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8.0 Introduction

This chapter of the ES describes the ecological conditions at the site earmarked for development as Spring Grove Green Power. It presents an evaluation of the baseline value of resources including of sites, habitats and species within the study area, assesses the potential impacts of the Proposed Development upon these resources, and details the appropriate mitigation measures required to avoid, reduce or compensate for any identified impacts. Following this, any residual impacts are identified, and their significance assessed.

The term ecological feature is used in this chapter to refer to sites, habitats and species which within this Chapter are collectively referred to as biodiversity resources. Sites include consideration of both designated and non-designated parcels of land, habitats are taken to include irreplaceable habitats and species includes both plants and animals (taxonomic groups as well as individual species).

The term Site is used in this chapter to refer to the parcel of land within which the Proposed Development is located.

This chapter has been prepared by SLR Consulting Ltd, who have provided consultancy services including ecological surveys and advisory services for the Site for a year. The chapter has been written by Blake Perkins, Graduate Ecologist at SLR and Olivia Guindon, Senior Ecologist at SLR. The chapter has been reviewed by Bob Edmonds, Technical Discipline Manager at SLR.

Relevant Legislation and Policy

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2021[1] sets out guidance for local planning authorities and decisionmakers in how to apply planning policies when drawing up plans and making decisions about planning applications. Along with Government Circular 06/052, the broad policy objectives in relation to the protection of biodiversity and geological conservation in England through the planning system are set out. Specific policies relating to habitats and biodiversity are set out in paragraphs 174 and 179-182 of the NPPF.

Paragraph 131 states that: "*Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users*."

Paragraph 174 states that: "*Planning policies and decisions should contribute to and enhance the natural and local environment by:*

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

[1] Ministry of Housing, Communities & Local Government National Planning Policy Framework (2021) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf (accessed 11/4/22)

b) *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*

c) *maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*

d) *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*

e) *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*

f) *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate*".

Paragraph 179 states that: "*To protect and enhance biodiversity and geodiversity, plans should:*

a) *Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*

b) *promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity*."

Paragraph 180 of the NPPF states that: "*When determining planning applications, local planning authorities should apply the following principles:*

a) *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*

b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*

c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*

d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate*."

Paragraphs 181-182 relate to European sites (referred to as habitats sites) and state: "*The following should be given the same protection as habitats sites:*

a) *potential Special Protection Areas and possible Special Areas of Conservation;*

b) *listed or proposed Ramsar sites; and*

c) *sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."

Planning Practice Guidance

National Planning Policy Guidance (NPPG)[2] is an online source of planning advice first published by government in March 2014 and subject to frequent updates and revision. Of particular relevance to the ecology chapter is advice appertaining to:

- Climate change;
- Natural Environment;
- and water supply, wastewater and water quality.

Adopted Local Plans

St Edmundsbury Core Strategy[3]

Strategic Objective H:

To maintain, protect and enhance the biodiversity, geodiversity and natural environment and seek opportunities to increase the provision of green open space and access to the countryside.

Policy CS2 Sustainable Development

A high quality, sustainable environment will be achieved by designing and incorporating measures appropriate to the nature and scale of development, including:

The protection and enhancement of natural resources:

A) making the most resource efficient use of land and infrastructure;

B) protecting and enhancing biodiversity, wildlife and geodiversity, and avoiding impact on areas of nature conservation interest in both rural and built up areas;

C) identifying, protecting and conserving: a network of designated sites including the Breckland Special Protection Area (SPA) and other sites of national and local importance; Biodiversity Action Plan (BAP) habitat and species; wildlife or green corridors, ecological networks; and other green spaces will be identified, protected and habitats created as appropriate;*

D) conserving and, wherever possible, enhancing the character and quality of local landscapes and the wider countryside and public access to them, in a way that recognises and protects the fragility of these resources;

E) conserving and, wherever possible, enhancing other natural resources including, air quality and the quality and local distinctiveness of soils;

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[2] https://www.gov.uk/government/collections/planning-practice-guidance (accessed 11/4/22)
[3] Core Strategy Final Version with changes (November 2010) (westsuffolk.gov.uk)

F) protecting the quality and availability of water resources;

G) maximising the efficient use of water including recycling of used water and rain water harvesting;

H) maximising the potential of existing and new sources of energy from biomass including timber and other energy crops.

Sustainable design of the built environment:

I) providing the infrastructure and services necessary to serve the development;

J) incorporating the principles of sustainable design and construction in accordance with recognised appropriate national standards and codes of practice to cover the following themes:

- *Energy and CO2 Emissions – seeking, where feasible and viable, carbon neutral development, low carbon sources and decentralised energy generation;*
- *Water – ensuring water efficiency by managing water demand and using such waste water reuse methods as rainwater harvesting and grey water recycling;*
- *Materials - minimising the use of resources and making use of local materials;*
- *Surface Water Run-off – incorporating flood prevention and risk management measures, such as sustainable urban drainage;*
- *Waste – adhering to the waste hierarchy during construction and following development to prevent waste generation and ensure reuse, recovery and recycling;*
- *Pollution – remedying existing pollution or contamination and preventing further pollution arising from development proposals;*
- *Transport – minimising the need for travel and ensuring a balance between transport infrastructure and pedestrians;*
- *Health and Wellbeing – ensuring that the development enhances the quality of life of future occupants and users;*
- *Ecology – valuing and enhancing the ecological features of the development site, where appropriate.*

K) ensuring that developments and their occupants are capable of managing the impact of heat stress and other extreme weather events;

L) making a positive contribution towards the vitality of the area through an appropriate mix of uses. In areas of strategic growth this will include employment, community, retail, social, health and recreation facilities (including the protection and provision of informal and formal recreation, parks, open spaces and allotments);

M) creating a safe environment which enhances the quality of the public realm;

N) making a positive contribution to local distinctiveness, character, townscape and the setting of settlements;

O) conserving or enhancing the historic environment including archaeological resources.

Where appropriate, site specific and area targets, along with detail of viability, to meet national standards and codes, will be set out in the Development Management document, Area Action Plans and the Rural Site Allocations document.

Only development that will not adversely affect the integrity of the SPA will be permitted. In applying this policy a buffer zone has been defined that extends 1,500m from the edge of those parts of the SPA that support or are capable of supporting stone curlews, within which:

a) Permission may be granted for the re-use of existing buildings and for development which will be completely masked from the SPA by existing development; alternatively

b) Permission may be granted for other development not mentioned in sub paragraph (a) provided it is demonstrated by an appropriate assessment that the development will not adversely affect the integrity of the SPA.

A further 1,500m buffer zone has been defined which extends around those areas (shown on the Proposals Map) outside of the SPA which have supported 5 or more nesting attempts by stone curlew since 1995 and as such act as supporting stone curlew habitat, within which permission may be granted in accordance with a) and b) above. Additionally within this zone, where it can be shown that proposals to mitigate the effects of development would avoid or overcome an adverse impact on the integrity of the SPA or qualifying features, planning permission may be granted provided the Local Planning Authority is satisfied that those proposals will be implemented. In these areas development may also be acceptable providing alternative land outside the SPA can be secured to mitigate any potential effects.

Development at Risby (which lies partly within the 1,500m stone-curlew 40 buffer) will be possible if it is fully screened from the Breckland SPA by existing development. A project level appropriate assessment should be undertaken to ensure no adverse affect upon the integrity of the SPA. A 400m buffer zone has been defined around those parts of the SPA that support or are capable of supporting nightjar and woodlark. Any development proposal within this zone will need to clearly demonstrate that it will not adversely affect the integrity of the SPA.

Bury St Edmonds vision 2031[4]

The natural and built environment and local biodiversity of the borough will be protected and where possible enhanced to increase access to the countryside and the provision of green open space in recognition of the county ambition to become the greenest county.

All new development will respect the Breckland Special Protection Area, Special Areas of Conservation and Sites of Special Scientific Interest.

Haverhill vision 2031[5]

Policy HV18: Green Infrastructure in Haverhill

In and around the town of Haverhill the integrity and connectivity of the strategic green infrastructure network will be maintained, protected and enhanced, which includes the creation of new habitats, through the implementation of the St Edmundsbury Green Infrastructure Strategy. Opportunities to extend the coverage and connectivity of the strategic green infrastructure network should be undertaken in association with new development, where appropriate. Green Infrastructure projects will:

- *a. enhance the character of the Green Infrastructure Action Zones identified in the Green Infrastructure Strategy;*
- *b. enhance woodland planting to the A1017 bypass;*
- *c. conserve and enhance the Meldham Washlands greenspace;*
- *d. provide new community parkland/country park on the strategic growth area to the north east of the town, the areas for which will be determined at the concept and masterplan stage;*
- *e. connect multifunctional green infrastructure routes/corridors in the town to existing and future green spaces;*
- *f. make urban river corridor improvements to the Stour Brook Valley Green Corridor; and*

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[4] BSE-vision-2015v6-hi-res-compressed.pdf (westsuffolk.gov.uk)

[5] https://www.westsuffolk.gov.uk/planning/Planning_Policies/local_plans/upload/HH-Vision_2015v8-hi-res-compressed.pdf

g. *promote access to, and appreciation of, local history and heritage assets within the landscape as part of a multi-functional approach.*

The council will work with its partners to develop the green infrastructure network and implement proposed network improvements including those set out in the Green Infrastructure Strategy. Planning permission for development that would harm the green infrastructure network will only be granted if it can incorporate measures that avoid the harm arising or sufficiently mitigate its effects.

Any other relevant policy, legislation or guidance

In addition to the legislation requiring Environmental Impact Assessment which has a specific requirement to the likely significant effects of on biodiversity, other potentially relevant legislation on biodiversity is:

- National Parks and Access to the Countryside Act 1949, as amended: Provides for the protection of National Parks and is still the primary legislation under which some local sites for nature conservation - Local Nature Reserves - are designated.
- Wildlife and Countryside Act 1981, as amended (WCA): Provides for the protection of sites of at least national importance for nature conservation - Sites of Special Scientific Interest - and varying levels of protection for species in need of conservation action, or other protection, within the UK. Protection may include prohibition of some or all of: killing, injuring, disturbing, taking, sale/barter or possession of species and also protection of breeding and sheltering places. All birds are protected under the WCA.
- Protection of Badgers Act 1992, as amended: Provides strict protection for badgers and their setts, including those found on development sites.
- Wild Mammals (Protection) Act 1996, as amended: This makes it an offence to crush or asphyxiate any wild mammal with intent to inflict unnecessary suffering. This may apply during site clearance for development, particularly where burrowing animals such as foxes and rabbits are present, since such animals could be crushed or asphyxiated in their burrows by heavy machinery.
- The Hedgerows Regulations 1997: Allow the identification of important hedgerows which are protected under the Regulations. Permission to remove important hedgerows must be obtained from the local planning authority. This can include planning permission for development.
- Countryside and Rights of Way Act 2000 (the CRoW Act): Amends and strengthens existing legislation. For example, some offences under the Wildlife and Countryside Act can now result in imprisonment.
- Natural Environment and Rural Communities Act 2006 (the NERC act): A wide-ranging Act with some biodiversity components. Places a duty on all public authorities, including local planning authorities, to consider biodiversity in their work. Requires government departments to have regard to the Convention on Biological Diversity and compels the Secretary of State to produce a list of species and habitats of principal importance for the conservation of biodiversity and to take or promote steps to further their conservation.
- Animal Welfare Act 2006, as amended. Amongst other protection for animals, this makes it an offence to cause unnecessary suffering or fail to meet the needs of vertebrates in the temporary control of man. This legislation may apply to projects involving the translocation of vertebrates.
- Infrastructure Act 2015: Despite the name, this Act also contains amendments to the Wildlife and Countryside Act in relation to non-native invasive species of animals and plants and species no longer normally resident in Great Britain. It enables an Environmental Authority (such as Natural England) to issue a species control order which requires a landowner to undertake control measures or enables the Environmental Authority to do so, potentially at the expense of the landowner.

- Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species, as amended, together with Commission Implementing Regulation (EU) 2016/1141 and Implementing Regulation (EU) 2019/1262: Mandates measures to prevent introduction, monitor and eradicate or control certain non-native invasive species i.e. those identified in the commission implementing regulations, which provide the list of 54 invasive alien species of Union concern. Technical amendments relating to Brexit mean that these species are now referred to in the UK as being of UK concern.
- The Conservation of Species and Habitats Regulations 2017, as amended (the Habitats Regulations): Provide for the protection of sites in England and Wales that support habitats and species in need of conservation across Europe and full protection of species of European importance whether occurring within designated sites or not. The 2017 version consolidated all the amendments to the Habitats Regulations that have been made since 1994 and has now itself been amended twice.
- The Invasive Alien Species (Enforcement and Permitting) Order 2019: Sets out the offences and permits for releasing and keeping certain non-native invasive species, dealing directly with those included in the original 2016 list of species of Union (now UK) concern.
- The Environment Act 2021: the most significant change in the approach to dealing with biodiversity and development since the 1994 Habitats Regulations. It is wide ranging, with Part 6 dealing specifically with biodiversity. This includes provisions for (i) mandatory biodiversity net gain for most types of development. (ii) a more stringent biodiversity duty, requiring public authorities to enhance, not just conserve, biodiversity, and report on its progress, (iii) mandates the preparation of local nature recovery strategies which will collectively cover the whole of England (iv) species conservation strategies and protected site strategies (v) removes a protected species licensing anomaly by ensuring works done under a Natural England licence issued under the Habitats Regulations are not an offence under the Wildlife and Countryside Act, (vi) enables licensing for species listed on Schedule 5 for the purposes of overriding public interest (e.g. development), which was previously not possible in England and Wales (vii) additional protections for trees (viii) the creation of conservation covenants which can be used to protect land for the purposes of nature conservation.

Relevant government guidance on biodiversity includes:

- Government Circular 06/05. To accompany Planning Policy Statement 9 (PPS9; now withdrawn), the UK Government produced a circular entitled 'Biodiversity and Geological Conservation – Statutory obligations and their impact within the planning system'. This provides guidance on the application of the law relating to planning and nature conservation in England. Although some of the information contained in the circular is now out of date, it provides details on the implications of internationally designated sites, habitats and species outside of designated sites and protected species.
- Natural England's Standing Advice: Natural England, the Environment Agency and the Forestry Commission have collectively produced 'Standing Advice' for local authorities in England. This covers a range of protected species and ancient woodland and veteran trees. Standing Advice is generic guidance designed to avoid the need to consult with Natural England in certain, frequently occurring situations. The Standing Advice is a material consideration in the determination of planning applications in the same way as a letter received from Natural England following consultation. it has recently been updated. Similar advice exists for construction near protected areas and wildlife, and how to assess developments which affect Special Protection Areas and Special Areas of Conservation.

Guidance produced by other organisations on biodiversity is abundant, it includes details of guidance on assessment methods, such as the Guidelines for Ecological Impact Assessment produced by the Chartered Institute of Ecology and Environmental Management, survey techniques, such as those produced by the Bat

Conservation Trust and mitigation guidance, including that published by Natural England. This guidance is referred to where it is used in the assessment.

Assessment Methodology

Scope

An assessment of likely impacts of the Proposed Development on biodiversity resources has been undertaken in line with the relevant professional guidance. This includes specific consideration of ecological sites, habitats, and species.

The ecological evaluation and impact assessment approach used in this chapter aligns with Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland[6] ("CIEEM guidelines"), which are widely regarded as good practice for professional ecologists.

The approach advocated in the CIEEM guidelines has been supplemented with that set out in Highways England (2020)[7], which is referred to from this point onwards as LA 108. LA 108 provides a framework for the biodiversity assessment of highway projects in particular, but is relevant to ecological assessment of other projects, such as the proposed development, with particular reference to the characterisation of resource importance, the level of impact (change) and levels of significance. LA 108 approach broadly aligns with the CIEEM-recommended approach.

The approach to the ecological assessment has been undertaken as follows:

- definition of the existing ecological conditions of the Proposed Development area, including a review of the development area in its local and regional ecological context;
- determination of the existing ecological value of the Proposed Development area and surrounding areas;
- identification and description of all potentially significant ecological effects associated with the Proposed Development;
- outlining the design, mitigation and compensation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects;
- identification of how mitigation and compensation measures will be delivered;
- identification of any residual ecological effects following mitigation, and an assessment of their significance.
- identification of appropriate enhancement measures and how these will be delivered; and
- outlining the requirements for post-completion monitoring.

The Spring Grove Green Power Proposed Development area was subject to baseline ecology surveys, with the Site and a 2km buffer being used for the desk-based search area.

The surveyed area was amended for species-specific surveys to ensure the correct zone of influence was examined for each particular receptor. As an example, for great crested newts, all ponds within 500m of the proposed facility were subject to an assessment. Where this occurred, details of the updated area have been provided in the appropriate report.

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[6] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester

[7] Highways England (2020). Design Manual for Roads & Bridges. LA 108 Biodiversity.

Data Sources

Desktop studies and field surveys have been completed at the Site by SLR Consulting in 2022 as well as by external consultants in 2023, to provide a full assessment of the baseline conditions at the Site and those important ecological features outside the Site identified as potentially impacted by the proposed development. The following reports detailed in Table 8-1 have consequently been used to inform this assessment. Each report contains further details on the approach, methods and any areas surveyed. All reports are included in technical appendices:

Table 8-1 Reports used to inform baseline

Report	Author	Dates undertaken	Methodology	Technical Appendix Section
Sites				
Ecological desk study	Cambridgeshire and Peterborough Environmental Records Centre / Suffolk Biodiversity Information Service	February 2022	Records within 2km buffer of the site boundary	Referenced within individual species reports and this Chapter
Habitats				
Biodiversity Net Gain assessment	SLR	August 2023	Defra Metric 4.0	Appendix 2
Species				
Great crested newt survey	SLR	May 2022	Habitat Suitability Index[8] and GCN eDNA testing[9]	Appendix 3
Riparian mammal survey	SLR	May and September 2022	Otter survey specifications[10] and the Water Vole Conservation Handbook[11]	Appendix 4

[8] Oldham R. S., Keeble, J., Swan, M. J. S. and Jeffcote, M. (2000). 'Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*)'. Herptetological Journal 10 (4), 143-155.

[9] Biggs, J. 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

[10] Northern Ireland Environment Agency (2017) Otter Survey Specifications, DAERA, Belfast

[11] 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.

Lichen survey	Lichenicola	February 2023	Bespoke methodology	Appendix 5

Assessment Approach

Determining the importance of Ecological Features ('receptors')

Ecological features can be important for a variety of reasons and the rationale used to identify them is explained below. Importance may relate, for example, to protected status, the quality or extent of the site or habitats therein; habitat and/ or species rarity; the extent to which such habitats and/ or species are threatened throughout their range, or to their rate of decline.

Important habitats are considered here to be those which:

- match descriptions of habitats listed on Annex 1 of the Habitats Directive, so far as it applies to the UK and as transposed by The Conservation of Habitats and Species Regulations 2017 (as amended);
- match descriptions of Habitats of Principal Importance as outlined under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006;
- match descriptions of habitat included within the Suffolk Biodiversity Action Plan[12];
- match descriptions of habitat selection criteria for Local Wildlife Sites in Suffolk;
- comprise irreplaceable habitats; such as (but not limited to) ancient woodland and veteran trees; and/ or
- comprise a significant habitat resource for an important species (see below).

Important species are considered here to be those:

- of European conservation importance (as listed on Annexes II, IV and V of the Habitats Directive or Annex 1 of the Birds Directive) so far as it applies to the UK and as transposed by The Conservation of Habitats and Species Regulations 2017 (as amended);
- specially protected under the terms of the Wildlife and Countryside Act 1981 (as amended);
- of principal importance for biodiversity as outlined under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006;
- included within Suffolk Local Biodiversity Action Plan;
- match descriptions of species selection criteria for Local Wildlife Sites in Suffolk;
- Red listed or listed as near threatened using International Union for the Conservation of Nature (IUCN) criteria (IUCN, 2012; IUCN, 2016; IUCN 2019), e.g. in one of the UK Species Status Project reviews, or, where a more recent assessment of the taxonomic group has not yet been undertaken, listed in a Red Data Book);

[12] https://www.suffolkbis.org.uk/planning/BAP (Accessed February 2023)

- for birds, a potentially important population of a species which is Red or Amber listed in the UK (Eaton et al., 2015[13] and Stanbury et al., 2021[14]);
- which are listed as a Nationally Rare or Nationally Scarce species (e.g. in one of the Species Status Project reviews) or listed as a nationally notable species where a more recent assessment of the taxonomic group has not yet been undertaken; and/ or
- endemic to a country or geographic location (it is appropriate to recognise endemic sub-species, phenotypes, or cultural behaviours of a population that are unique to a particular place.

The importance of an ecological feature is considered within a defined geographical context. The CIEEM guidelines set out the following frame of reference which can be applied to identified ecological features which are informed by desk study and surveys:

- International and European;
- National;
- Regional;
- Metropolitan, County, vice county or other local authority-wide area; and
- Local.

For the purposes of this assessment only ecological features of local importance or greater and/ or subject to legal protection are subject to detailed assessment (and are referred to as "important ecological features"). Effects on other ecological features of lower importance are considered unlikely to be significant in legal or policy terms so are not subject to detailed assessment.

Characterising Impact

When describing impacts, reference has been made to the following characteristics, as appropriate:

- Beneficial, adverse or negligible;
- Extent;
- Magnitude;
- Duration (short term <5 years, mid-term 5-10 years, long term >10 years);
- Timing;
- Frequency; and
- Reversibility.

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[13] Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708–746. Available online at britishbirds.co.uk/wp-content/uploads/2014/07/BoCC4.pdf

[14] Stanbury, A., Eaton,M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747. Available online at https://britishbirds.co.uk/content/status-our-bird-populations.

The impact assessment process considers both direct and indirect impacts: direct ecological impacts are changes that are directly attributable to a defined action, e.g. the physical loss of habitat occupied by a species during the construction process. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process or feature, e.g. the interruption of water courses which cause hydrological changes, which, in the absence of mitigation, could lead to the drying out of downstream habitats.

Significant Effects

The concept of ecological significance is addressed in paragraphs 5.24 through to 5.28 of the CIEEM guidelines. Significance is a concept related to the weight that should be attached to effects when decisions are made. For the purpose of an ES Chapter, a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local and the scale of significance of an effect may or may not be the same as the geographic context in which the feature is considered important.

Paragraphs 5.29 – 5.34 of the CIEEM guidelines cover how significant effects are determined. To summarise:

- for designated sites – effects may be significant if they are likely to undermine the conservation objectives of the site; or positively or negatively affect the conservation status of species or habitats for which the site is designated; or may have affect the condition of the site or its interest/qualifying features.
- for ecosystems – effects may be significant if the project is likely to result in a change in ecosystem structure and function. Consideration should be given as to whether any processes or key characteristics will be removed or changed, if there will be an effect on the nature, extent, structure and function of component habitats or if there is an effect on the average population size and viability of component species.
- for habitats and species - consideration of conservation status is important for evaluating the effects of impacts on individual habitats and species and assessing their significance. Conservation status is defined as follows:
- Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area.
- Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

Cumulative Impacts

Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a Proposed Development results in individually insignificant impacts that, when considered in-combination with impacts of other proposed or permitted plans and projects, can result in significant effects.

Avoidance, Mitigation, Compensation and Enhancement

The purpose of avoidance, impact minimisation and compensation measures are to reduce the extent or magnitude of project impacts. The aim of these measures is to reduce the project's adverse impacts such that

there is no overall loss of biodiversity as a result of the project. Following CIEEM guidelines, the terminology has been defined as below:

- Avoidance: where an impact has been eradicated through, e.g. changes in project design.
- Mitigation: measures used to reduce or remedy a specific negative impact in situ.
- Compensation: when mitigation in situ is impossible, then compensation is used to offset residual effects.
- Enhancement: provision of new benefits for biodiversity that are additional to those provided as part of mitigation or compensation measures.

When seeking mitigation or compensation solutions, the CIEEM guidelines state that efforts should be consistent with the geographical scale at which an effect is significant. For example, mitigation and compensation for effects on a species population significant at a county scale should ensure no net loss of the population at a county scale. The relative geographical scale at which the effect is significant will have a bearing on the required outcome which must be achieved.

Where potentially significant effects have been identified, the mitigation hierarchy has been applied, as recommended in the CIEEM guidelines. The mitigation hierarchy sets out a sequential approach beginning with the avoidance of impacts where possible, the application of mitigation measures to minimise unavoidable impacts and then compensation for any remaining impacts. Once avoidance and mitigation measures have been applied residual effects are then identified along with any necessary compensation measures, and incorporation of opportunities for enhancement.

Residual Impacts

After assessing the impacts of the proposal, all attempts should be made to avoid and mitigate ecological impacts as described above. Once measures to avoid and mitigate ecological impacts have been finalised, assessment of the residual impacts should be undertaken to determine the significance of their effects on ecological features.

As outlined in the CIEEM guidelines, any residual impacts that will result in effects that are significant, alongside the proposed compensatory measures, will be the factors considered against ecological objectives (legislation and policy) in determining the outcome of the application.

Significance Criteria

Project-specific importance criteria have been developed through reference to both the CIEEM guidelines and LA 108 and these are included in Table 8-2. These provide further refinement and understanding of the way importance of biodiversity resources has been assessed.

Table 8-2 Biodiversity resource importance adapted from CIEEM (2018) and Highways England (2020)

Resource Importance	
International or European Importance	
Sites	Sites including: 1) European sites: a) Sites of Community Importance (SCIs); b) Special Protection Areas (SPAs); c) potential SPAs (pSPAs); d) Special Areas of Conservation (SACs);

	e) Candidate or possible SACs (cSACs or pSACs); f) Wetlands of International Importance (Ramsar sites). 2) Biogenetic Reserves, World Heritage Sites (where recognised specifically for their biodiversity value) and Biosphere Reserves. 3) Areas which meet the published selection criteria for those sites listed above but which are not themselves designated as such.
Habitats	Annex 1 habitats outside of designated sites critical to or necessary for the function of qualifying habitat features of internationally designated sites. Areas of habitat outside formally designated areas but used by and critical to the survival and breeding success of species populations identified as of international importance. Also known as "functionally-linked land[15]", e.g. for qualifying features of internationally designated sites.
Species	Resident, or regularly occurring, populations of species which can be considered at an international or European level where: 1) the loss of these populations would adversely affect the conservation status or distribution of the species at an international or European scale; or 2) the population forms a critical part of a wider population at this scale; or 3) the species is at a critical phase of its life cycle at an international or European scale.
UK or national importance	
Sites	Sites including: 1) Sites of Special Scientific Interest (SSSIs); 2) National Nature Reserves (NNRs); 3) National Parks; or 4) areas which meet the published selection criteria for those sites listed above but which are not themselves designated as such.
Habitats	Habitats including: 1) areas of UK BAP priority habitats; 2) habitats included in the relevant statutory list of priority species and habitats; and 3) areas of irreplaceable habitats including: a) ancient woodland; b) ancient or veteran trees; c) blanket bog; d) limestone pavement; e) sand dunes; f) salt marsh; g) lowland fen. 4) areas of habitat which meet the definition for habitats listed above but which are not themselves designated or listed as such.
Species	Resident, or regularly occurring, populations of species which can be considered at an international, European, UK or national level where:

[15] Functional linkage: How areas that are functionally linked to European sites have been considered when they may be affected by plans and projects - a review of authoritative decisions - NECR207 (naturalengland.org.uk)

	1) the loss of these populations would adversely affect the conservation status or distribution of the species at a UK or national scale; or 2) the population forms a critical part of a wider population at this scale; or 3) the species is at a critical phase of its life cycle at a UK or national scale.
Regional importance (i.e. south-east England)	
Sites	Designated sites (non-statutory).
Habitats	Areas of habitats identified (including for restoration) in regional plans or strategies (where applicable).
Species	Species including: 1) resident, or regularly occurring, populations of species which can be considered at an international, European, UK or national level where: a) the loss of these populations would adversely affect the conservation status or distribution of the species at a regional scale; or b) the population forms a critical part of a wider regional population; or c) the species is at a critical phase of its life cycle. 2) Species identified in regional plans or strategies.
County or equivalent authority importance (i.e. Northamptonshire)	
Sites	Wildlife/nature conservation sites designated at a county (or equivalent) level including: 1) Local Wildlife Sites (LWS); 2) Local Nature Conservation Sites (LNCS); 3) Local Nature Reserves (LNRs); 4) Sites of Importance for Nature Conservation (SINCs); 5) Sites of Nature Conservation Importance (SNCIs); 6) County Wildlife Sites (CWSs).
Habitats	Areas of habitats identified in county or equivalent authority plans or strategies (where applicable).
Species	Species including: 1) resident, or regularly occurring, populations of species which can be considered at an international, European, UK or national level where: a) the loss of these populations would adversely affect the conservation status or distribution of the species at a county or unitary authority scale; or b) the population forms a critical part of a wider county or equivalent authority area population, e.g. metapopulations; or c) the species is at a critical phase of its life cycle. 2) Species identified in a county or equivalent authority area plans or strategies.
Local importance (within circa 5km)	
Sites	Wildlife / nature conservation sites designated at a local level including: 1) Local Wildlife Sites (LWS); 2) Local Nature Conservation Sites (LNCS); 3) Local Nature Reserves (LNRs); 4) Sites of Importance for Nature Conservation (SINCs); 5) Sites of Nature Conservation Importance (SNCIs);

	6) Sites of Local Nature Conservation Importance (SLNCIs).
Habitats	Areas of habitat considered to appreciably enrich the habitat resource within the local context including features of importance for migration, dispersal, or genetic exchange.
Species	Populations/communities of species considered to appreciably enrich the species resource within the local context including features of importance for migration, dispersal or genetic exchange.

Project-specific level of impact (change) criteria have been developed through reference to both the CIEEM guidelines and LA 108 and these are included in Table 8-3. These provide further refinement and understanding of the change that the Proposed Development will lead to in biodiversity resources.

Table 8-3 Level of impact from CIEEM (2018) and Highways England (2020)

Level of impact (change)		Description
Major	Adverse	1) Permanent/irreversible damage to a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact negatively affects the integrity or key characteristics of the resource.
	Beneficial	1) Permanent addition of, improvement to, or restoration of a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact positively affects the integrity or key characteristics of the resource.
Moderate	Adverse	1) Temporary/reversible damage to a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact negatively affects the integrity or key characteristics of the resource.
	Beneficial	1) Temporary addition of, improvement to, or restoration of a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact positively affects the integrity or key characteristics of the resource.
Minor	Adverse	1) Permanent/irreversible damage to a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact does not affect the integrity or key characteristics of the resource.
	Beneficial	1) Permanent addition of, improvement to, or restoration of a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact does not affect the integrity or key characteristics of the resource.
Negligible	Adverse	1) Temporary/reversible damage to a biodiversity resource; and

		2) the extent, magnitude, frequency, and/or timing of an impact does not negatively affect the integrity or key characteristics of the resource.
	Beneficial	1) Temporary addition of, improvement to, or restoration of a biodiversity resource; and 2) the extent, magnitude, frequency, and/or timing of an impact does not affect the integrity or key characteristics of the resource.
No change	No observable impact, either positive or negative.	

A project-specific significance matrix has been developed through reference to LA 108 and adopting terminology that is consistent with the wider Environmental Statement. The matrix is included in Table 8-4. This relates the importance of a resource to the level of change that the Proposed Development will lead to, to support the determination of the significance of effect.

For consistency with the reporting in the wider Environmental Statement the following terminology changes from LA 108 have been adopted:

- 'slight' significance of effect – reported as 'minor'
- 'moderate' significance of effect – no change; and
- 'large' significance of effect – reported as 'Major'.

Table 8-4 Significance matrix adapted from Highways England (2020)

LEVEL OF IMPACT (MAGNITUDE)	RESOURCE IMPORTANCE (SENSITIVITY)				
	International or European	UK or national	Regional	County or equivalent authority	Local
Major	Major	Major	Moderate or major	Minor or moderate	Minor
Moderate	Major	Moderate or major	Moderate	Minor	Neutral or minor
Minor	Moderate or major	Minor or moderate	Minor	Neutral or minor	Neutral or minor
Negligible	Minor	Minor	Neutral or minor	Neutral or minor	Neutral

Where Table 8-4 includes two significance categories, evidence is provided to support the reporting of a single significance category.

Uncertainties and Limitations

Details on any limitations encountered in the surveys are also provided in the respective reports. The limitations are minor and unlikely to impact the conclusions drawn from the baseline survey data.

Baseline Conditions

Since the initial habitat survey undertaken in February 2022 at the main AD plant site, a range of detailed protected species survey have been undertaken throughout 2022. One additional site visit was also undertaken in November 2022 to look at the pipeline and digestate lagoon site.

Landscape Context

The Proposed Development is located north of Spring Grove Farm and the A1307, approximately 250m to the west of the edge of the settlement of Haverhill, in West Suffolk District, in the county of Suffolk. It lies immediately to the northeast of the administrative boundary with South Cambridgeshire District, which defines part of the application boundary to the Proposed Development.

The Proposed Development comprises two distinct components, being, firstly, an anaerobic digester plant (the 'AD plant site') and, secondly, a buried pipeline connecting to an offsite digestate lagoon (the 'pipeline and digestate lagoon site').

The AD plant site comprises two adjoining fields pertaining to Spring Grove Farm – Bowsey field and Spring Grove field. It is proposed that Bowsey field will house most of the Site infrastructure, utilising a marginal area of Spring Grove field to the east. The pipeline site extends north from the AD plant to connect to a new digestate lagoon, located approximately 2.5km due north of the AD site beside Cadge's Wood.

Anaerobic Digester (AD) plant site

Bounded by established trees and hedgerow of varying density to the north and west, Bowsey field and Spring Grove field are bordered by an additional tree belt of substantial depth extending along southern boundary. A stream runs west to east along the southern boundary of the Site and is flanked by the broadleaved woodland/riparian corridor describe above.

Pipeline and digestate lagoon Site

The pipeline and digestate lagoon Site includes several relatively large-scale, arable fields located to the north-west of Haverhill, and west and north of Withersfield.

The pipeline would extend north of the main AD Plant site through arable fields located between ancient woodland blocks of Howe Wood, Lawn Wood and Littley Wood, with at least 150m standoffs to each.

Cadge's Wood an ancient woodland, is located adjacent to the west of the digestate lagoon site and north of the end of the pipeline Site. North Wood (ancient woodland) is approximately 300m to the east of the digestate lagoon site.

The Current Baseline – Sites

Designated Sites and sites of nature conservation interest

A 2km radius from the Site, has been used to identify those sites that have the potential to be subject to direct or indirect effects from changes associated with the Proposed Development. Within this distance there are two statutory designated sites present, Over and Lawn Woods Site of Special Scientific Interest (SSSI) located 300m west of the pipeline and Haverhill Railway Walks Local Nature Reserve (LNR) located 600m east of the AD plant site.

The Site sits within the impact risk zone of Over and Lawn Woods SSSI and the planning proposal falls into combustion category (All general combustion processes. Incl: energy from waste incineration, other incineration,

landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.).

A 15km radius from the Site, has been used to identify those sites that have the potential to require assessment under the Habitats Regulations. There are no European sites within this distance.

Table 8-5 Statutory Designated Sites of relevance to the Proposed Development

Site Name	OS Grid Reference	Distance (m) and Direction from site	Site Description
Over Lawn Woods SSSI – **National Importance**	TL 63695 48431	300 west	This woodland is of ancient origin. It lies on chalky boulder clay. The ground flora contains a rich variety of ancient woodland plants, including a number of locally rare species and the nationally restricted oxlip *Primula elatior*.
Haverhill Railway Walks LNR – **National Importance**	TL 66579 46297	600 east	With much of its length now covered with scrub and larger trees, the railway provides a valuable wildlife corridor. It offers food and shelter to a wide range of birds, animals, insects and plants. All five kilometres (3 miles) of the disused line is now part of the Haverhill Local Nature Reserve.

The Proposed Development is also within a 2km radius of seven County Wildlife Sites (CWS)(of which five are also designated as Ancient Woodlands (AW)) which are provided in Table 8-6. The non-statutory designated sites are assessed to be of **County importance.**

Table 8-6 Non-statutory designated Sites within 2km of the Proposed Development

Site Name	OS Grid Reference	Distance (m) and Direction from site	Site Description
Markhams Wood CWS AW	TL 63983 46105	500 south	This small ancient woodland situated on the Cambridgeshire/Suffolk border, is part of the Hanchet Hall Estate. The tree layer consists of oak and ash standards with a shrub layer of hazel coppice. A notable feature of this woodland is the ground flora. Bluebells, oxlips (a nationally scarce plant) and early purple orchids provide a splendid show in Spring. Daffodils have been introduced in the wood by a previous owner.

Howe Wood CWS AW	TL 64855 47155	400 east	Howe Wood is one of a number of ancient woodlands situated in the intensively farmed landscape north of Haverhill. The northern part of the wood is dominated by hornbeam coppice with a significant amount of ash and field maple coppice also present. A number of old oaks standards are scattered throughout. The southern half of the wood has been clear felled and replanted in recent years with a mixture of coniferous species and oak. Some areas of diseased elm situated mainly around the edges of the wood have also been felled. Numerous dead elms still standing provide ideal nesting habitat for some woodland birds. The ground flora in these open areas consists of tall rank vegetation, for example nettle, cleavers and rosebay willowherb. Elsewhere, the floor of the wood is carpeted with dog's-mercury and bramble. However a number of more uncommon woodland plants are also found scattered throughout the wood, for example oxlip, bugle and hairy St John's-wort.
Littley Wood CWS AW	TL 64976 48826	200 east	Littley Wood is an ancient wood, situated close to the Over and Lawn Woods, which have been scheduled as a Site of Special Scientific Interest. A large portion of the wood is composed of an old ash, field maple and hazel stand type with scattered oak standards throughout. The proportion of ash varies considerably and is generally less in the northern end of the wood. The western edge of the wood consists of old elm coppice, most of which is affected by Dutch elm disease. The abundance of dead wood here provides suitable habitat for invertebrates and hole-nesting birds. A plantation of conifers, sycamore, oak, ash, and beech approximately thirty years old is situated in the north-eastern part of the wood. The ground flora is largely dominated by dog's-mercury, interspersed with patches of bluebell and nettle. A wider diversity of plants are found in the open areas, for example, wild strawberry, selfheal and meadowsweet are found frequently on the wide grassy ride which runs across the wood from west to east.
Haverhill Flood Park CWS	TL 65319 46654	300m east	The site which lies on the western outskirts of Haverhill was constructed in 1971 to create a flood storage reservoir to prevent flooding in the nearby town of Haverhill. The grassy embankments of the reservoir support a species-diverse flora which is improving in diversity year by year. Over 70 species recorded in May 2017. In addition to a wide range of fairly common wild flowers, e.g. bird's-foot trefoil, field scabious and cowslip, the boulder clay soils of the site support a number of scarce

			species, e.g. pyramidal orchid (50 spikes recorded in 1997) and sulphur clover (a nationally scarce species). Additionally, adders tongue fern is abundant north of the lake. The flood park is also noted for its butterfly fauna. A total of 18 species were recorded between 1995 and 1997. In addition, meadow pipit and reed bunting breed here in good numbers. The site has been designated as a public open space and is well-used by local residents for a range of activities.
Chimswell Ditch CWS	TL 64739 45689	700 south	Chimswell Ditch is a small watercourse, situated close to the outskirts of Haverhill on the western side. The steep sided watercourse is overgrown with dense scrub consisting of elm, hazel, sycamore, horse chestnut, field maple, oak, hawthorn, ash and blackthorn. This provides important nesting habitat for birds in an intensively farmed landscape. Of particular botanical interest is the presence of a thriving population of green hellebore. This plant is very rare in Suffolk and an uncommon plant nationally.
North Wood CWS AW	TL 64949 49459	550 east	No data available
The New Plantation CWS AW	TL 65002 50000	700 northeast	No data available

SSSIs are protected by the Wildlife and Countryside Act 1981, as amended, the policies in the National Planning Policy Framework and Policy CS2 of the Local Plan. LNRs and SSSIs are designated under the National Parks and Access to the Countryside Act 1949 and protected by Policy CS2. County Wildlife Sites are non-statutory but also protected by Policy CS2.

The Current Baseline – Habitats

Ancient Woodland

Details of ancient woodland sites located within a 2km radius of the Proposed Development are provided in Table 8-7. These include both Ancient Semi-natural Woodland (ASNW) – woodland that retains a native tree and shrub cover that has not been planted, although it may have been managed by coppicing or felling and allowed to regenerate naturally; as well as Ancient replanted Woodland (AWS - ancient woodland site or PAWS - plantation on ancient woodland site) – woodland where the original tree cover has been felled and replaced by planting, often with conifers and usually within the 20th century. Ancient woodland is an irreplaceable habitat which therefore receive specific protection in the National Planning Policy Framework. As indicated in the table, much of it falls within designated sites and is therefore protected accordingly. All of it is priority habitat (see below). The ancient woodland sites are assessed to be of **National importance.**

Table 8-7 Ancient woodland sites within 2km of the Proposed Development

Site Name	OS Grid Reference	Distance (m) and Direction from site	Site Description
North Wood PAWS CWS	TL 64949 49459	550 east	No datat available
The New Plantation PAWS CWS	TL 65002 50000	700 northeast	No data available
Markhams Wood ASNW CWS	TL 63983 46105	500 south	This small ancient woodland situated on the Cambridgeshire/Suffolk border, is part of the Hanchet Hall Estate. The tree layer consists of oak and ash standards with a shrub layer of hazel coppice. A notable feature of this woodland is the ground flora. Bluebells, oxlips (a nationally scarce plant) and early purple orchids provide a splendid show in Spring. Daffodils have been introduced in the wood by a previous owner.
Howe Wood ASNW CWS	TL 64855 47155	400 east	Howe Wood is one of a number of ancient woodlands situated in the intensively farmed landscape north of Haverhill. The northern part of the wood is dominated by hornbeam coppice with a significant amount of ash and field maple coppice also present. A number of old oaks standards are scattered throughout. The southern half of the wood has been clear felled and replanted in recent years with a mixture of coniferous species and oak. Some areas of diseased elm situated mainly around the edges of the wood have also been felled. Numerous dead elms still standing provide ideal nesting habitat for some woodland birds. The ground flora in these open areas consists of tall rank vegetation, for example nettle, cleavers and rosebay willowherb. Elsewhere, the floor of the wood is carpeted with dog's-mercury and bramble. However a number of more uncommon woodland plants are also found scattered throughout the wood, for example oxlip, bugle and hairy St John's-wort.

Littley Wood PAWS CWS	TL 64976 48826	200 east	Littley Wood is an ancient wood, situated close to the Over and Lawn Woods, which have been scheduled as a Site of Special Scientific Interest. A large portion of the wood is composed of an old ash, field maple and hazel stand type with scattered oak standards throughout. The proportion of ash varies considerably and is generally less in the northern end of the wood. The western edge of the wood consists of old elm coppice, most of which is affected by Dutch elm disease. The abundance of dead wood here provides suitable habitat for invertebrates and hole-nesting birds. A plantation of conifers, sycamore, oak, ash, and beech approximately thirty years old is situated in the north-eastern part of the wood. The ground flora is largely dominated by dog's-mercury, interspersed with patches of bluebell and nettle. A wider diversity of plants are found in the open areas, for example, wild strawberry, selfheal and meadowsweet are found frequently on the wide grassy ride which runs across the wood from west to east.
Cadge's Wood ASNW	TL 63986 49415	Adjacent west	No data available
Hare Wood ASNW; PAWS	TL 62203 47984	1800 west	No data available

ASNW = Ancient Semi-Natural Woodland ; PAWS = Plantation on Ancient Woodland Site

Given the proximity of the development to Over and Lawn Woods SSSI and to numerous Ancient Woodland Inventory sites and non-statutory designated sites, they are all brought forward for further consideration in this assessment.

Priority Habitats

There are at least 99ha of land which is mapped as priority habitat within 2km of the site boundary, 95% of this is deciduous woodland, most of which is ancient woodland and therefore included in Table 8-7. The priority habitats are described in Table 8-8 and shown at Drawing 2.

Table 8-8 Priority Habitats within 2km

Site Name	Distance (m)	Size (ha)
Priority Habitat		
Deciduous Woodland	Closest is adjacent to southern boundary	93.44
Woodpasture and Parkland	400m east	5

In addition to those listed above, the wider countryside supports hedgerows, which is a priority habitat, as well as ponds and streams, some of which may qualify as priority habitat. A stream runs adjacent to the southern boundary of the site and Stour Brook runs south to north approximately 20m east of the Site.

Priority habitats are those listed under the NERC Act 2006 as habitats of principal importance for the conservation of biodiversity and are a material consideration in the planning process. Local Plans should include policies to protect priority habitats, although the protection in Policy CS2 provides generic protection for biodiversity, this protection must be taken to include priority habitats.

The Current Baseline – Habitats

A habitat survey of the proposed AD Plant Site was undertaken in February 2022 and the pipeline and digestate lagoon site in November 2022 both using the UKHab survey methodology. The results of the UKHab Survey are illustrated in map form in Drawing 1 at the end of this report and are described in Table 8-9 below along with their importance. It has been mapped using the fine scale minimum mapping unit MMU (25m^2, 5m length), in accordance with the UK Habitat Classification User Manual[16]. A summary of the importance of these habitats is also provided.

Habitats are sub-divided into broad types and described in detail in the following sections. An assessment is then made of each habitat's value based on its local ecological context (e.g., matching LBAP or LWS selection criteria descriptions) as well as its rarity or distinctiveness (e.g., classification as Habitats of Principal Importance under Section 41 of the NERC Act 2006).

Table 8-9 Habitats within the Proposed Development Site

Habitat	Description	Photo	Assessment of importance
Cropland c	Located at both the main AD site and digestate lagoon site. The pipeline routes also runs along and through multiple cereal crop fields.		**N/A** – less than local **N/A** – less than local

[16] The UK Habitat Classification Working Group (September 2020) *The UK Habitat Classification User Manual Version 1.1*.

			
Modified grassland g4	Strips of rank grassland border the fields with some areas left longer and some areas actively managed.		**N/A** – less than local
Hedgerow h2a	Hedgerows run along the boundaries of many of the fields along which the pipeline will run, particularly alongside stour brook. The pipeline route also crosses several hedgerows. All native hedgerow across the site qualify as Habitats of Principal Importance as they contain >80% cover of at least one woody UK native species (e.g. hawthorn).		**National**

Rivers and streams r2	One permanent flowing watercourse borders the main AD plant site to the south. It is mostly heavily shaded and no wetland vegetation was recorded within the stream itself. Stour Brook runs along the northern half of the pipeline route approximately 20m east and crosses the pipeline route just before the digestate lagoon site.		**National**
Woodland w1	To the south of the main AD site lies a belt of mixed woodland although predominantly broadleaved dominated by oak and ash. The majority of the shrub layer is open, and similarly, the ground flora is patchy with areas of dense bramble.		**National**

Several Habitats of Principle Importance (HPI), classified under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006, were recorded onsite or adjacent to it: hedgerow, deciduous woodland and river. All HPIs are classified as having **National** importance.

Habitats that are of site or local value in the above table, and are not classified as HPI, are not brought forward for further assessment.

As discussed previously, numerous CWS designated for Ancient Woodland and sites listed on the Ancient Woodland Inventory exist in close proximity to the site. Ancient Woodland is classified as an irreplaceable habitat and in this context is considered of **National Importance.**

The Current Baseline – Species

Plants

SBIS returned several records of notable flowering plant species within the 2km search radius including pyramidal orchid *Anacamptis pyramidalis*, common spotted orchid *Dactylorhiza fuschii*, southern marsh orchid *Dactylorhiza praetermissa* and bee orchid *Ophrys apifera* however none of these are associated with arable habitats.

No notable, rare or legally protected species were recorded during the UKHab Survey nor were they assessed as being likely to occur within the development footprint given the types of habitats and current management. As such, notable plant species are not considered further in this report.

No invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was recorded during the UKHab survey, nor within the data search. Therefore, the Site is unlikely to support invasive non-native plant species, and these will not be considered further in this report.

Invertebrates

SBIS returned records of two protected invertebrate species including small heath *Coenonympha pamphilus* and cinnabar moth *Tyria jacobaeae* which are both Section 41/UKBAP species. No notable invertebrates were observed during the survey and these species are largely found in grassy habitats which are not present on site.

Due to the nature of the habitats present on Site, in particular the presence of intensively managed agricultural land within and surrounding the site, it is considered unlikely that the Site or immediately surrounding areas support and protected or notable, e.g. Section 41/UKBAP, invertebrate species. Invertebrates have been scoped out of any more detailed assessment and will not be considered further in this report.

Amphibians

The data search returned no records of amphibians within the 2km search radius. MAGIC and online mapping identified no aquatic habitats on site however the UKHab survey confirmed the presence of suitable GCN terrestrial habitat in the form of hedgerow.

The great crested newt is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and is afforded significant further protection as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Development proposals affecting great crested newts therefore require a European Protected Species licence from Natural England.

There are four ponds within 500 m of the AD plant Site (Drawing 1, Appendix 3). Of these, ponds 3 and 4 are not considered further in this report as they are deemed too isolated by the large A1307 road which separates them from the Site and pond 2 was dry at the time of survey. A GCN survey was therefore undertaken at pond 1, including a habitat suitability index assessment and eDNA sampling. Further details of survey methodology and results can be found in the GCN survey report in Appendix 3. eDNA analysis confirmed the absence of GCN in pond 1 and as such there is considered no potential for GCN to be present in the terrestrial habitat on Site, or any local populations present that may be affected by the proposed development.

The hedgerows on the Site could provide terrestrial foraging areas for other common amphibians such as common toad (an S41/UKBAP species); however, the majority of the Site is arable land and therefore largely unsuitable for these species. Therefore, while it is possible that small numbers of more common amphibians may use the site occasionally, it is considered unlikely that permanent populations are present or that the habitats present are critical for the survival or reproductive success of any local populations of amphibians. Amphibians are therefore not considered further in this report.

Reptiles

The data search returned no records of reptiles within 2km of the Site. The hedgerows on the Site could support reptiles; however, the majority of the Site is arable land. Therefore, while the possibility that small numbers of common reptiles occasionally use the site, it is considered unlikely that permanent populations are present or that the habitats present are critical for the survival or reproductive success of any local populations of reptiles. Reptiles are not considered further in this report.

Birds

All birds are protected under Section 1, part 1 of the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird; damage, take or destroy its nest while that nest is in use or being built; or take or destroy its eggs.

Further, the Act affords additional protection to specific species of birds listed in Schedule 1 of the Act. It is an offence intentionally or recklessly to: disturb a bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young; or disturb the dependent young of such a bird.

The conservation status of UK birds is also described using the Birds of Conservation Concern (BoCC) (Eaton et al., 2015 & Stanbury et al., 2021) categorisation. Red listed birds are globally threatened, with a Severe (at least 50%) contraction of UK breeding population and range over last 25 years, whereas Amber listed birds have a moderate (25-49%) population and range decline and have unfavourable conservation status in Europe. Green listed birds occur regularly in the UK and do not qualify under any red or amber list criteria.

A number of bird species are also listed as Species of Principal Importance under Section 41 of the NERC Act (2006).

A list of all BoCC, Schedule 1, S41 and raptor species recorded within 2km of the site, is provided in 8-10 below.

Table 8-10 Bird records and status

Species Common Name	Scientific Name	Conservation status
Lapwing	*Vanellus vanellus*	Red
Skylark	*Alauda arvensis*	Red
Kestrel	*Falco tinnunculus*	Amber
Yellowhammer	*Emberiza citronella*	Red

The results indicate that the arable fields on site have potential to provide areas of value for wintering and breeding birds, in particular those birds closely associated with farmland habitats. Lapwing, a red listed species of conservation concern, has been recorded wintering in the wider area although no breeding is recorded. The absence of breeding lapwing broadly fits with the ongoing decline in this species, which is greatest in southern England[17]. Skylark, a red listed species, has been recorded wintering and breeding in the wider area and were recorded on the site during the habitat survey in September 2022. These two species, known to be present in the area, as well as the yellowhammer, are considered to be of **County importance.** In addition, the presence of kestrel, an amber-listed raptor species, is considered to be of **Local importance.** It has not been confirmed if any of these species breed within the Site, but breeding cannot be ruled out in suitable habitats.

[17] Shedon R., Bolton M., Giliings S. and Wilson, A. (2004) Conservation management of lapwing *Vanellus vanellus* on lowland arable farmland in the UK. IBIS 146 S2 41-49

Mammals

Commuting/ foraging bats

SBIS and CPERC returned records of common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus*.

The Site supports suitable habitat for commuting and foraging bats in the form of native hedgerows and broadleaved woodland, which bound the proposed AD plant site. There is also a watercourse which bounds the AD plant site to the south and runs 20m east of the proposed pipeline which also has potential as a commuting and foraging route. However, the majority of the surface area of the Site comprises arable land which has negligible potential for supporting commuting or foraging bats[18] and none of these features are considered likely to be important or critical for supporting rare or uncommon bat species. Based upon the suitability of features, and species recorded locally, the site is considered to be of **Local importance** to foraging and commuting bats.

Roosting bats

Several mature trees with ivy cover and/or cracks and crevices suitable for bats occur within the Site boundary. The Site is therefore considered of up to **Local Importance** to roosting bats.

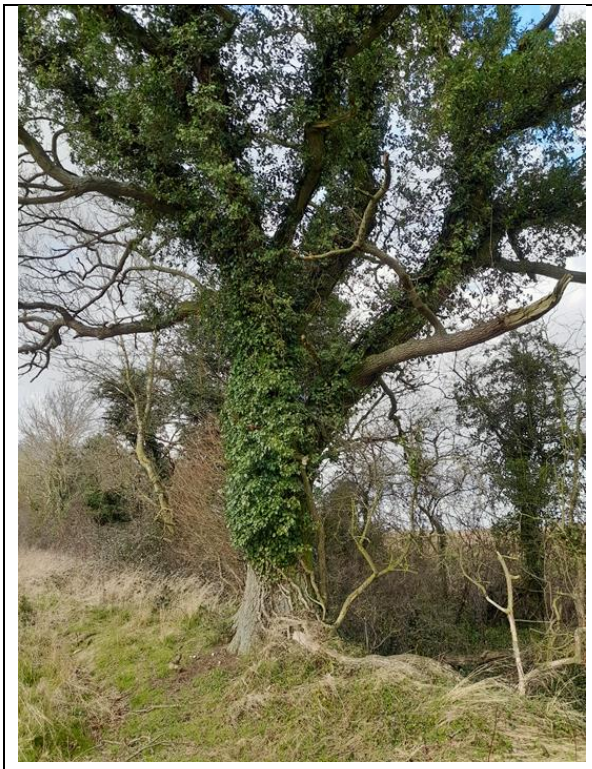
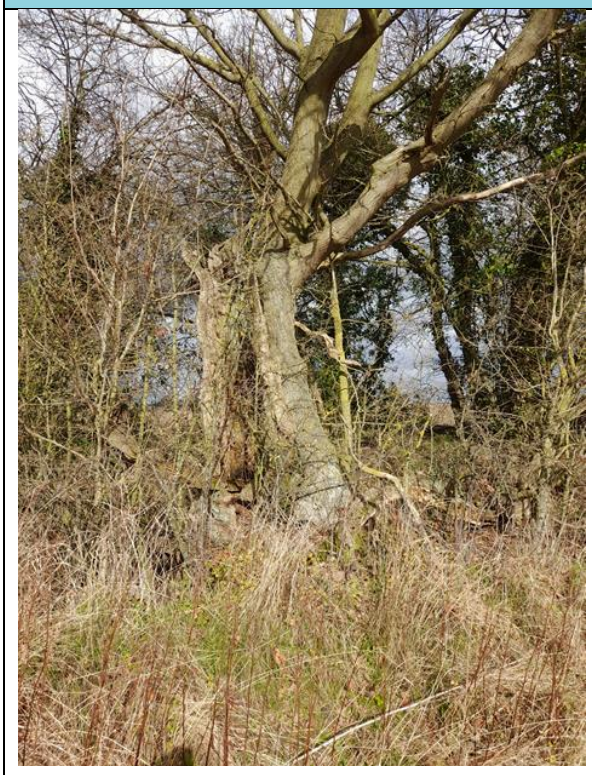
Table 8-11 Potential bat roosting features

Trees with PRFs	
Tree 1	
	T1: On southern boundary of western field, mature oak with large north facing crevice and small west facing crevice

[18] Bat Survey Guidelines 2015

Tree 2	
	T2: On southern boundary of western field, Large north facing opening in the tree.
Tree 3 and 4	
	T3 & T4: Two mature ivy-covered trees along the western boundary.
Tree 5	

	T5: Mature ivy covered tree along the northern boundary of the western field
Tree 6	
	T6: Mature ivy covered tree along northern boundary of western field.
Tree 7	

	T7: Mature ivy covered tree along northern boundary of western field.
Tree 8	
	T8: Mature tree along northern boundary of eastern field with large southern facing opening.
Tree 9	

	T9: Tree along northern boundary of eastern field with small southern facing crevice.
Tree 10	
	T10: Tree at corner of Cadge's wood, displaying multiple rot holes.
Tree 11	

	T11: Tree within hedgerow along pipeline route. Large amounts of ivy.
Tree 12	
	T12: Tree outside hedgerow along pipeline route. Ancient oak displaying multiple potential roost features, including rot holes and deep ivy.
Trees 13 and 14	

	T13 & T14: Two exposed ash trees south of silver street/horseheat road both displaying rot holes.

Badger

SBIS returned two records of badger *Meles meles* within 2km of the Site.

Two badger setts comprising one hole each was found within the woodland to the north of the main AD Site. The first badger sett (Target Note 1) has one large south facing hole with bedding outside and was therefore considered active. The second sett (Target Note 2) is considered inactive due to the presence of ivy growing in front of the hole. The site itself is therefore considered to be of **Local Importance** for badgers.

Figure 8-1 Badger hole with bedding outside

Riparian mammals: otter and water vole

SBIS returned no records of otters *Lutra lutra* within 2 km of the Site. A watercourse runs along the southern boundary of the Site therefore a riparian mammal survey was undertaken to confirm the presence/likely absence of these species during which no evidence of the species were found (Appendix 4). It is therefore concluded that the Site is unlikely to support riparian mammals and they will not be considered further in this report.

Hazel dormouse

SBIS has returned no records or hazel dormouse *Muscardinus avellanarius* within 2 km of the Site. The Site itself does not include any habitats suitable to support dormice and it is therefore not considered further within this report.

The projected future baseline

Without implementation of the Proposed Development, while subject to natural successional process, habitats onsite are likely to remain relatively unchanged based on their continued land-use and management. Consequently, it is anticipated that their populations would continue to remain stable onsite for the foreseeable future.

Impacts of climate change may lead to habitat change over longer timescales, (e.g. 10 years); in particular for example, ponds becoming progressively drier as well as a decline in the water table may result in this trend continuing.

Summary of Important Ecological Features

A summary of the importance of ecological features onsite is provided in Table 8-12 below. Where features are not included in the table these are valued below local importance, which in line with CIEEM guidelines, are not subject to detailed assessment. These will not be discussed further in this report.

Table 8-12 Summary of Ecological Features within Zone of Influence

Ecological Feature	Scale at which feature is important	Comments on legal status and/or importance
Sites		
Statutory designated sites	**National**	Proposed development also falls within the impact risk zone for Over and Lawn Woods SSSI and potential impacts from air quality are possible.
Non-statutory designated sites	**County**	Several CWSs also designated as ancient woodlands occur within 2km of the site.
Habitats		
Priority habitats, including hedgerow, deciduous woodland, river and ancient woodland	**National**	Habitats of Principle Importance, classified under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006.
Species		

Birds	**Local** (Raptors) /**County** (Skylark, lapwing, yellowhammer)	All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). Numerous birds nesting in the wider area are also protected under Schedule 1 of the WCA 1981.
Mammals – Bats	**Local** (Roosting and foraging/commuting)	All bat species are listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2017.
Mammals – Badger	**Local**	Badgers are protected under the Protection of Badgers Act 1992

Potential Effects

The ecological features that have been identified as part of assessment are not all likely to be affected by the proposed development. Table 8-13 sets out how features have been selected for inclusion in the assessment of potential effects. Where value, protection and likely effects are all the same or similar for multiple features, the features are grouped in the subsequent assessment to avoid repetition.

Table 8-13 below provides a summary of the potential effects upon ecological receptors, and the following text then assesses and identifies those impacts which are likely to be most significant based upon the assessor's knowledge of the site, the development proposals and the likely effects.

Firstly, effects of the development upon designated sites and irreplaceable habitats are assessed. Then, impacts relating to the development are assessed with regards to onsite habitats (excluding ancient woodland) and the protected species groups brought forward for further consideration.

Embedded mitigation, or mitigation by design, has been taken into account at the initial Significant Effect assessment stage, as design mitigation is effectively a good way of implementing avoidance measures. Details of the Proposed Development are provided in Chapter 3 of this Environmental Statement.

Table 8-13 Scoping Matrix of potential effects

	Habitat loss	Indirect effects through fragmentation and isolation	Physical disturbance or injury	Noise, lighting and visual disturbance	Changes in air quality	Alterations to surface water flow and air quality	Traffic	Cumulative impacts
Sites								
Statutory designated sites	×	×	×	×	✓	✓	✓	✓
Non-statutory designated sites	×	×	×	×	✓	✓	✓	✓
Habitats								
Ancient woodland	×	×	×	×	✓	✓	✓	✓
Rivers and stream	×	×	✓	×	×	×	×	×
Deciduous woodland	×	×	✓	×	×	×	×	×
Hedgerows	×	×	✓	×	×	×	×	×
Species								
Birds	✓	×	✓	×	×	×	×	×
Foraging and commuting bats	×	×	×	✓	×	×	×	×
Roosting bats	×	×	×	✓	×	×	×	×
Badger	×	×	✓	✓	×	×	×	×

Statutory designated sites

There is potential for adverse impacts resulting from the Proposed Development upon one statutory designated site - Over and Lawn Woods SSSI.

Over and Lawn Woods SSSI is located >300m away from the Proposed Development. No direct habitat loss, fragmentation or disturbance, e.g. recreational impacts are expected due to the type and location of development. However, indirect impacts from the construction works are possible including vibrational, noise and light disturbance, dust/aerial deposition of pollutants. Due to the attenuation of noise over distance, the absence of sensitive receptors and short duration of the construction period, noise and vibrational disturbance is considered negligible. Potential air quality effects on this SSSI are considered within the Air Quality Assessment at Chapter 7. This confirms that there is an absence of likely significant effects from the Proposed Development as the Process Contribution (PC) is below 1% of the annual Critical Level (C_{Le}) at the SSSI.

It is therefore concluded that the Proposed Development will result in a **No change level of impact** to Over and Lawn Woods SSSI.

Non-statutory designated sites

For non-statutory designated sites at a county scale (i.e., CWS), no direct effects are predicted upon any of the sites within a 2km radius of the Proposed Development boundary. However, impacts from dust, aerial deposition of pollutants, changes to hydrology, construction related noise and cumulative impacts have been identified as having potential for adverse impacts upon these sites. Effects on features within CWS sites which relate to their Ancient Woodland status and the assemblage of lichens supported by trees within woodlands are reported under habitats.

Discussion of the particular impact types upon CWS sites is provided in the subheadings below.

Air quality and dust

Potential adverse impacts from air quality have been considered within the Air quality Assessment at Chapter 7. This report confirms that there is an absence of likely significant effects from the Proposed Development as the PC is below 100% of the annual C_{Le} at the LWS.

The deposition of dust has the potential to create an impact on ecological systems. This can result from the chemical or physical effects of particles on the vegetation surface or from changes in soil chemistry[19]. Fugitive dust from development sites is typically deposited within 100-200m of the source; the greatest proportion of which comprise larger particles (greater than 30 microns) is deposited within 100m. Where large amounts of dust are deposited on vegetation over a long-time scale (a full growing season for example) there may be some adverse effects upon the plants' photosynthesis, respiration and transpiration. The overall effect of significant amounts of dust could be a decline in plant productivity, which may then have indirect effects on fauna. The amounts of dust deposited, and its effects are also dependent upon weather conditions as in wet weather less dust will be generated and that which has been deposited upon foliage is likely to be washed off.

During construction and post-completion of the Site, the Proposed Development has potential to affect air quality through the production of dust. This is reported within Chapter 7 Air Quality of this ES and supports the conclusion that the Proposed Development will result in a **No change level of impact.**

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[19] CIEEM (2021): 'Advice on Ecological Assessment of Air Quality Impacts'. Chartered Institute of Ecology and Environmental Management, Winchester.

Alterations to water flow and quality

Groundwater and surface water is often important in supporting wetland ecosystems, including partially artificial systems such as ditch networks, as well as habitats situated downstream from the affected area.

Any significant alterations to the groundwater regime therefore have the potential to cause impact both locally and on a much wider scale for a wide range of habitats and the species which rely upon these. In particular, pollution events that enter water courses or groundwater base flows can have negative impacts a considerable distance away from the construction site.

Without suitable mitigation in place, foul or polluted water associated with construction activities has capacity to exit the Site and pollute surrounding environs. Chapter 7: Hydrology provides a detailed hydrological assessment and further details on impacts of water flow and quality on ecological receptors are provided there. No internationally or nationally designated sites are situated in an affected area and appropriate mitigation to protect the aquatic environment from pollution will be established during the construction phase of the Proposed Development, in order to eliminate or minimise risk to aquatic flora and fauna as well as downstream habitats. Such measures include best environmental practice guidance outlined in Construction Industry Research and Information Association guidance (CIRIA)[20]. With these measures in place, the Proposed Development will result in a **No change level of impact**.

Noise disturbance

Short-term increases in disturbance levels through increased generation of noise as well as vibration during the construction phase can have a range of impacts depending upon the sensitivity of the ecological receptor, the nature and duration of the disturbance and its timing. For the Site, increases in traffic during both construction and post-completion stages have capacity to generate noise and disturbance.

The increases in disturbance relating to noise and visual effects have capacity to impact upon the nearby designated sites including Over and Lawn Woods SSSI as well as nearby CWS including Littley Wood, Markhams Wood, etc. The CWS in this area are primarily designated for habitats and as such noise disturbance will not result in impacts upon the designation criteria for these sites specifically. This supports the assessment of a **No change level of impact.**

Designated Sites summary

A **no change level of impact** from the Proposed Development is predicted to occur on nationally designated sites. The potential for effects to occur on non-statutory designated sites, i.e. CWS close to the Site has been assessed to result in a **No change level of impact**. After assessment, impacts relating to habitat fragmentation, noise, and alterations to water flow and quality, are considered to result in a **No change level of impact** with regard to these receptors and where relevant appropriate mitigation is already incorporated into the design scheme to avoid these impacts.

Habitats

Habitats may be subject to direct habitat loss or indirect effects, such as changes air quality, groundwater or disturbance.

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[20] Construction Industry Research and Information Association (CIRIA) (2015). *Environmental good practice on site (fourth edition)* (C741) Charles, P., Edwards, P. (eds). CIRIA, London.

Habitat loss involves the direct destruction or physical take-up of vegetation, or the removal of other habitat structures with conservation interest.

Areas of habitat will be cleared within the Proposed Development, although no habitats identified as important ecological features would be directly affected. Full details of the areas and proportion of habitats lost are provided within the Biodiversity Net Gain Assessment (Appendix 2). The predicted habitats losses are not, in themselves, considered significant and a **No change level of impact** with regard to habitat receptors within the proposed Site is concluded. The potential for indirect impacts to important habitat receptors is considered in the sections below.

Irreplaceable habitats – Ancient woodland

No direct habitat loss will occur of any irreplaceable habitat however the effect pathways described for designated sites also have the potential to generate adverse impacts upon off-site irreplaceable habitats such as Cadge's Wood AW located 20m south from the Proposed Development.

Natural England guidance on ancient woodlands, ancient trees and veteran trees[21] states that ancient woodlands can be indirectly affected by development proposals through effects, including:

- changes to woodland and tree habitat, including understory, ground flora and roots;
- changes to functional habitat connections;
- damage to soils, such as compaction;
- changes to air quality, such as traffic and other pollution;
- changes to ground water, from pollutants or changes in hydrology;
- increased light pollution;
- increased noise and vibration.

For Ancient Woodland sites the Proposed Development does not support changes in access to or use of these sites, which limits the potential effect pathways associated with it. However, indirect impacts from dust, aerial deposition of pollutants, changes to hydrology, construction-related noise and cumulative impacts have been identified as having potential for adverse impacts upon Cadge's Wood AW located close to adjacent to the Site. **Minor adverse level of impact** is therefore predicted.

There is also potential for indirect effects from the anaerobic digestion process itself associated with the Proposed Development which are considered within the Air Quality Assessment at Chapter 7 and the associated Air Quality Assessment (Technical Appendix to Chapter 7). This report confirms that there is an absence of likely significant effects from the Proposed Development as the PC is below 100% of the annual C_{Le} at the AW.

However, the modelled Process Contribution as a percentage of Nitrogen Critical Load exceeds 1% of the relevant critical load for Nitrogen (including NO_x and NH_3) at 6 ancient woodland sites: Howe Wood (4.6%), Markhams Wood (1.2%), Littley Wood (1.9%), Cadge's Wood (39%), North Wood (2.5%) and New Plantation (1.3%). Exceedance of 1% of the Critical Level or Load is a precautionary threshold adopted by the Woodland Trust as a

[21] Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

guide for the need for additional surveys and assessment of the potential for air quality impacts to ancient woodlands[22].

The identified levels of change in air quality associated with the Proposed Development at these locations are above the level that can be considered inconsequential in accordance with Holman et al (2020)[23]. With reference to Caporn et al (2016)[24] the levels of change predicted by the percentage contribution of Critical Load are also above the level required to introduce a theoretical change in species richness at each of these sites. In order to better characterize the likelihood of impacts upon ancient woodland features, a lichen survey was undertaken. Lichens have been identified as a group that is particularly vulnerable to changes in air quality and are therefore a useful indicator for the changes that have already occurred, e.g. resulting from baseline levels of Nitrogen exposure at the relevant ancient woodland sites and impacts predicted to occur resulting from the proposed development.

A lichen survey was undertaken in February 2023 to confirm whether lichens, as a characteristic species of these habitats with high vulnerability to changes in air quality, are present within these woodlands and if so whether the lichen species present are nitrophytes, i.e. capable of withstanding/tolerating high levels of nitrogen or acidophytes, i.e. intolerant of high levels of nitrogen. The 2023 lichen survey concluded that, although lichens are present in the surveyed woodlands, the community assemblage of lichens has been extensively modified by the level of air pollution both historically and currently present in the area. The survey identified that many species present were tolerant of higher levels of nitrogen and that those species intolerant of nitrogen were largely absent, or at least uncommon within the assemblage.

The lichenologist undertook a desk-based review of modelled levels of ammonia deposition in the area, using data presented by APIS[25]. The annual critical load at a location central to the woodlands assessed between 2018 – 2020 was reported by APIS as 1.97µg m^{-3} . The modelled ammonia deposition at this location central to the woodlands assessed for their lichen assemblage therefore represents an exceedance of 0.97 µg m^{-3} above the critical level threshold of 1 µg m^{-3}. 1 µg m^{-3} is published as the level above which empirical evidence indicates a response of sensitive species within an acidophyte lichen community (Cape *et al*., 2009). It is therefore concluded that ancient woodland lichen assemblages have already been subjected to impacts relating to poor air quality (both historical and current background levels), such that the additional process contribution resulting from the proposed AD plant would not make a significant difference to the lichen assemblages present at the assessed ancient woodlands.

It was noted that many mature trees in the woodland interiors were within dense understorey, e.g. subject to low levels of current woodland management, and that such shaded conditions do not encourage the development of diverse lichen assemblages. Furthermore, whilst 4 recorded lichens are categorised as Nationally

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[22] https://www.woodlandtrust.org.uk/media/1687/ammonia-impacts-on-ancient-woodland.pdf

[23] Holman et al (2020). A guide to the assessment of air quality impacts on designated nature conservation sites – version 1.1, Institute of Air Quality Management, London.

[24] Caporn, S., Field, C., Payne, R., Dise, N., Britton, A., Emmett, B., Jones, L., Phoenix, G., S Power, S., Sheppard, L. & Stevens, C. 2016. Assessing the effects of small increments of atmospheric nitrogen deposition (above the critical load) on seminatural habitats of conservation importance. Natural England Commissioned Reports, Number 210.

[25] APIS. 2023. Air Pollution Information System [online]. Available from: https://www.apis.ac.uk (Accessed: 28.02.2023 and 07/03/2023).

Rare, and 13 as Nationally Scarce, no species protected under European legislation, Schedule 8 of the Wildlife and Countryside Act 1981 or under Section 41 of the NERC Act 2006 were recorded during the surveys.

It is concluded that whilst the additional process contribution resulting from the proposed AD plant would not make a significant difference to the lichen assemblages present and therefore is not considered likely to impact the woodland habitats more widely, the continuation of nitrogen levels above the critical thresholds needed to support sensitive acidophyte lichen species undermines the restoration and regeneration potential of these woodlands and their lichen assemblages.

It is predicted that the impact resulting from the Proposed Development would lead to a **Minor adverse level of impact** upon ancient woodlands, in the absence of additional mitigation or compensation to address the principal concern of future regeneration potential.

Habitats of Principal Importance – Hedgerow, rivers/stream/ deciduous woodlands

As part of the Proposed Development all areas of hedgerow, rivers/stream and deciduous woodland will be retained and directional drilling of the pipeline will be used at all points where the proposed pipeline crosses hedgerow and river habitat. The potential for direct effects to occur on these habitats has therefore been assessed to result in a **No change level of impact.**

Habitats of Principal Importance that are retained within the development have capacity to experience indirect effects associated with changes in recreational use/pressure, alterations to air quality, and changes to surface water and ground water flow and quality. These are discussed in more detail below and within the mitigation and compensation measures advised.

Biodiversity Net Gain

The Biodiversity Net Gain report supports the conclusion that in the absence of any predicted direct loss of irreplaceable or Habitats of Principal Importance, the Proposed Development will result in a **Minor beneficial level of impact**. Further information on habitat changes that form part of the Proposed Development is presented in the Appendix 2 Biodiversity Gain Plan.

Habitats Summary

Overall, on irreplaceable habitat (i.e. ancient woodlands) there is predicted to be a **Minor adverse level of impact.** Priority habitats and non-priority habitats within and adjacent to the Site are assessed to have a **Minor beneficial level of impact.** This takes account of appropriate mitigation which is already incorporated into the design scheme to support the avoidance of such effects, as well as the retention, enhancement and increase in area of priority habitats.

Additional mitigation and compensation measures to minimise the impacts identified to ancient woodland sites are outlined below.

Species

Birds

During construction all birds are at risk of negative impact by inappropriate vegetation removal and land clearance during the breeding season, mitigation will therefore be required.

It was identified that the areas of arable habitat on site have the most value to a support bird assemblage of conservation concern on Site and the Proposed Development will lead to the loss of this habitat.

Skylark were highlighted as a species of high conservation concern recorded on Site in arable habitat, which will be lost from the Site as part of the construction phase. There is evidence that skylark breeding on arable habitat is less productive, as winter sown cereals have become more popular than spring sown, and these winter sown

crops become taller and denser and therefore less suitable for nesting and feeding earlier in the breeding season[26]. Arable and grassland habitats provide opportunities for winter foraging for skylark. Overall, the area available for skylark to forage and breed, even if arable habitat is less productive, will decrease, and a **Major adverse level of impact** is predicted in the absence of mitigation. Mitigation measures are therefore required and are outlined below.

Lapwing are not considered to be breeding in the area however they could utilise the Site occasionally during the winter. Once completed, the proposed development will result in the loss of wintering habitat for lapwing and other wintering bird species, and this has been assessed as a **Minor adverse level of impact** on the bird assemblage present within the site.

Bats

Several trees were identified as having moderate/high potential to support roosting bats. All trees will be retained as part of the proposals, therefore the project will have no direct impact on feature suitable for roosting bats.

Indirect negative impacts that could make potential roost sites no longer suitable could include artificial lighting illuminating the roost or the surrounding habitat, this could occur during construction temporarily or long-term during operation of the Site. Inappropriate lighting of foraging habitat, e.g. hedgerows and/or watercourse, is also predicted to leave to negative effects. Mitigation, i.e. sensitive lighting design, has been incorporated into the proposed development and is outlined below to reduce the risk of detrimental illumination of bat roosts and foraging habitat.

The only habitat on site suitable to support foraging and commuting bats is hedgerow. All hedgerow will be retained as part of the Proposed Development, therefore retaining the most important habitat for bats. In addition, embedded mitigation in the form of mixed shrub, species rich grassland and additional hedgerow planting is proposed on the site. Overall, with the including of sensitive lighting design, there is considered to be a **No change level of impact** on foraging and commuting bats.

Badger

The only active badger sett identified in baseline survey is not located on Site and will therefore not be directly impacted by the Proposed Development. The habitats most likely to be used by badger for foraging, i.e. woodland and field boundaries will be retained and expanded by additional buffer scrub planting. The Proposed development is therefore predicted to result in a **No change level of impact** upon badgers.

Traffic, Noise and Visual Disturbance – All Species

Construction related activities and movement of site personnel during construction phase of the development, as well as traffic movements and personnel movements during operation, can all create traffic, visual, noise and human disturbance that may affect sensitive species. During construction, the Proposed Development will lead to short-term increases in traffic, visual, noise and human disturbance, these are anticipated to reduce during operation, e.g. with minor increases in traffic movements on the Site remaining.

The increased intensity of disturbance can have a range of impacts dependent upon the sensitivity of the species, the nature and duration and the timing of the disturbance. The disturbance predicted during construction and

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[26] Donald, P. F. 2004. The Skylark. Poyser, London.— & Vickery, J.A. 2000.The importance of cereal fields to breeding and wintering Skylarks Alauda arvensis in the UK. In:Aebischer, N. J., Evans,A. D., Grice, P.V., & Vickery, J.A. (eds.), Ecology and Conservation of Lowland Farmland Birds: 140–150. BOU,Tring

operation are not anticipated to impact upon any important species receptors (bats, badgers, birds) to a degree that it would significantly affect these species groups and a **No change level of impact** is predicted**.**

Summary of Potential Effects

The Proposed Development has the potential to be associated, in the absence of mitigation, with a range of impacts including on sites, habitats and species. A summary of the assessment of potential impacts is provided in **Table 8-14**. This supports the development and understanding of appropriate mitigation and compensation measures that to avoid, minimise and reduce potential adverse impacts which may be associated with the Potential Development.

Table 8-14 Summary of Identified Impacts to Ecological Receptors prior to mitigation and compensation measures

Ecological Receptor	Detail of any Impacts	Level of impact (change)*
Sites		
Statutory designated sites (SSSIs)	Limited potential for indirect effects through changes to supporting processes. Confirmed no likely significant effects from changes in air quality at Over and Lawn Woods SSSI (<1% of annual $C_{L)}$)	**No change**
Non-statutory designated sites (CWSs)	Limited potential for indirect effects through changes to supporting processes. Confirmed no likely significant effects from changes in air quality at the CWS (<100% of $C_{L)}$) NOTE: Impacts on Ancient Woodland (see habitats below)	**No change**
Habitats		
Irreplaceable habitats (ancient woodland)	**Minor adverse level of impact** upon ancient woodlands. Process Contribution of Nitrogen (including NO_x and NH_3) exceeds 1% of the relevant critical load at 6 ancient woodland sites. Potential for direct disturbance to Cadge's Wood, due to proximity. Mitigation or compensation recommended to address future regeneration potential.	**Minor adverse level of impact**
Priority habitats: hedgerow, rivers/stream, deciduous woodland	No direct impacts as all habitats retained and no indirect impacts as these will be controlled.	**No change**
Species		
Birds	Impact on farmland birds due to loss of wintering/breeding habitat for lapwings, skylark and yellowhammer	**Major/Minor adverse** (post completion)
Bats	Impacts relating to inappropriate lighting	**No change** (post completion)
Badger	Confirmed no impacts upon badger setts	**No change**

*on a precautionary basis, the worst category assessed was reported

Mitigation and Compensation Measures

This section outlines the mitigation measures considered appropriate to avoid, reduce, mitigate or offset any potential significant effects on the ecological resource present on and within the zone of influence of the Proposed Development.

The mitigation and enhancement strategy should be implemented by means of a Construction Environmental Management Plan and a Biodiversity Management Plan covering the pre-construction, construction and post-completion stages.

In line with current best practice and planning policy the Proposed Development has been designed adopting the Mitigation Hierarchy, which provides a structured approach to minimising impacts upon valued ecological receptors. The applicability of the hierarchy to this development are as follows:

Avoidance - Avoiding adverse effects through good design should be the primary objective of any proposal. This may be achieved, for example, through either the selection of alternative designs, alterations to Site layout, or by selecting an alternative site where no harm to biodiversity would occur.

Mitigation - Adverse effects that cannot be avoided should be adequately mitigated. Mitigation measures are put in place to minimise the negative impact of a plan or project during or after its completion. Examples of mitigation include the use of pollution interceptors on surface drainage schemes, dust suppression and the minimisation of light spill.

Compensation - The protection of biodiversity assets should be achieved through avoidance and mitigation wherever possible. Compensation, the next step in the hierarchy, is proposed for unavoidable impacts, such as habitat losses.

Enhancement - Almost all development proposals provide opportunities to enhance or create new benefits for wildlife, which should be explored alongside the application of the hierarchy of measures to resolve potential adverse effects.

Mitigation in relation to dust, noise, and risks of water pollution during construction are set out in the relevant chapters of this Environmental Statement and will be delivered though a CEMP, which is to be agreed with the planning authority and other relevant stakeholders and consultees, post-consent. With these measures in place, it is likely that significant effects upon numerous receptors will reduced, as detailed in the relevant sections below.

Statutory Designated Sites

It was confirmed that no likely significant effects are predicted at Over and Lawn Woods SSSI.

No proposed mitigation measures are therefore considered necessary or practicable to secure for this receptor and there is a **No Change level of impact.**

Non-statutory Designated Sites

As summarised in the section above, there are no likely significant impacts predicted as a result of the Proposed Development on non-statutory sites.

No proposed mitigation measures are therefore considered necessary and there is a **No change level of impact.**

Irreplaceable Habitats: Ancient Woodland

As summarised in the section above, changes to air quality as a result of the Proposed Development will lead to minor adverse effects on the ancient woodland sites located close to the site.

The government Ancient Woodland Assessment Guide[27] has been used in assessment of the ancient woodland habitats in relation to the mitigation hierarchy for this Proposed Development. Details of how the design scheme complies with the relevant criteria within the guide is provided in Table 8-15 below.

Table 8-15 Ancient Woodland Assessment Template for considering impacts on ancient woodlands

Relevant criteria for consideration	Details
4.1 Is the site isolated or connected to other woodland? Will the development proposal damage the connectivity?	The ancient woodlands are already isolated and the proposed development will not damage connectivity or lead to fragmentation
4.2 Will there be a loss of adjacent semi-natural habitats and existing buffers with the ancient woodland or ancient and veteran trees?	Existing buffers have been maintained surrounding the ancient woodlands.
4.3 Could you retain connecting habitats, such as hedgerows and copses? How could you maintain and enhance long-term protection?	All hedgerows onsite or adjacent to the site will be retained and protected as part of the Proposed Development. Long-term protection of habitats onsite will be achieved through landscape management plans.
5.1 Are protected species affected by the development proposal? Has the developer included avoidance and mitigation measures in their proposal?	Yes, impacts upon species which utilise or inhabit the ancient woodlands have been assessed fully within this Chapter.
10.1 Will the proposal lead to woodland or tree deterioration?	The proposal will not lead to further damage or deterioration of the ancient woodlands close to site, although the proposed development is predicted to hinder regeneration. All ancient woodlands affected will be improved through management actions outlined in an Ancient Woodland Management Plan, including actions such as replacing non-native trees with native broadleaved trees and shrubs suitable for the area.
11 Have all opportunities for enhancement been considered?	Regeneration and enhancement of ancient woodland areas will be provided in the Proposed Development. This includes: • Improving the condition of the woodland sites • Ensuring connectivity is maintained and enhanced • Securing long-term management of the sites • Delivering enhancement of nearby sites where possible. • Increasing connectivity between isolated fragments of woodland.

[27] Ancient Woodland Assessment Template (Jan 2022) *gov.uk* - Available at: Ancient_woodland_assessment_guide.docx (live.com)

The Proposed Development has been designed to minimise impacts upon the ancient woodland sites and the impacts relating to air quality cannot be further reduced. The project has however considered measures that support maintenance and regeneration of these sites through long-term management.

Mitigation and compensation measures will be targeted towards the reduction of existing site threats and pressures, supporting an increase in site resilience and condition to offset the increases in air pollution. These measures will be detailed in an Ancient Woodland Site Management Plan, which will outline methods to support an improvement in overall conservation status and condition at these sites. Ancient Woodland Site Management Plans will be subject to agreement with local authorities, landowners and other relevant stakeholders and consultees.

The mitigation strategy complies with current advice on development surrounding ancient woodlands[28]. The impacts from the development relating to changes in air quality on the ancient woodlands have, as far as is practicable, been mitigated for. These measures are considered to constitute a suitable compensation strategy aligning with the requirements of Paragraph 180 of NPPF[29]. With these proposed measures in place, the Proposed Development is not predicted to result in any further deterioration of ancient woodland sites and therefore a **Short-term No Change** and **Long-term Minor beneficial level of impact** is predicted.

Habitats, including Priority Habitats

The Proposed Development includes the creation of new habitat and the enhancement of existing habitats, as set out in the Biodiversity Gain report. The delivery of these measures and the outcome of biodiversity gain in the long-term will lead to a minor beneficial effect. Details of these measures will be included in a Biodiversity Management Plan.

Birds

During construction vegetation clearance, including removal of crops that can harbour ground nesting birds, should be timed to be undertaken outside of the breeding bird season, which runs from March to August inclusive. If this is not possible, a nesting bird check should be undertaken by a competent ecologist immediately prior to vegetation removal and land clearance. This should be the least preferred option, as if a nest is found it will delay construction and require monitoring sensitively until fledging has occurred. Equally ground nesting species can be extremely cryptic, and a great amount of time is required to search for these species.

Without mitigation, a negative long-term impact post-completion on skylark, lapwing and yellowhammer is identified, due to the loss of arable habitat (c.6 ha) available to these species. To mitigate for the loss of arable habitat within the Proposed Development, management recommendations in relation to farmland ground nesting bird species of conservation concern are given to be implemented within the surrounding arable land within the landowner's ownership. This is to include the creation of uncropped fallow plots and crop management (spring crops) as it allows nest establishment. These areas should be at least 10 meters from any boundary, due to these species' preference for open space to avoid predators and at least 1ha in size. With this mitigation in place, it is considered likely that there will be areas of high-quality habitat for farmland ground nesting birds present on Site, this will compensate for the loss of the arable habitat, reducing the impact to neutral.

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[28] Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

[29] 15. Conserving and enhancing the natural environment - National Planning Policy Framework - Guidance - GOV.UK (www.gov.uk)

With mitigation in place the Proposed Development will have a reduction in the level of adverse effects and an increase in the beneficial effects on nesting birds, therefore reducing impacts to **No change level of impact.**

Bats

A lighting plan for the Site will be produced to support continued use of foraging habitat through adoption of appropriate lighting. Post-completion, illumination will be kept to a minimum, with only the minimal lighting used for safety and security and of the lowest lumens required for the purpose. It has been designed to minimise light spill and does not increase the luminance of the hedgerow boundaries which could be used by foraging and commuting bats by more than 1 lux. The specification for lamps will comply with the latest guidance in respect of bats and lighting in the UK[30] as follows:

- all luminaires will lack UV elements when manufactured. Metal halide, fluorescent sources will not be used;
- LED luminaires will be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability;
- a warm white spectrum (ideally <2700Kelvin) will be adopted to reduce blue light component;
- luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone[31]);
- only luminaires with an upward light ratio of 0% and with good optical control will be used; and
- luminaires will always be mounted on the horizontal, i.e. no upward tilt.

Long term enhancement of the Site for bats includes the planting of species rich grassland and the creation of new hedgerow habitat surrounding the southern portion of the Site. With mitigation and enhancement in place the Proposed Development is assessed to result in a **No change level of impact.**

Badgers

Mitigation for badgers will be detailed in the CEMP and will include standard good-practice methods of working and inclusion of a buffer zone around retained setts. Due to the distance from known setts, the Proposed Development is assessed to result in a **No change level of impact.**

Summary of mitigation and compensation measures

The reporting of residual effects associated with the Proposed Development takes account of mitigation and compensation measures that have been set out in this section. In order to ensure the mitigation hierarchy is appropriately adopted and delivered these measures need to be clear, specific and deliverable. To support this, and prior to construction, a CEMP, and Biodiversity Management Plan and Ancient Woodland Site Management Plan will be produced.

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[30] Institute of Lighting Professionals and Bat Conservation Trust Guidance Note 08/08 *Bats and Artificial Lighting in the UK* (October 2018)

[31] **Stone, E.L.,** Jones, G., & Harris, S. (2012) Conserving energy at a cost to biodiversity? Impacts of LED lighting on bats. ***Global Change Biology*.** 18 (8).

Residual Effects

Construction stage

The Proposed Development will generate changes in land use and the habitats and species distribution within the Site. The main changes will be those associated with the clearance or modification of baseline habitats and the direct/indirect disturbance of species that use these areas. After mitigation these changes are assessed to not result in any residual effects on sites or habitats.

Post completion stage

The proposed development will generate changes from use of the Site post completion and from changes to the traffic flows on the road network and changes in air quality.

After mitigation the Proposed Development is predicted to result in the following residual effects:

- Statutory designated sites: no change level of impact
- Non-statutory designated sites: no change level of impact
- Irreplaceable habitats: Short-term No Change and Long-term Minor beneficial level of impact
- Habitats, including hedgerow: minor beneficial impact
- Birds: no change level of impact
- Bats: no change beneficial impact
- Badger: no change level of impact

Summary of residual effects

A summary of potential impacts, proposed mitigation, residual effects and, where relevant, proposed compensation measures is provided for each important ecological feature included in the assessment in Table 8-16. Assuming the mitigation, compensation and enhancements are implemented as described, the number of residual impacts on sites, habitats and species as a result of the Proposed Development will be limited.

The avoidance, mitigation and compensation measures employed to reduce the likelihood of significant impacts on ecological receptors at the Site rely on the production of numerous reports and activities before works commence at the Site which will be conditioned:

1. Preparation of a Construction and Environmental Management Plan, to detail:
   a. Sensitive lighting strategy during construction;
   b. Sensitive timing of vegetation clearance avoiding the nesting bird season, or provision of a nesting bird check survey.
2. Preparation of a Biodiversity Management Plan, to detail creation and long-term management of new hedgerow habitats and other commitments under the BNG assessment and creation of farmland ground nesting bird habitat
3. Preparation of an Ancient Woodland Site Management Plan to detail:
   a. Location, size and type of buffer zones surrounding each ancient woodland site in relation to identified air quality impacts,
   b. An assessment of the existing condition of the ancient woodland sites,
   c. Measures to improve the condition of ancient woodland sites, and
   d. A long term management plan for ancient woodlands.

Table 8-16 Residual impacts after consideration of mitigation and compensation measures

Resource	Potential effect	Significance (pre-mitigation)	Mitigation measure	Means of delivering mitigation	Significance of residual effects
Construction Stage					
Irreplaceable habitats: Ancient Woodland (Cadge's Wood AW)	Indirect disturbance from construction works (noise, light, dust, pollutants)	Importance: National Level of impact: Minor adverse	Standard good-practice methods of working	CEMP	**No change**
Birds	Killing/injuring	Importance: County Level of impact: Major adverse	Pre-vegetation removal/ management check	EcOW	**No change**
Badgers	Indirect disturbance from construction works (noise, light, dust, vibrations)	Importance: Local Level of impact: Minor adverse	Standard good-practice methods of working and buffer zone	CEMP	**No change**
Post-completion stage					
Habitats: Ancient woodlands	Potential change in species composition relating to air quality	Importance: National Level of impact: Minor adverse	Reduction of existing treats and pressure to support improved site condition. Production of an Ancient Woodland Site Management Plan to employ all relevant actions to reduce the impact, which comply with NE Standing Advice on Ancient Woodlands.	AWSMP	**Minor beneficial**

Habitats: Priority Habitats	Habitat losses due to construction and habitat creation and enhancement through delivery of Biodiversity Gain Plan	Importance: National Level of impact: No change	Biodiversity Management Plan	BMP, EcOW and Landscape contractors	**Minor beneficial**
Bats	Direct negative effects to the foraging and commuting behaviour of bat species associated with the Site from an increase in artificial light.	Importance: Local Level of impact: minor adverse	Sensitive lighting scheme for bats and compensatory planting	Lighting scheme and Landscape proposal	**No change**
Birds	Changes to habitat extent	Importance: County Level of impact: Major adverse	Provision of offsite compensatory habitat	Provision of offsite compensatory habitat	**No change**

Conclusions

This chapter describes the baseline ecological conditions at the Site and provides an evaluation of the ecological resources that occur within the Site or have potential to be affected by operations within it. The chapter also describes in detail the potential ecological impacts resulting from the proposed scheme and describes the mitigation and avoidance measures that are required to reduce the magnitude of these effects.

The ecological receptors that have been identified include designated sites (Over and Lawn Woods SSSI), ancient woodlands in proximity of the site; habitats of principal importance (hedgerow); and populations of protected, rare or notable species groups of birds, bats and badgers.

Embedded mitigation, implemented through avoidance of habitat removal and development design include the retention of hedgerow through directional drilling. Creation of species rich grassland is also proposed as part of the Proposed Development and offsite farmland nesting bird habitat creation. A sensitive lighting scheme has been designed to retain dark habitat for bats. Good-practice methods of working will be detailed and adhered to in the CEMP to minimise the risk of impact to species and habitats during construction.

Taking account of the avoidance, mitigation and compensation measures outlined in this chapter, no residual impacts are anticipated on the identified ecological receptors as a result of the Proposed Development. Additional details relating to the proposed measures will be presented in a Construction Environmental Management Plan, Biodiversity Management Plan and Ancient Woodland Site Management Plan.

Taking account of the avoidance, mitigation and compensation measures outlined in this chapter, no residual significant effects are predicted to result from either the construction phase or the operational phase of the proposed development.

DRAWING 1

UK Habitat Survey

DRAWING 2

Proposed Development Layout

DRAWING 3

Designated Sites within 2 km

APPENDIX 01

Relevant Legislation and Planning Policy

APPENDIX 02

Biodiversity Net Gain (BNG) Assessment

APPENDIX 03

Great Crested Newt (GCN) Survey Report

APPENDIX 04

Riparian Mammal Survey Report

APPENDIX 05

Lichen Survey

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