Norwich Western Link Environmental Statement Chapter 5: Approach to EIA

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Contents

Tables

Glossary of Abbreviations and Defined Terms

The definition of key terms used in this report are provided below.

Term	Definition
Environmental Impact Assessment (EIA)	The term 'Environmental Impact Assessment' describes a procedure that must be followed for certain types of projects before they can be given 'development consent.' The procedure is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects.
Norfolk County Council as the County Planning Authority	Norfolk County Council is the County Planning Authority (CPA) who will consider the Planning Application and decide whether or not to grant planning permission.
Proposed Scheme	This is a proposed new highway to link the A1270 Broadland Northway, from its junction with the A1067 Fakenham Road (to the north) to the A47 trunk road near Honingham (to the south).
Red Line Boundary	The Red Line Boundary incorporates the Site Boundary, the Essential Environmental Mitigation, and No Work Zones not within the Site Boundary, as shown on the 'Red Line Boundary Plan' (Document reference: 2.02.00).
Scoping Opinion	The scoping opinion provides a summary of the technical and environmental information that the County Planning Authority would expect to see included as part of the planning application submitted to them for the Proposed Scheme.
Site Boundary	The areas within which all construction and operational activities for the Proposed Scheme will take place, including areas for temporary use during construction and No Work Zones within this boundary, but not including Essential Environmental Mitigation.

Term	Definition
Technical Chapters	This refers to Chapter 6-20 of this ES that discuss the environmental technical assessment topics such as **Chapter 6: Air Quality** (Document Reference: 3.06.00).
The Applicant	Norfolk County Council as the promoter of the Proposed Scheme.

5 Approach to EIA

5.1 Introduction

5.1.1 This chapter outlines the approach to the Environmental Impact Assessment (EIA), in particular the objectives and overall strategy for the EIA.

5.1.2 The approach to consultation is also outlined in this chapter, together with the approach to assessment criteria and the methodology for assessing cumulative effects.

5.1.3 This chapter presents an overview of the EIA process, and the findings of the EIA are recorded in **Technical Chapters 6 to 20**. A detailed overview of the guidance and methodology adopted for each environmental topic is provided within the respective technical chapters of this Environmental Statement (ES). The ES is supported by figures and technical appendices. In addition, a non-technical summary of the ES assessment has been produced.

5.1.4 A detailed overview of the Proposed Scheme's status in relation to relevant planning policy is discussed within the Planning Statement that forms part of this Planning Application (Reference 1.01.00). Within each Technical Chapter, Section 2 Legislative Framework, Policy, and Guidance outlines the legislation, policy and guidance that is relevant to that chapter's assessment and how it relates to, or informs the assessment undertaken.

5.2 Environmental Impact Assessment Process

5.2.1 The ES has been produced in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (referred to as the 'EIA Regulations'). As outlined in Regulation 4 of the EIA Regulations:

"(1) The environmental impact assessment ("EIA") is a process consisting of -

(a) the preparation of an environmental statement;

(b) any consultation, publication and notification required by, or by virtue of, these Regulations or any other enactment in respect of EIA development; and

(c) the steps required under regulation 26;

(2) The EIA must identify, describe, and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors;

(a) population and human health;

(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC(1) and Directive2009/147/EX(2);

(c) land, soil, water, air, and climate;

(d) material assets, cultural heritage, and the landscape;

(e) the interaction between the factors referred to in sub-paragraphs (a) to (d);

(3) The effects referred to in paragraph (2) on the factors set out in that paragraph must include the operational effects of the proposed development, where the proposed development will have operational effects;

(4) The significant effects to be identified, described, and assessed under paragraph (2) include the expected significant effects arising from the vulnerability of the proposed development to major accidents or disasters that are relevant to that development;

(5) The relevant planning authority or the Secretary of State must ensure that they have, or have access as necessary to, sufficient expertise to examine the environmental statement."

Scoping Report

5.2.2 The Scoping Report 2020 was submitted to Norfolk County Council (NCC) as the County Planning Authority (CPA) in June 2020 (as presented in **Appendix 5-1** (Document Reference: 3.05.01)), together with a formal request for an EIA Scoping Opinion, in accordance with Regulation 15(1) of the EIA Regulations 2017. A formal Scoping Opinion was subsequently received from NCC as the CPA on 16th October 2020, as included in **Appendix 5-2** (Document Reference: 3.05.02). This confirmed that a statutory EIA is required.

5.2.3 The objectives of scoping were to:

- Set out the proposed approach to the EIA;
- Identify the environmental topics and aspects to be assessed;
- Identify any topics or aspects that do not need to be assessed i.e. can be scoped out;
- Define the technical, spatial, and temporal scope of individual assessments;
- Define the methodologies to be used for any baseline surveys;
- Define the methodologies to be used for predicting environmental impacts and evaluating their significance of the potential effects;
- Set out the general approach for incorporating mitigation into the Proposed Scheme, whether it is through modifications to the design or the addition of other environmental or sustainability measures; and
- Secure agreement with stakeholders to seek any additional information from stakeholders.

5.2.4 The EIA Scoping Report outlined that the Proposed Scheme has the potential to result in likely significant effects on the environment associated with the following topic areas or elements: Air Quality, Noise and Vibration, Cultural Heritage, Landscape and Visual, Biodiversity, Road Drainage and Water Environment, Geology & Soils, Material Assets and Waste, Climate, Population and Human Health, Arboriculture, Major Accidents and Disasters, Traffic and Transport and Cumulative Effects.

5.2.5 The scoping responses received from external consultees are also presented in each technical chapter in section 3 Consultation, Scope, Methodology and Significance Criteria providing an indication of how they have been taken into account during the preparation of this ES. How the Scoping Option responses have influenced the ES Chapters is also included in the ES Chapters as appropriate. Scoping responses received were from:

- Cadent Gas;
- Health & Safety Executive;
- Natural England;
- Norfolk County Council – Minerals & Waste Policy;
- Broadland District Council EHO;
- Broadland District Council;
- Highways England;
- Water Management Alliance;
- Historic Environment;
- Norfolk County Council – Community and Environmental Services;
- Environment Agency;
- Anglian Water Services;
- Norwich Airport;
- Breckland District Council;
- Norfolk County Council – Lead Local Flood Authority;
- Norfolk & Suffolk Gypsy Roma Traveller Service;
- Norfolk Fire & Rescue Service;

- Norfolk Fire & Rescue Service - Water Resources & Planning Manager; and
- National Grid.

5.2.6 For reporting purposes, there have been some changes to the ES Chapter structure since the Scoping Report. This has entailed the splitting of the Biodiversity Chapter into separate Biodiversity and Bats Chapters, and the Climate Chapter has been split into Climate Greenhouse Gases and Climate Resilience. In addition, Arboriculture is no longer reported as a standalone chapter and has been included as **Appendix 10.35** (Document Reference: 3.10.35) to **Chapter 10: Biodiversity** (Document Reference: 3.10.00) and discussed within. This is to keep the discussion on trees within the same part of the ES. In addition, there is no Summary Chapter. Instead, this is covered in a summary section of each technical chapter and in the **Non-Technical Summary** (Document Reference: 3.21.00). This has not changed the scope of the assessment and all proposed assessments outlined in the scoping reports have been undertaken and included within the ES. These changes improve the presentation of the assessments in the ES without changing the scope and level of assessment undertaken.

Scoping Opinion Addendum

5.2.7 A Scoping Report Addendum, as presented in **Appendix 5-3** (Document Reference: 3.05.03), was submitted to NCC as the CPA in July 2022 which outlined a review of the scope of the ES against a localised alignment refinement and detailed the proposed level of assessment for mitigation areas set back from the main Proposed Scheme route. A response was received on the 27 September 2022 as shown in **Appendix 5-4** (Document Reference: 3.05.04). Responses were received from:

- Resilience Department of Community & Environmental Services;
- Norfolk Historic Environment;
- Norfolk Fire & Rescue - Water Resources;

- Norwich Airport;
- Norfolk County Council - Local Flood Authority;
- Norfolk County Council – Highways;
- National Highways;
- Historic England;
- Norfolk County Council – Minerals & Waste;
- Public Health Department;
- Environment Agency;
- Breckland District Council;
- Natural England;
- Norfolk Rivers Drainage Board - Water Management Alliance;
- Norfolk County Council – Sustainability; and
- Broadland EHO.

5.2.8 The Scoping Opinion Addendum responses are outlined in each technical chapter.

5.3 Consultation

5.3.1 In addition to the formal consultation undertaken in conjunction with the scoping process, technical and pre-planning consultation has also been undertaken.

Technical Consultation

5.3.2 As part of the EIA process technical consultation with a range of statutory and non-statutory consultees has been ongoing. Details of the technical consultation undertaken for each topic area is provided in the respective Technical Chapters 6 to 19. The consultees that have been consulted during the EIA include the following:

- Norfolk County Council;
- Broadland District Council;
- South Norfolk District Council;
- Breckland District Council;
- Norwich City Council;
- National Highways;
- Active Travel England;
- Environment Agency;
- Natural England;
- Local Liaison Group (Parish Council Representatives);
- Local Access Forum & Public Rights of Way Sub-Group;
- County and District Council Members;
- Norfolk County Council Officers;
- National Highways;
- Bus operators;
- Active travel England (new statutory consultee);
- Sustrans;

- The Ramblers; and
- Ecology Liaison Group (a group statutory and non-statutory ecology organisations listed in section 10.3 of **Chapter 10: Biodiversity** (Document Reference: 3.10.00) of this ES.

Public Consultation

5.3.3 The Applicant undertook a range of pre-application consultation activities to raise awareness of the consultation so that stakeholders could provide feedback on the Pre-Application Consultation Proposals at consultation. These are described in the following sections.

5.3.4 The in-person events are detailed in **Table 5-1**.

Table 5-1 In person events

Location	Date and Time	Notes
Barnham Broom Village Hall	Friday 2nd September 2022, 12-8pm	N/A
Weston Longville – Hall for All	Thursday 15th September 2022, 12-8pm	N/A
Felthorpe Village Hall	Thursday 22nd September 2022, 12-8pm	N/A
The Costessey Centre – Stafford Hall	Friday 30th September 2022, 1-8pm	Originally planned for 9th September 2022 (reorganised due to the mourning period for HM Queen Elizabeth II)

5.3.5 The Pre-Planning Consultation Report (Reference 5.01.00) that is included in the Planning Application describes the engagement and consultation activities undertaken by the Applicant ahead of the submission of the planning application. The document analyses the responses to the Pre-Application Consultation Proposals.

5.3.6 There was a questionnaire available for people to provide feedback. The questionnaire consisted of 31 questions, with a combination of open and closed questions. The questionnaire asked for opinions and comments on all aspects of the Pre-Application Consultation Proposals. It also included questions to ascertain the demographics of the consultees.

5.3.7 Visitors to the virtual room could book a discussion with a project or subject expert to discuss specific aspects of the Pre-Application Consultation Proposals.

Consultation brochure

5.3.8 The consultation brochure outlined the key aspects of the Norwich Western Link proposal. This included the changes to local access around the road, environmental mitigations including wildlife crossings and traffic mitigation on local roads close to the Proposed Scheme.

5.3.9 The brochure was published on the consultation website: which was live for the duration of the consultation period. A copy of the brochure can be found in **Appendix 5: Stakeholder Emails and Letters** (Document Reference: 5.01.05) of the **Pre-Application Consultation Report** (Document Reference: 5.01.00).

Online portal

5.3.10 All consultation material was available via the virtual room, built using PinPoint ConnectAll.

5.3.11 Further detail on the Consultation and the outcomes are reported in the Pre-**Planning Application Consultation Report** (Document Reference: 5.01.00).

5.4 Approach to the Assessment of the Proposed Scheme

5.4.1 This section outlines the approach to assessment of the Proposed Scheme in construction and operation, including the approach to the baseline conditions, future baseline conditions and cumulative effects. It also sets out the overarching approach to the EIA, together with project specific requirements for the assessment of effects.

5.4.2 The Proposed Scheme has been assessed against the description and supporting plans as detailed in **Chapter 3: Description of the Proposed Scheme** (Document Reference: 3.03.00) including the design parameters assessed in the ES. The limits of the Proposed Scheme are defined by the Red Line Boundary as illustrated in **Figure 1.1** of **Appendix 1.2: Figures** (Document Reference 3.01.02).

5.4.3 As outlined in **Chapter 3: Description of the Proposed Scheme** (Document Reference 3.03.00) the ES refers to sub areas within the Redline Boundary where relevant. These include the Site Boundary and areas for temporary use during construction. These are explained in **Chapter 3**: **Description of Scheme** (Document Reference 3.03.00) and are illustrated on **Figure 3.1** in **Appendix 3.3: Figures** (Document Reference 3.03.03).

5.4.4 How the areas have informed the ES assessments has been outlined in chapters where appropriate. In addition, in section 3 of **Appendix 5.3: EIA Scoping Report Addendum 2022** (Document Reference 3.05.03) the Scoping Report Addendum looks at how the ES scope assessed the habitat creation areas that were referred to at time of scoping as ‘off site’. For the ES and planning application these ‘off site’ areas’ are outside the Site Boundary, but these are now included within the Red Line Boundary.

Defining the Study Area

5.4.5 Study areas have been defined individually for each environmental topic, taking into account the geographic scope of the potential impacts relevant to that topic and of the information required to assess those impacts. The Study Areas are described in Chapters 6 to 20 of this ES.

5.4.6 The Study Area for each environmental topic has been defined in accordance with guidance outlined in the Design Manual for Roads and Bridges (DMRB) and best practice guidance issued by professional institutes. In some cases, consultation with stakeholders has also informed the definition of the Study Area. Where applicable this has been detailed in the ES Chapters.

Baseline Scenario

5.4.7 Baseline information (environmental characteristics and conditions) has been collated based on surveys undertaken and desk-based information available at the time of the assessment. Technical Chapters 6 to 19 provide details of the baseline information and any limitations establishing the baseline. An overarching summary is also provided in **Chapter 2: The Existing Site** (Document Reference: 3.02.00)**.**

Future Baseline

5.4.8 Schedule 4(3) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 requires an outline of the likely evolution of the current state of the environment (baseline scenario) without implementation of the Proposed Scheme, as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge. This section summarises the future baseline of changes to the existing site that are likely irrespective of the construction of the Proposed Scheme. The relevant aspects of the future baseline is outlined in each Technical Chapter as appropriate. Changes to the existing site include:

- In August 2022 National Highways received DCO (Development Consent Order) approval from the Secretary of State for Transport to dual the A47 between North Tuddenham and Easton, replacing the existing single carriageway link. This DCO approval was subsequently subject to an appeal. The appeal was dismissed further to a hearing in the Court of Appeal in January 2024. The improvements include a new dumbbell roundabout junction at the existing A47 / Wood Lane / Berrys

Lane junction. The construction of the A47 improvements are likely to occur during the construction period of the NWL. This is an important change to the context of the existing site that would occur, and the Proposed Scheme would link to.

- Traffic levels and flows will change from existing levels as a result of regional growth and development. The traffic model has accounted for likely growth which has been assessed as part of the ES assessments were appropriate. Forecast transport modelling looks to predict the future flows and impacts of those future flows on highway / public transport network and includes the following main components:
    - Estimate of future travel demand
    - Estimate of future highway infrastructure.
- To produce an estimate of future travel demand, following Department for Transport (DfT) Transport Analysis Guidance (TAG), for the future baseline i.e., Do Minimum (without Norwich Western Link) the following are used:
    - Overarching level of traffic growth for each future year has been derived from the National Trip End Model (NTEM) forecasts via TEMPro (Trip End Model Presentation Program) i.e., background growth.
    - Uncertainty Log containing the status of a series of housing and employment developments within each of the respective local authorities. Within the future baseline transport models developments with an uncertainty status of Near Certain or More Than Likely status are included at specific locations. All other developments not included as Near Certain or More Than Likely are included within the overall forecast year background growth.

- There is a common set of future baseline scenarios that have been produced following DfT TAG for the Core Scenario. For clarity:
    - Near Certain developments and infrastructure schemes are those that have planning permission.
    - More Than Likely developments and infrastructure schemes are those that are proceeding through the planning process i.e., submission of a planning application.
- Future highway infrastructure schemes with a sufficient level of certainty they will occur are included. This includes:
    - Current Development Consent Order (DCO) National Highways consented A47 schemes.
    - Local authority schemes with a Near Certain or More Than Likely Uncertainty Log i.e., record of assumptions made in the model for forecast housing sites / employment sites and highway infrastructure.
- As outlined in **Chapter: 16 Climate Resilience** (Document Reference: 3.16.00) climate change is projected to lead to warmer, wetted winters and hotter, drier summers, although natural variation, including extreme events such as storms and heat waves, will continue to punctuate these trends. More rainfall is also projected to fall during 'intense' events, particularly in winter. Rainfall is considered to be "Intense" where days of rainfall exceed >10mm. Full details of the future project climate considered in the ES are outlined in **Chapter: 16 Climate Resilience** (Document Reference: 3.16.00).
- **Chapter 20: Cumulative Effects** (Document Reference: 3.20.00) has identified committed developments located within 2km of the Proposed Scheme's Red Line Boundary that have granted planning permission. The topic chapters have assessed these developments for potential in-combination effects. In addition to committed developments, the in-

combination assessment has included 2 site allocations identified within the emerging Greater Norwich Local Plan for consideration (S12: Allocation GNLP0337R and S13: Allocation GNLP0159R) as illustrated in **Figure 20.1** of **Appendix 20.3: Figures** (Document Reference: 3.20.03).

- Ash dieback, also known as Chalara dieback of ash is a serious disease that is killing ash across Europe. Whilst not recorded on site, it is likely that ash dieback will spread across the UK such that gaps in woodland and tree lines can be expected to occur where this species is currently present but not to the extent that will change assumptions about intervening vegetation for the purposes of the Landscape and Visual assessment.

Assessment Criteria

5.4.9 The classification of each effect identified has been assessed based on the magnitude of change (or impact) due to the Proposed Scheme and the sensitivity / value of the affected receptor to change, as well as a number of other factors that are outlined in more detail below. The classification of residual effects has been assessed with regard to the extent to which additional mitigation measures would avoid, prevent, reduce or, if possible, offset adverse effects. Where topic specific methodology deviates from this approach, for example as a result of following topic specific guidance, this is set out in the methodology section of the technical chapter.

5.4.10 The assessment of likely effects presented in Technical Chapters 6 to 19 have taken into account a number of criteria to determine whether or not the likely effects are significant. The following criteria have been taken into account when classifying the likely effects to the extent they exist or are relevant to the topic in question:

- Relevant legislation and planning policy;
- International, national, regional, and local standards and guidance;

- Likelihood of occurrence of the effect;
- Geographical extent of effect;
- Sensitivity and / or value of the receptor;
- Magnitude and complexity of impact;
- Whether the effect is temporary or permanent;
- Duration (short, medium, or long-term), frequency and reversibility of effect;
- Whether the effect is direct or indirect, secondary, or transboundary;
- Inter-relationship between different effects (both cumulatively and in terms of likely effect interactions);
- Professional judgement of the assessor; and
- The outcomes of consultations.

5.4.11 Where topic specific methodology deviates from this approach, for example as a result of following topic specific guidance, this is set out in the methodology section of the technical chapter.

Sensitivity / Value of Receptors

5.4.12 The sensitive receptors considered within this ES are identified within Technical Chapters 6 to 19. The sensitivity of these receptors to change is also defined within the Technical Chapters and has been determined (where available and appropriate) by quantifiable data, the consideration of existing designations and professional judgement. The sensitivity of receptors in this report is assigned using the descriptions DMRB LA 104 (very high, high, medium, low, and negligible), unless otherwise stated, are shown in **Table 5-2**. Where topic specific methodology deviates from this approach, for example as a result of following topic specific guidance, this is set out in the methodology section of the technical chapter.

Table 5-2 Environmental Value (Sensitivity)

Value (sensitivity) of receptor / resource	Typical Description
Very High	Very high importance and rarity, international scale, and very limited potential for substitution.
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

Magnitude of Change (Impact)

5.4.13 The magnitude of impacts on receptors in this report is assigned using the descriptions DMRB LA 104 and is replicated in **Table 5-3**. Unless stated otherwise in the topic chapters, this approach to assigning the magnitude of the impact is applied to the assessment present in this ES.

Table 5-3 Magnitude of impact and typical descriptions

Magnitude of impact (Change)	Magnitude of impact (Change) Adverse or Beneficial	Typical description
Major	Adverse	Loss of resource and / or quality and integrity of resource; severe damage to key characteristics, features or elements.

Magnitude of impact (Change)	Magnitude of impact (Change) Adverse or Beneficial	Typical description
Major	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Moderate	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of / damage to key characteristics, features or elements.
Moderate	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Minor	Adverse	Some measurable change in attributes, quality, or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
Minor	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features of elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features or elements.
Negligible	Beneficial	Very minor benefit to or positive addition to one or more characteristics, features or elements.

Magnitude of impact (Change)	Magnitude of impact (Change) Adverse or Beneficial	Typical description
No Change	N/A	No loss or alteration of characteristics, features or elements; no observable impact in either direction.

5.4.14 The significance of an effect is a factor of the sensitivity and / or value of the resource affected, and the magnitude of the impact upon it. Unless otherwise stated, guidance in the DMRB LA 104 is used to determine the sensitivity and / or value of an affected resource, the magnitude of impact and the significance of effect.

5.4.15 The overall significance of effects presented in this report is assessed using the matrix in the DMRB LA 104 and is replicated in **Table 5-4** below. Unless stated otherwise in the topic chapters, this approach to assessing significance is applied to the assessment presented in this ES.

Table 5-4 Matrix for Classifying Effects

Matrix	Magnitude of Change (Impact) No Change	Magnitude of Change (Impact) Negligible	Magnitude of Change (Impact) Minor	Magnitude of Change (Impact) Moderate	Magnitude of Change (Impact) Major
Sensitivity / Value Very High	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
Sensitivity / Value High	Neutral	Slight	Slight or Moderate	Moderate or Large	Large or Very Large

Matrix	Magnitude of Change (Impact) No Change	Magnitude of Change (Impact) Negligible	Magnitude of Change (Impact) Minor	Magnitude of Change (Impact) Moderate	Magnitude of Change (Impact) Major
Sensitivity / Value Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
Sensitivity / Value Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate
Sensitivity / Value Negligible	Neutral	Slight	Neutral or Slight	Neutral or Slight	Slight

5.4.16 Unless otherwise stated in the technical chapters of this ES, effects that are classified as **moderate or above** are considered to be significant. Effects classified as **below moderate** are considered to be not significant.

5.4.17 Best practice and guidance require that certain technical disciplines follow topic-specific criteria for determining significance. Where this is the case, the criteria have been established in the methodology section of each environmental topic within Chapters 6 to 20 of this ES. For the topics in which there is no such guidance, the effects have been identified using professional judgement.

Rochdale Envelope

5.4.18 The Rochdale Envelope approach to assessment has been applied where there is the need for design flexibility and further refinement of scheme components in detailed design. The areas of design flexibility are outlined in **Chapter 3: Description of the Proposed Development** (Document Reference: 3.03.00) under the Design Flexibility section in section 3.4. The 'Rochdale Envelope' approach has been employed where the nature of the

Proposed Development means that some details of the whole project have not been confirmed and the ES has suitably assessed the flexibility.

Approach to Mitigation

5.4.19 Paragraph 7 of Schedule 4 to the *EIA Regulations* allows for the discussion and identification of project specific measures to avoid / minimise / rectify / reduce / offset likely significant adverse environmental effects in accordance with the mitigation hierarchy. This states: (*"A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced, or offset, and should cover both the construction and operational phases."*)

5.4.20 In line with DMRB LA 104, Section 3.23 guidance, a hierarchical approach to the incorporation of mitigation measures is to be used:

- "Avoidance and prevention: design and mitigation measures to prevent the *effect (e.g. alternative design options or avoidance of environmentally sensitive sites);*
- *Reduction: where avoidance is not possible, then mitigation is used to lessen the magnitude or significance of effects;*
- *Remediation: where it is not possible to avoid or reduce a significant adverse effect, these are measures to offset the effect."*

5.4.21 The ES reports on the following categories of mitigation:

- Embedded mitigation: project design principles adopted to avoid or minimise likely significant adverse environmental effects; and

- Additional mitigation: measures required to minimise / rectify / reduce or offset likely significant adverse environmental effects, in support of the reported residual significance of effects in the environmental assessment (which are reported in the relevant environmental chapters).

5.4.22 In the ES assessments embedded mitigation are elements of the Proposed Scheme that form a fundamental part of the design for which planning permission is sought and have been considered as part of the Proposed Scheme when undertaking the initial assessment and outlined in **Chapter 3: Description of the Proposed Scheme** (Document Reference: 3.03.00). Where adverse impacts are identified through the initial assessment additional mitigation has been identified, where practicable, and assessed to report the residual effect. Additional mitigation includes construction or operational phase mitigation measures.

5.4.23 A Construction Environmental Management Plan (CEMP) would be implemented during the construction phase by the Principal Contractor. There may be multiple CEMPs tailored to activities or locations. This will detail the environmental controls and management measures to be adopted during the construction of the Proposed Scheme. An Outline CEMP (OCEMP) accompanies this ES (provided in **Appendix 3-1 OCEMP** (Document Reference: 3.03.01)) and identifies the construction phase mitigation that has been identified within the ES. It is anticipated that if planning permission is granted it would be subject to a condition requiring no development to take place until the CEMP(s) is submitted to and approved in writing by the CPA. This OCEMP would be developed and refined by the Principal Contractor into the CEMP(s) and submitted for the approval of the planning authority before moving into the construction phase.

5.4.24 Other Management Plans at outline stage included as Appendices to the OCEMP include:

- Design Site Waste Management Plan;
- Outline Materials Management Plan;
- Outline Arboricultural Method Statement; and
- Outline Soil Management Plan.

5.4.25 Many embedded mitigation measures considered in the ES relate to components of the Proposed Scheme that are part of the design. There are outlined in **Chapter 3: Description of the Proposed Scheme** (Document Reference: 3.03.00).

Monitoring

5.4.26 Paragraph 7 of Schedule 4 to the *EIA Regulations* requires where relevant, information on any proposed monitoring arrangements within the ES. In some cases, for instance where uncertainty of residual effects remains or it has been recommended to undertake monitoring, it may also be appropriate to implement monitoring. Where appropriate, proposed monitoring arrangements are provided in the technical chapters.

5.5 Cumulative Effects

5.5.1 Paragraph 5(e) of Schedule 4 to the EIA Regulations 2017 states that the ES should include a description of the likely significant effects of the development on the environment resulting from:

"the cumulation of effect with other existing and / or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources."

5.5.2 Regulation 4(2) refers to the need to assess:

"The EIA must identify, describe, and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors -

(a) population and human health;

(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC(34) and Directive 2009/147/EC(35);

(c) land, soil, water, air, and climate;

(d) material assets, cultural heritage, and the landscape;

(e) the interaction between the factors referred to in sub-paragraphs (a) to (d)"

5.5.3 To accord with the EIA Regulations and best practice guidance, the following types of cumulative effects have been considered within the ES:

- **Effect Interactions**: The interaction or combination of environmental topic effects of the Proposed Scheme on a single receptor/resource. For example, a single residential receptor experiencing increases in noise, air quality and visual impacts; and / or
- **In-Combination Effects**: The combined effects of a number of different projects within the vicinity of the Proposed Scheme (in combination with the Proposed Scheme) on a single receptor / resource.

5.5.4 Further details regarding the scope and methodology of the assessment of cumulative effects, the identification of relevant committed developments, and a description of those included within the assessment are provided in **Chapter 20: Cumulative Effects** (Document Reference: 3.20.00). The technical in-combination assessment of the committed developments related to each topic are reported in each Chapter including an Appendix, where appropriate, of each Technical Chapter and are summarised in **Chapter 20: Cumulative Effects** (Document Reference: 3.20.00). Where the in-combination

assessment is not relevant to a particular topic assessment this is explained in the chapter and no separate Appendix included.

5.6 Environmental Enhancement

5.6.1 Although not a requirement of the EIA Regulations 2017, opportunities for environmental enhancement are also explored. Identification of these enhancement measures are detailed within each environmental topic where appropriate (refer to Chapters 6 to 19 of this ES).

5.7 Limitations and Assumptions

5.7.1 Paragraph 6 of Schedule 4 to the EIA Regulations 2017 states that an ES should include:

"...details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved."

5.7.2 Where there are limitations or assumptions used within the EIA, these are clearly identified in this ES. Assumptions specific to certain assessments have been identified in the appropriate technical Chapters 6 to 20.

Assessment of Major Accidents and Disasters

5.7.3 Paragraph 8 of Schedule 4 to the EIA Regulations 2017 states that the ES must include the following:

"A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and / or disasters which are relevant to the project concerned…. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies."

5.7.4 A review has been undertaken regarding the likely effects deriving from the vulnerability of the Proposed Scheme to risks of major accidents and disasters and this is presented in **Chapter 18: Major Accidents and Disasters** (Document Reference: 3.18.00).

5.8 Coordinated Assessment with Habitats Regulations Assessment, Water Framework Directive Assessment and Other Assessments

5.8.1 A number of assessments have been undertaken alongside the EIA to satisfy other regulatory requirements:

- **Habitats Regulations Assessment (HRA)**: a HRA Screening is required under Article 6(3) of the European Union Habitats Directive (1992, as amended, 'the Habitats Directive') which sets out the need for 'Appropriate Assessment' of plans or projects which have potential to affect the integrity of a Natura 2000 site. The outcome of this assessment is reported in the HRA (Document Reference: 4.03.00)
- **Water Framework Directive (WFD) Assessment**: The WFD is required under the European Union's Water Framework Directive (WFD) (2000/60/EC), transposed in England and Wales under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 (SI3242/2003)58. The main aims of the WFD are to ensure that all surface water and groundwater reaches Good status (in terms of ecological and chemical quality and water quality as appropriate). For the Proposed Scheme, the WFD assessment evaluates the potential operational impacts on three surface waterbodies and one groundwater body. A report of this assessment is provided as **Appendix 12.3** (Document Reference: 3.12.03) to the **Chapter 12: Road Drainage and Water Environment** (Document Reference: 3.12.00).

- **Flood Risk Assessment (FRA)**: The Red Line Boundary is greater than 1ha and lies within an area of land identified as Environment Agency Flood Zones 1, 2 and 3. The National Planning Policy Framework (NPPF) states "*A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use".* In view of this, an FRA has been undertaken and a summary of the findings of this assessment has been presented in **Chapter 12: Road Drainage and Water Environment** (Document Reference: 3.12.00). For full details of the FRA refer to **Appendix 12.2 Flood Risk Assessment** (Document Reference: 3.12.02).
- **Biodiversity Net Gain (BNG) Assessment**: Biodiversity Net Gain is an approach to development assessment and design based on a range of metrics, which seeks to leave biodiversity in a better state than before. A number of national and local policies encourage BNG principles. The NPPF Paragraph 186 states that "*When determining planning applications, local planning authorities should apply the following principles…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…*". The outcome of this assessment is reported in the BNG Assessment (see **Appendix 10.33** (Document Reference: 3.10.33)). Provisions of the Environment Act 2021 make delivering BNG a mandatory condition of planning permission.

- **Environmental Net Gain Assessment**: (Document Reference: 3.05.05) describes gains in ecosystem service provision (wider benefits such as flood management, air quality benefits and health) associated with the habitats provided to achieve BNG. Norfolk County Council's environment policy embeds "*an 'environmental net gain'"* principle for development, including housing and infrastructure. After discussion with Norfolk County Council (CPA), the ENG Report applied Natural England's Biodiversity Metric 3.1 Calculation tool, with a separate assessment using the Environmental Benefits from Nature (EBN) Tool presented in **Chapter 10: Biodiversity** Appendix 10.33: Biodiversity Net Gain Technical Report Sub Appendix J: Draft Statutory Biodiversity Metric (Document Reference 3.10.33j).