Importance should be included in the ES. Consideration should also be given to those species and habitats included in the relevant Local BAP. Natural England advises that a habitat survey (equivalent to Phase 2) is carried out on the site, in order to identify any important habitats present. In addition, ornithological, botanical and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present. The Environmental Statement should include details of: Any historical data for the site affected by the proposal (e.g. from previous surveys);	All surveys are being undertaken in accordance with the relevant best practice survey guidance (detailed in **Table 8.8**) by competent ecologists. Both HPIs and SPIs as well as species and habitats listed on the local BAP are considered within the assessment where potential for significant effects are considered to occur. Following initial extended Phase 1 habitats surveys, the requirement for more detailed botanical, ornithological and invertebrate surveys has been assessed. Where required, these surveys will be undertaken in accordance with best practice. Additional surveys to be undertaken are detailed in **Section 8.13**. Desk study data in **Section 8.4** includes data on local wildlife sites and protected and notable species, sourced from various local records centres (detailed in **Table 8.7**). The extent to which data was sought is also detailed in **Section 8.4**.

Consultee	Consideration	How addressed in this PEIR
	Additional surveys carried out as part of this proposal; The habitats and species present; The status of these habitats and species (e.g. whether priority species or habitat); The direct and indirect effects of the development upon those habitats and species; Full details of any mitigation or compensation that might be required.	
Natural England	The development should seek if possible to avoid adverse impact on sensitive areas for wildlife within the site, and if possible provide opportunities for overall wildlife gain.	Embedded environmental measures outlined in **Section 8.6** seek to avoid and minimise adverse impacts on biodiversity features. Details on EG (including BNG) are included within **Section 8.12** and will be finalised as part of the ES. Note that biodiversity enhancements would not be considered when determining whether effects are significant or not.
Natural England	Ancient woodland is an irreplaceable resource of great importance for its wildlife, its history and the contribution it makes to our diverse landscapes. Local authorities have a vital role in ensuring its conservation, in particular through the planning system. The ES should have regard to the requirements under the NPPF (Para. 175).	Areas of ancient woodland have been identified from the ancient woodland inventory. Potential impacts on ancient woodland are considered within the assessment. Embedded environmental measures outlined in **Section 8.6** seek to avoid any impacts on ancient woodland.
Natural England	The England Biodiversity Strategy published by Defra establishes principles for the consideration of biodiversity and the effects of climate change. The ES should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained. The NPPF requires that the planning system should	The PEIR identifies how the Project's resultant effects on the natural environment will be influenced by climate change. Mitigation (embedded environmental measures and any additional mitigation or compensation) in the PEIR and ES will take account of the NPPF [16] and National Policy Statement [14]

Consultee	Consideration	How addressed in this PEIR
	contribute to the enhancement of the natural environment 'by establishing coherent ecological networks that are more resilient to current and future pressures' (NPPF Para 174), which should be demonstrated through the ES.	requirements and be designed with consideration of resilience to current and future pressures.
North Yorkshire County Council	At Table 7.4 the River Derwent SSSI, however it is not reflected that the site is also a SAC. This needs to be updated and will also need to be taken into account in the Habitat Regulations Assessment process (7.7.13). Aside from this the approach to the Habitat Regulations Assessment (HRA) is supported.	The PEIR includes reference to the River Derwent SAC (see **Section 8.5**) and clarifies the reasons that it has been scoped out of the assessment. The River Derwent SAC will be taken into account in the Habitat Regulations Assessment process.
North Yorkshire County Council	The approach to ecological assessment set out in the scoping document is supported as it follows current best practice guidance. At this stage most of the ecological information available is desk based from aerial photography and known designations. This gives an understanding of the types of habitats present within and surrounding the development site and the species supported by these habitats. It provides a good baseline and will help in the targeting of specific surveys. I am supportive of the surveys proposed within section 7.8 and Table 7.11 of the scoping report. I am pleased that at this early stage the development is considering opportunities for biodiversity net gain (Table 7.7). I would encourage use of the most up to date version of the Defra Biodiversity Metric in presenting data on biodiversity losses and gains.	Details on EG (including BNG) are included within **Section 8.12** and will be finalised as part of the ES. Field data was gathered in accordance with Biodiversity Metric 2.0 as this was the most up to date version at the time. Data will be modified to enable final calculations to be made using Biodiversity Metric 3.0[35] (published July 2021). Note that biodiversity enhancements would not be considered when determining whether effects are significant or not.

Technical engagement

8.3.4 Technical engagement with consultees in relation to biodiversity is ongoing. A summary of the technical engagement undertaken to date is outlined in **Table 8.5**.

[35] Natural England (2021). The Biodiversity Metric 3.0 (JP039) [online]. Available at: The Biodiversity Metric 3.0 - JP039 (nepubprod.appspot.com) [Accessed 04 August 2021].

Table 8.5 – Technical engagement on the biodiversity assessment

Consultee	Consideration	How addressed in this PEIR
Natural England	Discussion on general bird survey approach and no requirement for carrying out flight activity surveys in relation to potential risks to Derwent Valley SPA/Ramsar qualifying features was held on 23 February 2021, to which Natural England agreed, although advised that further discussion relating to non-designated areas should be sought with council ecologists.	Local council responses to bird survey and assessment approach were received through scoping process and summarised in **Table 8.4**.
Natural England	A discussion on the possible use of District Level Licensing to address potential effects on great crested newts was held on 23 June 2021.	Discussions are ongoing to take account of the latest Project design with respect to permanent/temporary works and the presence/absence of suitable ponds recorded during the ongoing extended Phase 1 habitat survey.
Natural England	In advance of a meeting to discuss the approach to surveys where access is restricted, a proposed alternative survey approach was detailed in an email to Natural England on 15 July 2021.	Baseline data from desk studies and survey work to date is included in this PEIR. A precautionary approach has been taken within the scoping assessment (**Appendix 8A**) and preliminary assessment of effects (**Section 8.9**) where surveys are yet to be undertaken.
Environment Agency	Awaiting confirmation of a meeting to discuss the alternative survey approach as a result of restricted survey access.	Baseline data from desk studies and survey work to date is included in this PEIR. A precautionary approach has been taken within the scoping assessment (**Appendix 8A**) and preliminary assessment of effects (**Section 8.9**) where surveys are yet to be undertaken.

Prior to production of the ES, the following additional engagement will be undertaken:

- The approach to feature-specific baseline surveys, mitigation/compensation design, and ecological assessment will be discussed with relevant stakeholders including Natural England, the Environment Agency and Local Authorities. This will include further discussion on the approach to surveys and assessment where access remains restricted.

- Discussion regarding the approach to and scope of the HRA with Natural England.
- Updated information will be provided to Natural England to facilitate further discussion regarding the feasibility of joining the DLL scheme.
- Technical engagement focused on other relevant protected species licensing with Natural England where necessary to ensure that the Project can be constructed and operated in a compliant manner.

8.4 Data gathering methodology

Study Area

8.4.1 The Study Area encompasses the area over which all desk-based data was gathered to inform the biodiversity scoping assessment presented in this section. Due to the presence of multiple ecological features[36] and many potential effects, the level and type of data collection varies across the Study Area. The Study Area comprises:

- land within the draft Order Limits (as shown on **Figure 8.1**);
- the desk study areas (known as "areas of search") for sites designated for their nature conservation interest at the international, European, national and local levels (as described in **Table 8.6**);
- the area of search for legally protected and notable ecological features; and
- the area of search for any legally controlled species.

8.4.2 The extent of the desk study areas of search (see 'Data gathering methodology') was determined based on best practice guidance (**Table 8.6**) and a high-level overview of the types of ecological features present (see **Figure 8.1**), and the potential effects that could occur. The Study Area was defined on a precautionary basis to ensure that the ZoI relevant to all ecological features were covered during baseline data collection activities. ZoI are the areas within which a potentially significant effect associated with the Project may be identified for a particular ecological feature and vary from feature to feature.

8.4.3 Within the draft Order Limits, consideration has been given to the indicative footprint of the Project. The Project comprises two proposed substations (Overton andMonk Fryston), new overhead lines (400kV, 275kV), reconfiguration of the 275kV Poppleton to Monk Fryston (XC) overhead line at its entry to the proposed Monk Fryston Substation, reconfiguration of the 4YS 400kV overhead line east of the proposed Monk Fryston Substation, connections and two new cable sealing end compounds (CSECs) to connect the new 400kV overhead line with the existing 400kV Norton to Osbaldwick (2TW/YR) overhead line, works to the existing 275kV Poppleton to Monk Fryston (XC/XCP) overhead line, connections/two new CSECs at Tadcaster and works at Osbaldwick Substation. These are described in greater detail in **Chapter 3: Description of the Project**.

8.4.4 The Study Area will be reviewed and amended in response to such matters as refinement of the Project design, the identification of additional impact pathways and where appropriate in response to feedback from consultation, to ensure that there is sufficient data on which to conduct the assessment. These refinements are expected to

[36] The Chartered Institute for Ecology and Environmental Management (CIEEM) refer to biodiversity receptors within technical guidance (CIEEM 2018, updated 2019) as 'ecological features'. This term is used throughout this chapter.

reduce the extent of the Study Area as the Project progresses, whilst still reflecting recognised good practice.

Desk study

8.4.5 An initial desk study was carried out in February/March 2021 to inform the scoping process, when the Study Area was based on the Scoping red line boundary. The Project design has been developed and refined since scoping with the red line boundary used for scoping replaced by the draft Order Limits (**Section 3.3**). An updated data gathering exercise was undertaken in June 2021 to reflect this change and inform this PEIR. This involved obtaining information relating to relevant statutory and non-statutory biodiversity sites, HPIs and SPIs[37], legally protected and controlled species and other conservation notable habitats or species[38] that have been recorded over the previous ten years (2011 to 2021) within the relevant areas of search. **Table 8.6** lists the data compiled within each area of search within the overall Study Area.

Table 8.6 – Data gathered during the desk study to inform the biodiversity assessment

Ecological Feature	Example/definition	Area of Search
Statutory sites designated under international conventions or European Directives	Wetlands of International Importance (also known as Ramsar Sites) and Special Areas of Conservation (SACs)	Inside and within 2km of the draft Order Limits.
	Sites with bat interest	Inside and within 10km of the draft Order Limits.
	Special Protection Areas (SPAs) and Ramsar Sites with ornithological interest	Inside and within 20km of the draft Order Limits
Statutory sites designated under national legislation	Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs)	Inside and within 2km of the draft Order Limits.
	Nationally important sites with bat interest	Inside and within 10km of the draft Order Limits.
	Nationally important sites with ornithological interest	Inside and within 10km of the draft Order Limits.
Locally designated sites	In North Yorkshire these are termed as Sites of Importance for Nature Conservation (SINCs), and in West Yorkshire they are Local Wildlife Sites (LWSs) and/or	Inside and within 2km of the draft Order Limits.

[37] Habitats of Principal Importance and Species of Principal Importance are referred to in this chapter as HPI and SPI respectively
[38] A conservation notable species is one that has some form of conservation designation (for example it is present on a red list) but has no specific legal protection.

Ecological Feature	Example/definition	Area of Search
	Sites of ecological or geological interest (SEI/SGIs)[39].	
HPI and SPI, Red listed species[40] and legally protected species.	HPIs and SPIs, species recorded on The IUCN Red List of Threatened Species and/or local Red Lists for the UK or relevant sub-units (e.g. regions or counties) and legally protected habitats and species include those listed in Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended) [9]and those included in Schedules 2 and 5 of the Habitats Regulations. Badger and Hedgerows are provided protection under the Protection of Badgers Act 1992 [10] and the Hedgerows Regulations 1997 [12] respectively	Inside and within 2km of the draft Order Limits.
Legally controlled species	Legally controlled species include those listed in Schedule 9 of the Wildlife and Countryside Act 1981 [9] (as amended).	Inside and within 2km of the draft Order Limits.
Bat roosting locations	Bat roost locations are considered separately from other species records in accordance with guidance.	Inside and within 5km of the draft Order Limits.
Existing EPS mitigation licences	Where EPS mitigation licences have been granted from Natural England.	Inside and within 2km of the draft Order Limits, extended to 5km where licences relate to bat roosts.
Waterbody locations	Waterbodies may support species within the groups listed above (for example legally protected great crested newts).	Inside and within 500m of the draft Order Limits.

[39] West Yorkshire Local Sites Partnership is currently going through a process of reassessing and merging previously designated local sites including SEIs and SGIs into a single LWS designation.
40 Red listed species for the purposes of this assessment refer to those noted using IUCN criteria as being “Near Threatened”, “Vulnerable”, “Endangered” and “Critically Endangered”, and those on present on local Red Lists in the categories "Nationally Scarce” and “Nationally Rare”.

8.4.6 A summary of the organisations that have supplied data, together with the nature of that data is outlined in **Table 8.7**.

Table 8.7 – Data sources used to inform the biodiversity assessment

Organisation	Data source	Data provided
Multi Agency Geographic Information for the Countryside (MAGIC)	www.magic.org.uk	Statutory and non-statutory sites, HPIs and SPIs, network enhancement and expansion zones, habitat water body locations and EPS mitigation licence data.
Google Earth	A review of aerial photographs	Indicative habitat data and water body locations.
UK Biodiversity Action Plan (UKBAP)[41]	http://ukbars.defra.gov.uk/plans/priority.as	Habitats and species listed on UKBAP.
North Yorkshire County Council, Hambleton District Council and Leeds County Council	Hambleton District BAP[42] and Leeds BAP[43]	Habitats and species listed on local BAP.
North and East Yorkshire Ecological Data Centre (NEYEDC)	https://www.neyedc.org.uk/	All designated sites, protected and notable species records.
West Yorkshire Ecology Services (WYES)	https://www.wyjs.org.uk/ecology/	All designated sites, protected and notable species records.
Yorkshire and Humber Biodiversity Forum	https://www.rotherham.gov.uk/downloads/file/668/mapping-for-biodiversity-in-yorkshire-humber-2009 and https://www.richmondshire.gov.uk/media/5037/yorkshire-and-humber-regional-biodiversity-strategy.pdf	Biodiversity opportunity areas and ecological networks, and regional biodiversity strategy.
Department for Environment Food and Rural Affairs	https://webarchive.nationalarchives.gov.uk/ukgwa/20130402151656/http:/archive.defra.gov.uk/foodfarm/fisheries/documents/fisheries/emp/humber.pdf	Details management measures to increase silver eel escapement which would contribute to the recovery of the stock of European eel.

[41] Joint Nature Conservation Committee (JNCC) (2017). Biodiversity Action Reporting System (BARS). [online] Available at: http://ukbars.defra.gov.uk/plans/priority.asp [Accessed 12 August 2021].
[42] Hambleton District Council (2002). Hambleton Biodiversity Action Plan [online] Available at: https://www.hambleton.gov.uk/downloads/file/1162/hambleton-biodiversity-action-plan-april-2002 [Accessed 11 August 2021].
[43] Leeds.gov.uk (unknown) Biodiversity Action Plan for Leeds [online] Available at https://www.leeds.gov.uk/docs/Leeds%20BAP%20combined.pdf Accessed 11 August 2021].

Organisation	Data source	Data provided
European Union	https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007R1100&from=DE	Measures for the recovery of the stock of European eel.
Wood (formerly Amec Foster Wheeler), 2016	XCP Overhead Line Constraints Plan	Designated sites, protected and notable species, waterbodies results.
The British Trust for Ornithology (BTO)	Wetland Birds Survey (WeBS)	WeBS five-year summary data 2014/2015-2018/2019 for Fairburn Ings Royal Society for the Protection of Birds (RSPB) Nature Reserve (BTO WeBS Location Code 51003).
Yorkshire Red Kites[44]	Public sightings of red kite 2018 - 2019	Online sighting map.
York Ornithological Club[45]	Bird Report 2019	Systematic report of all bird records in 2019.
Yorkshire Naturalists Union[46]	Yorkshire Bird Report 2015	Systematic report of all bird records in 2015.

Survey work

8.4.7 Partial survey data is available from field surveys (undertaken between May 2021 and mid-July 2021) to inform the PEIR. Field surveys will continue throughout 2021 and 2022. The proposed field survey programme outlined in **Table 8.8** is based on the results of the desk study, industry guidance and comments received in the Scoping Opinion. Dates of field surveys will depend on the availability of land access; however, all surveys will be undertaken in the appropriate season[47] according to respective best practice guidelines. Further engagement and consultation regarding the survey programme will take place as it progresses with those organisations named in **Section 8.3.**

Table 8.8 - Site survey programme and status of surveys that commenced in 2021

Survey	Summary	Survey area	Survey status
Extended Phase 1 habitat survey	An extended Phase 1 habitat survey[48] is	Surveys are focussed on land within the draft	Partially complete. An estimated 66%

44 Yorkshire Red Kites (2020) Yorkshire Red Kites. [online] Available at: www.yorkshireredkites.net [Accessed 11 August 2021].
45 York Ornithological Club (2021). York Ornithological Club. [online] Available at: http://yorkbirding.org.uk [Accessed 11 August 2021].
46 Yorkshire Naturalist Union (2020). Yorkshire Naturalist Union - Birds. [online] Available at https://www.ynu.org.uk/birds [Accessed 11 August 2021].
47 The optimal period for extended Phase 1 habitat survey is April to October (depending on habitat type). However, in view of the predominantly arable landscape within the draft Order Limits and 50m buffer (based on survey results to date and aerial imagery of land within the draft Order Limits), it is considered possible to extend the survey period for the majority of habitats (if required to enable access agreements to be obtained) without compromising the robustness of the survey results.
48 Joint Nature Conservation Committee (JNCC) (2010). Handbook for Phase 1 Habitat Survey: a Technique for Environmental Audit [online] Available at: https://hub.jncc.gov.uk/assets/9578d07b-e018-4c66-9c1b-47110f14df2a [Accessed 11 August 2021].

Survey	Summary	Survey area	Survey status
	being undertaken to classify and map the distinct habitats present. As the standard Phase 1 habitat survey methodology is, in the main, concerned only with vegetation communities, the survey is being 'extended' to allow for the provision of information on other ecological features, particularly to identify the presence/potential presence of legally protected species. In addition, habitats will also be mapped in accordance with UK Habitats Classification methodology and the condition criteria provided in the technical guidance that accompanies Biodiversity Metric 2.0[49,50].	Order Limits and a buffer of 50m.	of land within the draft Order Limits and 50m buffer has been surveyed. Further survey is ongoing from July to October 2021 and would continue between approximately March and October 2022 inclusive, where required as access becomes available. If un-surveyed land remains after this period (due to access restrictions), surveys would be continued beyond this period should access to remaining land become available.
Hedgerows Regulations Assessment survey	An initial assessment of hedgerows is being undertaken during the extended Phase 1 habitat survey to assess their potential to be classified as 'Important' under the Hedgerows Regulations 1997[12]. Those hedgerows identified as having sufficient potential and likely to be impacted	Detailed surveys will focus on areas within the draft Order Limits where direct land take may occur and within 15m of this.	The initial assessment of potential to be 'Important' is ongoing in conjunction with the extended Phase 1 habitat survey (estimated as 66% complete). The survey to confirm any Important hedgerows will be

[49] Ian Crosher, Susannah Gold, Max Heaver, Matt Heydon, Lauren Moore, Stephen Panks, Sarah Scott, Dave Stone & Nick White. 2019. The Biodiversity Metric 2.0: Auditing and accounting for biodiversity value: technical supplement (Beta version, July 2019). Natural England.
[50] Field data was gathered in accordance with Biodiversity Metric 2.0 as this was the most up to date version when surveys commenced. Data will be modified to enable final calculations to be made using the updated Biodiversity Metric 3.0 (published July 2021).

Survey	Summary	Survey area	Survey status
	by the Project will undergo a more detailed assessment against the set criteria within the Regulations to confirm Important status.		undertaken from June to September 2022.
Ancient and Veteran Tree assessments	During the extended Phase 1 habitat survey, any trees which have the potential to be classified as ancient and/or veteran are being noted. Any such trees likely to be impacted by the Project will undergo a more detailed ancient/veteran tree survey assessment in line with best practice guidance to record the presence of any ancient or veteran features present.	Detailed surveys will focus on trees within the draft Order Limits where direct land take may occur.	The initial assessment of potential to be classified as ancient and/or veteran is ongoing in conjunction with the extended Phase 1 habitat survey (estimated as 66% complete). The survey to confirm status as ancient/veteran trees will be undertaken in 2022.
National Vegetation Classification (NVC) surveys	During the extended Phase 1 habitat survey any habitats identified that may qualify as HPIs are being noted. NVC surveys will take place within any such habitat likely to be impacted by the Project in line with the NVC Users' Handbook[51].	Surveys will focus on areas within the draft Order Limits where direct land take may occur and within 50m of this.	The initial assessment of potential to be classified as HPIs is ongoing in conjunction with the extended Phase 1 habitat survey (estimated as 66% complete. NVC surveys will be undertaken during the appropriate season for the habitat concerned in 2022.

[51] JNCC (2006). NVC Users' Handbook. [Online] Available at: https://hub.jncc.gov.uk/assets/a407ebfc-2859-49cf-9710-1bde9c8e28c7 [Accessed August 2021]

Survey	Summary	Survey area	Survey status
Bats - roosting	In accordance with best practice[52], any trees likely to be affected will be assessed from ground level to determine whether they are likely to contain roosts and their potential to support roosting bats. The results of these surveys will enable the scoping of any subsequent bat emergence and/or re-entry surveys/tree-climbing surveys that may be required with a view to identifying potential or confirmed bat roosts.	Surveys will take place in areas where direct land take or indirect effects may occur within the draft Order Limits and to a suitable buffer (up to 50m depending on the potential effect pathway) determined by best practice guidance.	Preliminary ground level bat roost assessments will be completed by May 2022 to enable any necessary bat emergence/re-entry surveys to be subsequently undertaken during the respective survey period. Bat roost emergence/re-entry surveys will be undertaken during the period May to September, with at least two weeks between survey visits.
Bats – foraging and commuting	In accordance with best practice, a suite of monthly bat activity transect surveys comprising manual walked transects and static detector deployment will be undertaken.	Surveys will take place within the draft Order Limits and a suitable buffer (up to 50m) only where proposed construction works will remove large amounts of optimal habitat or important linking features.	Surveys will be undertaken September/ October 2021 and April to August 2022.
Great crested newt	Following completion of the desk-based screening exercise, a HSI assessment is being carried out at those waterbodies classed as potentially suitable to support	Suitable waterbodies (ponds and ditches) within 250m[55] of the draft Order Limits	HSI field surveys partially complete - ongoing in conjunction with extended Phase 1 habitat surveys.

[52] Bat Conservation Trust (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition. [online] Available at: https://www.bats.org.uk/resources/guidance-for-professionals/bat-surveys-for-professional-ecologists-good-practice-guidelines-3rd-edition [Accessed 11 August 2021].

[55] Following the initial desk-based waterbody search within 500m of the draft Order Limits, waterbodies between 250-500m of the draft Order Limits were scoped out of further assessment due to unfavourable habitat linkage between land within the draft Order Limits and the waterbodies, and/or good quality terrestrial habitats in the areas surrounding the waterbodies (thereby reducing the likelihood of GCN dispersing to habitats within the draft Order Limits).

Survey	Summary	Survey area	Survey status
	great crested newts and located within a suitable buffer of the draft Order Limits. DLL discussions are ongoing with Natural England. If the DLL scheme is joined, no further surveys would be required and great crested newt would be scoped out of the assessment. If the DLL scheme is not joined, waterbodies identified as having suitability to support great crested newt will be subject to eDNA surveys to determine presence/likely absence. If required (to inform an EPS licence application) additional population size class surveys will be carried out. Surveys will follow best practice guidance[53, 54].		If required, presence/likely absence eDNA surveys will be carried out mid-April to June 2022. If required, population size class surveys will be carried out mid-March to mid-June 2022 (with half of the survey visits during peak season mid-April to mid-May).
Otter	Watercourses suitable for otter have been identified within the draft Order Limits during the desk study and extended Phase 1 habitat survey. Otter surveys searching for holts and other resting sites/signs of activity	Surveys will take place along suitable watercourses within and up to 250m upstream and downstream of the draft Order Limits only where watercourse crossings or potentially disturbing bankside	Surveys will be undertaken during the period April to October 2022.

53 English Nature (2001). Great Crested Newt Mitigation Guidelines [online] Available at: https://www.merthyr.gov.uk/media/1241/great-crested-newts-mitigation-guidlines.pdf [Accessed 11 August 2021].
54 Biggs et al. (2014) Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA. Freshwater Habitats Trust, Oxford.

Survey	Summary	Survey area	Survey status
	will be undertaken in line with best practice guidance[56].	construction works are proposed.	
Water vole	Watercourses suitable for water vole have been identified within the draft Order Limits during the desk study and extended Phase 1 habitat survey. Water vole presence/likely absence surveys will be undertaken to search for burrows and other signs of activity in line with best practice guidance[57].	Surveys will take place along suitable watercourses within and up to 200m[58] upstream and downstream of the draft Order Limits only where watercourse crossings or construction works are proposed within 10m of a watercourse.	Two surveys[59] will be undertaken at each watercourse; Visit 1: mid-April to June 2022; Visit 2: July to September 2022 with surveys at least two months apart.
Reptiles	Suitable habitat for reptiles has been identified within the draft Order Limits during the extended Phase 1 habitat survey. Reptile presence/likely absence surveys comprising seven visits using artificial refugia, will be considered if required based on the developing Project scope. Surveys will follow Froglife Advice sheet 10: Reptile survey[60].	Surveys are focussed on land within the draft Order Limits and a buffer of 50m.	To be undertaken during 2022 where required (April to September 2022).
Badger	A badger survey is being undertaken in	Surveys are focussed on land within the draft	Survey partially complete. An

[56] Chanin, P. (2003). Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough.
[57] Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) The Water Vole Mitigation Handbook (Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. Mammal Society, London
[58] Best practice survey guidance (Dean et al, 2016) recommends that for small scale works affecting up to 15m of watercourse, surveys should extend 100m up and down stream of affected sections, or 100-200m for works with permanent impacts affecting 15-50m of watercourse, or 200m for works temporarily affecting up to 50m of watercourse. Due to the nature of the Project, it is likely that a 100m survey length up and down stream of the affected area (e.g. temporary culverts) would be appropriate in the main, but 200m is included as a precaution at this stage.
[59] Unless one survey is deemed sufficient in line with best practice guidance (Dean et al, 2016).
[60] Froglife (1999). Froglife Advice Sheet 10 Reptile Survey.[online] Available at: https://www.wildcare.co.uk/media/wysiwyg/pdfs/froglife_advice_sheet_10_-_reptile_surveys.pdf [Accessed 11 August 2021].

Survey	Summary	Survey area	Survey status
	conjunction with the extended Phase 1 habitat survey at suitable habitat (typically scrub, hedgerows, tall ruderal, woodland). Surveys involve looking for setts and other evidence of activity in line with best practice guidance[61].	Order Limits and a buffer of 50m.	estimated 66% of land within the draft Order Limits and 50m buffer has been surveyed. Further survey is ongoing July to October 2021. If un-surveyed land remains after this period (due to access restrictions), surveys would be continued beyond this period into 2022 (March to October) should access to remaining land become available[62].
Fish	Suitable watercourses/habitat for notable fish species has been identified within the draft Order Limits during the extended Phase 1 habitat survey. Further survey will be recommended as necessary based on the developing Project scope.	Surveys are focussed on land within the draft Order Limits and a buffer of 50m.	To be undertaken during 2022 where required.
Invertebrates	Invertebrate surveys will be undertaken in habitats with potential to support notable or diverse invertebrate species/assemblages in line with best	Surveys will take place within the draft Order Limits and a buffer up to 50m only where significant sections of semi-natural habitat (e.g. scrub, woodlands,	To be undertaken during 2022 where required (time of year dependant on species but likely

[61] Scottish Natural Heritage (2003) Best Practice Guidance – Badger Surveys. Inverness Badger Survey 2003. Commissioned Report No. 096.
[62] Badger surveys are currently being carried out concurrently with extended Phase 1 habitat surveys, while no other protected/notable species surveys have commenced yet. Thus, un-surveyed land/access restrictions has only been reflected for extended Phase 1 habitat and badger survey, as it is currently unknown whether there will be any access restrictions for other features as these surveys will commence in 2022.

Survey	Summary	Survey area	Survey status
	practice guidance[63]. Any survey necessary will be based on desk study results. The need for surveys within riparian habitat along the River Ouse for the SPI tansy beetle (*Chrysolina graminis*) will be considered if required based on the developing Project scope.	grasslands) will be affected by the Project.	May to September 2022).
Schedule 1 breeding birds	Walkover surveys will be targeted in areas of suitable habitat for Schedule 1 breeding bird species such as kingfisher (*Alcedo atthis*), barn owl (*Tyto alba*), red kite (*Milvus milvus*) and peregrine (*Falco peregrinus*) in accordance with best practice guidance[64,65,66].	Surveys will take place in areas where direct land take or indirect effects may occur within the draft Order Limits up to 500m as determined by best practice guidance.	Four monthly surveys programmed for the period April to July 2022.
Winter bird walkover surveys	Survey methods involve walked transect surveys to record field use, distribution and abundance of wintering birds via public highways and public rights of way (PRoWs).	Surveys to date/future surveys have been/will be undertaken in two key areas within the draft Order Limits near the proposed Monk Fryston Substation and to the north-west of York.	Partially complete. February to March 2021 survey complete. Further surveys will be undertaken during the period October 2021 to March 2022.

[63] Natural England (2007). Research Report NERR005: Surveying terrestrial and freshwater invertebrates for conservation evaluation. [online] Available at: http://publications.naturalengland.org.uk/publication/36002 [Accessed 11 August 2021].
[64] Gilbert, G., Gibbons, D.W., and Evans, J. (2001). Bird Monitoring Methods: a manual of techniques for key UK species. Sandy, Bedfordshire, England: The Royal Society for the protection of Birds.
[65] Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. and Thompson, D. (2013). Raptors: a field guide to survey and monitoring. Stationary Office
[66] Shawyer, C. (2012). Barn owl Tyto alba Survey Methodology and techniques for use in Ecological Assessment. Wildlife Conservation Partnership.

8.5 Overall baseline

Current baseline

Statutory biodiversity sites

8.5.1 The desk study has identified one Ramsar Site, one SPA and nine SSSIs within the Study Area, as outlined in **Table 8.9** and illustrated on **Figure 8.1**. None of the sites identified fall within the draft Order Limits.

8.5.2 It should be noted that the River Derwent is designated as both SAC and SSSI. The SSSI is included within **Table 8.9** as it lies within the ZoI (and hence the desk study area of search) for the Project, i.e. it is a nationally designated site with ornithological interest features within 10km of the draft Order Limits. However, the SAC has been scoped out of the assessment process as it lies outside the ZoI (and hence the desk study area of search), i.e. it is a European site which is located more than 2km from the draft Order Limits and does not include bat or ornithological interest features. Furthermore, the draft Order Limits lie outside the River Derwent catchment, which negates any risk of pollution/disturbance effects on the Annex 1 habitat[67] for which the SAC is designated. Although the SAC does include mobile interest features (bullhead, river lamprey, sea lamprey and otter) which may also use the River Ouse, the potential for effects on these features is negligible in view of the embedded environmental measures to protect surface waters from pollution (see **Section 8.6**; also see **Chapter 9: Hydrology**).

Table 8.9 - Current baseline – statutory biodiversity sites within Study Area

Site Name	Designated Feature Summary	Distance and Direction from the draft Order Limits
Lower Derwent Valley Ramsar	• Criterion 1: Species-rich alluvial flood meadow habitat which plays a substantial role in the hydrological and ecological functioning of the Humber Basin. • Criterion 2: A rich assemblage of wetland invertebrates including 16 species of dragonfly and damselfly, 15 British Red Data Book wetland invertebrates and a leafhopper, *Cicadula ornata* for which Lower Derwent Valley is the only known site in Great Britain. • Criterion 4: The site qualifies as a staging post for passage birds in spring, with nationally important	~6.12km south-east

[67] Annex I habitat: Water courses of plain to montane levels with *Ranunculion fluitantis* and *Callitricho Batrachion* vegetation. (Rivers with floating vegetation often dominated by water crowfoot).

Site Name	Designated Feature Summary	Distance and Direction from the draft Order Limits
	numbers of ruff (*Philomachus pugnax*) and whimbrel (*Numenius phaeopus*). • Criterion 5: Winter waterfowl assemblage of international importance. • Criterion 6: Peak winter counts of: — wigeon (*Anas penelope*); and — teal (*Anas crecca*).	
Lower Derwent Valley SPA	• The site qualifies under Article 4.1 by regularly supporting nationally important numbers during the non-breeding season for: — Bewick's swan (*Cygnus columbianus bewickii*); — Ruff; — golden plover (*Pluvialis apricaria*); — teal; and — wigeon. • The site also qualifies under Article 4.2 by regularly supporting a breeding population of: — shoveler (*Anas clypeata*). • The site also qualifies under Article 4.2 by regularly supporting a waterfowl assemblage including: Bewick's swan, wigeon, teal, golden plover and ruff.	~6.12km south-east
Sherburn Willows SSSI[68]	• CG3 – Upright brome (*Bromus erectus*) lowland calcareous grassland. • S25 – Common reed (*Phragmites australis*) – *h*emp-agrimony	~0.63km south-east

68 Includes ornithological interest within SSSI citation.

Site Name	Designated Feature Summary	Distance and Direction from the draft Order Limits
	(*Eupatorium cannabinum*) tall-herb fen. • S26 – *Co*mmon reed – common nettle tall-herb fen.	
Madbanks and Ledsham Banks SSSI	• CG4 – Tor-grass (*Brachypodium pinnatum*) lowland calcareous grassland. • CG5 – *Upright brome – tor-grass* lowland calcareous grassland.	~0.79km south-west
Fairburn and Newton Ings SSSI	• Aggregations of non-breeding birds – Gadwall (*Anas strepera*), mallard (*Anas platyrhynchos*), shoveler, whooper Swan (*Cygnus cygnus*). • M23 – Soft rush (*Juncus effusus*)/sharp flowered rush (*Juncus acutiflorus*) – marsh bedstraw (*Galium palustre*) rush pasture. • MG13 – Creeping bent (*Agrostis stolonifera*) – marsh foxtail (*Alopecurus geniculatus*) grassland. • S12 – Bulrush (*Typha latifolia*) swamp. • S14 – Branched bur-reed (*Sparganium erectum*) swamp. • S20 – Common club-rush (*Scirpus lacustris* ssp. *Tabernaemontani*) swamp. • S4 - Common reed swamp and reed-beds. • S5 – Reed sweet grass (*Glyceria maxima*) swamp. • Variety of breeding bird species (70).	~1.73km south-west

Site Name	Designated Feature Summary	Distance and Direction from the draft Order Limits
	• W1 – Grey willow (*Salix cinerea*) – marsh bedstraw woodland. • W16 - *Oak* spp.-birch spp.- wavy hair-grass (*Deschampsia flexuosa)* woodland.	
Stutton Ings SSSI	• M22 – blunt-flowered rush (*Juncus subnodulosus*) – marsh thistle *(Cirsium palustre*) fen meadow. • S7 – Lesser pond sedge (*Carex acutiformis*) swamp.	~1.73km south-east
Clifton Ings and Rawcliffe Meadows SSSI	• MG4 – Meadow foxtail (*Alopecurus pratensis*) – great burnet (*Sanguisorba officinalis*) grassland. • MG8 – Crested dogs-tail (*Cynosurus cristatus*) – marsh marigold *(Caltha palustris*) grassland. • Population of critically endangered beetle - Tansy beetle.	~1.81km south-east
Heslington Tillmire SSSI	• Assemblages of breeding birds - Lowland damp grasslands. • M24 – Purple moor-grass (*Molinia caerulea*) – meadow thistle (*Cirsium dissectum*) fen meadow. • S27 – Bottle sedge (*Carex rostrata*) – marsh cinquefoil (*Potentilla palustris*) swamp.	~3.60km south
River Derwent SSSI	• Aggregations of non-breeding birds - Bewick's Swan. • Assemblages of breeding birds – Mixed. • Flowing waters - Type II: slow-flowing, naturally eutrophic	~5.71km east

Site Name	Designated Feature Summary	Distance and Direction from the draft Order Limits
	lowland rivers, dominated by clays. • Invertebrate assemblage. • Otter. • Outstanding assemblage of native fish. • Outstanding dragonfly assemblage.	
Derwent Ings SSSI	• Aggregations of breeding birds - Gadwall, garganey (*Anas querquedula*), pochard (*Aythya ferina),* ruff, shoveler, tufted duck (*Aythya fuligula*). • Aggregations of non-breeding birds - Bewick's swan, golden plover, mallard, pochard, ruff, teal, whimbrel, and wigeon. • Assemblages of breeding birds - Lowland damp grasslands. • Invertebrate assemblage. • MG11 – red fescue (*Festuca rubra*) – creeping bent – silverweed (*Potentilla anserina*) grassland. • MG13 – Creeping bent – marsh foxtail grassland. • MG4 – Meadow foxtail – great burnet grassland. • MG8 – crested dog's-tail – marsh marigold grassland. • Outstanding dragonfly assemblage. • S28 – Reed canary grass tall-herb fen. • S5 – Reed sweet grass swamp. • Vascular plant assemblage.	~7.60km south-east

Site Name	Designated Feature Summary	Distance and Direction from the draft Order Limits
Melbourne and Thornton Ings SSSI	• Aggregations of breeding birds - gadwall, garganey and pintail (*Anas acuta*). • Aggregations of non-breeding birds - Bewick's swan, teal, and wigeon. • M22 – Blunt-flowered rush – marsh thistle fen meadow. • M23 – Soft rush/sharp flowered rush – marsh bedstraw rush pasture. • M27 - meadowsweet – wild angelica (*Angelica sylvestris*) mire. • MG13 – Creeping bent – marsh foxtail grassland. • MG8 – crested dog's-tail – marsh marigold grassland. • Otter. • Outstanding dragonfly assemblage. • S28 – Reed canary grass tall-herb fen. • S5 – Reed sweet grass swamp. • Variety of breeding bird species (70). • Variety of wintering bird species (90). • W6 – Black alder (*Alnus glutinosa*) – *common nettle* woodland. • W7 – Black alder – ash (*Fraxinus excelsior*) – yellow pimpernel *(Lysimachia nemorum*) woodland.	~9.59km south-east

Non-statutory biodiversity sites

8.5.3 The desk study identified 50 non-statutory biodiversity sites within 2km of the draft Order Limits comprising five LWS, four SEI, 33 SINCs, and eight candidate SINCs. Of

these, three sites are located fully or partially within the draft Order Limits, with a further five sites within ~100m.

8.5.4 A further 27 deleted[69] SINCs have also been identified within 2km of the draft Order Limits, of which three are located fully or partially within the draft Order Limits.

8.5.5 Three Yorkshire Wildlife Trust (YWT) reserves (Ledsham Bank, Moorlands and Sherburn Willows) and one RSPB reserve (Fairburn Ings; parts of which are also designated as Fairburn and Newton Ings SSSI), have also been identified within the area of search; none are located within the draft Order Limits.

8.5.6 All non-statutory biodiversity sites located in or within 2km of the draft Order Limits are shown on **Figure 8.1**. **Table 8.10** provides information on the non-statutory biodiversity sites that are located within 100m of the draft Order Limits. Details of the remaining sites which lie outside the draft Order Limits are supplied in **Appendix 8C.**

Table 8.10 - Current baseline – non-statutory biodiversity sites within the draft Order Limits

Site name	Designated feature summary
Overton Borrow Pits SINC	• The site comprises two linear borrow pits. • The eastern pit is fringed by false-oat grassland and dense scrub, with species-rich fen meadow on the pit floor. • The pit to the west is dominated by dense grey sallow scrub with species-poor grassland on the periphery. There is a small area of fen-meadow which supports fleabane, marsh orchids and sedges.
River Ouse candidate SINC	• No citation is available, and it has not been surveyed. However, NEYEDC states the interest is rare migratory fish (lamprey), but there has been no formal survey/assessment.
Moor Lane, Stutton Verges candidate SINC	• No citation is available. This is a new site and has not been surveyed yet. The survey is planned for summer 2021.
Field nr Healaugh Manor Farm deleted SINC	• This site is bordered by a plantation of coniferous species (Scots Pine) with occasional deciduous species (crack willow, hawthorn, elder). • The predominant herb layer comprises tall neutral grassland and equates to MG1. • A dyke transverses the site and snowberry forms local enclaves.

69 Deleted SINCs in North Yorkshire are former SINCs which have been assessed against the SINC selection guidelines by the North Yorkshire SINC panel and found not to qualify, though they are still likely to be of higher ecological quality than other land in the area.

Site name	Designated feature summary
Healaugh Priory Marsh deleted SINC	• The site consists of central marshland bounded to the north and south by dense scrub woodland of various willow, oak and ash species. • The marshland is in the intermediate stage of drying out, lacking any true wetland species and colonised by coarse herbage; meadowsweet and wild angelica. • The proximity of the woodland indicates the water table will progressively lower and new willow is likely to invade.
Disused Quarry, Newthorpe deleted SINC	• Disused magnesium limestone quarry filled with dense scrub supressing calcareous flora. • The scrub consists of ash, hawthorn, elder and blackthorn. • There are only a few remnants of calcareous flora such as tor grass and upright brome found on grassy banks.

Habitats

Habitats of Principal Importance /ancient woodland

8.5.7 The desk study completed to date has identified eight HPI or other conservation-notable habitat types either inside or within 2km of the draft Order Limits (**Figure 8.2**):

- coastal and floodplain grazing marsh (present within the draft Order Limits);
- deciduous woodland (present within the draft Order Limits);
- traditional orchard (present within the draft Order Limits);
- lowland fens (present within the draft Order Limits);
- open mosaic habitats on previously developed land t[70] (present within the draft Order Limits);
- lowland calcareous grassland (closest ~0.39km south-west of the draft Order limits);
- wood pasture and parkland (closest ~0.71km north of the draft Order limits); and
- lowland meadows (closest ~1.76km south-west of the draft Order limits).

8.5.8 The desk study also identified the presence of several parcels of ancient woodland both within the draft Order Limits and the wider Study Area (**Figure 8.2**).

8.5.9 In addition to the habitats recorded on the Priority Habitat Inventory, several other habitat types recorded during the field survey qualify or may qualify as HPI. These

[70] Dataset for open mosaic habitat on previously developed land on MAGIC is draft status.

include rivers, ponds, hedgerows, lowland mixed deciduous woodland, lowland meadows, and arable margins.

8.5.10 The distribution of habitat types recorded within the draft Order Limits and 50m buffer to date[71] is shown on **Figure 8.1**. The broad habitat types identified include:

- woodland (broadleaved semi-natural, broadleaved plantation, mixed plantation and coniferous plantation);
- grassland (amenity, improved, poor semi-improved, neutral semi-improved, and marshy grassland);
- hedgerows;
- standing water (ponds/wet ditches);
- running water (rivers, streams and ditches);
- ditches (dry);
- scrub (dense and scattered);
- arable;
- ephemeral/short perennial; and
- other habitats (including tall ruderal; introduced shrub; scattered trees; fences; bare ground; hardstanding/tarmac; buildings).

Woodland

8.5.11 A variety of woodland types have been identified during the extended Phase 1 habitat survey including broadleaved semi-natural woodland and plantation woodland.

8.5.12 The semi-natural woodland recorded to date is all broadleaved. Parcels of semi-natural broadleaved woodland dominated by semi-mature and mature trees exist throughout the draft Order Limits and 50m buffer, and typically comprise a range of species including ash, oak (*Quercus sp*.), willow (*Salix sp.),* sycamore (*Acer pseudoplatanus*), horse chestnut (*Aesculus hippocastanum*) and beech (*Fagus sylvatica*). Ground flora diversity is generally low with bramble (*Rubus fruticosus agg*.), common nettle, wood avens (*Geum urbanum*), bluebells (*Hyacinthoides non-scripta*), dog's mercury (*Mercurialis perennis*) and cleavers (*Galium aparine*) as the usual dominant species.

8.5.13 Parcels of land with immature and semi-mature broadleaved plantation woodland are present and scattered throughout the survey area. The majority of plantation woodlands are small to moderate sized. Roadside plantations inaccessible on health and safety grounds were viewed from adjacent land and noted to comprise predominantly broadleaved species. Plantation woodlands are also present along steep roadside verges. There are several areas of coniferous plantation woodland, some as a Christmas tree farm which will undergo regular felling, while larger areas of coniferous plantations are scattered throughout the area.

8.5.14 Mixed plantation woodland is located around the edge of Field nr Healaugh Manor Farm deleted SINC and in several other locations throughout the survey area. Coniferous trees are typically Scots pine (*Pinus sylvestris*), with broadleaved trees including ash, oak, silver birch (*Betula pendula*) and sycamore. A shrubby layer is usually present within the mixed plantation woodlands, species typically include hawthorn (*Crataegus*

[71] Approximately 66% of land within the draft Order Limits and 50m buffer has been surveyed at the time of writing.

monogyna), blackthorn (*Prunus spinosa*), elder (*Sambucus nigra*), field maple (*Acer campestre*) and willow.

8.5.15 HPI traditional orchards were recorded by the desk study within the draft Order Limits, at two locations, one of which (close to the span between existing pylons XC514-XC515) was found to be absent during the extended Phase 1 habitat survey (now predominantly amenity grassland), and the other (close to Osbaldwick Substation) has yet to be surveyed.

8.5.16 The majority of the broadleaved semi-natural woodland is likely to qualify as HPI lowland mixed deciduous woodland. This will be confirmed following detailed botanical surveys in 2022 where necessary.

8.5.17 Approximately 4.44ha of ancient woodland has been identified within the draft Order Limits and 50m buffer in the desk study consisting of four different woodland - Overton Wood (ancient replanted woodland), Redhouse Wood (ancient replanted woodland), Shire Oaks (ancient and semi-natural woodland) and Huddleston Old Wood (ancient replanted woodland). Of this, 0.19ha of Huddleston Old Wood is within the draft Order Limits. Potential veteran/ancient trees were identified during the extended Phase 1 habitat survey, and an arboriculture survey is being carried out in 2021 and 2022 which will confirm whether veteran/ancient trees are present and will be provided in support of the ES and DCO application.

Grassland

8.5.18 Grassland types identified during the Phase 1 habitat survey include semi-improved neutral grassland, poor semi-improved grassland, improved grassland, marshy grassland and amenity grassland.

8.5.19 HPI coastal and floodplain grazing marsh has been identified during the desk study within the draft Order Limits at several locations, namely the span between pylons YR033-YR034 on the existing 2TW/YR 400kV overhead line and along the proposed access route for pylon XC472 and the span between pylons XC471-XC472 on the existing XC 275kV overhead line. This has not yet been confirmed as present on the ground due to lack of access during the extended Phase 1 habitat survey to date.

8.5.20 The majority of grasslands subject to Phase 1 habitat survey were species-poor. Poor semi-improved grassland fields occur throughout the survey area. These are associated largely with pasture fields that have not been managed to the extent that they are assessed as ‘improved’. Although the majority of fields comprise perennial rye-grass (*Lolium perenne*), they also commonly contain grasses such as cocksfoot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanatus*, bents (*Agrostis sp*.), false oat-grass (*Arrhenatherum elatius*), and barren and soft brome (*Bromus sterilis* and *Bromus hordeaceus*). This habitat contains a low diversity and abundance of forbs, with species typically including buttercup (*Ranunculus sp*.), clover (*Trifolium sp*.), dock (*Rumex spp*.), black medic (*Medicago lupulina*), creeping thistle (*Cirsium arvense*), and patches of common nettle. In some instances these strips of grassland are used as access tracks.

8.5.21 Poor semi-improved grassland is also commonly associated with arable field margins and at the base of hedgerows, usually with a higher proportion of tall ruderal species present such as common nettle, hogweed (*Heracleum sphondylium*), creeping and spear thistle (*Cirsium vulgare*), hemlock (*Conium maculatum*) and cow parsley (*Anthriscus sylvestris*).

8.5.22 Areas of neutral semi-improved grassland with a higher diversity of grasses and wildflowers exist in localised patches including an open area surrounding a pond (P85) in Overton Borrowpits SINC, within Field nr Healaugh Manor Farm deleted SINC, Moor Lane, Stutton Verges candidate SINC and to the north of XC498 around Cock Beck. These areas contain a range of species such as Yorkshire fog, false oat-grass, fescues (*Festuca spp*.), bents, cocksfoot, sedges, and limited perennial rye-grass, with buttercup, vetches, ribwort plantain (*Plantago lanceolata*), hogweed, stichwort (*Stellaria spp*.), black medick, red clover, broad-leaved dock, creeping cinquefoil (*Potentilla reptans*), orchids, and occasional meadowsweet (*Filipendula ulmaria*). An area to the north around Cock Beck and east of XC496 and XC497 is identified as 'good quality grassland' non-priority habitat on MAGIC; however, following the extended Phase 1 habitat survey, large parts of this area are classed as poor semi-improved grassland, although an area immediately adjacent to the Cock Beck is representative of neutral -semi-improved grassland.

8.5.23 Areas with a moderately diverse grass assemblage and low abundance of perennial rye-grass (and therefore classified as semi-improved neutral rather than poor semi--improved grassland), but with a reduced diversity of wildflowers are also located within the survey area.

8.5.24 Marshy grassland is rare within the draft Order Limits, being located predominately within Overton Borrowpits SINC and Healaugh Priory Marsh deleted SINC and in a field north of the River Ouse. These areas contain extensive swathes of habitat dominated by species such as meadowsweet, reed canary grass, and yellow iris (*Iris pseudacorus*), with sedges and rushes also present.

8.5.25 Improved grassland is present within the draft Order Limits and 50m buffer associated with pasture fields, and sometimes field margins bordering arable land. Typically, the sward is dominated by perennial rye-grass with clover and occasional patches of common nettle and other grasses such as cocksfoot and Yorkshire fog. There are localised patches of amenity grassland associated with residential areas, campsites and caravan parks present. These have regularly mown short swards with low diversity of common grass and herb species.

Hedgerows

8.5.26 Hedgerows are common throughout the survey area as field boundaries. There is a mix of species-poor and rich hedgerows, intact and defunct hedgerows, and some hedgerows have trees, all with varying levels of management. Shrub species typically comprise hawthorn, blackthorn and elder, with other species such as oak, dog rose, field maple, hazel (*Corylus avellana*), ash, sycamore, lime (*Tilia* x *europaea*), cherry (*Prunus avium*) and elm (*Ulmus minor*) also common. Bramble is also present within most hedgerows. Ground flora present along the base of the majority of hedgerows generally consists of poor semi-improved grassland and tall ruderal species that typically reflect the intensive agricultural practice within the adjacent fields; species include cocksfoot, perennial rye-grass, hogweed, cleavers, common nettle (*Lamium album*), cow parsley, ivy (*Hedera helix*), white deadnettle, hedge bindweed (*Calystegia sepium)*, and rosebay willowherb (*Chamaenerion angustifolium*).

8.5.27 All native hedgerows over 20m in length, both species-rich and species-poor, are defined as HPI[72]; as a precaution it is therefore assumed that all hedgerows identified to date would qualify as HPI[73].

8.5.28 No detailed important hedgerow surveys have been carried out. Based on the results of the extended Phase 1 habitat survey to date it is likely that less than a quarter of hedgerows would meet the criteria for important hedgerows[12.]

Standing water (ponds/wet ditches)

8.5.29 The desk study and extended Phase 1 habitat survey to date have identified 115 ponds and 79 ditches within 50m of the draft Order Limits; of these 57 ponds and 48 wet ditches holding standing water are within the draft Order Limits. These vary in shape and size, but there are no particularly large waterbodies (for example large drinking water reservoirs) with the vast majority being less than a hectare in extent. All these ponds are considered likely to fulfil the criteria as HPI[74] and are treated as such for the purposes of the assessment.

Running water (rivers, streams and ditches)

8.5.30 The desk study and extended Phase 1 habitat survey identified 14 watercourses within the draft Order Limits and 50m buffer, of which eight were accessible during the field survey. Several major watercourses are present, principally the River Ouse (north-west of Nether Poppleton), the River Wharfe (north-west of Tadcaster, a tributary of the Ouse) and Cock Beck (north-west of Saxton, itself a tributary of the Wharfe). Also of note within the draft Order Limits are several other watercourses which ultimately form tributaries of the River Ouse including Hurns Gutter, The Foss, Carr Dike and Bishop Dyke. Several wet ditches with running water are also present.

Ditches (dry)

8.5.31 Dry ditches were identified within the draft Order Limits and 50m buffer during the Phase 1 habitat survey. Dry ditches are generally associated with field boundaries, along roads and within woodlands. Dry ditches were noted to support similar species to those in adjacent habitats (for example semi-improved grassland).

Arable

8.5.32 The dominant habitat type throughout the draft Order Limits and 50m buffer is arable. It is in various states of management and supports a variety of crops including corn and potato. Many arable fields in the draft Order Limits and 50m buffer had been recently planted at the time of survey. Fields are generally large creating open landscapes that are interspersed with ditches/hedgerows/scattered scrub, forming boundary features. Field margins are frequently no more than 1m wide, although occasionally they extend up to approximately 50m. The species recorded within arable field margins predominantly consists of poor semi-improved grassland and tall ruderal species, as reflected above in Hedgerows **Section 8.5**.

[72] JNCC (2016). UK Biodiversity Action Plan; Priority Habitat Descriptions: Hedgerows. [Online] Available at: https://data.jncc.gov.uk/data/ca179c55-3e9d-4e95-abd9-4edb2347c3b6/UKBAP-BAPHabitats-17-Hedgerows.pdf [Accessed 11 August 2021].

[73] The majority of hedgerows mapped during the extended Phase 1 habitat survey were able to be surveyed. A small number of hedgerows were mapped from distance (where access wasn't possible, or health and safety reasons prohibited survey). Where hedgerows could not be accessed they were therefore mapped based on adjacent hedgerows that could be surveyed, and are considered highly likely to be at least 80% of native origin and qualify as HPI.

[74] Ponds are all considered to be HPI as the criteria governing qualifications requires extensive data on the flora and fauna that inhabit them. This information is not available and hence a precautionary view has been taken.

8.5.33 Arable field margin HPI[75] includes a variety of margin types that are managed specifically to benefit wildlife. The most relevant margin type criteria based on extended Phase 1 habitat surveys to date is "*Margins providing permanent, grass strips with mixtures of tussocky and fine-leaved grasses*." However, cross compliance requirements where margins are present to protect hedgerows are excluded from this. MAGIC shows approximately 25% of the land within the draft Order Limits is under countryside or entry level/plus higher stewardship. Whilst the arable margins under these schemes may be more likely to be managed for wildlife, they could however be present for other reasons, such as for hedgerow protection. In addition, species compositions recorded within arable field margins predominantly consist of poor semi-improved grassland and tall ruderal species that typically reflect the intensive agricultural practice within the adjacent fields and that are widespread within the local area. It is therefore likely that most arable margins do not qualify as HPI.

8.5.34 Notable exceptions where wide margins exist, include the fields encompassing proposed pylons YN005 (up to 25m wide and up to 210m in length within the draft Order Limits and 50m buffer) and YN006 (up to 15m wide and up to 1050m in length within the draft Order Limits and 50m buffer, this is also used for farm access), pylon SP007 (up to 50m wide and up to 510m in length within the draft Order Limits and 50m buffer), and pylon XC497 (up to 40m wide and up to 510m in length within the draft Order Limits and 50m buffer). It is considered these are likely to be managed for wildlife and are thus considered to qualify as HPI.

Scrub – dense and scattered

8.5.35 Dense and scattered scrub can often be found around the perimeter of agricultural/grassland field boundaries. There are also relatively extensive areas of dense scrub interspersed throughout the survey area, particularly in association with disturbed habitats such as existing and former quarries. Scrub species include bramble, hawthorn, blackthorn and elder. Buddleia (*Buddleia davidii*) is common at Jackdaw Quarry.

Ephemeral/short perennial

8.5.36 The extended Phase 1 habitat survey identified ephemeral/short perennial vegetation occupying patches of exposed ballast along the railways and within active and disused quarries, including Jackdaw Quarry where the desk study identified the presence of HPI open mosaic habitats on previously developed land (draft)[76,77]. Species in these areas include ribwort plantain, birds foot trefoil (*Lotus corniculatus*), coltsfoot (*Tussilago farfara*) and clover.

Other habitats

8.5.37 The remainder of the areas within the draft Order Limits and 50m buffer support habitats including tall ruderal vegetation, boundary features including fences, areas of

[75] JNCC (2016). UK Biodiversity Action Plan; Priority Habitat Descriptions: Arable field margins. [Online] Available at: https://data.jncc.gov.uk/data/529a621b-e1a6-4283-ba82-408744d079b4/UKBAP-BAPHabitats-02-ArableFieldMargins.pdf [Accessed 11 August 2021].

[76] Limited access at Jackdaw Quarry during the extended Phase 1 habitat survey meant that the full extent of HPI open mosaic habitats on previously developed land could not be confirmed on the ground.

[77] JNCC (2016). UK Biodiversity Action Plan; Priority Habitat Descriptions: Open Mosaic Habitats on Previously Developed Land. [Online] Available at: https://data.jncc.gov.uk/data/a81bf2a7-b637-4497-a8be-03bd50d4290d/UKBAP-BAPHabitats-40-OMH-2010.pdf [Accessed 11 August 2021].

hardstanding and buildings (including roads, commercial and residential development), as well as introduced shrub associated with residential gardens.

Protected/SPI and other conservation-notable species

8.5.38 The desk study has identified the following legally protected/notable species/species groups as being present within the draft Order limits and relevant area of search (see **Table 8.6**); these are considered for further assessment: bats, great crested newts, otter, water vole, reptiles, badger, fish, invertebrates and birds. Further details on the methods and findings of the field surveys undertaken to date together with the results of the desk study are given in the extended Phase 1 Habitat survey and badger reports (see **Appendix 8C** and **Appendix 8D**).

Bats

8.5.39 The desk study returned a total of 182 records (including roosts) of at least seven species of bats within 2km of the draft Order Limits; Brandt's bat (*Myotis brandtii*), brown long-eared (*Plecotus auritus*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Daubenton's bat (*Myotis daubentonii*), Leisler's bat (*Nyctalus leisleri*) and noctule (*Nyctalus noctula*) as well as records of unidentified bat species. Of these, the most frequent records were for soprano pipistrelle followed by common pipistrelle and brown long-eared. In addition, 53 records of bat roosts were returned from within 2-5km of the draft Order Limits, with species including soprano pipistrelle, brown long-eared bat, common pipistrelle, whiskered bat (*Myotis mystacinus*) and unidentified bat species.

8.5.40 Although detailed roost inspections were not carried out during the extended Phase 1 habitat survey, some buildings, individual trees and blocks of woodland within the draft Order Limits and 50m buffer were noted for their potential to support roosting bats due to the presence of Potential Roost Features (PRFs) such as splits and rot holes. Gaps and cracks within the open rock cliffs at Jackdaw Quarry provide further PRFs, although the quarry is active and disturbance from operational activities reduces the likelihood of its use by roosting bats. In addition, bat boxes placed on trees also provide roosting opportunities.

8.5.41 Habitats within the draft Order Limits and a buffer of 50m were assessed for their suitability to be used as foraging resources and commuting routes for bats. Large areas of open arable land are of limited suitability and at times unsuitable for most species of bats as they provide little in the way of foraging habitat, or linear features/cover for commuting. However, hedgerows along field boundaries, watercourses, and parcels of grassland, woodland and scrub within the draft Order Limits and 50m buffer are likely to be used by foraging and commuting bats although these are not unique habitats locally. Areas of habitat which are most suitable for bats, occur in places where a range of habitat types coincide to provide a variety of ecotones for commuting and foraging, suitable for a variety of bat species. For example, habitats around Healaugh Priory Marsh deleted SINC and Field nr Healaugh Manor Farm deleted SINC, and along watercourses such as the River Ouse and The Foss, which include a mix of habitats such as scrub, grassland, hedgerows, treelines, woodland and watercourses/ waterbodies. Habitat in these locations is considered to have high suitability for

commuting and foraging bats, though the majority of habitat within the draft Order Limits and 50m buffer is on balance, considered to have moderate suitability[46] [78].

Great crested newt

8.5.42 The desk study identified 27 records of great crested newt within 2km of the draft Order Limits and one record[79] within the draft Order Limits.

8.5.43 Following a desk-based review of Ordnance Survey maps and aerial imagery, and the extended Phase 1 habitat surveys to date, a total of 366 waterbodies (242 ponds and 124 ditches) have been identified within 250m of the draft Order Limits and screened as being potentially suitable for great crested newt with likely presence of connective habitat between the waterbody and the draft Order Limits.

8.5.44 Waterbodies (including ponds and wet ditches) that could be accessed during the extended Phase 1 habitat survey to date, were subject to HSI assessments to determine their suitability for great crested newts. Of the 336 potentially suitable waterbodies identified above, 139 ponds and 70 ditches were accessible during the extended Phase 1 habitat survey and were subject to HSI assessments in 2021. Of these, 79 ponds and 16 ditches are assessed to have suitability to support great crested newt (i.e. HSI scores of 'below average' or above), and these will potentially be subject to great crested newt presence/likely absence surveys during 2022, subject to land access permission and the outcome of DLL discussions with Natural England (see **Table 8.8**).

8.5.45 Ponds and ditches which were inaccessible during the surveys to date, will be subject to HSI assessments to determine their suitability for great crested newts, followed by presence/likely absence surveys of suitable waterbodies if required (subject to land access permission).

8.5.46 Habitats such as arable field margins, grassland, hedgerow, dense scrub, woodland and a network of ditches provide suitable terrestrial habitat for foraging, refuging, commuting and hibernating. Often, there are no significant barriers to prevent great crested newt dispersal from suitable waterbodies. However, the most extensive habitat within the draft Order Limits is arable, with pasture fields also common, and these are either unsuitable or unfavourable for great crested newts.

Otter

8.5.47 The desk study returned 23 records of otter outside of, but within 2km of the draft Order Limits.

8.5.48 During the extended Phase 1 habitat survey, spraint was recorded along the River Ouse, and otter footprints were observed along the Foss, along with potential features that could be used for otter holts/rest sites such as root bases of trees. During the survey anecdotal records[80] were received from local residents regarding otter presence.

8.5.49 The dominant habitat within the draft Order Limits and 50m buffer (arable) is unsuitable for otter, however, the River Ouse, the River Wharfe and Cock Beck provide optimal

[78] The Bat Conservation Trust provide guidelines[46] for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features in the landscape, and potential roost features in buildings, structures and trees. The guidance outlines habitat features associated with negligible, low, moderate and high suitability for commuting, foraging and roosting by bats; based on the quality, extent and connectivity of suitable habitats and potential roost features which are present.
[79] Amec Foster Wheeler (2016) XCP Constraints Plan – one waterbody with great crested newts identified during previous ecology surveys carried out by Wood to inform proposed reconductoring on the existing 275kV Poppleton to Monk Fryston (XC/XCP) overhead line.
[80] A local resident also described seeing otter near a farm ~100-200m north of the River Ouse, and mentioned having also observed mink, although not recently. Another local resident said that otter feeds on fish in his garden pond (P129).

habitat for foraging, commuting and resting otter, along with smaller tributaries with plentiful bankside cover such as the Foss. Ditches throughout the draft Order Limits and 50m buffer may provide commuting corridors within the local area, however where dry or holding little or no water their suitability decreases. Wet ditches offer only limited suitability for commuting purposes. Water quality within these ditches is variable and they hold often little or no water and so are predominantly not suitable for foraging.

Water vole

8.5.50 The desk study returned six records of water vole within 2km of the draft Order Limits, none of which were within the draft Order Limits. The desk study also identified the presence of 94 watercourses and ditches within 50m of the draft Order Limits, of which 59 were accessible during the extended Phase 1 habitat survey. Of the 59 watercourses and ditches assessed, five were not present on the ground. Thirty-seven watercourses/ditches were assessed to be sub-optimal or optimal for water vole and the remaining 17 were classed as unsuitable due to various factors including lack of water, unsuitable banks for burrowing, heavy pollution, and dense shading.

8.5.51 No water voles or conclusive evidence such as latrines were observed during the extended Phase 1 habitat survey to confirm the species being present, although potential feeding remains were recorded along D96, though these could be attributable to other vole species.

8.5.52 The water vole is a mobile species that responds to habitat changes and may use different water bodies at different times of the year [53] This is likely to be particularly applicable to ditches that have fluctuating water levels over the year. Thus, some of these ditches, potentially including those that were dry at the time of the survey may support water voles at certain times of the year, or there remains the possibility of a ditch becoming colonised by water voles at a future date.

Reptiles

8.5.53 The desk study returned one reptile record (grass snake (*Natrix natrix*)) within 2km of the draft Order Limits.

8.5.54 No reptiles or evidence of their presence was recorded in the draft Order Limits and 50m buffer at the time of survey. The majority of the draft Order Limits and 50m buffer comprises large arable fields which are unsuitable for reptiles. However, arable field margins, parcels of woodland, hedgerows, dense scrub and a network of ditches provide suitable habitat for reptiles with opportunities for basking, foraging, refuging and hibernating though features such as these are at times sparse and isolated within the open arable landscape.

8.5.55 Habitats within the draft Order Limits and 50m buffer that are particularly favourable for reptiles include the mosaic of habitats on previously disturbed ground such as at Jackdaw Quarry and reptiles may be present in low numbers in the limited areas of suitable habitat present within the draft Order Limits.

Badgers

8.5.56 The desk study returned 14 records of badgers inside and within 2km of the draft Order Limits. Specific locations are not provided due to confidentiality.

8.5.57 Badger surveys were undertaken in conjunction with the extended Phase 1 habitat survey, with much of the land assessed as providing suitable habitats for sett creation,

foraging and commuting; suitable habitats for sett creation are present throughout land within the draft Order Limits and 50m survey buffer including the banks of dry ditches, hedgerows, dense scrub and woodland. The habitats within the draft Order Limits and 50m buffer provide extensive opportunities for foraging including large areas of arable land (and margins) and grasslands with a series of ditches and hedgerows providing connective habitat.

8.5.58 During the field surveys, 11 well-used and two partially-used setts were recorded throughout land within the draft Order Limits and 50m survey buffer. A further four potential badger setts were also identified within the draft Order Limits and 50m survey buffer; no direct evidence of badger was present although the size and shape of holes suggest they could be badger. Nine setts and three potential setts are present within the draft Order Limits, with a further two setts on the draft Order Limits boundary. Four setts are located in a cluster within a woodland parcel in the north of the survey area, while the remaining setts are scattered throughout land within the draft Order Limits.

8.5.59 Additional evidence of badger recorded during the field surveys includes latrines, footprints, mammal paths, scratch marks and evidence of badger pushing under fence lines.

SPI and other conservation-notable species - mammals

8.5.60 Seventeen records of three SPI mammal species were identified during the desk study within 2km of the draft Order Limits; none were within the draft Order Limits. Recorded species were:

- Brown hare (*Lepus europaeus*);
- Harvest mouse (*Micromys minutus*); and
- Hedgehog (*Erinaceus europaeus*).

8.5.61 During the extended Phase 1 habitat survey undertaken to date, brown hares were recorded on 18 occasions, predominately within arable fields within the draft Order Limits. Although habitats within the draft Order Limits and 50m buffer are suitable to support SPI mammal species, the habitats are generally common and widespread in the wider landscape. Therefore, land within the draft Order Limits is not considered to support a unique assemblage of SPI mammal species in the local context and significant assemblages of SPI mammal species are unlikely to occur. This would be confirmed once the extended Phase 1 habitat survey has been completed for remaining land parcels which were inaccessible during surveys to date (subject to land access permission).

SPI and other conservation-notable species - amphibians

8.5.62 Eight records of common toad (SPI) were identified during the desk study within 2km of the draft Order Limits, no records were within the draft Order Limits.

8.5.63 During the extended Phase 1 habitat survey undertaken to date, one dead common toad was observed in close proximity to pylon YR039.

SPI and other conservation-notable species - fish

8.5.64 The desk study returned 23 records of seven species of fish within 2km of the draft Order Limits; none were within the draft Order Limits. Records were returned for Atlantic

salmon, barbel (*Barbus barbus*), brown/sea trout, bullhead (*Cottus gobio*), European eel, grayling (*Thymallus thymallus*) and sea lamprey.

8.5.65 Records are present (both up and downstream of the draft Order Limits, but not within) in watercourses (and their tributaries) which bisect land within the draft Order Limits including the River Ouse (Atlantic salmon, bullhead and European eel), the River Wharfe (barbel, brown/sea trout and grayling), Cock Beck (bullhead and European eel) and the River Nidd (brown/sea trout, barbel, bullhead and European eel).

8.5.66 In addition, there are several other watercourses within the draft Order Limits which also offer suitable habitat for a variety of SPI and other conservation-notable freshwater fish species.

SPI and other conservation-notable species - invertebrates

8.5.67 The desk study returned 119 records of nine species of terrestrial invertebrates within 2km of the draft Order Limits, one of which is within the draft Order Limits. Of those outside the draft Order Limits, there are eight moth species.

8.5.68 Within the draft Order Limits 110 records of tansy beetle were provided. Riparian habitat adjacent to the River Ouse containing the tansy plant is one of only two known locations in the UK to support the tansy beetle[81]. Three possible tansy beetles were observed during the extended Phase 1 habitat survey along the River Ouse.

8.5.69 The desk study also returned five records of three species of aquatic invertebrate within 2km of the draft Order Limits, none of which are within the draft Order Limits. Two records of depressed river mussel (*Pseudanodonta complanate*) and a single record of a caddis fly (*Ceraclea senilis*) are present along the River Ouse. The closest depressed river mussel record is located ~585m north of the draft Order Limits. The caddis fly is located ~610m south-west of the draft Order Limits.

8.5.70 The desk study also returned two records of white-clawed crayfish from stretches of the Bramham Beck ~1.47km outside the draft Order Limits. Bramham Beck flows into Carr Beck and then Firgreen Beck, and eventually into the River Wharfe. However, as non-native signal crayfish dominate the River Wharfe downstream of this location (including within the draft Order Limits) and there is a corresponding absence of white-clawed crayfish from watercourses within the draft Order Limits according to Environment Agency distribution maps[82], this species has been scoped out of this assessment (see **Table 8.4**).

8.5.71 With the exception of riparian tansy plants along the River Ouse, habitats within the draft Order Limits and to a 50m buffer are predominantly unfavourable or unsuitable to support important invertebrate assemblages, being dominated by arable land. Short stretches of other watercourses and relatively isolated areas of neutral semi-improved grassland with a higher diversity of grasses and wildflowers, ephemeral/short perennial/mosaic and semi-natural woodland offer habitat suitable for invertebrates but in view of the limited connectivity and small size of habitat patches, important assemblages of SPI and other conservation-notable invertebrates are unlikely to be present.

81 Buglife (2021). Tansy Hub. [online] Available at: https://www.buglife.org.uk/resources/species-hub/tansy-hub/ [Accessed 11 August 2021].
82 Environment Agency (2020) Yorkshire Area Biosecurity Protocol – Crayfish Distribution Maps

SPI and other protected/conservation-notable species - plants

8.5.72 The desk study identified a total of 210 records of 40 species of conservation-notable vascular plant species within 2km of the draft Order Limits, including early gentian (*Gentianella anglica*) which is an EPS. All species records are outside the draft Order Limits, with the exception of field garlic (*Allium vineale*) which is located in close proximity to Moor Lane, Stutton verges candidate SINC.

8.5.73 Occasional conservation-notable plant species have been recorded during the extended Phase 1 habitat survey to date within the draft Order Limits and 50m buffer; bluebell within woodlands, cowslip along road banks, and cowslip and crosswort within Moor Lane, Sutton verges candidate SINC.

8.5.74 Habitat within the draft Order Limits and to a 50m buffer is dominated by arable land. No areas suitable for early gentian (a species of calcareous grassland) have been identified to date and only relatively isolated areas of neutral semi-improved grassland with a higher diversity of grasses and wildflowers, ephemeral/short perennial/mosaic and semi-natural woodland offer habitat suitable for conservation-notable plant species, but in view of the limited connectivity and small size of habitat patches, important areas of SPI and other protected/conservation-notable plants are unlikely to be present.

Birds

8.5.75 The desk study identified a range of key bird species from within the Study Area[83]. Schedule 1 species records include barn owl, hobby (*Falco Subbuteo*), honey buzzard (*Pernis apivorus*), kingfisher, marsh harrier (*Circus aeruginosus*), peregrine and red kite.

8.5.76 SPI species records include bullfinch (*Pyrrhula pyrrhula*), corn bunting (*Emberiza calandra*), dunnock (*Prunella modularis*), grey partridge (*Perdix perdix*), house sparrow (*Passer domesticus*), lapwing (*Vanellus vanellus*), linnet (*Carduelis cannabina*), reed bunting (*Emberiza scoeniclus*), skylark (*Alauda arvensis*), song thrush (*Turdus philomelos*), spotted flycatcher (*Muscicapa striata*), starling (*Sturnus valgaris*), tree sparrow (*Passer montanus*), yellow wagtail (*Motacilla flava*) and yellowhammer (*Emberiza citronella*).

8.5.77 In addition, corn bunting, fieldfare (*Turdus pilaris*), grey partridge, house sparrow, lapwing, linnet, mistle thrush (*Turdus viscivorus*), redwing (*Turdus iliacus*), skylark, song thrush, spotted flycatcher, starling, tree sparrow, woodcock (*Scolopax rusticola*), yellow wagtail and yellowhammer, all Birds of Conservation Concern (BoCC) Red list species, were recorded as present.

8.5.78 Data from the five-year WeBS summary for Fairburn Ings indicates that the Fairburn Ings RSPB Nature Reserve supports a large and diverse assemblage of non-breeding waterfowl, including whooper swan (*Cygnus cygnus*), lapwing and curlew (*Numenius arquata*).

8.5.79 Interim results from the winter bird surveys undertaken in February and March 2021 near the existing Monk Fryston Substation and to the north-west of York indicate the following target species were recorded:

- Seventeen target species of waterfowl were recorded to the north-west of York, with mallard (*Anas platyrhynchos*) and lapwing being recorded on every visit. Golden plover was the only species that was also a qualifying species from the Lower

83 Some bird records are taken from: Aecom ltd (First Draft 2020) Yorkshire GREEN Project. Wintering Bird Ornithological Desk Study and Survey Strategy

Derwent Valley SPA recorded, with a single flock of 29 individuals observed in late February.

- Seven target species were recorded in flight to the north-west of York, consisting of five waterbird species (curlew, goosander (*Mergus merganser*), greylag goose (*Anser anser*), oystercatcher (*Haematopus ostralegus*) and teal) and two raptor species (red kite and kestrel (*Falco tinnunculus*)). Greylag goose was recorded in flight on eight occasions, with a maximum count of 14 birds. All other waterbird species observations consisted of a single flight. Single red kite flights were recorded on each visit, each of a single bird. Kestrel was recorded three times across two of the visits.
- SPI species recorded to the north-west of York consisted of grey partridge, herring gull (*Larus argentatus*), lapwing, reed bunting, skylark, song thrush, starling, tree sparrow and yellowhammer. Lapwing (peak count 116), starling (250) and yellowhammer (30) were recorded on all four visits. Curlew, fieldfare, grey partridge, herring gull, lapwing, redwing, skylark, song thrush, starling, tree sparrow and yellowhammer, all BoCC red listed species were also recorded. In addition to lapwing, starling and yellowhammer, fieldfare (250) and redwing (100) were recorded on all four visits.
- Six species of waterfowl were recorded during surveys near the existing Monk Fryston Substation, with mallard, the only species also cited from the Fairburn and Newton Ings SSSI, the most frequent (recorded on three out of four visits) with a maximum of four birds being recorded in late March.
- Two target species were recorded in flight near the existing Monk Fryston Substation, a single flight of two unidentified swans and two flights of peregrine falcon.
- SPI species recorded in surveys near the existing Monk Fryston Substation consisted of bulfinch, herring gull and skylark. Herring gull and skylark are also BoCC red listed species. Redwing and fieldfare were the only other BoCC red listed species recorded. All species were recorded infrequently, with skylark (peak count of three) and redwing (30) the most frequent species, being recorded on two visits each.

Invasive non-native plant species

8.5.80 During the extended Phase 1 habitat surveys undertaken to date, stands of Himalayan balsam, Japanese knotweed (*Fallopia japonica*), variegated archangel (*Lamium galeobdolon*), snowberry (*Symphoricarpos albus*), giant hogweed, Japanese rose (*Rosa rugosa*) and *Cotoneaster*[84] sp. have been recorded within the draft Order Limits and in the 50m buffer.

Future baseline

23.1.1 The future baseline is likely to remain relatively constant within the draft Order Limits and to the various areas of search through the lifetime of the Project in the majority of locations. This is because most land is in agricultural usage, typically in longer term use. Across some of the agricultural land, changes in farming policy may see further benefits

[84] Several Cotoneaster species are listed under Schedule 9 to the Wildlife and Countryside Act 1981 (as amended). Cotoneaster is a broad group of wild and horticultural varieties, and it is very difficult to reliably identify these to species level, and typically requires identification by a dedicated Cotoneaster specialist. In the absence of reliable identification, the species present within the draft Order Limits and to 50m are treated as potentially being a Schedule 9 species as a precaution.

for biodiversity and natural capital secured (e.g. hedgerow establishment and tree planting). However, these are likely to be relatively localised and unlikely to be implemented at scale prior to the construction phase for the Project, and thus would not be expected to affect the outcome of the assessment.

23.1.2 In the longer term it is possible that the range of some species may be altered due to climate change, though this is unlikely to occur at scale within the lifetime of the Project.

23.1.3 Any potentially relevant changes to the baseline would be reviewed during the EIA process and, should any likely instances be identified, the implications will be considered on a case-by-case basis. An updated description of the potential future baseline will be provided in the ES, if required.

8.6 Embedded environmental measures

8.6.1 A range of environmental measures have been embedded into the Project as outlined in **Section 3.4**. As part of the project design process, a number of embedded environmental measures are proposed to reduce the potential for impacts on biodiversity interests (see **Table 8.11**), and where identified as 'essential mitigation' in **Table 8.11**, would be secured through the Outline CEMP and a respective DCO Requirement. These will evolve over the development process as the EIA progresses and in response to consultation, they will be fed iteratively into the assessment process. These measures typically include those that have been identified as good or standard practice and include actions that would be undertaken to meet existing legislation requirements.

8.6.2 As there is a commitment to implementing these embedded environmental measures, and also to various standard sectoral practices and procedures, they are considered inherently part of the design of the Project and have, therefore, been considered in the scoping assessment (and are noted in **Table 8.12**).

8.6.3 General principles of these measures are summarised below in **Table 8.11**, followed by feature-specific measures (where relevant) described in **Table 8.12. Table 8.12** outlines how these embedded environmental measures will influence the biodiversity assessment.

Table 8.11 Relevant general biodiversity embedded environmental measures

General embedded environmental measures proposed
1. **Biodiversity Net Gain (Enhancement):** BNG equivalent to a 10% uplift above the current baseline situation would be sought through the design process for the Project.
2. **Standard best practice (essential mitigation):** The Project would be subject to standard best practice mitigation measures employed to avoid and minimise potential effects to habitats and species under the supervision of an appointed Project Ecologist. This would include (but not be exclusive to) buffer zones to key habitats and species, seasonally sensitive construction, minimising the removal of vegetation and considered location of works.
3. **Minimise land take and micro-site (essential mitigation):** Detailed design would aim to minimise the land take for works and site (through micro-siting within the Limits of Deviation which will form part of the DCO works plans) those works away from the more important habitat and species features, particularly woodland, boundaries including ditches and hedgerows, as well as ponds and other wetland features, which would consequently limit

General embedded environmental measures proposed
effects on associated species interest. Where practicable, sensitive sites including SSSIs, SINCs (including candidate and deleted SINCs), ancient woodland, YWT and RSPB reserves would be avoided when micro-siting the proposed working areas.
4. Outline **Construction Environmental Management Plan (essential mitigation):** In line with good practice, an Outline Construction Environmental Management Plan (CEMP) would ensure that any risk of effects on ecological features from dust emission is negligible by detailing methods for the employment of standard dust suppression .
5. **Sensitive vegetation removal (essential mitigation):** Vegetation would be retained where possible. To avoid destruction of active nests, where practicable, in any areas where vegetation clearance is required, such works would be undertaken outside the breeding bird season (outside March-August). Where this is not practicable, vegetation removal would be undertaken under supervision and appropriately managed to remove the risk of damaging or destroying active nests, young or eggs. Suitable methods would also be used to ensure vegetation with potential to support other legally protected species (e.g. reptiles) is removed sensitively and in compliance with legal requirements.
6. **Maintaining habitat connectivity (essential mitigation):** Habitat connectivity would be retained wherever possible by maintaining links within and to green corridors such as hedgerows and watercourses. Where effects on connectivity are unavoidable, it may be artificially supplemented by, for instance the creation of temporary brash hedges.
7. **Protection of ancient/veteran trees (essential mitigation):** Where practicable, any ancient/veteran trees identified would be avoided by micro-siting the design. A suitable root protection zone (with reference to BS 5837)[85] would be identified and used to site infrastructure with the draft Order Limits.
8. **Sensitive tree management for electrical safety clearance (essential mitigation):** Where tree loss is required to achieve electrical safety clearances, pollarding or coppicing (where regrowth would occur within a season) would be used to avoid total loss of habitat where possible. A suitable root protection zone (with reference to BS 5837[85]) would protect trees adjacent to working areas.
9. Protection of retained habitats (essential mitigation): The Outline CEMP would include mapping illustrating the location of all retained areas of semi-natural habitat, as well as newly created habitats. Appropriate delineation would be installed around those retained habitat features within the construction area, to protect them from direct effects during the works. Such delineation would be designed to avoid isolation/obstruction of protected species as necessary.
10. **Management of invasive species (essential mitigation):** The use of tried and tested invasive species control and biosecurity measures to avoid the spread of non-native invasive species and infested materials would be applied.
11. **Habitat reinstatement (essential mitigation):** Areas of temporary habitat loss would be reinstated, wherever practicable, following the completion of construction in each area. Wherever possible, reinstatement would be back to the type of habitat affected.
12. **Sensitive access and enabling works (essential mitigation):** At sensitive crossing locations (e.g. rivers), existing access routes would be used as far as possible and the width of any required working area reduced as far as practicable. If access upgrades are required on

[85] British Standard Institute (2012). BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations. [online] Available at: https://beta.bathnes.gov.uk/sites/default/files/2020-01/BS5837%202012%20Trees.pdf [Accessed 11 August 2021].

General embedded environmental measures proposed
WFD watercourses, temporary bridges will be used in preference to culverts. Culverts may be used on smaller watercourses/ditches but these will be sensitively designed to affect the minimum length possible, retaining the natural bed of the watercourse/ditch. Alternatively, they would be installed with the invert set below the natural bed level for a semi-natural bed to establish within the culvert. Habitat would be re-instated to pre-works condition or better following the removal of temporary bridges and culverts.
13. **Protection of watercourses (essential mitigation):** A minimum stand-off from all watercourses and waterbodies would be adopted where possible on a location-specific basis. This would be in line with regional Environment Agency and IDB requirements, excluding required access crossing points. In line with good practice, pollution prevention plans will be drawn up to detail how ground and surface waters would be protected during construction and operation. These will include information on the storage of any fuels, oils and other chemicals and pollution incidence response planning.
14. **Sensitive lighting design (essential mitigation):** A lighting design of all temporary and permanent lighting would be developed once contractors are appointed; however, the principles of lighting design will be detailed at the time of application and informed by the joint guidance provided by the Bat Conservation Trust and Institution of Lighting Professionals[86]. The lighting design will account for the potential effects on terrestrial ecology by taking measures to minimise lighting usage, minimise light spill, use most appropriate wave lengths of light and locate lighting in the most appropriate locations – this is to decrease the potential displacement effects on light sensitive fauna such as bats.
15. **Construction traffic speed limits (essential mitigation):** Speed limits would be imposed on all construction haul roads and access tracks to minimise the risk of road traffic collisions with fauna such as badgers, otters, bats and barn owls.
16. **Pre-construction update surveys (essential mitigation):** Pre-construction update surveys would be undertaken for protected species where relevant and necessary[87].
17. **Bird Diverters (optional mitigation):** Measures to minimise any potential bird collision risk would be applied where appropriate and, if required, following National Grid's bird diverter guidance.

Table 8.12 – Summary of the embedded environmental measures

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
Construction			
Habitats	Permanent or temporary land take/land use change resulting in habitat loss or degradation.	**General measures:** 2 – Standard best practice 3– Minimise land take and micro-site	Outline CEMP (which would be secured by DCO Requirement).

[86] Institution of Lighting Professionals and Bat Conservation Trust (2018). Bats and artificial lighting in the UK. Bats and the Built Environment series (Guidance Note 08/18). [online] Available at https://cdn.bats.org.uk/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?1542109349 [Accessed 11 August 2021].

[87] For example, to maintain up-to-date baseline data for known ecological features to inform mitigation requirements and European Protected Species licensing, or to identify potential additional ecological features which may become established within the Study Area (i.e. mobile species).

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
	Fragmentation of habitats resulting in a reduction in connectivity.	4– Outline CEMP (air quality management and dust suppression measures) 6– Maintaining habitat connectivity 8– Sensitive tree management for electrical safety clearance 9– Protection of retained habitats 10– Management of invasive species 11 – Habitat reinstatement 12 – Sensitive access and enabling works 13 – Protection of watercourses **Specific measures:** The Project layout would be optimised so that important habitats would be avoided where possible and alternative options considered. Any habitat reinstatement would be reflective of the type and extent of habitats affected by the Project where appropriate, as well as local conservation objectives and initiatives. The requirement for any habitat compensation would be identified through EcIA process in line with the EcIA mitigation hierarchy[31]. Consideration given to the preparation of a Habitat Management Plan (HMP) that could form part of a Landscape and Ecological Management Plan (LEMP), site-specific habitat management plans would be prepared for all areas of important retained semi-natural habitats. Standard Pollution Prevention Guidelines (PPGs) would be followed for works adjacent to water-dependent habitats, which would be included within the Outline CEMP.	

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
		Also see embedded environmental measures within **Chapter 9: Hydrology**. Successful implementation of these measures would minimise the loss, damage or fragmentation of habitats during construction.	
Ancient /veteran trees	Permanent or temporary land take/land use change resulting in ancient/veteran tree loss or degradation.	**General measures:** 2 – Standard best practice 3 – Minimise land take and micro-site 7 – Protection of ancient/veteran trees **Specific measures:** Access and construction activities would be sited within the draft Order Limits to avoid veteran trees wherever possible, and control measures to protect retained veteran trees such as root protection zones would be implemented during the construction phase to avoid damage to veteran trees. These specific measures would be included within the Outline CEMP and Tree and Hedge Management Plan. Successful implementation of these measures would minimise the loss or damage of veteran trees.	Outline CEMP (which would be secured by a DCO Requirement)
Bats	Permanent or temporary land take/land use change and fragmentation of habitats resulting in potential habitat loss or degradation, potential loss/damage to roosts, kill/injure bats, and/or affect distribution. Increased noise, vibration, light and movement levels	**General measures:** 2 – Standard best practice 3 – Minimise land take and micro-site 6 – Maintaining habitat connectivity 9 – Protection of retained habitats 11 – Habitat reinstatement 12 – Sensitive access and enabling works 14 – Sensitive lighting design 15 – Construction traffic speed limits 16 – Pre-construction update surveys	Outline CEMP (which would be secured by a DCO Requirement)

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
	resulting in disturbance to foraging, commuting bats, and/or disturbance to roosts.	**Specific measures:** A method statement and tool-box talk would be prepared that would include details of pre-construction verification surveys for bats and would describe the approach that would be followed to minimise the risk of contravening the Wildlife and Countryside Act 1981 (as amended) [9]and The Conservation of Habitats and Species Regulations 2017 (as amended) [7]. Best practice guidelines would be followed during the works. These specific measures would be included within the Outline CEMP or an BMS that would form an appendix of the Outline CEMP. Successful implementation of these measures would minimise the risk of affecting bats, their roosts and activity, and contravening legislation. Where an EPS licence may be necessary to avoid contravention of legislation, this is considered as separate mitigation within the preliminary assessment in **Section 8.9**.	
Great crested newts	Permanent or temporary land take/land use change and fragmentation of habitats resulting in potential habitat loss or degradation, potential loss/damage to hibernacula/refugia/breeding habitat/terrestrial habitat, kill/injure GCN, and/or affect distribution.	**General measures:** 2 – Standard best practice 3 – Minimise land take and micro-site 5 – Sensitive vegetation removal 6 – Maintaining habitat connectivity 9 – Protection of retained habitats 11 – Habitat reinstatement 12 – Sensitive access and enabling works 16 – Pre-construction update surveys **Specific measures:** A method statement and tool-box talk would be prepared detailing the required approach to minimise the risk of contravening the Wildlife and Countryside Act 1981 (as amended) [9]and The Conservation of Habitats and Species Regulations 2017 (as	Outline CEMP (which will be secured by a DCO Requirement)

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
		amended) [7]. Best practice guidelines would be followed during the works. Removal of suitable habitat would be designed to avoid the risk of injury to great crested newts, through measures such as timing ground works to avoid the hibernation period and implementing phased removal of habitat. Construction and reinstatement along the Project would be progressive and designed to avoid isolating or fragmenting great crested newt habitat. These specific measures would be included within the Outline CEMP or a BMS that would form an appendix of the Outline CEMP. Successful implementation of these measures would minimise the risk of affecting great crested newts and their habitats, and contravening legislation. Where an EPS licence may be necessary to avoid contravention of legislation, this is considered as separate mitigation within the preliminary assessment in **Section 8.9**.	
Otter	Permanent or temporary land take/land use change and fragmentation of habitats resulting in potential habitat loss or degradation, potential loss/damage to holts, kill/injure otters, and/or affect distribution. Increased noise, vibration, light and movement levels resulting in disturbance to foraging, commuting	**General measures:** 2 – Standard best practice 3 – Minimise land take and micro-site 6 – Maintaining habitat connectivity 12 – Sensitive access and enabling works 13 – Protection of watercourses 14 – Sensitive lighting design 15 – Construction traffic speed limits 16 – Pre-construction update surveys **Specific measures:** A method statement and tool-box talk would be prepared to minimise the risk of contravening the Wildlife and	Outline CEMP (which would be secured by a DCO Requirement)

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
	otter, and/or disturbance to holts.	Countryside Act 1981 (as amended) [9] and The Conservation of Habitats and Species Regulations 2017 (as amended) [7]. Best practice guidelines would be followed during the works including making all contractors aware of the potential presence of otters, and not leaving trenches uncovered overnight (or leaving an escape plank if excavations cannot be covered). Any obvious mammal trails would be kept clear of obstruction. As far as possible, all works would be undertaken between dusk and dawn. A pre-works check for holts and resting sites would be undertaken at each culvert/bridge location. These specific measures would be included within the Outline CEMP or a BMS that would form an appendix of the Outline CEMP. Successful implementation of these measures would minimise the risk of affecting otters, their rest sites/habitats, and activity, and contravening legislation. Where an EPS licence may be necessary to avoid contravention of legislation, this is considered as separate mitigation within the preliminary assessment in **Section 8.9**.	
Water vole	Permanent or temporary land take/land use change and fragmentation of habitats resulting in potential habitat loss or degradation, potential loss/damage to burrows, kill/injure water vole, and/or affect distribution.	**General measures:** 2 – Standard best practice 3 – Minimise land take and micro-site 6 – Maintaining habitat connectivity 9 – Protection of retained habitats 11 – Habitat reinstatement 12 – Sensitive access and enabling works 13 – Protection of watercourses 14 – Sensitive lighting design 16 – Pre-construction update surveys	Outline CEMP (which will be secured by a DCO Requirement)

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
	Increased noise, vibration, light and movement levels resulting in disturbance to foraging, commuting water vole, and/or disturbance to burrows.	**Specific measures:** A method statement and tool-box talk would be prepared detailing the required approach to minimise the risk of contravening the Wildlife and Countryside Act 1981 (as amended)[9]. Best practice guidelines would be followed during the works. This includes pre-works check and avoidance of active burrows if present. All site infrastructure and activities (with the exception of water course crossing points) would be located at least 5m from water courses wherever possible to minimise disturbance of water voles and their burrows. These specific measures would be included within the Outline CEMP or an BMS that would form an appendix of the Outline CEMP. Successful implementation of these measures would minimise the risk of affecting water voles, their burrows/habitats, and contravening legislation. Where an EPS licence may be necessary to avoid contravention of legislation, this is considered as separate mitigation within the preliminary assessment in **Section 8.9**.	
Reptiles	Permanent or temporary land take/land use change and fragmentation of habitats resulting in potential habitat loss or degradation, potential loss/damage to hibernacula/refugia/commuting and foraging habitat, kill/injure	**General measures:** 2 – Standard best practice 3 – Minimise land take and micro-site 5 – Sensitive vegetation removal 6 – Maintaining habitat connectivity 9 – Protection of retained habitats 11 – Habitat reinstatement 12 – Sensitive access and enabling works	Outline CEMP (which will be secured by a DCO Requirement)

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
	reptiles, and/or affect distribution.	**Specific measures:** A method statement and tool-box talk would be prepared to avoid contravening the Wildlife and Countryside Act 1981 (as amended)[9]. Best practice guidelines would be followed during the works. Removal of suitable habitat would be designed to avoid the risk of injury to reptiles, through measures such as timing ground works to avoid the reptile hibernation period and the gradual removal of habitat. If reptile surveys are required and where good reptile populations occur, capture and translocation to high quality habitats (e.g. with hibernacula, compost heaps, log/brash piles and basking areas) would be carried out if required. Construction along the Project would be progressive and designed to avoid isolating or fragmenting reptile habitat. These specific measures would be included within the Outline CEMP or a BMS that would form an appendix of the Outline CEMP. Successful implementation of these measures would minimise the risk of affecting reptiles and ensure compliance with legislation.	
Badger	Permanent or temporary land take/land use change and fragmentation of habitats resulting in potential habitat loss or degradation, potential loss/damage to setts, kill/injure badger, and/or affect distribution. Increased noise, vibration, light and movement levels resulting in disturbance	**General measures:** 2 – Standard best practice 3 – Minimise land take and micro-site 6 – Maintaining habitat connectivity 9 – Protection of retained habitats 12 – Sensitive access and enabling works 14 – Sensitive lighting design 15 – Construction traffic speed limits 16 – Pre-construction update surveys **Specific measures:** A method statement and tool-box talk would be prepared that would include	Outline CEMP (which will be secured by a DCO Requirement)

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
	to foraging, commuting, resting badger, and/or disturbance to setts.	details of pre-construction surveys to check on the presence of badgers and the approach that would be followed to minimise the risk of contravening the Protection of Badgers Act 1992[10]. Access and construction activities would be micro-sited where possible to avoid impacts on badgers and their setts. Measures would include making all contractors aware of the potential presence of badgers, minimising artificial lighting during the hours of darkness, and not leaving trenches uncovered overnight (or leaving an escape plank if excavations cannot be covered). Any obvious mammal trails would be kept clear of obstruction. These specific measures would be included within the Outline CEMP or a BMS that would form an appendix of the Outline CEMP. Successful implementation of these measures would minimise the risk of affecting badgers and their setts and contravening legislation. Where a EPS licence may be necessary to avoid contravention of legislation, this is considered as separate mitigation within the preliminary assessment in **Section 8.9**.	
Nesting birds (including Schedule 1 species)	Permanent or temporary land take/land use change and fragmentation of habitats resulting in potential habitat loss or degradation, potential loss/damage to nests, kill/injure nesting birds, and/or affect distribution.	**General measures:** 2 – Standard best practice 3 – Minimise land take and micro-site 5 – Sensitive vegetation removal 9 – Protection of retained habitats 12 – Sensitive access and enabling works 14 – Sensitive lighting design 16 – Pre-construction update surveys **Specific measures:**	Outline CEMP (which will be secured by a DCO Requirement)

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
	Increased noise, vibration, light and movement levels resulting in disturbance to foraging, commuting nesting birds, and/or disturbance to nesting Schedule 1 birds.	Where possible, vegetation clearance would be timed to avoid nesting bird season (that is March – August inclusive), otherwise nesting bird checks and avoidance of active nests may be necessary. The construction works programme would incorporate and account for all Schedule 1 species nests and avoid, amend or reduce works during sensitive periods i.e. breeding season. Where works are unavoidable during the nesting bird season, appropriate control measures would be followed including pre-works surveys for nests. If a nest is found, measures would be implemented appropriate to the species and associated level of protection, and may include a protective buffer, a behavioural method statement with ecological monitoring, and if necessary, suitable screening around working areas to avoid significant human disturbance. These specific measures would be included within the Outline CEMP or a BMS that would form an appendix of the Outline CEMP. Successful implementation of these measures would minimise the risk of affecting nesting birds and disturbing Schedule 1 species, and contravening legislation (Wildlife and Countryside Act 1981 (as amended)[9].	
All other species identified within the baseline (including legally protected	Permanent or temporary land take/land use change and fragmentation of habitats resulting in potential habitat loss or degradation, kill/injure	**General measures**: 2 – Standard best practice 3 – Minimise land take and micro-site 6 – Maintaining habitat connectivity 12 – Sensitive access and enabling works 13 – Protection of watercourses	Outline CEMP (which would be secured by a DCO Requirement)

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
species, SPI and other conservation-notable species)	species, and/or affect distribution.	17 – Bird Diverters **Specific measures:** A general ecological method statement would outline ecological good practice measures to minimise impacts to all other species and their habitats. The ecological method statement would be briefed to site personnel through a tool-box talk to ensure site activities are conducted with awareness and sensitively for biodiversity. These specific measures would be included within the Outline CEMP or a BMS that would form an appendix of the Outline CEMP. Successful implementation of these measures would minimise the risk of affecting these species and contravening legislation and policy. Where a protected species licence may be necessary to avoid contravention of legislation, this is considered as separate mitigation within the preliminary assessment in **Section 8.9**. Measures to minimise potential for any bird collision risk would be applied if appropriate following National Grid's internal bird diverter policy guidance	
All species and habitats identified in the baseline	Changes in air quality resulting in damage to habitats and/or species through excessive dust	**General measures:** 4 – Outline CEMP (dust control measures) **Specific measures:** Dust control measures have been assessed in **Chapter 13: Air Quality** and would be implemented during the construction phase of work. These specific measures would be included within the Outline CEMP.	Outline CEMP (which would be secured by a DCO Requirement)

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
		Successful implementation of these measures would minimise the risk of dust damage and ensure compliance with legislation and policy.	
All species identified in the baseline	Increased noise, vibration, light and movement levels resulting in disturbance to foraging, commuting and resting species, and/or disturbance to resting places.	**General measures:** 2 – Standard best practice **Specific measures:** Noise control measures have been assessed in **Chapter 14: Noise and Vibration**. These would include maintaining buffer distances to sensitive receptors, use of best technology, dampers on vibrating or noise emitting equipment, timing of works. These specific measures would be included within the Outline CEMP. Successful implementation of these measures would minimise the risk of disturbance and contravening legislation.	Outline CEMP (which will be secured by a DCO Requirement)
All species and habitats identified in the baseline	Pollution events resulting in damage to habitats and/or species through pollution (terrestrial and aquatic)	**General measures:** 4 – Outline CEMP (dust control measures) 13 – Protection of watercourses **Specific measures:** Pollution prevention control measures would be detailed in a method statement and implemented during the construction phase to avoid damage to habitats/species. Construction practices would comply with the Environment Agency's Pollution Prevention Guidelines[88] with a view to preventing the pollution of ground and surface water. **Chapter 9: Hydrology** details further measures. These specific measures would be included within the Outline CEMP.	Outline CEMP (which would be secured by a DCO Requirement)

[88] DEFRA (2019). Guidance: Pollution prevention for businesses. [Online}. Available at: https://www.gov.uk/guidance/pollution-prevention-for-businesses [accessed August 2021]

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
		Successful implementation of these measures would minimise the risk of damage through pollution and ensure compliance with legislation and policy.	
Operation			
All species identified in the baseline	Increased noise and vibration, resulting in disturbance to foraging, commuting, resting species, and/or disturbance to resting places.	**General measures:** 2 – Standard best practice **Specific measures:** Noise control measures have been assessed in **Chapter 14: Noise and Vibration**. These would include maintaining buffer distances to sensitive receptors, use of best technology, dampers on vibrating or noise emitting equipment, timing of works. These specific measures would be included within the Outline CEMP and / or Works Plans. Successful implementation of these measures would minimise the risk of disturbance and contravening legislation.	Outline CEMP (which or Works Plans which would be secured by a DCO Requirement)
All species identified in the baseline	Increased light resulting in disturbance to foraging, commuting species, and/or disturbance to resting places.	**General measures:** 2 – Standard best practice 14 – Sensitive lighting design **Specific measures:** A lighting strategy would be designed in accordance with best practice guidance and would be included within the Outline CEMP or a BMS that would form an appendix of the Outline CEMP. Successful implementation of these measures would minimise the risk of affecting features, and contravening legislation.	Outline CEMP or BMS (which would be secured by a DCO Requirement)

Receptor	Potential Changes and Effects	Embedded Environmental Measures	Compliance Mechanism
		Where a EPS licence may be necessary to avoid contravention of legislation, this is considered as separate mitigation within the preliminary assessment in **Section 8.9**.	
All species identified in the baseline	Permanent or temporary land take/land use change and fragmentation of habitats resulting in potential habitat loss or degradation, potential loss/damage to resting places, kill/injure species, and/or affect distribution.	**General measures:** 2 – Standard best practice 3 – Minimise land take and micro-site 5 – Sensitive vegetation removal 6 – Maintaining habitat connectivity 9 – Protection of retained habitats 11 – Habitat reinstatement 12 – Sensitive access and enabling works **Specific measures:** Any vegetation clearance associated with the operation of the Project would be subject to the relevant surveys to inform mitigation requirements, which would be applied according to relevant best practice at that time. Successful implementation of these measures would minimise the risk of disturbance and contravening legislation.	CEMP (which would be secured by a DCO Requirement)

8.7 Scope of the assessment

The Project

8.7.1 The scope has been refined as the Project design has evolved and responds to feedback received to date as set out in **Section 8.3**. As outlined in Planning Inspectorate Advice Note Seven[89], information presented in the PEIR is preliminary, therefore this scope will continue to be reviewed and may be further refined as the Project evolves, and as a result of ongoing engagement and consultation.

8.7.2 The starting point for defining the scope of the biodiversity assessment was to use the baseline data collected through the desk study and field surveys undertaken to date

[89] The Planning Inspectorate. (2020). Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements. Bristol: The Planning Inspectorate.

(see **Section 8.5**) to determine which of the identified ecological features are 'important'. Following CIEEM guidance[1], the importance of each ecological feature was determined using a geographic scale (see **Table 8.13**). The importance of the ecological features has been described in relation to UK legislation and policy and regarding the extent of habitat or size of population that may be significantly affected by the Project.

8.7.3 The importance of ecological features can therefore differ from that which would be conferred solely by legislative protection or identification as a conservation notable species. For example, house sparrow is important at a national level (in policy terms) because it is a SPI and features on the BoCC Red list[90]. However, a small population that could be affected by a development might be assessed as only being of local importance due to the large, albeit declining, UK population (in excess of five million pairs). Similarly, a small length of hedgerow (a HPI), even if deemed to be 'Important' with regard to the Hedgerow Regulations [12], is unlikely to be considered to have greater than 'local' importance due to the extent of this habitat type across a given county.

8.7.4 Wherever possible, information regarding the extent and population size, population trends and distribution of the ecological features was used to inform their categorisation and determine their importance at the project level. Where detailed criteria or contextual data were not available at this stage of the Project, professional judgement was used to determine importance.

Table 8.13 - Defining importance of ecological features

Geographic context of importance	Description
International or European	National site network constituents including SPAs, SACs, candidate SACs and Sites of Community Importance (SCI). Potential SPAs (pSPA), possible SACs (pSACs), Ramsar Sites (designated under international convention) and proposed Ramsar Sites are also considered in the same manner in accordance with national planning policy. Areas of habitat or populations of species which meet the published selection criteria based on discussions with Natural England and field data collected to inform the EcIA for designation as a European site, but which are not themselves currently designated at this level.
National (UK context)	A nationally designated site including SSSIs and NNRs.

[90] The IUCN red list provides taxonomic, conservation status and distribution information on taxa that have been globally evaluated using the IUCN Red List Categories and Criteria. This system is designed to determine the relative risk of extinction, and the main purpose of the IUCN Red List is to catalogue and highlight those taxa that are facing a higher risk of global extinction - those listed as Critically Endangered, Endangered and Vulnerable. [Online] Available from: http://www.iucnredlist.org/apps/redlist

Geographic context of importance	Description
	Areas (and the populations of species which inhabit them) which meet the published selection criteria guidelines for selection of biological SSSIs but which are not themselves designated based on field data collected to inform the EcIA, and in consultation with Natural England. SPIs and HPIs, Red listed and legally protected species that are not addressed directly in Part 2 of the "Guidelines for Selection of Biological SSSIs"[91] but can be determined to be of national importance using the principles described in Part 1 of the guidance. Areas of ancient woodland, for example woodland listed within the Ancient Woodland Inventory and ancient and veteran trees.
Regional (Northern England)	Regularly occurring HPI or populations of SPI, Red listed and legally protected species may be of regional importance in the context of published information on population size and distribution.
County (Yorkshire)	LNRs and Non-Statutory Designated sites including: SINCs, LWSs and notable roadside verges. Areas which, based on field data collected to inform the EcIA, meet the published selection criteria for those sites listed above (for habitats or species, including those listed in relevant Local Biodiversity Action Plans) but which are not themselves designated.
Local	HPI and SPI, Red listed and legally protected species that based on their extent, population size, quality and so on are determined to be at a lesser level of importance than the geographic contexts above. Common and widespread semi-natural habitats occurring within the Study Area

[91] JNCC (2019). Guidelines for Selection of SSSI: Part 2. [Online] Available at: https://jncc.gov.uk/our-work/guidelines-for-selection-of-sssis/#part-2-habitat-chapters (Accessed August 2021)

Geographic context of importance	Description
	in proportions greater than may be expected in the local context. Common and widespread native species occurring within the Study Area in numbers greater than may be expected in the local context.
Negligible	Common and widespread semi-natural habitats and species that do not occur in levels elevated above those of the surrounding area. Areas of heavily modified or managed land uses (for example, hard standing used for car parking, as roads and so on.)

8.7.5 Where protected species are present and there is the potential for a breach of the legislation, those species are considered to be 'important' features. Except for such species receiving specific legal protection, or those subject to legal control (for example, invasive species), all ecological features determined to be important at negligible level are scoped out of the assessment. This approach is consistent with that described in CIEEM guidance[1]. Specific justification for exclusion of each of these ecological features is provided in **Appendix 8A**.

8.7.6 Legally protected species and ecological features that are of sufficient importance that effects upon them as a result of the development of the Project could be significant, were then taken through to the next stage of the scoping assessment. Through an understanding of the activities associated with the Project and the resulting environmental change, it is possible to identify ecological features that may be subject to potentially significant effects. To identify such ecological features, all the activities and consequent environmental changes associated with the construction and operation of the Project have been considered. Given the ongoing design process, at this stage of the Project the environmental changes have been considered in broad categories only. Wherever there is uncertainty as to the potential level of effect or the occurrence of a particular ecological feature, a precautionary approach has been taken.

Spatial scope

8.7.7 The spatial scope of the assessment of biodiversity covers the area of the Project contained within the draft Order Limits, together with the ZoIs that have formed the basis of the Study Area described in **Section 8.4**.

8.7.8 The construction and operation phases of the Project may result in the following environmental changes that could significantly affect ecological features:

- **Permanent or temporary land take/land use change** (resulting in habitat loss or degradation and/or loss of fauna);
- **Fragmentation of habitats** (resulting in a reduction in connectivity);

- **Increased noise, vibration, light and movement levels** (resulting in disturbance/displacement);
- **Changes in hydrology** (resulting in the effects of habitat loss or degradation and/or loss of fauna);
- **Changes in air quality** (e.g. dust or vehicle emissions resulting in habitat degradation);
- **Pollution events** (including the liberation of sediments and chemicals resulting in habitat loss or degradation and/or loss of fauna); and
- **Introduction of invasive non-native species** (resulting in habitat degradation).

8.7.9 Key to establishing which environmental changes may result in likely significant effects, is the determination of a ZoI for each important ecological feature identified. ZoIs differ depending on the type of environmental change (i.e. the change from the existing baseline) as a result of the Project and the ecological feature being considered.

8.7.10 The most straightforward ZoI to define is the area affected by land-take and direct land-use changes associated with the Project. This ZoI is the same for all affected ecological features.

8.7.11 By contrast, for each environmental change that can extend beyond the area affected by land-take and land-use change (e.g., increased noise associated with construction activities within the land-take area), the ZoI may vary between ecological features, dependent upon their sensitivity to the change and the precise nature of the change. For example, a water vole might only be disturbed by noise generated very close to its burrow, while nesting marsh harrier might be disturbed by noise generated at a much greater distance, and other species (e.g. many invertebrates) may be unaffected by changes in noise. In view of these complexities, the definition of the ZoI that extends beyond the land-take area was based upon professional judgement informed (as far as possible) by a review of published evidence (e.g. disturbance criteria for various species) and discussions with the technical specialists who are working on other chapters of the ES.

23.1.4 The ZoIs for each broad environmental change are specified below. Due to the level of information currently available for this preliminary assessment, the ZoIs have been applied broadly to be precautionary:

- **Permanent or temporary land take/land use change** – ZoI within the draft Order Limits for habitats and sedentary species; mobile species may be affected beyond that if land within the draft Order Limits overlaps their typical home-ranges;
- **Fragmentation of habitats** – ZoI within the draft Order Limits for habitats and sedentary species; mobile species may be affected beyond that if land within the draft Order Limits overlaps their typical home-ranges;
- **Increased noise, vibration, light and movement levels** – ZoI for sensitive species is up to 500m from the construction works, noting that for mobile features of designated sites this is related to the species' habitat use and associated foraging home range distance, as opposed to designation boundary;
- **Changes in hydrology** – ZoI for sensitive habitats and/or species is within the sensitive surface and ground water features described within **Chapter 9: Hydrology** and **Chapter 10: Geology and Hydrogeology**;

- **Changes in air quality** – ZoI for sensitive habitats is up to 350m from the construction works;
- **Pollution events** – ZoI for habitats and species is up to 500m from the draft Order Limits, or further if the source and the ecological feature are directly linked via the river system; and
- **Introduction of INNS** – ZoI for habitats and species is up to 500m from the draft Order Limits, or further if the source and the ecological feature are directly linked via the river system.

8.7.12 Each ZoI takes into account measures which have been implemented to reduce effects such as the avoidance of potentially significant effects through the design process as well as standard construction best practice measures (as tried and trusted). When scoping in or out ecological features from further assessment, embedded environmental measures (see **Section 8.6**) associated with general good practice have been taken into account (e.g. dust suppression, appropriately scheduled vegetation removal and so on) and referenced in **Appendix 8A** where appropriate.

8.7.13 The following environmental changes are scoped out for all ecological features.

- **Changes in hydrology - Chapter 9: Hydrology** and **Chapter 10: Geology and Hydrogeology** does not identify any notable changes and thus resulting likely significant effects on the hydrological regimes across designated biodiversity sites or water-dependent habitats due to construction or operational activities associated with the Project. Therefore, the ecological features that these designated biodiversity sites and habitats support would also not be subject to likely significant effects.
- **Changes in air quality - Chapter 12: Traffic and Transport** does not identify any likely significant effects as a result of emissions associated with traffic and plant during construction or operational activities. The risk of dust deposition resulting from construction activities would be controlled via the implementation of embedded environmental measures (see **Section 8.6** and **Chapter 13: Air Quality**). These measures would be effective in negating the risk to ecological features.
- **Pollution events -** The risk of pollution from construction and operation activities associated with the Project will be controlled via the implementation of embedded environmental measures (see **Section 8.6** and **Chapter 9: Hydrology**). These measures will be effective in negating the risk to ecological features.
- **Introduction of invasive non-native species -** The risk of spreading non-native invasive species across and beyond the draft Order Limits from increased movement of traffic and construction or operational activities associated with the Project, would be controlled via the implementation of embedded environmental measures (see **Section 8.6**). These measures will be effective in negating the risk to ecological features.
- **Increased movement levels -** Death or injury of fauna due to the increased movement of traffic of construction and operational vehicles and plant, are scoped out based on the implementation of speed limits on all construction haul roads and access tracks that would be employed, and the relatively limited amount of traffic involved (see **Section 8.6** and **Chapter 12: Traffic and Transport**). These measures would be effective in negating the risk to ecological features.

8.7.14 Ecological features which have been scoped in or out of the assessment are detailed in **Appendix 8A**. A preliminary assessment of effects is detailed in **Section 8.6** for each

of those ecological features that are scoped into the assessment (i.e. those of sufficient importance occurring within a relevant ZoI that could be significantly affected).

Temporal scope

8.7.15 The temporal scope of the assessment of biodiversity is consistent with the period over which the Project would be carried out and covers the changes in construction and operational period as appropriate.

8.7.16 Construction is scheduled to commence in 2024 and complete in 2028, with some elements of the Project becoming operational in 2027. The assessment has been based on the construction programme set out in **Section 3.10** in **Chapter 3: Description of the Project** of which an indicative programme is set out in **Table 3.1**.

8.7.17 The Project is expected to have a life span of more than 80 years. If decommissioning is required at this point in time, then activities and effects associated with the decommissioning phase are expected to be of a similar level to those during the construction phase works, albeit with a lesser duration of two years, and with the removal of visible infrastructure, effects would reduce over the course of that period. Therefore, the likely significance of effects relating to the construction phase assessment would be applicable to the decommissioning phase and decommissioning effects are not discussed further in this chapter.

8.8 Assessment methodology

8.8.1 The generic project-wide approach to the assessment methodology is set out in **Chapter 4: Approach to Preparing the PEIR**, and specifically **Section 4.7** to **4.10**. However, whilst this has informed the approach that has been used in this biodiversity assessment, it is necessary to set out how this methodology has been applied, and adapted as appropriate, to address the specific needs of this biodiversity assessment. At this PEIR stage, the assessment is based upon the results of the desk study and field surveys (partially complete at present), and relevant published information (for example on the status, distribution, sensitivity to environmental changes and ecology of the features scoped into the assessment, where this information is available), technical engagement with stakeholders (see **Section 8.3**), and professional knowledge of ecological processes and functions. The assessment will be reviewed and updated for the ES when further surveys and Project design details are available.

8.8.2 The assessment methodology is aligned with the standard industry guidance provided by CIEEM[1]. The assessment is based upon not only the results of the desk study and field surveys, but also relevant published information (for example on potential ecological features' status, distribution, sensitivity to environmental changes and ecology, where this information is available), technical engagement with Natural England and other key consultees, and professional knowledge of ecological processes and functions.

8.8.3 For each scoped-in ecological feature, effects are assessed against the baseline conditions) for that ecological feature during construction and operation. Throughout the assessment process, findings about potentially significant effects will be used to inform the definition of requirements for additional baseline data collection and the identification of embedded environmental measures to avoid or reduce adverse effects or to deliver enhancements. Measures to comply with relevant policies and legislation are included. The results of the assessment reflect the Project design (i.e. incorporating the embedded environmental measures where identified to date).

8.8.4 The spatial extent of the assessment of each potentially significant effect reflects the area occupied by the ecological feature that is being assessed and the ZoI associated with the environmental changes that are likely to affect it. Thus, if part of a designated biodiversity site is located within the ecological ZoI relating to a particular environmental change, an assessment will be made of the effects on the site as a whole. A similar approach is taken for areas of important habitat. For species that occur within an ecological ZoI that relates to a change that could significantly affect the species, an assessment is carried out on the total area that is used by the affected individuals or population of the species (for example for foraging or as breeding territories).

8.8.5 For each ecological feature, the assessment deals, in an integrated way, with the effects of construction and operation. As progressively more information is available about the Project and about the populations of important and legally protected species, and throughout the consultation process, an ongoing detailed scoping exercise will be undertaken to identify which ecological features have the potential to be significantly affected by the Project. Each scoped-in ecological feature will then be subject to further assessment work that addresses how it is likely to be affected by the Project, allowing for environmental changes that could affect it during construction and operation.

Significance evaluation methodology

8.8.6 CIEEM[1] defines a significant effect as one "*that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general*".

8.8.7 When considering potentially significant effects on ecological features, whether these are negative or positive, the following characteristics of environmental change are taken into account:

- extent – the spatial or geographical area over which the environmental change may occur;
- magnitude – the size, amount, intensity or volume of the environmental change;
- duration – the length of time over which the environmental change may occur;
- frequency – the number of times an environmental change may occur;
- timing – the periods of the day/year/season during which an environmental change may occur; and
- reversibility – whether the environmental change can be reversed through restoration actions or regeneration.

8.8.8 Although the characteristics described above are all important in assessing effects, the magnitude of the environmental change as a result of the Project is used, as described in **Table 8.14**, to provide a contextual understanding of the relative scale of change from the baseline position.

Table 8.14 - Guidelines for the assessment of the scale of magnitude

Magnitude	Criteria and Resultant Effect
High	The change permanently (or over the long-term) affects the conservation status of a habitat/species, reducing or increasing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a large area of habitat or large proportion of the wider species population is affected. For designated sites, integrity is compromised. There may be a change in the level of importance of the ecological feature in the context of the Project.
Medium	The change permanently (or over the long term) affects the conservation status of a habitat/species reducing or increasing the ability to sustain the habitat or the population level of the species within a given geographic area. Relative to the wider habitat resource/species population, a small-medium area of habitat or small-medium proportion of the wider species population is affected. There may be a change in the level of importance of this ecological feature in the context of the Project.
Low	The quality or extent of designated sites or habitats or the sizes of species' populations, experience some small-scale reduction or increase. These changes are likely to be within the range of natural variability and they are not expected to result in any permanent change in the conservation status of the species/habitat or integrity of the designated site. The change is unlikely to modify the evaluation of the ecological feature in terms of its importance.
Very Low	Although there may be some effects on individuals or parts of a habitat area or designated site, the quality or extent of sites and habitats, or the size of species populations, means that they would experience little or no change. Any changes are also likely to be within the range of natural variability and there would be no short-term or long-term change to conservation status of habitats/species ecological features or the integrity of designated sites.
Negligible	A change, the level of which is so low, that it is not discernible on designated sites or habitats or the size of species' populations, or changes that balance each other out over the lifespan of a project and result in a neutral position.

Negative effects

8.8.9 A negative effect is assessed as being significant if the favourable conservation status of an ecological feature would be compromised or lost as a result of the Project. Conservation status is defined by CIEEM[1] as being:

- for habitats – "*the sum of the influences acting on the habitat and its typical species, that may affect its long-term distribution, structure and functions as well as the long-term survival of its typical species within a given geographical area*"; and
- for species – "*the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within a given geographical area.*"

8.8.10 The decision as to whether the conservation status of an ecological feature has been compromised will be made using professional judgement, drawing upon the results of the assessment of how each feature is likely to be affected by the Project.

8.8.11 A similar procedure will be used for designated sites that may be affected by the Project, except that the focus will be on the effects on the integrity of each site, defined by CIEEM[1] as :

> *"the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified*."

8.8.12 The assessment of effects on integrity will draw upon the assessment of effects on the conservation status of the features for which the site has been designated.

Positive effects

8.8.13 A development may result in positive effects where there is a resulting change from baseline that improves the quality of the environment (for example increases species diversity, increases the extent of a particular habitat and so on), or halts or slows down an *existing* decline. For a positive effect to be considered significant, the level of importance of an ecological feature determined at the baseline state would need to increase by one or more geographical levels (for example where an ecological feature of district importance becomes of county importance following delivery of the Project).

Habitat Regulations Assessment

8.8.14 In line with the Planning Inspectorate's Advice Note 10[92], the relevant Secretary of State is the competent authority for the purposes of the Habitats Regulations in relation to applications for Nationally Significant Infrastructure Projects (NSIPs). The Habitats Regulations require competent authorities, before granting consent for a plan or project, to carry out an Appropriate Assessment (AA) in circumstances where the plan or project is likely to have a significant effect on a European site (either alone or in combination with other plans or projects).

8.8.15 As a precursor to the production of an anticipated No Significant Effects Report (NSER), HRA Screening will be undertaken and in accordance with the Planning Inspectorate's Advice Note 10 [92] the screening will determine whether the Project would have LSEs on any European sites (please refer to the **draft No Significant Effects Report**). If LSE are identified the NSER will be replaced by a HRA Report which would provide sufficient information to allow the competent authority to undertake the AA to determine whether there would be a resulting adverse effect on the integrity of European sites. Natural England would be consulted during the HRA process to agree the screening conclusions and the need for either a NSER or HRA Report prior to the submission of

[92] The Planning Inspectorate (2017). Advice Note Ten: Habitats Regulations Assessment relevant to Nationally Significant Infrastructure Projects (Version 8). [online] Available at: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/advice-note-ten/ [Accessed 11 August 2021].

the DCO application. The HRA will include all relevant European sites identified during the screening stage.

8.9 Preliminary assessment of biodiversity effects

Introduction

8.9.1 Without further field survey information and/or the final design of the Project, it is not possible to conclusively determine the importance of all ecological features at the Project level at this stage, or the extent and magnitude of environmental change on certain features. In these cases, a precautionary reasonable worst-case scenario has been assumed and assessment undertaken on that basis in the following sections. This will be reviewed and updated in full in the ES following completion of baseline data collection, the evolution of the final Project design and the refinement of embedded environmental measures.

Preliminary assessment of effects: Overton Borrowpits SINC/Moor Lane Stutton Verges candidate SINC/Disused Quarry, Newthorpe deleted SINC

Detailed baseline – overview

8.9.2 All three sites are within the draft Order Limits. Overton Borrowpits SINC comprises two parcels either side of a railway with a borrow pit along the centre of each parcel. In line with the citation, grey willow scrub is dominant in the damp base of the western pit, with scrubby woodland including hawthorn and blackthorn present along the drier banks. Poplar, beech, silver birch, oak and ash trees are also present and scattered planting tubes indicate that the woodland component of the SINC is plantation. Grassland including species-rich semi-improved neutral grassland and damper areas of marshy grassland are also present. The eastern borrow pit is similar to the western borrow pit, but the base of the pit is dry.

8.9.3 No citation is available for Moor Lane, Stutton verges candidate SINC, but the extended Phase 1 habitat survey identified the verges to have semi-improved neutral grassland and a signage board indicates this is species-rich, including but not limited to various orchid species such as twayblade, common spotted, bee, pyramidal, early purple (*Orchis mascula*) and northern marsh-orchid (*Dactylorhiza incarnata*), as well as common broomrape (*Orobanche purpurea*), crosswort, and cowslip.

8.9.4 Disused Quarry, Newthorpe deleted SINC has not yet been surveyed but its citation indicates the presence of a magnesium limestone quarry filled with dense scrub (ash, hawthorn, elder and blackthorn) which has supressed the former calcareous flora of the site leaving only a few remnants such as tor grass and upright brome on the grassy banks.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.5 A visibility splay encroaches onto Moor Lane, Stutton verges candidate SINC which would result in the temporary loss of up to 0.13ha of semi-improved neutral grassland.

8.9.6 Scaffolds would be located within Overton Borrowpits SINC in plantation woodland/marshy grassland and would potentially also encroach onto an area of semi-improved neutral grassland. Scaffold installation would likely necessitate the temporary loss of up to 0.34ha of scrub, 0.06ha of plantation woodland, 0.20ha of marshy grassland and 0.01ha of semi-improved grassland. Areas of plantation woodland immediately adjacent to these construction activities may also be subject to indirect effects including root damage. The working area at pylon XCP013 and the stringing area for pylon SP006 also encroach onto the SINC and would require the management or temporary loss of up to 0.31ha of scrub, 0.30ha of plantation woodland and 0.16ha of marshy grassland. Plantation woodland management or loss due to these construction activities could result in temporary fragmentation of this habitat.

8.9.7 A scaffold would be located within Disused Quarry, Newthorpe deleted SINC. This would result in the temporary loss of 0.11ha of scrub[93].

8.9.8 Embedded environmental measure **2 – Standard best practice, 3 – Minimise land take and micro-site**, **4 – Outline CEMP** (air quality management and dust suppression measures), **6 – Maintaining habitat connectivity** and **12 – Sensitive access and enabling works** (see **Section 8.6**) would avoid or minimise the loss of grassland and woodland and fragmentation as far as possible. Subsequently, the use of embedded environmental measure **9 – Protection of retained habitats** would protect retained woodland habitat close to working areas reducing the magnitude of change and thus the effect. Embedded environmental measure **8 – Sensitive tree management for electrical safety clearance** is intended to reduce the magnitude of the change through management practices such as coppicing or pollarding trees instead of removal where possible, thus minimising the effects of habitat loss. **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that losses and degradation are suitably compensated.

8.9.9 The requirement for any compensation of habitat loss would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. Considering the embedded environmental measures described, and in the absence of complete baseline information and final design of the Project, the preliminary conclusion at this stage is that the magnitude of change is assessed to be **low** due to the temporary small-scale loss of the SINCs' ecological features and minimisation of fragmentation effects. This would not be expected to result in any permanent change to the conservation status of the habitats present. Therefore, the effect is assessed as **Not Significant** on ecological features of County importance.

8.9.10 Within the ES, the assessment will be further informed by additional baseline data, and a definitive Project design that has been optimised to reduce tree loss as a result of the Project.

Preliminary assessment of effects: River Ouse candidate SINC

Detailed baseline – overview

8.9.11 No citation is available for the River Ouse candidate SINC, although it is known that notable migratory fish are present such as sea lamprey[94]. It is unknown if other species or habitats such as otter or tansy beetle (both are present along the River Ouse based on the desk study results) will form part of the citation if the candidate SINC is ratified,

[93] The presence of scrub is a precautionary assumption based on the SINC citation only, due to lack of access.
[94] Email from Clare Langrisk, NEYEDC to Wood, 03 June 2021

however these species will be assessed within the fish, otter and tansy beetle sections below.

8.9.12 Along the majority of its length (including within the draft Order Limits), the candidate SINC boundary appears to include the river channel but excludes adjacent floodplain/terrestrial habitat.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation); fragmentation of habitats (resulting in a reduction in connectivity); increased noise, vibration, light and movement levels (resulting in disturbance/displacement)

8.9.13 The draft Order Limits include a linear stretch of ~480m of the River Ouse candidate SINC. The existing section of 275kV XCP overhead line (to be removed) and a proposed new stretch of 275kV overhead line (to be constructed) both cross the river corridor within the candidate SINC. The footprint of scaffolds and pylon demolition/construction areas are located outside the candidate SINC boundary which negates the risk of direct habitat loss, though there is potential for temporary degradation and fragmentation of habitat within the candidate SINC due to overhead line dismantling and erection immediately above and adjacent to the river channel.

8.9.14 As the candidate SINC features of interest are still to be confirmed and no draft citation is available, the potential for disturbance/displacement of faunal interest features as a result of construction works is assumed as a precaution.

8.9.15 The incorporation of embedded environmental measures including **2 – Standard best practice, 3 – Minimise land take and micro-site, 4 – Outline CEMP** (air quality management and dust suppression measures), **6 – Maintaining habitat connectivity**, **8 – Sensitive tree management for electrical safety clearance, 9 – Protection of retained habitats**, **11 – Habitat reinstatement**, **12 – Sensitive access and enabling works, 13 – Protection of watercourses**, and specific measures outlined in **Section 8.6** (i.e. maintaining an appropriate construction buffer from watercourses; using existing access points where possible) would minimise the potential for habitat degradation or fragmentation and disturbance of faunal species.

8.9.16 Embedded environmental measure **14 – Sensitive lighting design** would further reduce the potential for disturbance of any light-sensitive faunal interest features which may be included in the candidate SINC citation (e.g. bats).

8.9.17 Considering the embedded environmental measures described, and in the absence of complete baseline information and final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be temporary and **very low** and not considered to affect the conservation status of the candidate SINC. Therefore, the effect is assessed as **Not Significant** on an ecological feature of County importance.

8.9.18 Within the ES, the assessment will be further informed by additional baseline data where possible and a definitive Project design.

Preliminary assessment of effects: Broadleaved semi-natural woodland

Detailed baseline – overview

8.9.19 HPI deciduous woodland was recorded during the desk study within the draft Order Limits. Although a proportion of woodland within the draft Order Limits and 50m buffer is plantation and is unlikely to qualify as HPI, the extended Phase 1 habitat survey to date has recorded multiple parcels of semi-natural woodland. The majority of the broad-leaved semi-natural woodland may qualify as HPI lowland mixed deciduous woodland.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.20 Construction activities at the temporary pylon XCP006C could lead to temporary loss of up to 0.17ha of broadleaved semi-natural woodland and temporary fragmentation of the western part of the woodland from the eastern part. This woodland is likely to qualify as HPI. Construction activities at the temporary pylon span XCP006AT-XCP006BT could lead to temporary loss of up to 0.08ha of broadleaved semi-natural woodland and temporary fragmentation of the northern part of the woodland from the southern part in two locations.

8.9.21 Broad-leaved semi-natural woodland is also present immediately adjacent to access routes for multiple pylons/working areas. Areas of habitat immediately adjacent to these construction activities may be subject to negative indirect effects, including root damage (potentially resulting in tree loss).

8.9.22 Embedded environmental measure **9 – Protection of retained habitats** would protect retained woodland habitat close to working areas and would thus minimise the effect, and **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that any losses are suitably offset.

8.9.23 Embedded environmental measure **2 – Standard best practice, 3 – Minimise land take and micro-site**, **4 – CEMP** (air quality management and dust suppression measures), **6 – Maintaining habitat connectivity** and **12 – Sensitive access and enabling works** (see **Section 8.6**) would avoid or minimise the loss of semi-natural woodland and fragmentation through careful placement of the working areas and the activities within them, as well as considering access route positioning.

8.9.24 Embedded environmental measure **8 – Sensitive tree management for electrical safety clearance** is intended to reduce the magnitude of change through practices such as coppicing or pollarding trees, rather than removal where possible.

8.9.25 The requirement for any compensation of habitat loss would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. Considering the embedded environmental measures, and in the absence of complete baseline information and final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be **very low** due to the extent of potential losses being temporary and minor, and not considered to affect the conservation status of the habitat. Therefore, the effect is assessed as negative and **Not Significant** on an ecological feature of County importance.

8.9.26 Within the ES, the assessment will be further informed by additional baseline data, and a definitive Project design that has been optimised to reduce tree loss as a result of the Project.

Preliminary assessment of effects: Plantation woodland - traditional orchards

Detailed baseline – overview

8.9.27 An area of HPI traditional orchard was recorded during the desk study within the draft Order limits, close to Osbaldwick Substation (span YR001A-YR002) but is yet to be surveyed. As its presence is still to be confirmed during ongoing surveys, it is scoped into the assessment at this stage on a precautionary basis.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.28 Without further field survey information, it is not possible to fully determine the extent of any likely changes to and thus effects on traditional orchard HPI. If traditional orchard is present near Osbaldwick Substation as indicated by desk study data, construction activities could result in the temporary loss or degradation of up to 0.08ha and fragmentation between its eastern and western parts. This is assuming a worst-case scenario where the vegetation under span YR001A-YR002 requires clearance to facilitate works.

8.9.29 Embedded environmental measure **2 – Standard best practice, 3 – Minimise land take and micro-site, 4 – CEMP** (air quality management and dust suppression measures),**6 – Maintaining habitat connectivity** and **12 – Sensitive access and enabling works** (see **Section 8.6**) would avoid or minimise the loss of traditional orchard HPI and fragmentation, and the embedded environmental measure **9 – Protection of retained habitats** would protect retained HPI habitat close to working areas and would reduce the extent of any effect. Embedded environmental measure **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that losses are suitably offset. Embedded environmental measure **8 – Sensitive tree management for electrical safety clearance** is intended to reduce the magnitude of change through practices such as coppicing or pollarding trees, rather than removal where possible.

8.9.30 The requirement for any compensation of habitat loss would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. Considering the embedded environmental measures described, and in the absence of complete baseline information and final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be **very low** due to the extent of potential loss being temporary and minor and not considered to affect the conservation status of the habitat. Therefore, the effect is assessed as negative and **Not Significant** on an ecological feature of County importance.

8.9.31 Within the ES, the assessment will be further informed by additional baseline data and a definitive Project design that has been optimised to reduce tree loss as a result of the Project.

Preliminary assessment of effects: Ancient and semi-natural woodland/ancient replanted woodland/ancient/veteran trees

Detailed baseline – overview

8.9.32 Approximately 4.44ha of ancient woodland has been identified within the draft Order Limits and 50m buffer in the desk study, consisting of four different woodlands - Overton Wood (ancient replanted woodland), Redhouse Wood (ancient replanted woodland), Shire Oaks (ancient and semi-natural woodland) and Huddleston Old Wood (ancient replanted woodland). Of this, 0.19ha of Huddleston Old Wood is within the draft Order Limits. Potential veteran/ancient trees were identified during the extended Phase 1 habitat survey, and an arboriculture survey is being carried out in 2021 and 2022 which will confirm whether veteran/ancient trees are present.

8.9.33 The desk study identified ancient replanted woodland (Huddleston Old Wood) to be present within the draft Order Limits; this woodland has not been subject to survey yet and therefore its status is still to be confirmed. The extended Phase 1 habitat survey has identified the presence of mature trees throughout land within the draft Order Limits and 50m buffer. It is likely that one or more standalone ancient/veteran trees are present within the draft Order Limits; this will be confirmed during the arboriculture survey.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation)

8.9.34 Without further field survey information, it is not possible to determine the full extent of likely significant effects on ancient woodland or standalone ancient/veteran trees. The scaffold at span XC510-511 is partly located within ancient woodland identified during the desk study. Installation of this scaffold could result in the temporary loss or degradation of up to 0.05ha of ancient woodland. Areas of ancient woodland/ancient/ veteran trees immediately adjacent to construction activity may also be subject to degradation from edge effects including root damage (potentially resulting in tree loss).

8.9.35 A new permanent access route is proposed adjacent to Overton Wood that may result in an increased compaction of the soil and excavation. An access route is proposed approximately 35m south of Redhouse Wood but it is likely to be of sufficient distance from Redhouse Wood that it would not result in any effects. No veteran or ancient trees identified by the Woodland Trust's Ancient Tree Inventory wuold likely be removed or impacted by the Project. Six veteran trees have been identified by the detailed tree surveys completed to date of which one tree may be removed. A further two trees may be impacted by proposed access routes located within their Root Protection Area (RPA). The **Preliminary Arboricultural Impact Assessment** assesses these impacts and effects in more detail.

8.9.36 Embedded environmental measure **2 – Standard best practice, 3 – Minimise land take and micro-site**, **4 – CEMP** (air quality management and dust suppression measures), **6 – Maintaining habitat connectivity, 7 – Protection of ancient/veteran trees,** and **12 – Sensitive access and enabling works** (see **Section 8.6**) would avoid or minimise the loss of ancient woodland/trees, would protect retained woodland habitat close to working areas and would reduce the extent of effect, in particular through micro-siting scaffolds and management of trees through coppicing or pollarding as opposed to removal.

8.9.37 Embedded environmental measure **9 – Protection of retained habitats** would protect retained woodland habitat close to working areas and would reduce the extent of effect.

8.9.38 Construction activities could result in the temporary loss or degradation of woodland and/or ancient/veteran trees associated with management for electrical safety clearance beneath overhead lines or the removal of woodland for working areas around pylons. Where this is unavoidable through design of the Project, embedded environmental measure **8 – Sensitive tree management for electrical safety clearance** is intended to reduce the magnitude of the effect through practices such as coppicing or pollarding trees, instead of removal where possible. Embedded environmental measure **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that losses and degradation are suitably compensated.

8.9.39 The requirement for any compensation of habitat loss would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. Considering the embedded environmental measures described, and in the absence of complete baseline information and final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be very low due to the extent of potential loss being temporary and **minor** and not considered to affect the conservation status of the habitat. Therefore, the effect is assessed as negative and **Not Significant** on an ecological feature of National importance.

8.9.40 Within the ES, the assessment will be further informed by additional baseline data and a definitive Project design that has been optimised to reduce woodland/tree loss as a result of the Project.

Preliminary assessment of effects: Semi-improved neutral grassland

Detailed baseline – overview

8.9.41 The extended Phase 1 habitat survey to date has recorded multiple parcels of semi-improved neutral grassland, the majority small, ranging from approximately 0.45ha to approximately 10.5ha, within the survey area including species-rich grasslands within non-statutory designated sites and adjacent to Cock Beck (east of pylon XC497).

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.42 A preliminary assessment of effects on species-rich grassland associated with Moor Lane, Stutton verges candidate SINC and Overton Borrow Pits SINC has been carried out separately as part of the SINC/candidate SINC assessment and is therefore not considered here.

8.9.43 The proposed access route to pylon XC466 could result in the temporary loss of up to 0.58ha of semi-improved neutral grassland (with a moderately diverse grass assemblage and low diversity of wildflowers), and temporary fragmentation of the south-western and north-western corners of the field.

8.9.44 Construction activities at pylon XC482 and scaffold at span XC481-XC482 could result in the temporary loss of up to 0.17ha of semi-improved neutral grassland with a moderately diverse grass assemblage but with a low diversity of wildflowers.

8.9.45 Construction activities associated with the scaffold at span XC518-XC519 could result in the temporary loss of up to 0.08ha of semi-improved neutral grassland with a moderately diverse grass assemblage but with a low diversity of wildflowers.

8.9.46 Embedded environmental measure **2 – Standard best practice, 3 – Minimise land take and micro-site, 4 – CEMP** (air quality management and dust suppression measures), **6 – Maintaining habitat connectivity** and **12 – Sensitive access and enabling works** (see **Section 8.6**) would avoid or minimise the loss of semi-improved neutral grassland and fragmentation.

8.9.47 Embedded environmental measure **9 – Protection of retained habitats** would protect retained grassland habitat close to working areas and minimise the extent of any effect. Embedded environmental measure **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that losses and degradation are suitably compensated.

8.9.48 The requirement for any compensation of habitat loss or degradation would be identified in line with the EcIA mitigation hierarchy[5] and included in the ES following the final design of the Project. Considering the embedded environmental measures described, and in the absence of complete baseline information and final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be **low** due to the extent of potential loss being temporary and minor and not considered to affect the conservation status of the habitat. Therefore, the effect is assessed as negative and **Not Significant** on an ecological feature of Local importance.

8.9.49 Within the ES, the assessment will be further informed by additional baseline data and a definitive Project design that has been optimised to reduce grassland loss as a result of the Project.

Preliminary assessment of effects: Marshy grassland

Detailed baseline – overview

8.9.50 The extended Phase 1 habitat survey to date has recorded a single area of marshy grassland (approximately 1.40ha in size) within the draft Order Limits at the proposed location for new pylon SP009.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.51 A preliminary assessment of effects on marshy grassland associated with Overton Borrow Pits SINC has been carried out separately as part of the SINC assessment and is therefore not considered here.

8.9.52 A proposed access route and construction working area for SP009 could result in the temporary loss of up to 0.38ha of marshy grassland and fragmentation between the north-western and south-eastern areas of this habitat.

8.9.53 Embedded environmental measure **2 – Standard best practice, 3 – Minimise land take and micro-site, 4 – CEMP** (air quality management and dust suppression measures), **6 – Maintaining habitat connectivity** and **12 – Sensitive access and**

enabling works (see **Section 8.6**) would avoid or minimise the loss and degradation of marshy grassland and fragmentation.

8.9.54 Embedded environmental measure **9 – Protection of retained habitats** would protect retained grassland habitat close to working areas such as this and would reduce the extent of any effect. Embedded environmental measure **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that losses are suitably compensated.

8.9.55 The requirement for any compensation of habitat loss would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. Considering the embedded environmental measures described, and in the absence of complete baseline information and final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be **low** due to the extent of potential loss being temporary and minor and not considered to affect the conservation status of the habitat. Therefore, the effect is assessed as negative and **Not Significant** on an ecological feature of Local importance.

8.9.56 Within the ES, the assessment will be further informed by additional baseline data and a definitive Project design that has been optimised to reduce grassland loss as a result of the Project.

Preliminary assessment of effects: Hedgerows

Detailed baseline – overview

8.9.57 The extended Phase 1 habitat survey undertaken to date has identified native species-poor and species-rich hedgerows within the draft Order Limits and 50m buffer. Hedgerows are predominantly along field boundaries and are typically dominated by one or two native woody species, usually hawthorn or blackthorn. Most hedgerows are intact, but occasional defunct hedgerows are present. Similar hedgerows are present throughout the wider landscape, and there is typically connectivity into the surrounding area.

8.9.58 All native hedgerows over 20m in length are defined as HPI; it is therefore considered that all hedgerows identified to date would qualify as HPI[73] and are treated as such for the purposes of the assessment within this chapter. No detailed important hedgerow surveys have been carried out. Based on the results of the extended Phase 1 habitat survey to date it is likely that less than a quarter of hedgerows would meet the criteria for important hedgerows[12].

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.59 Temporary loss and damage of hedgerows could occur during the construction phase due to works associated with access routes, construction areas and safety clearance. Permanent loss of up to 430m of defunct native species-poor hedgerow may result from the construction of the proposed Monk Fryston Substation.

8.9.60 The embedded environmental measures **3 – Minimise land take and micro-site**, **4 – CEMP** (air quality management and dust suppression measures), **6 – Maintaining**

habitat connectivity, **9 – Protection of retained habitats** and **12 – Sensitive access and enabling works** and other specific measures (see **Section 8.6**) would minimise the loss and damage of habitat through design and sensitive working methods, and utilising existing access through field boundaries wherever possible. Where hedgerows are spanned by overhead lines, embedded environmental measure **8 – Sensitive tree management for electrical safety clearance** would seek to minimise hedgerow removal by using management measures such as trimming and coppicing to enable regrowth.

8.9.61 As a result of the above measures, the loss of hedgerow is expected to be predominantly limited to temporary loss of very short sections of each hedgerow.

8.9.62 The embedded environmental measure **11 – Habitat reinstatement** would seek to reinstate all areas of hedgerow which are temporarily crossed during construction with an emphasis on reinstating with species-rich mixes in agreement with landowners. The requirement for any compensation of habitat loss would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES where necessary following the final design of the Project.

8.9.63 Considering the embedded environmental measures described, and in the absence of complete baseline information and final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be low or very low due to the extent of potential losses, degradation and fragmentation being localised, **minor** and temporary, and not considered to affect the conservation status of the habitat. Therefore, the effect is assessed as negative and **Not Significant** on an ecological feature of County importance.

8.9.64 Within the ES, the assessment will be further informed by increased quantities of baseline data and a definitive design that has been optimised to reduce loss of hedgerow as a result of the Project.

Preliminary assessment of effects: Standing water (ponds and wet ditches)

Detailed baseline – overview

8.9.65 The desk study and extended Phase 1 habitat survey identified 19 ponds and 17 wet ditches holding standing water that are located within the proposed working areas of the Project. Of these, 15 ponds and seven ditches were accessible during the extended Phase 1 habitat survey. All ponds are classed as HPI as a precaution[74]. Ponds and ditches which have not been accessible to date will be included within further assessment following further surveys in 2021/22.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.66 The construction of the proposed Overton Substation would result in the permanent loss of two ponds (P60 and P61) during the construction phase. Based on current plans it is not expected that any other ponds would be permanently lost as a result of the Project.

8.9.67 Additional ponds located within adjacent temporary working areas include:

- Scaffold working areas – P85b, P124, P174, P205, and P248;

- Pylon/stringing working areas - P49, P124a, P174a, P233, P262, P265a, P266, D41; and
- Within proposed access routes - P7, P41, P66, P80a, P271, D11, D12, D21a, D25d, D30, D39b, D40a, D40b, D42a, D73, D78b, D107, D120, D121, D122, D138.

8.9.68 Any effects would be temporary and result in temporary habitat degradation or temporary fragmentation from surrounding terrestrial habitat as a worst-case scenario.

8.9.69 For the purpose of a preliminary assessment, it is assumed temporary culverts would be constructed within ditches D25d, D120, D121 and D122 (**Chapter 9: Hydrology**) resulting in the temporary degradation of short stretches of ditch habitat in these three locations and potential fragmentation between habitats on either side of the culverts.

8.9.70 Embedded environmental measures including **2 – Standard best practice, 3 – Minimise land take and micro-site, 4 – CEMP** (air quality management and dust suppression measures), and **12 – Sensitive access and enabling works** would minimise the direct loss, degradation and fragmentation of suitable habitat within the footprint of the Project. The extent of habitat loss would be significantly reduced through the aforementioned embedded environmental measures and specific measures outlined in **Section 8.6** (maintaining a minimum construction buffer from ditches wherever possible; and using existing access points over/around ditches/ponds wherever possible).

8.9.71 Other embedded environmental measures including **6 – Maintaining habitat connectivity**, **9 – Protection of retained habitats**, and **13 – Protection of watercourses** would further reduce the extent of effects of habitat degradation and fragmentation. The embedded environmental measure **11 – Habitat reinstatement** would seek to reinstate all lost/degraded ditch/pond habitat.

8.9.72 In addition, protective mitigation[95] would be employed over the following ponds to avoid any habitat degradation effects during the construction phase as a result of works along the overhead lines:

- Pond cluster P34-P39 at temporary overhead line span YR038T-YR039T; and
- Pond cluster P140-P144 at span XC432-433.

8.9.73 The requirement for any compensation of habitat loss would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. Considering the embedded environmental measures described, and in the absence of complete baseline information and final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be **low** in construction due to permanent loss of two ponds and temporary effects on three ditches. All lost or degraded habitats would be reinstated, and lost ponds would be replaced with habitat of better quality within the context of environmental gain, the likely environmental changes are not considered to affect the conservation status of the habitat. Therefore, the effect is assessed as **Not Significant** on ecological features of County importance.

8.9.74 Within the ES, the assessment will be further informed by increased quantities of baseline data and a definitive design that has been optimised to reduce loss of standing water as a result of the Project.

[95] This would take the form of netting or other screening over the ponds where there is the potential for work items or materials to fall in..

Preliminary assessment of effects: Running water (rivers, streams and ditches)

Detailed baseline – overview

8.9.75 Fourteen watercourses have been identified to date within the draft Order Limits and 50m buffer (including the River Ouse and its tributaries), along with six wet ditches with running water.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.76 A preliminary assessment of effects on the River Ouse has been carried out separately as part of the River Ouse candidate SINC assessment and is therefore not considered here.

8.9.77 A new temporary crossing to be installed over Cock Beck could result in the temporary loss of riparian habitat and degradation of a short stretch of the watercourse along with temporary fragmentation of the river corridor. Construction works at pylons XCP005 and XCP006C could result in habitat degradation of The Foss due to the presence of approximately 75m of the watercourse within the pylon working areas. Scaffold erection beneath the span between pylons XC471 and XC472 either side of the River Wharfe could result in temporary loss of riparian habitat.

8.9.78 Due to the short stretches of aquatic habitat liable to minor effects only, and the incorporation of embedded mitigation measures, effects on the aquatic invertebrate, macrophyte and fish communities present in these watercourses would be negligible. The potential for effects on SPI and other conservation-notable fish species is assessed separately in **Section 8.9**.

8.9.79 The use of a temporary clear span bridge (as opposed to a culvert) to facilitate access over Cock Beck would minimise loss and degradation of bankside and in-channel riparian habitat and also minimise any fragmentation effects by maintaining riverbank and channel bed connectivity. Additional embedded environmental measures including **2 – Standard best practice, 3 – Minimise land take and micro-site, 4 – CEMP** (air quality management and dust suppression measures), and **12 – Sensitive access and enabling works** would minimise the direct loss, damage and fragmentation of suitable habitat within the footprint of the Project. The extent of habitat loss would be minimised through the aforementioned embedded environmental measures and specific measures outlined in **Section 8.6** (maintaining a minimum 5m construction buffer of watercourses wherever possible; using existing access points over ditches/watercourses wherever possible).

8.9.80 Other embedded environmental measures including **6 – Maintaining habitat connectivity**, **9 – Protection of retained habitats**, and **13 – Protection of watercourses** would further reduce the extent of effects of land take and fragmentation. The embedded environmental measure **11 – Habitat reinstatement** would seek to reinstate all areas of watercourses/ditches following removal of temporary crossings and completion of construction works.

8.9.81 The requirement for any compensation of habitat loss would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. Considering the embedded environmental measures described, and in the absence of complete baseline information and final design of the Project, the

preliminary conclusions at this stage are that the magnitude of change is assessed to be **very low** due to the extent of potential loss being temporary and minor and not considered to affect the conservation status of the habitat. Therefore, the effect is assessed as **Not Significant** on ecological features of Local/County importance.

8.9.82 Within the ES, the assessment will be further informed by increased quantities of baseline data and a definitive design that has been optimised to reduce loss of running water habitat as a result of the Project.

Preliminary assessment of effects: Coastal and floodplain and grazing marsh

Detailed baseline – overview

8.9.83 The HPI coastal and floodplain grazing marsh was recorded by the desk study within the draft Order Limits at several locations, namely span YR033-YR034 (approximately 0.57ha within the draft Order Limits) and along proposed access route for pylon XC472 and span XC471-XC472 (approximately 11.95ha within the draft Order Limits).

8.9.84 These areas have not been subject to extended Phase 1 habitat surveys yet and the presence of HPI coastal and floodplain grazing marsh will be confirmed following further surveys in 2021/2022, subject to access.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.85 Without further field survey information, it is not possible to confirm the presence of this habitat or the extent of any likely changes to and thus effects on coastal and floodplain grazing marsh HPI. Therefore, potential changes and effects are included as a precaution at this stage.

8.9.86 Proposed access routes and construction working areas at pylons YR034, XC472, and scaffold at span XC471-XC472 could result in the temporary loss of up to 1.68ha of HPI coastal and floodplain grazing marsh and fragmentation of this habitat at multiple locations along the proposed access route to XC472 and scaffold at span XC471-XC472 due to the length and location of the access route.

8.9.87 Embedded environmental measure **2 – Standard best practice, 3 – Minimise land take and micro-site**, **4 – CEMP** (air quality management and dust suppression measures), **6 – Maintaining habitat connectivity** and **12 – Sensitive access and enabling works** (see **Section 8.6**) would avoid or minimise the loss of coastal and floodplain grazing marsh HPI and fragmentation, and the embedded environmental measure **9 – Protection of retained habitats** would protect retained HPI habitat close to working areas and would reduce the extent of any effect. Embedded environmental measure **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that losses are suitably compensated.

8.9.88 The requirement for any compensation of habitat loss would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. Considering the embedded environmental measures described, and in the absence of complete baseline information and final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be **very low** due to the extent of potential loss being temporary and minor and not

considered to affect the conservation status of the habitat. Therefore, the effect is assessed as negative and **Not Significant** on an ecological feature of County importance.

8.9.89 Within the ES, the assessment will be further informed by additional baseline data and a definitive Project design that has been optimised to reduce grassland loss as a result of the Project.

Preliminary assessment of effects: Arable field margins

Detailed baseline – overview

8.9.90 Arable fields are the dominant habitat within the draft Order Limits. The extended Phase 1 habitat survey undertaken to date has identified the majority of arable field margins to be narrow and species-poor and therefore unlikely to qualify as HPI. However, there are occasional fields with wide margins (in some cases up to 50m) which may meet HPI criteria[96].

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.91 Temporary loss and damage of arable field margins could occur during the construction phase due to works associated with access routes and construction areas. Assuming arable margin HPI is present at pylons YN005, YN006, SP006, SP007 and XC497, proposed access routes and construction/stringing working areas could result in the temporary loss of up to 0.98ha of HPI arable margin and fragmentation of the northern part from the southern part of this habitat at YN005, and the western part form the eastern part at XC497.

8.9.92 The embedded environmental measures **2 – Standard best practice, 3 – Minimise land take and micro-site**, **4 – CEMP** (air quality management and dust suppression measures), **6 – Maintaining habitat connectivity**, **9 – Protection of retained habitats** and **12 – Sensitive access and enabling works** and other specific measures (see **Section 8.6**) would minimise the loss and degradation of arable margin HPI and fragmentation through design and sensitive working methods, and utilising existing accesses through field boundaries wherever possible.

8.9.93 As a result of the above measures, the loss of arable field margin HPI is expected to be largely limited to temporary loss of short sections of arable field margin. The embedded environmental measure **11 – Habitat reinstatement** would seek to reinstate all areas of arable field margin HPI which are temporarily crossed/impacted during construction with an emphasis on reinstating with species-rich mixes where agreeable to landowners, would ensure that losses are suitably compensated.

8.9.94 The requirement for any compensation of habitat loss would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. Considering the embedded environmental measures described, and in the absence of complete baseline information and final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to

[96] JNCC (2016). UK Biodiversity Action Plan; Priority Habitat Descriptions: Arable field margins. [Online] Available at: https://data.jncc.gov.uk/data/529a621b-e1a6-4283-ba82-408744d079b4/UKBAP-BAPHabitats-02-ArableFieldMargins.pdf [Accessed 11 August 2021].

be **very low** due to the extent of potential loss being minor and temporary and not considered to affect the conservation status of the habitat. Therefore, the effect is assessed as negative and **Not Significant** on an ecological feature of County importance.

8.9.95 Within the ES, the assessment will be further informed by increased quantities of baseline data and a definitive design that has been optimised to reduce loss of arable field margin HPI as a result of the Project.

Preliminary assessment of effects: Bats (all species)

Detailed baseline – overview

8.9.96 The desk study identified at least eight species of bats and a large number of records within 2km of the draft Order Limits.

8.9.97 During the extended Phase 1 habitat survey, some buildings and trees within accessible land within the draft Order Limits and 50m buffer were noted for their potential to support roosting bats, and bat boxes were recorded at several locations. Gaps and cracks within the open rock cliffs at Jackdaw quarry may also provide further roosting opportunities, although the quarry is active and disturbance from operational activities may reduce the likelihood of bats roosting.

8.9.98 The large areas of open arable land present within the draft Order Limits and 50m buffer provide little in the way of foraging or commuting habitat for bats. However, hedgerows along field boundaries, watercourses, and parcels of grassland, woodland and scrub are likely to be used by foraging and commuting bats. Habitats such as those around Field nr Healaugh Manor Farm deleted SINC and Healaugh Priory Marsh deleted SINC provide a variety of features for commuting and foraging, suitable for a range of bat species. Habitat in these locations is considered to have high suitability for commuting and foraging bats, though overall, habitat within the draft Order Limits and 50m buffer is considered to have moderate suitability for commuting and foraging by bats. Surveys programmed for the 2021 and 2022 surveys seasons will continue to inform this baseline, and the assessment that will be completed for the ES.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation, loss/damage to roosts, kill/injure bats); fragmentation of habitats (resulting in a reduction in connectivity); increased noise, vibration, light and movement levels (resulting in disturbance/displacement)

8.9.99 The majority of habitat to be permanently lost as a result of the Project is arable and pasture which is generally unfavourable for bats. However, as a result of land take/land use change during construction, there would be a small permanent loss of suitable foraging and commuting habitat for bats at the new Overton and Monk Fryston Substations. The Project would also result in limited temporary loss or degradation of habitat which is suitable for bats (e.g. within new temporary access routes and temporary working areas). This change could also result in the damage or destruction of one or more bat roosts in suitable trees.

8.9.100 Construction works may result in temporary fragmentation of hedgerows and woodland in a small number of locations (see preliminary assessment of effects for hedgerow and broadleaved semi-natural woodland habitat). This could reduce connectivity for bats commuting between bat roost(s) and foraging grounds within the wider landscape.

However, bats are mobile species and extensive areas of suitable well-connected habitat for commuting and foraging would remain. Habitats that may provide important connective foraging and commuting habitat that are likely to be impacted by the works will be subject to bat activity surveys during 2021-2022 (see **Table 8.8**) to determine their value to bats, and the assessment of effects will be updated in the ES.

8.9.101 There is potential for bats to be disturbed by noise, vibration, lighting and movement associated with construction and potentially operation of the proposed Overton and Monk Fryston Substations. This disturbance may result in temporary localised exclusion of bats from adjacent habitats during construction, or potentially permanent exclusion as a result of increased lighting during the operational phase.

8.9.102 The embedded environmental measures **2 – Standard best practice**, **3 – Minimise land take and micro-site**, **4 – CEMP** (air quality management and dust suppression measures), **5 – Sensitive vegetation removal, 6 – Maintaining habitat connectivity, 9 – Protection of retained habitats**, and **12 – Sensitive access and enabling works** would minimise loss and fragmentation of habitat and avoid features which are either suitable or confirmed roosts as far as practicable prior to and during construction. The extent of habitat loss and fragmentation would be significantly reduced through the aforementioned embedded environmental measures and specific measures outlined in **Section 8.6** (e.g. method statement and tool-box talk would be prepared; **16 – pre-construction update surveys**). Further to those, embedded environmental measure **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that habitat losses, and connectivity are suitably compensated.

8.9.103 Further to this, the embedded environmental measures **9 – Protection of retained habitats**, **14 – Sensitive lighting design**, and **15 – Construction traffic speed limits** and other specific measures (see **Section 8.6**) would minimise the effect of disturbance on bats associated with increased noise/vibration/light/movement.

8.9.104 Without further field survey information, it is not yet possible to definitively quantify the magnitude of the change that may occur with respect to roosting[97], foraging or commuting bats. However, mitigation and compensation for habitat loss and resultant effects would be identified in line with the EcIA mitigation hierarchy[5] and will be included in the ES following the final design of the Project. If embedded environmental measures cannot sufficiently avoid negative impacts on bats if found during ongoing surveys, separate specific mitigation in the form of an EPS licence (under the Conservation of Habitats and Species Regulations 2017 (as amended)[7]) from Natural England would be obtained in order for the Project to proceed while avoiding contravening legislation. By default, an EPS licence does not allow for a significant negative effect on the favourable conservation status of those species affected and usually requires compensation[98] for habitat loss.

8.9.105 Therefore, with the incorporation of appropriate licensable mitigation which would be developed following further surveys (to be detailed at ES stage), considering the embedded environmental measures described, and in the absence of complete baseline information and the final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be predominantly temporary, **very low** and not considered to affect the favourable conservation status of the species.

[97] Including day, maternity, mating, transitional or hibernation roots.

[98] Compensation for habitat loss in this respect is often required as part of the licence process in order to maintain favourable conservation status (i.e. providing an alternative roosting feature(s) where a bat roost is lost or damaged, or providing local habitat enhancements such as new refugia and hibernacula to compensate for loss of great crested newt terrestrial habitat features), and would be agreed with Natural England if a licence is required.

Therefore, the effect on bats and their roosts due to land take/land use change, fragmentation and increased noise/vibration/light is assessed as negative and **Not Significant** on an ecological feature of County importance. The full assessment of effects resulting from loss of habitat and connectivity will be provided within the ES following completion of baseline data collection and final design.

8.9.106 Within the ES, the assessment will be further informed by increased quantities of baseline data and a definitive design that has been optimised to reduce loss or damage of key habitat for bats. Furthermore, specialist technical engagement focused on licensing would be held with Natural England where necessary to ensure that the Project can be constructed and operated in a compliant manner.

Preliminary assessment of effects: Great crested newts

Detailed baseline – overview

8.9.107 The desk study identified a single great crested newt record within the draft Order Limits (at P116), and a further 27 records within 2km of the draft Order Limits.

8.9.108 Following the desk study and extended Phase 1 habitat surveys to date, a total of 227 ponds and 109 ditches are present/potentially present within 250m of the draft Order Limits that are potentially suitable for great crested newt and in connectivity with land within the draft Order Limits. Of these, 139 ponds and 70 ditches were accessible during the extended Phase 1 habitat survey, of which 79 ponds and 16 ditches were assessed to have suitability to support great crested newt (i.e. HSI scores of below average or above). These will be subject to great crested newt presence/likely absence surveys during 2021[99] (subject to land access permission).

8.9.109 eDNA surveys on ponds P60 and P61, the only waterbodies expected to be permanently lost as a result of the proposed Overton Substation returned a negative result for great crested newt presence.

8.9.110 Ponds and ditches which have been inaccessible to date due to lack of access would be included within further assessment and presence/likely absence surveys where relevant if additional land access is made available.

8.9.111 Although large expanses of habitat within the draft Order Limits is arable and pasture which is generally unfavourable for great crested newts, suitable terrestrial habitat exists throughout the survey area. Habitats such as arable field margins, tussocky grassland, hedgerows, dense scrub, woodland and a network of ditches provide suitable habitat for foraging, refuging, commuting and hibernating. In the majority of cases there are no significant barriers to prevent great crested newt dispersal from suitable waterbodies to areas of the Project.

[99] If the DLL scheme is joined, no further surveys would be required and great crested newt would be scoped out of the assessment

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation, loss/damage to hibernacula/refugia/breeding habitat, kill/injure great crested newts); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.112 No waterbodies other than P60 and P61 are expected to be permanently lost and therefore there would be no permanent loss of great crested newt breeding habitat as a result of the Project.

8.9.113 To facilitate access during construction works, temporary culverts would be constructed within ditches D120, D121 and D122 (see **Chapter 9: Hydrology** – see also Standing water section). These ditches have not been subject to HSI survey and their suitability for great crested newts is currently unknown, but if suitable this change could result in temporary damage to breeding habitat. This will be confirmed following further surveys in 2021/2022.

8.9.114 No other effects on breeding habitat are anticipated and remaining effects are limited to those on terrestrial habitat potentially used by commuting, foraging, refuging or hibernating great crested newts.

8.9.115 During construction, there would be a small permanent loss of suitable foraging, commuting and refuging habitat for great crested newts at the proposed Overton Substation and proposed Monk Fryston Substation and the footings of new pylons.

8.9.116 Numerous access routes and construction working areas throughout land within the draft Order Limits are within 250m of a waterbody[100]. Enabling works in these locations such as vegetation clearance (e.g. strimming of grassland, removal of scrub and trees), and installation/removal of trackway panels/temporary stone roads could result in temporary habitat loss/damage and killing/injury of individual great crested newts.

8.9.117 Construction works could result in temporary fragmentation of hedgerows and woodland in a small number of locations (see preliminary assessment of effects for hedgerow and broadleaved semi-natural woodland habitat). These habitats have the potential to provide linkage for great crested newts commuting between breeding ponds and foraging grounds within the wider landscape. However, great crested newts are mobile species and extensive areas of suitable well-connected habitat for commuting and foraging would remain, thereby minimising any effects.

8.9.118 Ponds within 250m of the draft Order Limits (or construction footprint if confirmed) would be subject to great crested newts presence/likely absence surveys and potentially population size class assessment survey during 2022[101] (see **Table 8.8**) to determine great crested newt presence/likely absence and the assessment would be updated in the ES.

8.9.119 The embedded environmental measures **2 – Standard best practice**, **3 – Minimise land take and micro-site**, **4 – CEMP** (air quality management and dust suppression measures), **5 – Sensitive vegetation removal, 6 – Maintaining habitat connectivity, 9 – Protection of retained habitats**, **12 – Sensitive access and enabling works** and **13 – Protection of watercourses** would minimise loss and fragmentation of terrestrial and breeding habitat (i.e. ponds and ditches with standing water) as far as practicable

[100] Approximately 250m is recognised as being towards the upper limit of the distance that most adult great crested newts typically disperse around breeding habitat - Langton, T., Beckett, C. and Foster, J. (2001) Great Crested Newt Conservation Handbook. Froglife, Suffolk.
[101] Providing the DLL scheme is not joined. If the DLL scheme is joined - no further surveys are required and effects on great crested newts would be scoped out of this assessment.

prior to and during construction, including via the use of existing access routes over/around ditches/ponds wherever possible.

8.9.120 In addition, protective mitigation would be employed over the following ponds to avoid any habitat degradation effects during the construction phase as a result of works along the overhead lines:

- Pond cluster P34-P39 at temporary overhead line span YR038T-YR039T; and
- Pond cluster P140-P144 at span XC432-433.

8.9.121 The extent of habitat loss or degradation, and fragmentation, and risk of killing/injuring great crested newts would be significantly reduced through the aforementioned embedded environmental measures and specific measures outlined in **Section 8.6** (e.g. including common techniques to avoid death or injury of individuals; **16 – pre-construction update surveys**). Further to those, embedded environmental measure **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that losses or degradation, and effect on connectivity are suitably compensated.

8.9.122 Without further information on locations of great crested newts breeding ponds (and subsequently where great crested newts are likely to use terrestrial habitat), it is not yet possible to definitively quantify the magnitude of the change that may occur with respect to great crested newts. However, compensation of habitat loss and resultant effects would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. If embedded environmental measures cannot sufficiently avoid negative impacts on individual great crested newts (i.e. killing or injuring), breeding and/or terrestrial habitat, and/or habitat connectivity for great crested newts if found during ongoing surveys, separate specific mitigation in the form of an EPS licence (under the Conservation of Habitats and Species Regulations 2017 (as amended)[7]) from Natural England would be obtained in order for the Project to proceed while avoiding contravening legislation. By default, an EPS licence does not allow for a significant negative effect on the favourable conservation status of those species affected and usually requires compensation[98] for habitat loss.

8.9.123 Therefore, with the incorporation of appropriate licensable mitigation which would be developed following further surveys (to be detailed at ES stage), considering the embedded environmental measures described, and in the absence of complete baseline information and the final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be temporary and **very low** and not considered to affect the favourable conservation status of the species. Therefore, the effect on great crested newts due to land take/land use change and fragmentation is assessed as negative and **Not Significant** on an ecological feature of County importance.

8.9.124 Within the ES, the assessment will be further informed by increased quantities of baseline data and a definitive design that has been optimised to reduce loss or damage of key habitat for great crested newts. Furthermore, specialist technical engagement focused on licensing would be held with Natural England where necessary to ensure that the Project can be constructed and operated in a compliant manner.

Preliminary assessment of effects: Otter

Detailed baseline – overview

8.9.125 The desk study returned two records of otter outside the draft Order Limits but within the 2km area of search. Evidence gathered during the extended Phase 1 habitat survey indicates the presence of otter along the River Ouse and the Foss, along with the presence of potential features that could be used for holts/resting sites such as the root bases of trees along The Foss.

8.9.126 The dominant habitat within the draft Order Limits (arable) is unsuitable for otter, however, the River Ouse, the River Wharfe and Cock Beck provide optimal habitat for foraging, commuting and resting otter, along with smaller tributaries with plentiful bankside cover such as the Foss. Ditches may provide commuting corridors, however where dry or holding little or no water their suitability decreases.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation, loss/damage to holts/resting sites, kill/injure otters); fragmentation of habitats (resulting in a reduction in connectivity); increased noise, vibration, light and movement levels (resulting in disturbance/displacement)

8.9.127 To facilitate access during construction works, temporary culverts would be installed within ditches D120, D121 and D122 (see **Chapter 9: Hydrology** – see also Standing water section). These ditches have not been subject to survey, though they are unlikely to provide more than occasional commuting habitat for otter and would form a very minor part of any otter territory. As such, any habitat degradation or fragmentation of these ditches is unlikely to affect otters. This will be confirmed following further surveys in 2021/2022 subject to access.

8.9.128 The installation of a new temporary crossing is proposed over Cock Beck at a location which has not yet been surveyed for otter. If suitable it may result in temporary loss/damage to otter resting sites, and disturbance of any otters present along with temporary fragmentation of commuting/foraging habitat.

8.9.129 Construction works at pylons XCP005 and XCP006C may also result in temporary loss/damage to otter resting sites and disturbance of any otters present along with temporary fragmentation of commuting/foraging habitat, due to the presence of a watercourse (The Foss) within the pylon working area.

8.9.130 Scaffold erection beneath the span between pylons XC471 and XC472 either side of the River Wharfe, beneath the span between new build pylons YN005 and YN006, beneath the span between new build pylons XC421 and XC420, and dismantled pylons XCP008 and XCP009 either side of the River Ouse could also result in temporary loss/damage to otter resting sites and disturbance of any otters present. Protective measures over Hurns Gutter are to be used at pylons SP004 to SP005 and SP005 to SP006; the crossing protection method is currently unknown but could result in temporary loss/damage to otter resting sites and disturbance of any otters present.

8.9.131 Otters may be disturbed by noise, vibration, lighting and movement associated with construction activities, and potentially during the operation of the proposed substations. However, otters are extremely tolerant species, and very mobile with large territories compared to the small areas of habitat which may be affected, and there is likely to be

ample opportunity to avoid such disturbance during resting, foraging and commuting without suffering a loss of fitness.

8.9.132 The use of a temporary clear span bridge (as opposed to a culvert) to facilitate access over Cock Beck would minimise loss and degradation of potential bankside and in-channel otter habitat, and also minimise any fragmentation effects by maintaining riverbank and channel bed connectivity. Additional embedded environmental measures **2 – Standard best practice**, **3 – Minimise land take and micro-site**, **4 – CEMP** (air quality management and dust suppression measures), **5 – Sensitive vegetation removal, 6 – Maintaining habitat connectivity, 12 – Sensitive access and enabling works** and **13 – Protection of watercourses** would minimise loss and fragmentation of terrestrial and aquatic habitat, and avoid features which are either suitable or confirmed holts/resting sites as far as practicable prior to and during construction.

8.9.133 The extent of habitat loss/degradation and fragmentation, and the likelihood of construction damaging or destroying otter holts/resting sites, or disturbing otters within holts/resting sites would be significantly reduced through the aforementioned embedded environmental measures and specific measures outlined in **Section 8.6** (e.g. method statements and tool-box talks would be prepared; and maintaining a minimum 5m buffer of water courses wherever possible; **16 – pre-construction update surveys**). Further to those, embedded environmental measure **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that habitat losses, and connectivity are suitably compensated.

8.9.134 Further to this, the embedded environmental measures **9 – Protection of retained habitats**, **14 – Sensitive lighting design**, and **15 – Construction traffic speed limits** and other specific measures (see **Section 8.6**) would minimise the effect of disturbance on otters associated with increased noise/vibration/light/movement and would negate any potential negative effects upon foraging/commuting/resting individuals.

8.9.135 Without further information on locations of otter holts/resting sites, it is not yet possible to definitively quantify the magnitude of the change that may occur with respect to otters or their holts/resting sites. However, mitigation and compensation for habitat loss and resultant effects would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. If embedded environmental measures cannot sufficiently avoid negative impacts on individual otter (i.e. killing or injuring), otter holts/resting sites, and/or habitat connectivity for otter if found during ongoing surveys, separate specific mitigation in the form of an EPS licence (under the Conservation of Habitats and Species Regulations 2017 (as amended)[7]) from Natural England would be obtained in order for the Project to proceed while avoiding contravening legislation. By default, an EPS licence does not allow for a significant negative effect on the favourable conservation status of those species affected and usually requires compensation[98] for habitat loss.

8.9.136 Therefore, with the incorporation of appropriate licensable mitigation which would be developed following further surveys (to be detailed at ES stage), considering the embedded environmental measures described, and in the absence of complete baseline information and the final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be temporary and **very low** and not considered to affect the favourable conservation status of the species. Therefore, the effect is assessed as negative and **Not Significant** on an ecological feature of Local importance. The full assessment of effects resulting from loss of habitat and connectivity, and disturbance will be provided within the ES following completion of baseline data collection and the final design.

8.9.137 Within the ES, the assessment will be further informed by increased quantities of baseline data and a definitive design that has been optimised to reduce loss or damage of habitat for otter. Furthermore, specialist technical engagement focused on licensing would be held with Natural England where necessary to ensure that the Project can be constructed and operated in a compliant manner.

Preliminary assessment of effects: Water voles

Detailed baseline – overview

8.9.138 The desk study returned six records of water vole within 2km of the draft Order Limits, all located outside the draft Order Limits. Of the 60 watercourses and ditches assessed for habitat suitability during the extended Phase 1 habitat survey to date, 34 are classed as sub-optimal or optimal for water vole (with the remaining watercourses classed as unsuitable for a combination of reasons as explained in **Section 8.5**).

8.9.139 No water voles or conclusive evidence such as latrines were observed during the extended Phase 1 habitat survey to confirm the species being present, although potential feeding remains were recorded along D96 in close proximity to XC458, though these could be attributable to other vole species.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation, loss/damage to burrows, kill/injure water voles); fragmentation of habitats (resulting in a reduction in connectivity); increased noise, vibration, light and movement levels (resulting in disturbance/displacement)

8.9.140 To facilitate access during construction works, temporary culverts would be installed within ditches D120, D121 and D122 (see **Chapter 9: Hydrology** – see also Standing water section). These ditches have not been subject to survey and their suitability for water vole is unknown. Without further field survey information, it is not possible to determine the extent of any resultant effects on water vole. As a precaution, this assessment assumes that the installation of temporary culverts may result in temporary loss or fragmentation of habitats suitable for water vole and potential harm to/disturbance of individuals.

8.9.141 The installation of a new temporary crossing is proposed over Cock Beck at a location which has not yet been surveyed for water voles, though the beck has been noted to provide optimal water vole habitat along much of its length. Construction activity may result in temporary loss, degradation and/or fragmentation of bankside habitat that could be used for burrowing and hence, if they are present lead to harm/disturbance to individual water voles.

8.9.142 Construction works at pylons XCP005 and XCP006C may also result in temporary loss/damage to water vole habitat and temporary fragmentation of populations, due to the presence of a watercourse (The Foss) classed as optimal for water voles during the extended Phase 1 habitat survey within the pylon working area.

8.9.143 Works beneath the span between new build pylons YN005 and YN006 at Hurns Gutter, beneath the span between new build pylons XC421 and XC420, and dismantled pylons XCP008 and XCP009 either side of the River Ouse, could result in temporary loss/damage to water vole habitat, and if present, lead to harm/disturbance to individual water voles. Protective mitigation is to be used at pylons SP004 to SP005 and SP005 to SP006 over Hurns Gutter; the crossing protection method is currently unknown but

could result in temporary loss/damage to water vole habitat, and if present, lead to harm/disturbance to individual water voles.

8.9.144 Though lighting, noise and visual disturbance are not likely to significantly affect water voles [53] vibration from construction works may cause disturbance to individuals if works are in close proximity to watercourses/ditches with active water vole burrows.

8.9.145 The use of a temporary clear span bridge (as opposed to a culvert) to facilitate access over Cock Beck would minimise loss and degradation of potential bankside and in-channel water vole habitat and also minimise any fragmentation effects by maintaining riverbank and channel bed connectivity. Additional embedded environmental measures **2 – Standard best practice**, **3 – Minimise land take and micro-site**, **4 – CEMP** (air quality management and dust suppression measures), **5 – Sensitive vegetation removal, 6 – Maintaining habitat connectivity, 12 – Sensitive access and enabling works** and **13 – Protection of watercourses** would minimise loss and fragmentation of terrestrial and aquatic habitat, and avoid features which are either suitable for or confirmed locations of burrows as far as practicable prior to and during construction.

8.9.146 The extent of habitat loss and fragmentation, and the likelihood of construction damaging or destroying water vole burrows, or disturbing water voles within burrows would be significantly reduced through the aforementioned embedded environmental measures and specific measures outlined in **Section 8.6** (e.g. method statements and tool-box talks would be prepared; **16 – pre-construction update surveys**; maintaining a minimum 5m buffer of water courses wherever possible). Further to those, embedded environmental measure **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that habitat losses, and connectivity are suitably compensated.

8.9.147 Further to this, embedded environmental measure **9 – Protection of retained habitats** and other specific measures (see **Section 8.6**) would minimise the effect of disturbance on water voles associated with increased vibration due to construction works and would negate any potential negative effects upon individuals.

8.9.148 Without further information on locations of water vole populations, it is not yet possible to definitively quantify the magnitude of the change that may occur with respect to water voles or their terrestrial/aquatic habitat including burrows. However, mitigation and compensation for habitat loss and resultant effects would be identified in line with the EcIA mitigation hierarchy[5] and would be included in the ES following the final design of the Project. If embedded environmental measures cannot sufficiently avoid negative impacts on individual water vole (i.e. killing or injuring), water vole burrows, and/or habitat connectivity for water vole if found during ongoing surveys, separate specific mitigation in the form of a protected species licence (under the Wildlife and Countryside Act 1981 (as amended)[9]) from Natural England would be obtained in order for the Project to proceed while avoiding contravening legislation. Natural England only issues water vole licences for the purposes of conservation[102] and not development, therefore licensable activities would require a conservation benefit for water voles, and thus means by default, that the favourable conservation status of the species could not be negatively affected.

[102] In their standing advice guidance with respect to water vole licences, Natural England state that "Licences can't be issued for the specific purpose of development. In some circumstances Natural England will consider issuing a licence in relation to a development proposal if the licensed action is going to provide a conservation benefit for water voles." Available online at: https://www.gov.uk/guidance/water-voles-protection-surveys-and-licences#compensation-methods [Accessed 30/08/2021]

8.9.149 Therefore, with the incorporation of appropriate licensable mitigation which would be developed following further surveys (to be detailed at ES stage), considering the embedded environmental measures described, and in the absence of complete baseline information and the final design of the Project, the preliminary conclusions at this stage are that the magnitude of change is assessed to be temporary and **very low** and not considered to affect the favourable conservation status of the species. Therefore, the effect is assessed as negative and **Not Significant** on an ecological feature of Local importance. The full assessment of effects resulting from loss of habitat and connectivity, and harm/disturbance to individuals will be provided within the ES following completion of baseline data collection and the final design.

8.9.150 Within the ES, the assessment will be further informed by increased quantities of baseline data and a definitive design that has been optimised to reduce loss or damage of habitat for water vole. Furthermore, specialist technical engagement focused on licensing would be held with Natural England where necessary to ensure that the Project can be constructed and operated in a compliant manner.

Preliminary assessment of effects: Reptiles

Detailed baseline – overview

8.9.151 The desk study returned one record of grass snake within 2km of the draft Order Limits; none were inside the draft Order Limits.

8.9.152 No evidence of reptiles has been recorded during the extended Phase 1 habitat survey undertaken to date.

8.9.153 Although the dominant habitat within the draft Order Limits is arable, limited areas of suitable habitat for reptiles exist throughout land within the draft Order Limits and the 50m buffer. Suitable areas include field margins, tussocky grassland, hedgerow, dense scrub, woodland edge, and a network of ditches which provide suitable habitat for foraging, refuging, commuting and hibernating. An area of moderate to high potential is located at the mosaic of habitats at XC522/XC522T and within the immediate surrounds of Jackdaw Quarry. Reptiles may be present in low numbers in the limited areas of suitable habitat present within the draft Order Limits.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation, loss/damage to hibernacula/refugia/, kill/injure reptiles); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.154 As a result of land take/land use change, there would be a small permanent loss of suitable foraging, commuting and refuging habitat for reptiles at the proposed Overton Substation and proposed Monk Fryston Substation and the footings of new pylons, although the majority of habitat to be lost permanently to the new substations is arable and pasture which is generally unsuitable for reptiles.

8.9.155 The Project would likely lead to temporary loss of limited habitat which is suitable for reptiles (e.g. within access areas and temporary working areas), and possibly permanent loss, degradation and fragmentation of habitat for these species. Potential effects associated with land take include potentially killing/injuring/disturbing reptiles as a result of vegetation clearance and construction activities, and reduction in available habitat.

8.9.156 The suitability of habitats within the ZoI of the Project during construction and operation are not unique and areas of suitable connected habitat would remain surrounding the majority of the working areas and the footprint of proposed new infrastructure which would reduce the effect of fragmentation.

8.9.157 Embedded environmental measures including **2 – Standard best practice, 3 – Minimise land take and micro-site, 4 – CEMP** (air quality management and dust suppression measures), **5 – Sensitive vegetation removal, 6 – Maintaining habitat connectivity, 9 – Protection of retained habitats, 11 – Habitat reinstatement, 12 – Sensitive access and enabling works** and other specific measures (including common techniques to avoid death or injury of individuals; **16 – pre-construction update surveys**; see **Section 8.6**) would reduce the magnitude of any negative effect on reptiles.

8.9.158 Mitigation and compensation for habitat loss and resultant effects would be identified in line with the EcIA mitigation hierarchy and would be included in the ES following the final design of the Project. Such site-specific measures (to be detailed at ES stage) would ensure that the magnitude of change is temporary and **negligible**, and that there would be no impact to the favourable conservation status of the reptile assemblage. The preliminary conclusion is therefore that effects on reptiles due to land take/land use change and fragmentation would be negative and assessed as **Not Significant** on an ecological feature of Local importance.

8.9.159 Within the ES, the assessment will be further informed by increased quantities of baseline data from any areas of optimal habitat where permanent habitat loss is proposed, and a definitive design that has been optimised to reduce loss or damage of key habitat for reptiles.

Preliminary assessment of effects: Badger

Detailed baseline – overview

8.9.160 The desk study returned 14 records of badgers within 2km of the draft Order Limits. Suitable habitats for sett creation are present throughout the survey area including the banks of ditches, hedgerows, dense scrub and woodland. Habitats present provide extensive opportunities for foraging including large areas of arable land (and arable field margins), grasslands, woodland, and scrub, with a series of ditch corridors and hedgerows providing connective habitat.

8.9.161 Eleven well-used and two partially used setts were recorded throughout land within the draft Order Limits and 50m survey buffer to date, along with occasional latrines, footprints and hairs. A further four potential badger setts were also identified within the draft Order Limits and 50m survey buffer; no direct evidence of badger was present although the size and shape of hole suggest they could be badger.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation, loss/damage to setts, kill/injure badgers); fragmentation of habitats (resulting in a reduction in connectivity); increased noise, vibration, light and movement levels (resulting in disturbance/displacement)

8.9.162 To date, badger setts have been identified within 30m of proposed works that may be destroyed or damaged by construction works. These include those adjacent to access routes and within pylon working areas (new build and temporary sites[103]):

8.9.163 As a result of land take/land use change during construction, there would be a small permanent loss of suitable foraging, commuting and sett creation habitat for badger at the proposed Overton Substation and proposed Monk Fryston Substation and the footings of new pylons. The Project would also result in limited temporary loss and fragmentation of habitat which is suitable for badgers (e.g. within new temporary access routes and temporary working areas). Potential effects associated with land take include killing/injuring/disturbing badgers and destruction/ damage to setts.

8.9.164 Additionally, badgers may be disturbed by noise, vibration, lighting and movement associated with activities throughout the construction footprint including in the vicinity of the proposed Overton Substation and proposed Monk Fryston Substation. However, badgers are adaptable and mobile, and there is ample alternative habitat available to avoid such disturbance during foraging and commuting without suffering a loss of fitness. Furthermore, badgers are common around existing operational electrical infrastructure suggesting that they would likely adapt and that new substations would not cause disturbance during operation, medium to longer term.

8.9.165 The embedded environmental measures **2 – Standard best practice**, **3 – Minimise land take and micro-site**, **4 – CEMP** (air quality management and dust suppression measures), **6 – Maintaining habitat connectivity, 9 – Protection of retained habitats**, and **12 – Sensitive access and enabling works** would minimise loss and fragmentation of habitat and avoid features such as badger setts as far as practicable. The extent of habitat loss and fragmentation would be minimised through the aforementioned embedded environmental measures and specific measures outlined in **Section 8.6** (e.g. method statements and tool-box talks would be prepared; **16 – pre-construction update surveys**; not leaving trenches uncovered overnight). Further to those, embedded environmental measure **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that losses, and connectivity are suitably compensated.

8.9.166 The embedded environmental measures **9 – Protection of retained habitats**, **14 – Sensitive lighting design**, and **15 – Construction traffic speed limits** and other specific measures (see **Section 8.6**) would minimise the effect of disturbance on badgers associated with increased noise/vibration/light/movement, and protect foraging and commuting badgers from being killed/injured due to construction activities, and would negate any potential negative effects upon foraging/commuting/migrating individuals (e.g. entrapment in trenches or collision with vehicles).

8.9.167 Further badger surveys are being undertaken during 2021/22 (see **Table 8.8**), and there is potential that additional evidence of badger including setts may be identified. The aforementioned embedded environmental measures would minimise effects.

[103] Due to the risk of persecution the specific locations of these setts are confidential and available to relevant consultees and interest parties on request.

8.9.168 If embedded environmental measures cannot sufficiently avoid negative effects on individual badgers (i.e. killing or injuring) or their setts, separate specific mitigation in the form of a protected species licence (under the Protection of Badgers Act 1992[10]) from Natural England would be obtained (and associated mitigation implemented) in order for the Project to proceed while avoiding contravening legislation.

8.9.169 Therefore, with the incorporation of appropriate licensable mitigation which would be developed following further surveys (to be detailed at ES stage), considering the embedded environmental measures described, and in the absence of complete baseline information and the final design of the Project, the preliminary conclusions at this stage are that the magnitude of change due to land take/land use change, fragmentation and increased noise/vibration/light/movement during construction and operation is assessed to be **very low** due to the extent of potential loss being minor and not considered to affect the favourable conservation status of the species, for both permanent and temporary changes. Therefore, the effect is assessed as negative and **Not Significant** on an ecological feature of Local importance. The full assessment of effects resulting from loss of habitat and connectivity will be provided within the ES following completion of baseline data collection and the final Project design.

8.9.170 Within the ES, the assessment will be further informed by increased quantities of baseline data and a definitive design that has been optimised to reduce loss or damage of key habitat for badgers. Furthermore, specialist technical engagement focused on licensing would be held with Natural England where necessary to ensure that the Project can be constructed and operated in a compliant manner.

Preliminary assessment of effects: SPI and other conservation-notable species – fish

Detailed baseline – overview

8.9.171 The desk study returned 23 records of six species of fish within the 2km area of search. Although none of these records are from within the draft Order Limits, records are present up and downstream within watercourses (and their tributaries) which bisect land within the draft Order Limits. Given the location of proposed construction working areas, the following records are of particular relevance to this assessment:

- River Ouse has records of sea lamprey, bullhead, eel, and Atlantic salmon; spans XC420-421 (new build pylons) and XCP008-009 (dismantled pylons) cross the River Ouse.
- River Nidd has records of brown/sea trout, European eel, bullhead and barbel; the River Nidd (a tributary of the River Ouse) is located approximately 55m north-west of the draft Order Limits at the closest point.
- River Wharfe has records of grayling, barbel and brown/sea trout; span XC471-472 crosses the River Wharfe.
- Cock Beck has records of European eel and bullhead; Span XC497-498 crosses Cock Beck, and the access route to pylons XC491-497 uses an existing road under which Cock Beck is culverted.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation, loss/damage to fish breeding sites, kill/injure notable fish); fragmentation of habitats (resulting in a reduction in connectivity); increased noise, vibration, light and movement levels (resulting in disturbance/displacement)

8.9.172 To facilitate access during construction works, temporary culverts would be installed within ditches D120, D121 and D122 (see **Chapter 9: Hydrology**– see also Standing water section). Although agricultural ditches with good water quality may support a range of freshwater fish, they are generally unsuitable for the SPI and other conservation-notable species recorded in the area of search, with the exception of European eel.

8.9.173 However, as they have not been accessible during the Phase 1 habitat survey to date, without further field survey information it is not possible to confirm the suitability of these ditches for European eel or the extent of any resultant effects. As a precaution, this assessment assumes that the installation of temporary culverts may result in temporary loss, degradation or fragmentation of habitat that is suitable for European eel.

8.9.174 The installation of a new temporary crossing is proposed over Cock Beck which may provide suitable habitat for SPI and other conservation-notable fish species. No in-channel works are required as part of the bridge installation, however a short stretch of aquatic habitat at this location may be subject to temporary indirect effects (e.g. loss of bankside vegetation/presence of a structure over the watercourse leading to change in light penetration or sedimentation) which may result in temporary degradation of a short stretch of fish habitat. However, as fish are mobile species, and in combination with other embedded mitigation measures, the effect of any such changes to short stretches of habitat is likely to be transitory and negligible.

8.9.175 Scaffold erection beneath the span between pylons XC471 and XC472 either side of the River Wharfe, beneath the span between new build pylons YN005 and YN006, beneath the span between new build pylons XC420 and XC421, and dismantled pylons XCP008 and XCP009 either side of the River Ouse could also result in similar temporary indirect effects on SPI and other conservation-notable fish habitat. Crossing protection is to be used at pylons SP004 to SP005 and SP005 to SP006 either side of Hurns Gutter; the crossing protection method is currently unknown but could also result in temporary indirect effects on SPI and other conservation-notable fish habitat. However, as fish are mobile species, and in combination with other embedded mitigation measures the effect of any such changes to short stretches of habitat is likely to be transitory and negligible.

8.9.176 Fish may be temporarily disturbed by noise, vibration, lighting and movement associated with construction adjacent to watercourses. However, fish are mobile and as a transient species in any particular section of watercourse, there is likely to be ample opportunity to avoid such disturbance without suffering a loss of fitness.

8.9.177 The use of a temporary clear span bridge (as opposed to a culvert) to facilitate access over Cock Beck would minimise loss and degradation of fish habitat and also minimise any fragmentation effects by maintaining riverbank and channel bed connectivity. Additional embedded environmental measures **2 – Standard best practice, 3 – Minimise land take and micro-site, 4 – CEMP** (air quality management and dust suppression measures), **5 – Sensitive vegetation removal, 6 – Maintaining habitat connectivity, 12 – Sensitive access and enabling works** (including sensitive culvert

design and installation) and **13 – Protection of watercourses** would minimise degradation and fragmentation of aquatic habitat.

8.9.178 The extent of habitat degradation and fragmentation, and the likelihood of construction damaging or destroying SPI and conservation-notable fish habitat, or disturbing these species would be minimised through the embedded environmental measures and specific measures outlined in **Section 8.6** (e.g. method statements and tool-box talks would be prepared; maintaining a minimum 5m buffer of watercourses wherever possible). Further to those, embedded environmental measure **11 – Habitat reinstatement**, with an appropriate selection of species and follow-on management, would ensure that losses, and connectivity are suitably compensated.

8.9.179 Further to this, the embedded environmental measures **9 – Protection of retained habitats** and **14 – Sensitive lighting design** and other specific measures (see **Section 8.6**) would minimise the effect of disturbance associated with increased noise/vibration/light/movement on SPI and other conservation-notable fish species.

8.9.180 Mitigation and compensation for habitat loss and resultant effects would be identified in line with the EcIA mitigation hierarchy and would be included in the ES following the final design of the Project. Such site-specific measures (to be detailed at ES stage) would ensure that the magnitude of change is temporary and **negligible**, and that there would be no impact on the favourable conservation status of the SPI and other conservation-notable fish assemblages. The preliminary conclusion is therefore that effects on SPI and conservation-notable fish species due to land take/land use change, fragmentation, and increased noise/vibration/light/movement would be negative and assessed as **Not Significant** on an ecological feature of County importance.

8.9.181 Within the ES, the assessment will be further informed by increased quantities of baseline data and a definitive design that has been optimised to reduce loss or damage of key habitat for SPI and conservation-notable fish species.

Preliminary assessment of effects: Tansy beetle

Detailed baseline – overview

8.9.182 The desk study returned 110 records of tansy beetle within the draft Order Limits and 2km area of search. Riparian habitat adjacent to the River Ouse containing the tansy plant is one of only two known locations in the UK to support the tansy beetle[81], a SPI. Three potential tansy beetles have been recorded near the River Ouse during the extended Phase 1 habitat survey to date.

Predicted effects and their significance

Land take/land use change (resulting in habitat loss or degradation, loss/damage to host plants, kill/injure invertebrates); fragmentation of habitats (resulting in a reduction in connectivity)

8.9.183 The draft Order Limits include a linear stretch of ~480m of the River Ouse and its riparian vegetation, much of which includes swathes of tansy plants – the key food plant of the tansy beetle. The existing section of 275kV XCP overhead line (to be removed) and a proposed new stretch of 275kV overhead line (to be constructed) both cross the river corridor. The working area for reconductoring at pylon SP009 is also within 20m of the River Ouse.

8.9.184 Scaffold installation for the River Ouse overhead line crossings may result in the temporary loss of up to approximately 0.58ha of riverside habitat which includes riparian vegetation along the River Ouse. Detailed vegetation/invertebrate surveys have not been carried out to date, and these locations may include stands of tansy plants. Therefore, works may result in the temporary loss or degradation of tansy beetle habitat, harm to individual beetles and temporary fragmentation of habitat patches. Similar effects may occur due to construction activities associated with the working area for pylon reconductoring at SP009.

8.9.185 Temporary access routes to riverside scaffold locations and the working areas for pylon dismantling (XCP008 and XCP009), and pylon reconductoring (SP009) may also cause temporary loss or degradation of tansy beetle habitat, harm to individual beetles and temporary fragmentation of habitat patches along up to approximately 800m of the River Ouse.

8.9.186 Embedded environmental measures including **2 – Standard best practice, 3 – Minimise land take and micro-site, 4 – CEMP** (air quality management and dust suppression measures), **5 – Sensitive vegetation removal, 6 – Maintaining habitat connectivity, 9 – Protection of retained habitats, 11 – Habitat reinstatement, 12 – Sensitive access and enabling works** and other specific measures (including common techniques to avoid death or injury of individuals; see **Section 8.6**) would minimise effects on tansy beetles.

8.9.187 Mitigation and compensation for habitat loss and resultant effects would be identified in line with the EcIA mitigation hierarchy and would be included in the ES following the final design of the Project. Such site-specific measures (to be detailed at ES stage) would ensure that the magnitude of change is temporary and **very low**, and that there would be no impact to the favourable conservation status of tansy beetles. The preliminary conclusion is therefore that effects on tansy beetles due to land take/land use change and fragmentation would be negative and assessed as **Not Significant** on an ecological feature of National importance.

8.9.188 Within the ES, the assessment will be further informed by increased quantities of baseline data and targeted tansy plant/tansy beetle surveys as necessary in any areas of optimal habitat where habitat loss is likely, and a definitive design that has been optimised to reduce loss or damage of key habitat for tansy beetles.

Preliminary assessment of effects: Schedule 1 breeding birds

Detailed baseline – overview

8.9.189 The desk study identified the historical records of the following Schedule 1 species within the Study Area; barn owl, hobby, honey buzzard, kingfisher, marsh harrier, peregrine and red kite.

8.9.190 No evidence of breeding Schedule 1 birds was recorded during the extended Phase 1 habitat survey undertaken to date; however specific Schedule 1 bird surveys are scheduled for the 2022 breeding season.

8.9.191 Although the dominant habitat within the draft Order Limits is arable, there is also potential breeding habitat for Schedule 1 birds including but not limited to trees, old farm buildings, hedgerow, dense scrub, woodland edge and watercourses.

Predicted effects and their significance

Increased noise, vibration, light and movement levels (resulting in disturbance)

8.9.192 Currently there is only historical data regarding the distribution and abundance of breeding Schedule 1 species within the draft Order Limits (and a 500m disturbance buffer).Within the ES a full assessment of potential disturbance effects on Schedule 1 species will be undertaken once the scheduled breeding season survey work is complete. Both pre-construction enabling works and construction activities have the potential for increased noise, vibration, light and movement that may result in disturbance to Schedule 1 birds, if present within 500m.

8.9.193 However, whilst surveys are as yet incomplete, it can be stated that works (as required under the Wildlife and Countryside Act 1981 (as amended)[9]) within the draft Order Limits and an associated species specific 500m disturbance buffer will not disturb breeding Schedule 1 birds due to the implementation of embedded environmental measures.

8.9.194 Embedded environmental measures including **2 – Standard best practice**, **3 – Minimise land take and micro-site**, **4 – CEMP** (air quality management and dust suppression measures), **5 – Sensitive vegetation removal**, **9 – Protection of retained habitats**, **11 – Habitat reinstatement**, **12 – Sensitive access and enabling works, 14 – Sensitive lighting design** and other specific measures (such as visual screening; see **Section 8.6**) would minimise the magnitude of any environmental changes associated with the Project.

8.9.195 The construction works programme would incorporate and account for all Schedule 1 species nests and avoid, amend or reduce works during sensitive periods i.e. breeding season. Where works are unavoidable during the bird nesting season, appropriate control measures would be followed including pre-works surveys (embedded environmental measure **16 – pre-construction update surveys**) for nests. If a nest is found, measures would be implemented appropriate to the species and may include a defined disturbance minimisation protective buffer, a behavioural method statement with ecological monitoring, and if necessary, suitable screening around working areas to avoid significant human disturbance. The exact nature of the measures and the species involved will be further informed by increased quantities of baseline data and current best practice for each relevant species. Successful implementation of these measures would minimise the risk of disturbing Schedule 1 species, and contravening legislation (Wildlife and Countryside Act 1981 (as amended)[9].

8.9.196 Such site-specific measures (to be detailed further within the ES) would ensure that the magnitude of change is temporary and **negligible**, and that there would be no impact to the favourable conservation status of breeding Schedule 1 birds. The preliminary conclusion is therefore that effects on breeding Schedule 1 birds due to increased noise, vibration, light and movement levels (resulting in disturbance) would be negative and assessed as **Not Significant** on an ecological feature of National importance.

8.9.197 The full assessment of effects resulting from disturbance will be provided within the ES following completion of baseline data collection, final design and final appropriate species-specific distance minimisation measures.

8.10 Preliminary assessment of cumulative (inter-project) effects

8.10.1 In accordance with Planning Inspectorate Advice Note 17 a long list of 'other development', including allocations, has been reviewed and screened to establish those other developments which could result in significant effects in cumulation with the Project. The process followed is described in **Section 4.9** and a long list of developments considered is provided in **Appendix 4C** of the PEIR. **Table 4.5** lists all the short listed developments identified to date, which will be kept under review as the Project progresses.

8.10.2 A detailed assessment of the likely significant cumulative effects will be provided in the ES. At this stage of the Project the other developments which have the potential for significant effects in cumulation with the Project in relation to biodiversity comprise the following.

- An agricultural unit in Shipton by Beningbrough (20/01004/FUL).
- Various developments close to the existing Monk Fryston Substation (proposed motorway services on the A1(M) near Lumby (2019/0547/EIA), potential minerals development (NY/2020/0204/SCO), a gas peaking plant (2020/0594/FULM) and energy storage projects (2021/0633/FULM, 2021/0789/FULM).
- Proposed developments close to Osbaldwick Substation (energy storage project (19/01840/FULM) and office/industrial development (21/00092/FULM).
- Extensions or additional works at existing quarries at Jackdaw Quarry, Stutton (NY/2021/0098/A27), Newthorpe Quarry (NY/2017/0268/ENV) and Stutton (NY/2018/0009/FUL).
- Proposed housing allocations at Tadcaster (TAD2 105 dwellings) and east of Skelton (ST14: Land West of Wiggington Road 1348 dwellings, 55Ha).

8.11 Preliminary significance conclusions

8.11.1 A summary of the results of the preliminary biodiversity assessment is provided in **Table 8.15**.

Table 8.15 – Preliminary summary of significance of effects

Ecological feature and summary of predicted effects	Importance of ecological feature at Project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
Ecological feature: Overton Borrow Pits SINC/Moor Lane, Stutton Verges candidate SIINC/Disused Quarry, Newthorpe deleted SINC	County	Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which

Ecological feature and summary of predicted effects	Importance of ecological feature at Project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
Predicted effects: Effects on cited habitats within the SINC resulting from: land take/land use change; fragmentation of habitat				would not affect the features' Favourable Conservation Status
Ecological feature: River Ouse candidate SINC ***Predicted effects:*** *Effects on potential cited habitats/species within the SINC resulting from: land take/land use change; fragmentation of habitat; increased noise, vibration, light and movement levels*	County	Very low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: broadleaved semi-natural woodland ***Predicted effects:*** *Effects resulting from: land take/land use change; fragmentation of habitat*	County	Very low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Plantation woodland - traditional orchards **Predicted effects:** Effects resulting from: land take/land use	County	Very Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect

Ecological feature and summary of predicted effects	Importance of ecological feature at Project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
change; fragmentation of habitat				the feature's Favourable Conservation Status.
Ecological feature: Ancient and semi-natural woodland/Ancient replanted woodland/Ancient and/or veteran trees **Predicted effects:** Effects resulting from: land take/land use change	National	Very Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Semi-improved neutral grassland **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat	Local	Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Marshy grassland **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat	Local	Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.

Ecological feature and summary of predicted effects	Importance of ecological feature at Project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
Ecological feature: Hedgerows **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat	County	Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Standing water (ponds and wet ditches) **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat	County	Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Running water (river, streams and ditches **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat	Local/County	Very low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Coastal floodplain and grazing marsh	County	Very Low	Not Significant	Embedded environmental measures and habitat/species-

Ecological feature and summary of predicted effects	Importance of ecological feature at Project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
Predicted effects: Effects resulting from: land take/land use change; fragmentation of habitat				specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Arable field margins **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat	County	Very Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Bats **Predicted effects:** Effects resulting from: land take/land use change; increased noise, vibration, light and movement levels	County	Very Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Bats **Predicted effects:** Effects resulting from: fragmentation of habitat	County	Very Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which

Ecological feature and summary of predicted effects	Importance of ecological feature at Project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
				would not affect the feature's Favourable Conservation Status.
Ecological feature: Great crested newts **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat	County	Very Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Otter **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat; increased noise, vibration, light and movement levels	Local	Very Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Water voles **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat; increased noise, vibration, light and movement levels	Local	Very Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable

Ecological feature and summary of predicted effects	Importance of ecological feature at Project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
				Conservation Status.
Ecological feature: Reptiles **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat	Local	Negligible	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Badger **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat; increased noise, vibration, light and movement levels	Local	Very Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: SPI and other conservation-notable species – fish **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat; increased noise, vibration, light and movement levels	County	Negligible	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.

Ecological feature and summary of predicted effects	Importance of ecological feature at Project level[1]	Magnitude of change[2]	Significance[3]	Summary rationale
Ecological feature: Tansy beetle **Predicted effects:** Effects resulting from: land take/land use change; fragmentation of habitat; increased noise, vibration, light and movement levels	National	Very Low	Not Significant	Embedded environmental measures and habitat/species-specific measures would render effects to a level which would not affect the feature's Favourable Conservation Status.
Ecological feature: Breeding Schedule 1 birds **Predicted effects:** Effects resulting from; increased noise, vibration, light and movement levels	National	Negligible	Not Significant	Embedded environmental measures and species-specific disturbance mitigation measures would render effects to a negligible level and there would be no disturbance to breeding Schedule 1 bird species.

1. The sensitivity/importance/value of an ecological feature is defined using the criteria set out in **Section 8.8** and is defined as local, county, regional, national, international or European.
2. The magnitude of change on an ecological feature resulting from activities relating to the development is defined using the criteria set out in **Section 8.8** and is defined as negligible, very low, low, medium, and high.
3. The significance of the environmental effects is based on the combination of the sensitivity/importance/value of an ecological feature and the magnitude of change and is expressed as significant or not significant, subject to the evaluation methodology outlined in **Section 8.8**. This represents the residual effect, following the employment of embedded environmental measures/specific mitigation as described.

8.12 Additional measures

8.12.1 No additional mitigation measures are proposed at this stage to further reduce any effects on important ecological features that are identified in this PEIR. This is because all relevant and implementable general measures and feature-specific measures including species licences (to be detailed in the ES) have been embedded into the

Project and are assessed above in this chapter. These measures are considered to be likely to be effective, deliverable, and address the likely significant effects of the Project.

8.12.2 Further to the essential mitigation measures, environmental enhancements would be provided as part of the Project and would seek to deliver 10% net gain in biodiversity above the baseline. Enhancements will be determined following the collection of additional baseline information and further discussions with key stakeholders and would align with local initiatives such as biodiversity opportunity mapping and restoration of deleted SINCs where reasonably practicable, appropriate and relevant. Enhancements will be confirmed in the ES and would not be considered in the basis of assessment of effects.

8.13 Further work to be undertaken

8.13.1 The information provided in this PEIR is preliminary, the final assessment of likely significant effects will be reported in the ES. This section describes the further work to be undertaken to support the biodiversity assessment presented in the ES.

Baseline

8.13.2 An extensive programme of field survey is ongoing and will inform the assessment provided in the ES. This survey programme (described in **Table 8.8**) was set out in the Scoping Report and comments made in response by stakeholders have been addressed as stated in **Table 8.4**. Further to this, discussions with technical stakeholders regarding the survey programme and methodology are ongoing (see **Section 8.3**).

Assessment

8.13.3 The assessment within the ES will follow the methodology provided in **Section 8.4** and **Section 8.5**. It will, however, be informed by the baseline data collection, evolved design and detailed analysis from other environmental disciplines.

Environmental measures

8.13.4 **Table 8.16** describes the environmental measures embedded within the Project and the mechanism by which they would be implemented (e.g. DCO requirement and so on) and who is responsible for their implementation.

Table 8.16 - Summary of embedded environmental measures relevant to biodiversity

Embedded environmental measure	Responsibility for implementation	Compliance mechanism	PEIR section reference
1 – Environmental gain: A BNG equivalent to a 10% uplift above the current baseline situation will be built into the Project through the design process	Applicant/ Contractor	N/A	**Section 8.6**

Embedded environmental measure	Responsibility for implementation	Compliance mechanism	PEIR section reference
2 – Standard best practice: The Project would be subject to standard ecological best practice mitigation measures employed to avoid and minimise potential effects to habitats and species.	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS	**Section 8.6**
3 – Minimise land take and micro-site: Minimise the land take for works and locate and micro-site them away from the more important habitat and species	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS and Works Plans	**Section 8.6**
4 – Outline CEMP**: Use of dust suppression and pollution prevention methods**	Applicant/ Contractor	DCO requirement – Outline CEMP	**Section 8.6**
5 – Sensitive vegetation removal: Measures to minimise the risk to nesting birds and other species during habitat clearance	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS	**Section 8.6**
6 – Maintaining habitat connectivity: To minimise the effects of habitat fragmentation	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS	**Section 8.6**
7 – Protection of ancient/veteran trees: Avoidance by micro-siting and RPZs	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS and Works Plans	**Section 8.6**
8 – Sensitive tree management for electrical safety clearance: To minimise loss of habitat along overhead line conductor spans	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS; LEMP	**Section 8.6**
9 – Protection of retained habitats: E.g. exclusion fencing to avoid damage	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS	**Section 8.6**

Embedded environmental measure	Responsibility for implementation	Compliance mechanism	PEIR section reference
10 – Management of invasive species: Biosecurity measures to prevent spread of invasive plant species	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS	**Section 8.6**
11 – Habitat reinstatement: Timely and appropriate reinstatement of temporary habitat loss	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS; LEMP	**Section 8.6**
12 – Sensitive access and enabling works: Use existing accesses, appropriate trackway design, and avoidance of important habitats and minimise habitat loss, fragmentation and effects on fauna	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS	**Section 8.6**
13 – Protection of watercourses: Implementation of buffer around water courses, open-span bridges in preference to culverts, and pollution prevention measures to protect aquatic environment and associated fauna	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS	**Section 8.6**
14 – Sensitive lighting design: Design and management of security and site lighting following best practice guidance to minimise effects on fauna	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS and Works Plans	**Section 8.6**
15 – Construction traffic speed limits: Imposed on all construction haul roads and access tracks to minimise the risk of traffic collisions with fauna	Applicant/ Contractor	DCO requirement – Construction Traffic Management Plan (CTMP)	**Section 8.6**
16 – Pre-construction update surveys: To provide up-to-date	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS	**Section 8.6**

Embedded environmental measure	Responsibility for implementation	Compliance mechanism	PEIR section reference
information to inform mitigation requirements			
Provision and implementation of a BMS detailing ecological good practice, and habitat- and species-specific measures in the form of non-licensable method statements and requirements for separate licensable mitigation; to protect habitats and fauna. The EMS would form an appendix of the Outline **CEMP**	Applicant/ Contractor	DCO requirement – Outline CEMP and/or accompanying BMS	**Section 8.6**

Appendix 8A
Scoping of Assessment - Summary

Appendix 8B
Natural England Meeting Minutes

Appendix 8C
Extended Phase 1 Habitat Survey Report

Appendix 8D
CONFIDENTIAL Badger Reports

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