



**NORTH
LINCOLNSHIRE
GREEN
ENERGY PARK**

Planning Act 2008

Infrastructure Planning
(Applications
Prescribed Forms and
Procedure) Regulations
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North Lincolnshire Green Energy Park

Volume 8

8.2.12 Draft Statement of Common
Ground with Natural England

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Disclaimer

A Draft SoCG relates to a SoCG that has mainly been agreed between both parties, but there are a number of issues still outstanding, and it is yet to be signed off.

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GLOSSARY

Acronym	Full term / Description
2008 Act	Planning Act 2008
AGI	Above Ground Installations
BNG	Biodiversity Net Gain
CCTV	Closed Circuit Television
CBMF	Concrete Block Manufacturing Facility
CEMP	Construction Environmental Management Plan
CCUS	Carbon Capture, Utilisation and Storage
CO2	Carbon Dioxide
CoCP	Code of Construction Practice
CoPA	Control of Pollution Act
DCO	Development Consent Order
DHPWN	District Heating and Private Wire Network
EA	Environment Agency
EN-1	Overarching National Policy Statement for Energy
EN-3	National Policy Statement for Renewable Energy Infrastructure
EN-5	National Policy Statement for Electricity Networks Infrastructure
EV	Electric Vehicle
ERF	Energy Recovery Facility
ES	Environmental Statement
FRA	Flood Risk Assessment
FGTr	Flue Gas Treatment Residue
H2	Hydrogen
HRA	Habitats Regulations Assessment
IAQM	Institute of Air Quality Management
IDB	Internal Drainage Board

LVIA	Landscape and Visual Impact Assessment
LLFA	Lead Local Flood Authority
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
NLC	North Lincolnshire Council
NLGEP	North Lincolnshire Green Energy Park
PRF	Plastic Recycling Facility
PEIR	Preliminary Environmental Information Report
PRoW	Public Rights of Way
RLB	Red Line Boundary
RHTF	Residue Handling and Treatment Facility
SoS	Secretary of State
SoCG	Statement of Common Ground
SoCC	Statement of Community Consultation
SuDS	Sustainable Drainage Systems
TCPA	Town and Country Planning Act
WSI	Written Scheme of Investigation

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1.0 INTRODUCTION

1.1 Overview

- 1.1.1 This Statement of Common Ground ('SoCG') has been prepared on behalf of North Lincolnshire Green Energy Park Limited ('the Applicant'). It forms part of the application (the 'Application') for a Development Consent Order (a 'DCO'), that has been submitted to the Secretary of State (the 'SoS') for Business, Energy and Industrial Strategy, under Section 37 of 'The Planning Act 2008' (the '2008 Act').
- 1.1.2 The Proposed Development is an Energy Recovery Facility (ERF) capable of converting up to 760,000 tonnes of non-recyclable waste into 95 MW of electricity and a carbon capture, utilisation, and storage (CCUS) facility which will treat a proportion of the excess gasses released from the ERF to remove and store carbon dioxide (CO₂) prior to emission into the atmosphere. It is described in Chapter 3: Project Description and Alternatives of the Environmental Statement (ES).
- 1.1.3 The Proposed Development meets the criteria to be considered as an NSIP under the 2008 Act as a 'generating station' under section 15(2). Section 15(2) defined an NSIP as a proposed generating station which would be located within England, would not be offshore, and would have a total generating capacity of more than 50MW.

1.2 The Proposed Development

- 1.2.1 The North Lincolnshire Green Energy Park (NLGEP), located at Flixborough, North Lincolnshire, comprises an ERF capable of converting up to 760,000 tonnes of non-recyclable waste into 95 MW of electricity and a CCUS facility which will treat a proportion of the excess gasses released from the ERF to remove and store CO₂. Prior to emission into the atmosphere. The design of the ERF and CCUS will also enable future connection to the Zero Carbon Humber pipeline, when this is consented and operational, to enable the possibility of full carbon capture in the future.
- 1.2.2 The NSIP incorporates a switchyard, to ensure that the power created can be exported to the National Grid or to local businesses, and a water treatment facility, to take water from the mains supply or recycled process water to remove impurities and make it suitable for use in the boilers, the CCUS facility, concrete block manufacture, hydrogen production and the maintenance of the water levels in the wetland area.
- 1.2.3 The Project includes the following Associated Development to support the operation of the NSIP:
 - a bottom ash and flue gas residue handling and treatment facility (RHTF);

- a concrete block manufacturing facility (CBMF);
 - a plastic recycling facility (PRF);
 - a hydrogen production and storage facility;
 - an electric vehicle (EV) and hydrogen (H2) refuelling station;
 - battery storage;
 - a hydrogen and natural gas above ground installation (AGI);
 - a new access road and parking;
 - a gatehouse and visitor centre with elevated walkway;
 - railway reinstatement works including; sidings at Dragonby, reinstatement and safety improvements to the 6km private railway spur, and the construction of a new railhead with sidings south of Flixborough Wharf;
 - a northern and southern district heating and private wire network (DHPWN);
 - habitat creation, landscaping and ecological mitigation, including green infrastructure and 65-acre wetland area;
 - new public rights of way and cycle ways including footbridges;
 - Sustainable Drainage Systems (SuDS) and flood defence; and
 - utility constructions and diversions.
- 1.2.4 The Project will also include development in connection with the above works such as security gates, fencing, boundary treatment, lighting, hard and soft landscaping, surface and foul water treatment and drainage systems and CCTV.
- 1.2.5 The Project also includes temporary facilities required during the course of construction including site establishment and preparation works, temporary construction laydown areas, contractor facilities, materials and plant storage, generators, concrete batching facilities, vehicle and cycle parking facilities, offices, staff welfare facilities, security fencing and gates, external lighting, roadways and haul routes, wheel wash facilities, and signage.
- 1.2.6 The overarching aim of the Project is to support the UK's transition to a low carbon economy as outlined in the Sixth Carbon Budget (December 2020), the national Ten Point Plan for a Green Industrial Revolution (November 2020) and the North Lincolnshire prospectus for a Green Future which is currently being developed. It will do this by enabling circular resource strategies and low-carbon infrastructure to be deployed as an integral part of the design (for example by re-processing ash, wastewater and carbon dioxide to manufacture concrete blocks) and capturing waste-heat to supply local homes and businesses with heat via a district heating network.

1.3 Parties to this Statement of Common Ground

1.3.1 This Statement of Common Ground is between the Applicant and Natural England.

1.4 The Purpose and Structure of this Document

1.4.1 The purpose of this document is to summarise clearly the agreements reached between the parties on matters relevant to the examination of the Application and to assist the Examining Authority in their determination of the Application. It has been prepared with regard to the guidance in 'Planning Act 2008: examination of application for development consent' (Department for Communities and Local Government, March 2015).

1.4.2 The document is structured as follows:

- Section 2 – sets out the correspondence between the parties up until the submission of the Application;
- Section 3 – sets out the matters agreed and matters outstanding between the parties during the pre-application stage in respect of the Application;

2.0 SUMMARY OF ENGAGEMENT

2.1.1 The below Table 2.1 contains a record of key correspondence between the Applicant and Natural England pertinent to this SoCG.

Table 2.1: Summary of Engagement

DATE	ATTENDEES	TOPICS COVERED
26/09/2019	PINS, Natural England, Marine Management Organisation, Environment Agency, NLC, On behalf of S21: Northern Planners, Solar 21, WBD, ERM	<p>The Project Team arranged an informal site visit with pre-meeting to update statutory consultees with progress/changes to the project.</p> <p>Colin Hammond outlined the project in terms of the core development, associated developments and development subject to the S35 direction request and confirmed the removal of the housing proposal.</p> <p>The EA noted that the site was within functional floodplain and that the Applicant would need to demonstrate that the proposal is robust against flood risk and that essential infrastructure would remain operational in a flood event.</p> <p>The Project Team confirmed the anticipated programme for a S35 direction request and initial formal community, stakeholder consultation and EIA Scoping submission.</p>

		The Project Team also confirmed that they are reasonable progressed in their land referencing and have a good understanding of who their land rights are.
18/06/2020	ERM [on behalf of the applicant], Peter Gray (Natural England)	ERM contacted NE to secure permission to fly the drone survey over the River Trent SSSI, SAC and Ramsar. NE confirmed this is permissible
07/09/2020	Natural England, Bowland Ecology	Confirmation from NE that they were happy with applicant's intent to use ecological survey data collected over 12 months ago (as long as site conditions had not changed).
06/05/2021	Northern Planners; Bowland Ecology (on behalf of Applicant), Natural England	Discretionary Advice Meeting; ecology survey results; aquatic surveys
24/11/2022	Natural England, Bowland Ecology, Northern Planners, ERM, LDA Design	Discussion around SOCG topics and responses.
15/12/2022	Northern Planners on behalf of the Applicant	First draft of the SoCG sent to NE.
06/02/2023	Natural England, Bowland Ecology, ERM, LDA Design, DWD, Applicant, North Lincs Council	HRA/ES issues on effects of air emissions, noise and vibration including piling, precautionary modelling and reasonable operating case and SoCG.

3.0 MATTERS

3.1.1 The below Table 3.1 contains a list of 'matters agreed' and Table 3.2 contains a list of 'matters outstanding' correct at the date of Examination Deadline 4 (07 February 2023) along with a concise commentary of what the item refers to and how it came to be agreed between the two parties.

Table 3.1: Table of Matters Agreed

NATURAL ENGLAND POSITION	APPLICANT POSITION	RAG STATUS
ECOLOGY, HABITATS AND NATURE CONSERVATION		
1. The Applicant’s Habitats Regulations Assessment report and effects on European sites and features;		
<p>Ref 1¹ - Humber Estuary SAC/SPA/Ramsar site/ SSSI / Thorne and Hatfield Moors SPA / Thorne Moor SAC (Alone and In-combination) Impacts from Ammonia and Nitrogen Deposition (Operation)</p> <ul style="list-style-type: none"> ES Chapter 19 Mitigation, table 1, states that the Energy Recovery Facility (ERF) has been designed with Best Available Technique abatement systems, and stack heights for the ERF, backup generator and boilers are designed to disperse emissions sufficiently. However, the information provided in the Habitats Regulations Assessment (HRA) and Environmental Statement (ES) chapter 5 Air Quality, does not include information to demonstrate the effectiveness of this mitigation. Section 7.2 of chapter 5 suggests that the mitigation has been built into the model, however the documents do not include a version of the modelling without the mitigation included. This information should be provided to demonstrate how effective the mitigation has been in reducing impacts. 	<ul style="list-style-type: none"> The Project design complies with the Best Available Technique (BAT) requirements in line with Government Guidance. Aligning with BAT requirements does not include mitigation for specific impacts. Meeting BAT emission limits is a legal obligation and is not optional. The only variable that can be manipulated is the stack height. From the outset, the air quality modelling was undertaken with the knowledge that impacts on habitats would be a critical factor and as such the design stack height was raised as much as possible given other constraints (such as L&V). A stack height assessment was not deemed necessary on the basis that maximising stack height was always the preferred option for air quality, and this is part of the design. 	

¹ Refs are taken from Natural England’s Relevant Representation submission dated 15 September 2022

<ul style="list-style-type: none"> Following the clarifications from the developer, if there is no alternative scenario where the ERF wouldn't include the BAT abatement due to legal compliance, then it's acceptable for the HRA to not include a version of the model without this. However we advise that in the HRA the BAT abatement should not be referred to as 'mitigation' as this suggests it is being implemented to prevent impacts to designated sites. 		
<p>Refs 8 and 9 - Humber Estuary SAC/SPA/Ramsar site (In-combination) /SSSI (Alone and In-combination) Impacts from Traffic Emissions (Operation)</p> <ul style="list-style-type: none"> ES Chapter 5 Air Quality, states that operational road traffic emissions to ecological sites have been included within the overall operational air quality modelling (section 8.4). The individual contribution from operational traffic has not been stated. It should be clarified whether ammonia outputs from traffic have been included within the calculations, and as stated in key issue reference 6 above, whether the thresholds in NE's guidance (Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001), dated 12 July 2018 NEA001) have been adhered to, in order to determine the correct receptors to scope into the assessment. SSSI advice as above. 	<ul style="list-style-type: none"> See response to Refs 6 and 7 above. 	
<p>Refs 12 and 13 - Humber Estuary SAC/SPA/Ramsar site/SSSI (Alone) Impacts from Dust Emissions (Construction)</p>	<ul style="list-style-type: none"> The final CEMP will contain best practice measures that will be implemented by the site contractors to 	

- Section 4.2 of ES Chapter 5 outlines the assessment of construction dust which has been undertaken. It is noted that ecological receptors within a 50m buffer of the development site boundary have been screened in based on the IAQM guidance (section 4.2.1.3). However Natural England advise a buffer of 200m should be used. Therefore, further consideration for potential dust impacts should be undertaken and this should be incorporated into the HRA.
 - We broadly welcome the proposal to develop a dust management plan as part of the final CEMP. However the measures to be included within this will need to be informed by a 200m screening distance for ecological receptors. Currently the HRA concludes no Likely Significant Effect (LSE) due to a predicted small, localised impact. However if further impacts are identified then the impact should be considered at AA, as the effectiveness of the mitigation measures will need to be considered.
 - As the applicant has stated that the proposed control measures will be effective for features 200m from the development site boundary, this is acceptable.
- control dust, so that there is negligible effect beyond the Red Line Boundary.
- These measures will prevent any significant effects on ecological features (eg the designated areas along the River Trent) within 200m of the Red Line Boundary and hence comply with Natural England's guidance.

2. THE EFFECT ON PROTECTED SPECIES AND HABITATS

Great crested newts (GCN): Natural England note that in section 6.2.2.9, ES Chapter 10, several GCN surveys of various methodologies have been undertaken, however there are ponds described as inaccessible. Some of these ponds are within 500m of the development order. We advise these ponds must be surveyed to obtain an overall conclusion of the impacts of the development on GCN.

Following the clarification that the ponds which were not surveyed were either unsafe to access or entry was denied by the landowner, this matter can be considered resolved.

Great Crested Newts: Limitations to the GCN survey are addressed within Technical Appendix C of the Ecology Chapter. Reasonable effort was made to arrange access to all ponds within the survey area, however a small number of ponds could not be surveyed due to land owners denying access or were physically not possible/safe to access. The latter includes two ponds located in Conesby Quarry, one pond to the north of Conesby Quarry and one pond within the NLGEP Land off Stather Road. A land owner adjacent to the eastern section of the NLGEP Land repeatedly denied access to four ponds. Inaccessible ponds were situated close to other ponds which could be surveyed and the majority were still subject to a constrained HSI assessment, both of which informed an assessment of the likely presence of GCN. The mitigation strategy for GCN includes appropriate licencing (traditional or district-level), which will assume presence of GCN in ponds where no negative survey result could be determined. We disagree that all ponds must be accessed, this is unreasonable where health and safety issues take precedence or where there are repeated refusals to permit access for survey. We believe sufficient effort and information has been gathered through survey and desk study to assess the likely effects of the proposals on local GCN populations.

<p>Badger: In section 7.2.3.18 of ES Chapter 10, the fifth bullet point states that 'heavy machinery and site access will be planned to avoid coming near badger setts'. This needs to be quantified to a 30m buffer zone around setts for heavy machinery. The eighth bullet point discusses avoiding noise and vibration around setts 'as much as possible' Any activity that has the possibility of disturbance badgers must not be undertaken without a licence and any associated mitigation/compensation.</p> <p>Following the clarification from the developer that the minimum disturbance buffer will be secured in the CEMP, this matter is agreed. The developer should apply for any relevant licences prior to commencement of the construction work.</p>	<p>Badger: The CEMP and other documentation of relevance to protected species (including any method statements prepared for licence applications), will state clearly that a minimum 30 m disturbance buffer will be established during construction around badger setts, with no heavy machinery, or excessive noise/vibration (or other disturbing activities) permitted within the buffer until setts have been appropriately excluded/destroyed under licence (if required).</p>	
<p>Aquatic features: no suitable justification provided to scope out. Recommend that, where an environmental benchmark is provided on APIS then these features should be assessed.</p> <p>Water-based features at all sites in question have been scoped out as the nutrient nitrogen is thought to be influenced overwhelmingly by waterborne nutrient loadings and agricultural runoff rather than by deposition from the atmosphere. Natural England does not consider this suitable justification to scope out all aquatic features. Where a relevant environmental benchmark has been provided on APIS, these features should be assessed.</p>	<p>It is confirmed that environmental benchmarks have been used where they are provided by APIS e.g. salt marsh communities see Section 4.2.2 of the Report to Inform HRA, Document Reference 5.9). The SAC water-based features that have been scoped out are: mudflats and sandflats not covered by seawater at low tide, river lamprey and sea lamprey. There are no environmental benchmarks provided on APIS for these features. APIS notes that marine and river habitats do not tend to be sensitive to air pollution impacts or are dominated by other sources of inputs.</p>	

<p>Vascular plant assemblage and invertebrate assemblage, interest features of the Humber Estuary SSSI, have been scoped out because Critical Loads have not been provided on APIS. Where this is the case, and features are sensitive to nitrogen, Natural England advises that supporting SAC habitats could be used as a proxy.</p>	<p>It is confirmed that vascular plants and invertebrate assemblages have not been scoped out in the HRA. Supporting SAC habitats have been used as a proxy where required, see Section 3.2 Report to Inform the HRA (Document Reference 5.9).</p>	
<p>Sand dune habitats have also been scoped out of the assessment for all sites in question. Dune systems are one of the most sensitive habitats to air pollution and, within the Humber Estuary SAC and SSSI, are already exceeding critical loads. Chapter 5, Section 8.3 summarises the findings of the Air Quality Impact Assessment (AQIA) and concludes that there are likely to be exceedances in nitrogen and acid deposition at Humber Estuary SSSI, SAC and SPA. Section 8.3 clearly identifies potentially significant contributions for dune habitats and concludes that detailed assessment is therefore required. Natural England are concerned then that dune habitats have not been included in the detailed assessments summarised in Appendix A and Annex 5. Air quality impacts on sand dunes should be considered in further detail in the Appropriate Assessment.</p>	<p>The potential significant contributions for dune habitats identified in the Air Quality Impact Assessment (AQIA) in the PEIR were based on modelling that conservatively assumed all habitat types could be located within 10 km of the ERF. In reality, this is not the case and Section 4.2.2 of the Report to Inform HRA – (Document Reference 6.3) takes the further step of looking at the specific habitat locations within each designated site. All of the sand dune habitats are located at least 45 km from the Project and, at this distance, effects on sand dunes as a result of emissions to air will be negligible. Therefore, effects on sand dunes were scoped out of the ES and HRA.</p>	

<p>SACs are designated for rare and vulnerable habitats and species, whilst SPAs are classified for rare and vulnerable birds. Many of these sites are designated for mobile species that may also rely on areas outside of the site boundary. These supporting habitats may be used by SPA/SAC populations or some individuals of the population for some or all of the time. These supporting habitats can play an essential role in maintaining SPA/SAC species populations, and proposals affecting them may therefore have the potential to affect the European site. It should be noted that some of the potential impacts that may arise from the proposal relate to the presence of SPA interest features that are located outside the site boundary. Natural England advises that the potential for offsite impacts should be considered in assessing what, if any, potential impacts the proposal may have on European sites.</p>	<p>The potential for disturbance to qualifying interest bird species on functionally linked land is now considered in the HRA, as set out in Sections 4.5.2 and 5.3.1 of the Report to inform Habitats Regulations Assessment (Document Reference 5.9).</p>	
<p>When identifying the potential for significant effects, we recommend that the seasonality of species designations be considered; for instance, whether there are records of a species during the season when it is identified as a designated site feature (e.g. during the breeding season). Although it is also worth considering impacts to those species at any time of year.</p>	<p>This is agreed and is considered as part of the HRA, for example in considering breeding, wintering and migratory bird survey results. (see Sections 4.5.1 and 5.3 of the Report to inform Habitats Regulations Assessment (Document Reference 5.9).</p>	

<p>As well as wintering waterbirds, the Humber Estuary provides safe feeding and roosting sites for species migrating between breeding sites in the arctic and subarctic, and wintering grounds in southern Europe and Africa. The Humber Estuary is therefore important for waterbirds on passage in spring and autumn as well as those species that stay all winter. Natural England therefore requires bird surveys to determine the population status of both wintering birds and passage birds. Chapter 10, Appendix E, paragraph 2.11 indicates that wintering bird surveys did not commence until November, missing the passage birds in September and October. Natural England do not agree that the site does not offer significant habitat for passage birds and we recommend that surveys be undertaken to cover the period August through to April. Weekly visits between September and November inclusive, and March and April inclusive, are recommended due to high turnover of birds during migration. The surveys should cover open arable land within the Order Limits, as well as land adjacent to the development that could be affected and provides the potential to support designated site species. The survey results should also provide some understanding of how the birds use the site as well as presence/ absence. Breeding bird surveys should cover the area within the Order Limits.</p>	<p>Migratory bird surveys of arable land within and adjacent to the Energy Park Land were undertaken between August 2021 and April 2022 in line with Natural England's recommendations. Results are presented within Chapter 10: Ecology and Nature Conservation of the Environmental Statement (Document Reference 6.2.10) and were used to inform the Report to inform Habitats Regulations Assessment (Document Reference 5.9).</p>	
<p>Table 5 and Table 6, within Chapter 10, Appendix E, identify SPA species. Although the Humber Estuary SPA stops further downstream, this section of the river is still part of the SSSI, which is designated for numerous bird interest features. Tables 5 and 6 should also identify SSSI species.</p>	<p>Noted and included in Chapter 10: Ecology and Nature Conservation of the Environmental Statement (Document Reference 6.2.10).</p>	
<p>Chapter 10, Appendix D Otter and Watervole Survey Report found evidence of water voles through the drains on the Energy Park Land and Railway Reinstatement Land. It is not yet fully understood what works to watercourses are being proposed. Natural England recommends that water vole displacement should be implemented where work will impact sections of watercourse used by water vole. The developer should also ensure adjacent areas provide suitable water</p>	<p>As set out in Chapter 10: Ecology and Nature Conservation of the Environment Statement (Document Reference 6.2.10), no water vole signs were found in areas where works will directly impact ditches. Evidence of water vole was found along the main Lysaght's drain, however this was at the eastern end, over 0.7 km from the Energy Park. Repeat surveys will be undertaken in line with water vole guidance and if there is a risk of</p>	

<p>vole habitat prior to displacement. A license for this activity should be secured from Natural England prior to commencement of development.</p> <p>Following the clarification from the developer that the water vole signs were found over 0.7km away from the development site this matter can be considered resolved. This distance is sufficient, however prior to commencement of the construction work the developer should ensure a class licence is received if required.</p>	<p>impacting water vole, displacement will be undertaken under a class licence.</p>	
<p>Chapter 10, Appendix D Otter and Water vole Survey Report found evidence of otter using the River Trent. The survey found no evidence of otter using the watercourses within the Order Limits. However, otter territories may extend up to 12 km along water courses, so survey of the area within the Order Limits an 0.1 km buffer could miss signs of otter.</p> <p>Following the clarification from the developer that the sites were assessed as suboptimal for otter, and that precautionary measures to minimise impacts to foraging otter will be carried out as outlined in ES chapter 10, this matter can be considered resolved.</p>	<p>The River Trent will not be directly impacted by the Project. Ditches within the site were assessed as suboptimal for otter and highly unlikely to support otter holts/resting places, therefore a 0.1 km survey buffer is considered appropriate. Chapter 10: Ecology and Nature Conservation of the Environment Statement (Document Reference 6.2.10) outlines measures to minimise impacts to foraging and commuting otter.</p>	

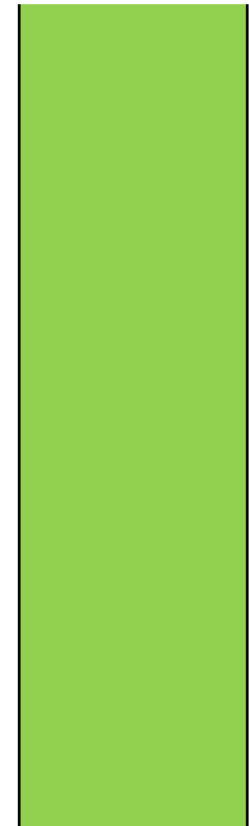
Chapter 10, Appendix C outlines the results of ongoing great crested newt (GCN) surveys. Surveys to date have included ponds and suitable ditches within the Order Limits and within a 0.25 km buffer. Natural England expects, as a minimum, any and all waterbodies within 250 m of a potential development site be included within the survey, and normally up to 0.5 km as well. Suitable water bodies should be included within the survey unless there are clear barriers to GCN movement, obviously unsuitable habitat, or another valid reason for discounting ponds beyond 0.25 km from the Order Limits. If there is clear habitat connectivity and no obvious barriers stopping GCN reaching more distant waterbodies, then survey effort to 0.5 km should be undertaken.

Surveys have found evidence of great crested newts in ponds within the Order Limits and 0.25 km buffer of the Railway Reinstatement Land and the Southern DHPWN Land. It is Natural England's opinion that habitats within and immediately surrounding the rail corridor are likely to provide good terrestrial habitat for GCN. Any works within these areas will likely need to be covered by an appropriate licence.

You may wish to consider the district level licensing scheme.

Following the clarification from the developer that the district level licencing scheme will be taken into consideration for impacts on suitable habitats, this matter can be considered resolved. The developer should ensure they provide appropriate evidence for the scheme.

Although great crested newt may use suitable terrestrial habitat up to 0.5 km from a breeding pond, in this instance a 0.25 km search radius was considered appropriate due to the likely small scale habitat loss in close proximity to pond/ditches within 0.25 km of the Order Limits. The district level licensing scheme will be taken into consideration for any impacts on suitable habitats within 0.25 km of great crested newt ponds.



<p>Natural England notes that the application site is in close proximity to a number of SSSIs. Based on the plans submitted, Natural England considers that the proposed development could have potential significant effects on the interest features for which the sites have been notified. Chapter 10 correctly identifies SSSIs for assessment. Our advice regarding the potential impacts upon the Humber Estuary SSSI coincides with our advice regarding potential impacts upon the Humber Estuary SAC/SPA/Ramsar as detailed above.</p> <p>In addition, it is worth noting that environmental benchmarks for air quality emissions at Risby Warren SSSI are already exceeded and this should be a key consideration when undertaking the in combination assessment.</p>	<p>Chapter 10: Ecology and Nature Conservation (Document Reference 6.2.10) and Chapter 5: Air Quality of the Environmental Statement (Document Reference 6.2.5) provide an assessment of the likely significant effects on surrounding SSSIs and their designated interest features. Cumulative effects are assessed in Sections 6.3.1 And 6.8 of Chapter 18 of the ES Cumulative Effects (Document Reference 6.2.18).</p>	
<p>3. MITIGATION MEASURES AND ENHANCEMENTS, INCLUDING LIKELY EFFECTIVENESS OF MITIGATION, MONITORING PROCEDURES, HOW MITIGATION WILL BE SECURED WITHIN THE DCO AND THE CONTENT OF THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN/ CODE OF CONSTRUCTION PRACTICE</p>		
<p>Should any piling and/ or blasting work be proposed, Natural England recommends that the survey buffer should be extended to 0.1 km around the area where such works are to be carried out.</p>	<p>The existing survey covered the majority of areas that would be located within 0.1 km of any high noise/vibration activities. Repeat surveys and monitoring of known setts will be informed by the need for blasting and piling and will ensure any areas not previously surveyed are covered.</p>	
<p>Chapter 10, Appendix E Ornithology Surveys have identified a breeding population of Cetti's warbler. The developer is advised to speak to the ecologist at the local authority to ensure there is no net loss of habitat for this species due to the development.</p>	<p>This is noted. Discussions have taken place with NLC's Ecologist regarding creation of wetland habitat with areas of wet woodland and reedbeds, which provide suitable compensation for Cetti's warbler.</p>	

<p>We welcome mitigation measures proposed in Chapter 10, Section 7. The specifics of these measures should be detailed in the Code of Construction Practice (CoCP) and Ecological Management Plan (EMP) which will need to be agreed with Natural England.</p> <p>Potential for noise, vibration and visual disturbance as a result of the construction and operation of the development should be a key consideration of the HRA process. Chapter 13 (Traffic and Transport), paragraph 8.2.5.3 indicates that there will be an additional 580 vessel movements per annum at Flixborough Wharf as a result of the proposed development. This represents a significant increase of 200% (when compared to 305 vessel movements in 2019) and should be considered within the HRA. As the development includes new access routes close to the designated site boundary, the HRA and SSSI assessment should also consider the potential for recreational disturbance impacts.</p>	<p>The potential for disturbance (noise/vibration/visual) to qualifying interest bird features of the Humber Estuary SPA and Ramsar during construction and operation has been considered in Sections 4.5.1, 4.5.2, 4.5.3 and Section 5.3.1 of the Report to inform the Habitats Regulations Assessment (Document Reference 5.9), including the potential effect of vessel movement on birds using the River Trent. The potential for recreational disturbance has also been considered.</p>	
<p>Natural England welcomes preparation of a detailed EMP to include details of the creation and ongoing management of mitigation habitat, alongside the enhancement of existing habitat. We fully support and encourage plans to deliver Biodiversity Net Gain (BNG) on site. As per previous correspondence, we recommend you get in touch with North Lincolnshire Council's Natural Environment Policy Specialist to discuss the matter and help shape the detail of your approach to BNG. As a Nationally Significant Infrastructure Project (NSIP), the project does not fall directly within the remit of the national policy requirement within The Environment Bill to deliver 10% BNG. However, the Government has committed to amending the Environment Bill to include mandatory BNG for NSIPs down to mean low water. Please be advised that the Defra metric should not be used to assess impacts and calculate compensation for habitat damage or loss in designated sites or irreplaceable habitats. Any impacts on such habitats and sites should be assessed in accordance with planning policy and via environmental assessments, such as an Appropriate Assessment where European sites are concerned, with any</p>	<p>Although there is not currently a policy requirement to provide a minimum percentage of BNG, a BNG assessment has been completed, which shows at least a 10% net-gain in habitat areas. This can be found in Appendix I: Biodiversity Net Gain Report of Chapter 10: Ecology and Nature Conservation in the Environmental Statement (Document Reference 6.2.10). Details of the enhancement and habitat creation methods and ongoing management will be discussed in correspondence with NLC and final details will be submitted to NLC (as the relevant planning authority) for approval in order to discharge the relevant requirement in the DCO. It is recognised that the Defra metric does not consider, override or undermine any existing planning policy or legislation, including the mitigation hierarchy. The assessment of likely significant effects on ecological features, and the need for mitigation/compensation,</p>	

<p>necessary mitigation or compensation requirements dealt with separately from BNG provision.</p>	<p>have been undertaken independently of the Defra metric.</p>	
<p>AIR QUALITY</p>		
<p>Chapter 5, paragraph 4.13.1.1 indicates that the effects on habitats within 10 km of the Energy Recovery Facility (ERF) have been assessed. Both Appendix A and Annex 5 indicate that a 10 km radius from the Project was used. 'Project', in this instance, is assumed to refer to the Order Limits. It is therefore unclear what search radius has been used and this should be clarified.</p>	<p>In the Preliminary Environmental Information Report (PEIR), the Habitats Regulations Assessment (HRA) identified all designated sites within 10 km of the point of the main flue stacks, given that this is the key emission point potentially impacting sensitive ecology. The air quality modelling was undertaken using a similar buffer of 10 km from the flue stacks. The search area and dispersion modelling were subsequently extended to 15 km from the flue stacks (see ES Chapter 5 Air Quality Document Reference 6.2.5).</p>	
<p>Annex 5 states that initial modelling indicates a negligible risk of significant effects beyond 10 km, and therefore screening to 15 km has not been undertaken for European sites. It should be noted that Natural England has not yet had sight of the results of the initial modelling, so we have not been able to refer to this in our response. However it is relevant that Thorne Moor SAC is located within 15 km of the Order Limits and is notified for H7120 Degraded raised bogs (still capable of natural regeneration). H7120 Degraded raised bogs are sensitive to nutrient nitrogen and acid deposition. Natural England therefore advises that screening up to a minimum of 15 km of the Order Limits should be undertaken. Due to the nature of the proposed development and habitat sensitivities, it may also be appropriate to consider Hatfield Moor SAC and Thorne and Hatfield Moors SPA.</p>	<p>As a result of this advice from Natural England, air quality modelling was extended to include a buffer of 15 km from the flue stacks. We note the presence of Hatfield Moor Special Area of Conservation (SAC) just outside this buffer zone. However, Thorne Moor SAC and Thorne and Hatfield Moors Special Protection Area (SPA) are included within the 15 km search area and are considered in the assessment (see ES Chapter 5 Air Quality Document Reference 6.2.5).</p>	



<p>Check all relevant emissions are included in baseline assessment including Keadby II Power Station as appropriate</p> <p>Natural England agree cumulative effects have now been included within the assessment. There are outstanding issues with the in combination effects</p>	<p>We have assessed cumulative effects in Sections 6.3.1 and 6.8 Chapter 18: Cumulative Effects of the Environmental Statement (Document Reference 6.2.18) and in-combination effects in Section 5.5 of the Report to inform the Habitats Regulations Assessment (Document Reference 5.9).</p> <p>This considers future emissions from Keadby 2 and Keadby 3 in addition to the existing baseline. The assessment also considers the trends in the long term baseline on a regional, national and international basis, and assesses the overall likelihood of significant adverse impacts on sensitive ecological receptors due to in-combination effects.</p>	
<p>WATER QUALITY</p>		
<p>Water is to be sourced from Anglian mains and connected to surface water and drainage system. Natural England welcomes mitigation measures proposed in Chapter 9, Section 7, as well as mitigation to prevent leaching of construction pollutants into surface waters, as outlined in Chapter 9, paragraph 8.2.1.9. Potential for water quality impacts should be considered in the HRA.</p>	<p>Section 4.5.4 of the Report to Inform (Document Reference 5.9) considers the potential for impacts on water quality.</p>	

Table 3.2: Table of Matters Outstanding

NATURAL ENGLAND POSITION	APPLICANT POSITION	RAG STATUS
ECOLOGY, HABITATS AND NATURE CONSERVATION		
1. The Applicant’s Habitats Regulations Assessment report and effects on European sites and features;		
<p>Refs 2 and 3 - Humber Estuary SAC/SPA/Ramsar site (Alone and In-combination)/SSSI Impacts from Ammonia and Nitrogen Deposition (Operation)</p> <ul style="list-style-type: none"> Natural England notes that Table 7 of the HRA states that the background ammonia level is in exceedance of the sites’ critical levels, and there will be an additional significant contribution from the proposed development. We also note that Table 10 of the HRA states that the background nitrogen deposition level is in exceedance of the sites’ critical loads, and there will be an additional significant contribution from the proposed development. However, at the Appropriate Assessment (AA) stage of the HRA it is determined that as only a very small area of habitat will be impacted by the >1% Process Contribution (PC) then no adverse effect on site integrity is anticipated. Recent case law (Dutch Nitrogen ruling) makes it clear that small contributions should not be disregarded entirely. Where a site is in an unfavourable ecological state or condition or exceeds the environmental benchmarks, potential additional damaging effects will 	<p>Ammonia</p> <ul style="list-style-type: none"> The prediction of levels of ammonia from the Project has been based on modelling of emissions of 10 mg/Nm³ (ie the new emission limit in the updated Bref note). Prior this update, ammonia emissions were included in the air quality impact assessment on the basis of data from other operational plants in lieu of an actual emission limit. In practice most plants operate at much lower emission levels typically in the range 60-80% below the ammonia emission limit (eg 2-3 mg/Nm³). The ammonia impacts, and by association acid and nitrogen deposition impacts, are, therefore, greatly overstated. Bespoke emission limits for ammonia (and other emissions of interest such as SO₂, HCl, and NO_x) can be agreed with Environment Agency (EA) at the permitting stage, if there is a specific impact that is 	

need careful justification. We advise that further justification should be provided to determine whether the additional contribution is likely to undermine the conservation objectives of the site. If adverse effect cannot be ruled out, then further mitigation may be required.

- In addition, we advise that reedbed habitat is considered to be part of the saltmarsh feature on the Humber Estuary SAC.
- SSSI advice as above.
- We welcome the additional information provided on impacts to Humber Estuary designated sites due to ammonia and nitrogen deposition. We would welcome the opportunity to review proposals for reducing the ammonia emissions within an updated HRA. The use of any measures would have to be secured within the DCO or associated documents as the HRA would not be able to rely on a mechanism which has not yet been secured (ie the environmental permit).
- The additional information on nitrogen deposition should be assessed within an updated HRA. As it is stated that there are small areas of reedbed which could remain effected by the deposited nitrogen it should be specified whether this input has potential to undermine the conservation objectives of the site.
- Natural England and the developer have agreed to have a meeting following the submission of the SoCG to determine a resolution to the outstanding air quality exceedance issues.

driving lower emissions than set out in Bref. This option is available for NLGEP, as ERFs are typically able to operate well within emission limits (see above). There have been precedents for such an approach on limiting ammonia emissions as we are suggesting for NLGEP. ERM worked with the Cornwall Energy Recovery Centre on a project where such lower emission limits on ammonia were agreed with the Environment Agency (EA) as part of the permitting process and therefore there is considerable 'headroom'.

- Whilst such limits are usually agreed during the permitting process, as part of the DCO, NLGEP will commit to setting out and achieving specific levels for ammonia that avoid adverse effects on the integrity of the Humber Estuary SAC/SPA/Ramsar/SSSIs, as part of the permitting process in discussions with NE/EA.

Deposited Nitrogen

- In modelling the predicted loads of nitrogen deposited on the Humber Estuary along the River Trent, the PC as a % of the CL has used the CL (min) for saltmarsh in areas considered to support reedbed.
- Reedbed is considered to be extremely common along the River Trent as described in Section 5.1.2 and illustrated in Figure 7 of the HRA. The

Appropriate Assessment highlighted that the main areas of habitat affected were dominated by reedbed. Hence whilst some areas of upper saltmarsh could be affected still, the extent of these areas were small.

- Reedbed is a habitat type that is more of a transitional community at the extreme upper end of the saltmarsh. It is a habitat type that can remove nutrients from aquatic systems and can tolerate additional nutrient input. As such it is unlikely to be affected greatly by the additional levels of deposited nitrogen.
- It was considered therefore that even allowing for effects on the upper saltmarsh habitats, the areas affected were small and unlikely to result in an adverse effect on the integrity of the European site. Hence the reasoning was not about the small load contribution, but focused on the ability of large parts of the affected habitats (*ie* reedbed) to tolerate the additional nitrogen deposited and that the areas that could remain affected comprised a very small proportion of that habitat in the European site.
- There are multiple 'worst case' assumptions that are built into the impact assessment. As discussed above, the emissions from the ERF have been assumed to arise at emission limits, which is not likely to be happen in practice. This is also the case for the back-up boilers, that will also operate below

	<p>the emission limits stated. Furthermore, as discussed in detail below, transport emissions are considerably overstated too, due to the need to assess impacts on the basis that all waste arrived by ship, and rail, and road which is clearly not going to be the case.</p> <ul style="list-style-type: none"> • Another factor to consider is that the assumption has been made that all road trucks are diesel powered. However, one feature of the project is the manufacture of hydrogen fuel for road HGVs. Therefore, HGVs coming to site can be hydrogen fuelled, noting that hydrogen fuel cells are zero-emission at the point of use. • The Applicant is undertaking further assessment of the predicted levels taking account of a more reasonable operating case as discussed with NE. 	
<p>Refs 4 and 5 - Thorne and Hatfield Moors SPA / Thorne Moor SAC (In-combination) / Thorne Crowle and Goole Moors SSSI (Alone and In-combination) Impacts from Ammonia and Nitrogen Deposition (Operation)</p> <ul style="list-style-type: none"> • For Thorne and Hatfield Moors SPA, Table 7 of the HRA states that the background ammonia level is in exceedance of the site critical level. The additional contribution from the proposed development is equal to 0.1% of the critical load. 	<p>Ammonia</p> <ul style="list-style-type: none"> • The concerns about the effects of ammonia on these designated sites will be addressed by adopting the same approach as described above for the Humber Estuary. <p>Deposited Nitrogen – Thorne and Hatfield Moors SPA</p> <ul style="list-style-type: none"> • A correction is necessary to Table 10 of the HRA. The PC as % of CL for nitrogen deposition at Thorne & Hatfield Moors SPA, is in fact close to 0.1%, rather 	

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| <ul style="list-style-type: none"> • Table 10 of the HRA states that the background nitrogen deposition level is in exceedance of the site critical load. The additional contribution from the proposed development is equal to 0.3% of the critical load. • For Thorne Moor SAC, Table 7 of the HRA states that the background ammonia level is in exceedance of the site critical level. The additional contribution from the proposed development is equal to 0.2% of the critical load. • Table 10 of the HRA states that the background nitrogen deposition level is in exceedance of the site critical load. The additional contribution from the proposed development is equal to 0.3% of the critical load. • Natural England agree that alone the development will not have significant impacts on the SPA or SAC due to ammonia or nutrient nitrogen deposition, however, in combination with Keadby 2 and Keadby 3 there is potential for impact. At Appropriate Assessment predicted baseline trends in air pollution are provided to evidence why the in-combination impacts can be ruled out. • We advise the Dutch Nitrogen ruling also concluded that an appropriate assessment may not consider the existence of conservation measures, preventive measures, measures specifically adopted for a programme or autonomous' measures (i.e., measures not part of that programme), if the expected benefits of those measures are not certain at the time of that assessment. • Therefore, further evidence as to why there will not be an adverse effect due to cumulative air pollution outputs should be provided. • SSSI advice as above. | <p>than 0.3%. The critical load (min) that should have been used is 10 kg/N/ha/yr (dwarf shrub heath), not 5 kg/N/ha/yr (coniferous woodland) as information in the Air Pollution Information System (APIS) notes that the qualifying interest feature of the SPA (nightjar) is not sensitive to effects on the conifer habitat. As this reduces the percentage, this does not change the assessment in terms of the effects of the Project alone (<i>ie</i> no significant effect remains).</p> <ul style="list-style-type: none"> • The predicted levels in-combination at the Thorne & Hatfield Moors SPA are 0.1% for the Project and 0.4% for Keadby 2. Whilst the % is uncertain for Keadby 3, it is expected to be $\leq 0.2\%$ (as the %s at the SPA are typically less than at the Thorne Moors SAC, which is 0.2%) • Whilst together these figures are likely to be close to 1%, they are various reasons (see below) why they are considered to be an overestimate and even in-combination effects on the SPA from nitrogen deposition are unlikely to have a significant effect: <ul style="list-style-type: none"> • the multiple worst-case assumptions (see Ref 11 below); • the commitment to achieving levels of ammonia that are expected to be a lot lower than the predicted levels modelled as part of the permitting process (see Refs 2 and 3 above); • ammonia is an important contributor to nitrogen deposition loads and if ammonia levels are |
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- We welcome the additional information provided on impacts to Thorne and Hatfield Moors SPA and Thorne Moor SAC designated sites due to ammonia and nitrogen deposition. We would welcome the opportunity to review proposals for reducing the ammonia emissions within an updated HRA. The use of any measures would have to be secured within the DCO or associated documents as the HRA would not be able to rely on a mechanism which has not yet been secured (ie. the environmental permit).
- The nitrogen deposition clarifications should be provided in a revised HRA. As there is a “restore” conservation objective for air quality at the site, it is important to establish if the proposed development will undermine this objective. We welcome the statement that NLGEP will discuss opportunities to mitigate the effects within the HRA. Natural England will also consider internally what opportunities may exist.
- Natural England and the developer have agreed to have a meeting following the submission of the SoCG to determine a resolution to the outstanding air quality exceedance issues.

reduced significantly, it is expected that there will be a reduction in deposited nitrogen loads;

- as the predicted Project load at the SPA is already around 0.1%, reductions from the above are likely to reduce this close to zero and arguably be insignificant, even in-combination with Keadby 2 and Keadby 3.

Deposited Nitrogen – Thorne Moors SAC

- Similarly, it is expected that at the SAC, the predicted Project PC as a % of the CL will decrease, although it is unlikely that this will reduce to close to zero.
- The Thorne Moors SAC is underpinned by the Thorne Crowle and Goole Moors SSSI, of which over 90% of the units are in an unfavourable condition, but most are recovering.
- Deposited nitrogen can result in vegetative changes, by encouraging scrub and grass species and affect areas supporting bryophytes. NLGEP will discuss opportunities to improve the condition of units within the SSSI to offset potential effects of small increases in nitrogen (eg control of scrub, bracken, ditch blocking to discourage drainage). Such action could be undertaken through agreements that NLGEP has now with Lincolnshire Wildlife Trust (see Ref 10).

	<ul style="list-style-type: none"> In addition to the above, The Applicant is undertaking further assessment of the predicted levels taking account of a more reasonable operating case as discussed with NE. This will include consideration of more realistic operating cases for Keadby 2 (the main influence in-combination) and Keadby 3. 	
<p>Refs 6 and 7 - Humber Estuary SAC/SPA/Ramsar site (In-combination) /SSSI (Alone and In-combination) Impacts from Traffic Emissions (Construction)</p> <ul style="list-style-type: none"> DEFRA and IAQM has been used to determine potential for likely significant effect. We advise the thresholds stated in Natural England’s guidance document (Natural England’s approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001), dated 12 July 2018 NEA001) should be used to determine significant effect. Either, PC <1% of the designated site critical load, or AADT of 1000 cars or 200 HGVs should be used. We also advise that the same thresholds should be applied to identify the potential for in combination impacts with other relevant projects, in line with the Wealden judgement. In addition, if there is potential for a significant impact based on the screening criteria, ammonia impacts should also be included within the assessment. Ammonia can be emitted from vehicle exhaust emissions as a by-product of the catalytic conversion process designed to reduce emissions of nitrogen oxide. As traffic composition transitions toward more petrol and electric cars (i.e., fewer diesel cars on the road), catalytic converters may aid in reducing NOx emissions but result in increased ammonia emissions. 	<p>Traffic, Shipping and Rail Emissions</p> <ul style="list-style-type: none"> The ERF utilises refuse derived fuel (RDF). This is delivered to site as pre-baled material suitable for use in the ERF. One of the favourable features of the site is the ability to deliver waste by ship, train or road. However, the split between these three transport modes is unknown. Within the EIA, a worst-case scenario has been assessed whereby the maximum number of ship loads, train loads and truck loads was considered. As a result, this overestimates the impacts to air quality of each of these modes, noting that the ship emissions are on the quayside and therefore in the River Trent, and the Rail line is, at its nearest point, only 5 m from the River Trent. Therefore, the emissions and impacts from transport have been considerably overstated. The assessment has considered both threshold approaches identified by Natural England. The number of HGVs does exceed the AADT threshold, but the overall contribution is a lot less than 1% of 	

- For further information please see this report from Air Quality Consultants (*titled Ammonia Emissions from Roads for Assessing Impacts on Nitrogen-sensitive Habitats, dated 17 February 2020*) that looks at ammonia emissions from roads for assessing impacts on nitrogen-sensitive habitats. Whilst we are aware that the current CREAM model created by AQC used to assess ammonia emissions from road traffic has not been peer reviewed, at this time it has been recognised as a Best Available Tool and we deem it appropriate to be used where any caveats associated with this model are also considered within the assessment. SSSI advice as above.

- Further to our previous advice, Natural England advise that National Highways have now also created a model for assessing ammonia impacts from traffic. It is not within Natural England's remit to review or endorse models, therefore we support the use of either at this time in light of the modelling expertise of the authors.

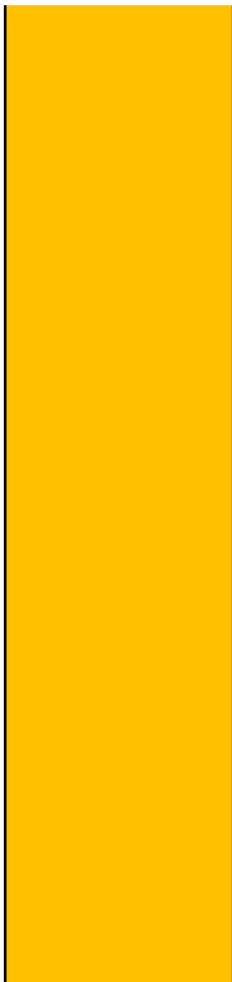
However, as the developer has clarified that traffic impacts will not be within 200m of the designated site, we advise this could be stated within the HRA to scope out the issue.

the NOx critical level. This approach was used also in considering in-combination effects.

- Ammonia was not included in the assessment for two reasons:
 - IAQM guidance states that the effects of ammonia on vegetation from road traffic is negligible. The IAQM acknowledge that first generation vehicles using ammonia additives for NOx abatement were understood to have some ammonia emissions, but the exhaust systems of contemporary vehicles are designed to remove ammonia emissions from exhaust gases and therefore these emissions and impacts will be negligible; and
 - NLGEP is proposing to use hydrogen produced by the project as a fuel for its trucks accessing the site (and for trucks going to other industries on the Flixborough Industrial Estate). Hydrogen fuelled trucks will have zero emissions of NOx and ammonia.
- In addition to the above the Applicant has confirmed that the existing access road to the Flixborough Industrial Estate along Stather Road, adjacent to the River Trent embankments on its eastern side, will be stopped up. It will be replaced by a new access road

	<p>that is located over 200 m east of the designated sites.</p> <ul style="list-style-type: none"> Given the above, significant impacts from operational traffic are not predicted either alone or in combination with other project emissions. 	
<p>Ref 10 – Risby Warren SSSI (Alone) Impacts from Ammonia, Nitrogen and Acid Deposition (Operation)</p> <ul style="list-style-type: none"> ES Chapter 10 Ecology and Nature Conservation, section 4.3.5.1 concludes that PCs of ammonia, nitrogen and acid deposition from the proposed development will all exceed 1% of the relevant critical levels/loads for Risby Warren SSSI. As the site is currently negatively impacted due to the high background levels of nitrogen deposition, a SSSI impact assessment is required. This should identify the potential impacts to notified features which may arise due to additional inputs from the development and assess the effectiveness of the proposed mitigation to reduce or prevent impacts to the designated site. Natural England welcome the applicant’s willingness to explore mitigation opportunities and will internally discuss what options there may be for the site. NE note there is currently a CS agreement on site which is the mechanism through which site management is being carried out currently and therefore we are unclear whether there is an opportunity to carry out the proposed measures. Natural England and the developer have agreed to have a meeting following the submission of the SoCG to determine a resolution to the outstanding air quality exceedance issues. 	<ul style="list-style-type: none"> The key acid grassland habitat type (U1a lichen grassland) covering the vast majority of the site ((approximately 151 ha out of 157 ha) has been lost from the SSSI already, as described in the unit condition assessment - - <i>“Following re-assessment in December 2018 of habitat extent, scrub extent and U1a feature, the following additional features are assessed as in unfavourable condition: both geomorphological features (due to too much scrub), lichen grassland U1a (no longer present on the site due to atmospheric pollution/Nitrogen deposition)”</i>. It is difficult to assess the effects on a habitat type, the majority of which has been lost. Given the above the Applicant has explored opportunities with Natural England to implement measures that would assist in the recovery of the lost habitat on the SSSI (eg through scrub clearance, clearance of accumulated organic material, re-seeding). ground. However, NE has confirmed that management including scrub control is being 	

	<p>implemented already and there are no options for the Applicant to assist further.</p> <ul style="list-style-type: none"> The Applicant is undertaking further assessment of the predicted levels taking account of a more reasonable operating case as discussed with NE. 	
<p>Ref 11 – Messingham Heath SSSI (Alone) Impacts from Acid Deposition (Operation)</p> <ul style="list-style-type: none"> ES Chapter 10 Ecology and Nature Conservation, section 4.4 identifies that the PC of acid deposition from the proposed development is 1.1% of the critical load for Messingham Heath SSSI. The Predicted Environmental Contribution (PEC) for the site is also currently in exceedance due to high background levels of sulphur and nitrogen. Paragraph 4.4.1.4 states that significant impacts to the SSSI have been ruled out due to the additional contributions from the development being close to 1%. <p>Natural England does not accept this approach to round down to a whole number. Our concern is that this could lead to situations where there are multiple process contributions, for example, 1.1% + 1.3% being screened out entirely, but when added together are significant. Where any PC has exceeded the 1% threshold and the PEC exceeds > 70% of the threshold, this triggers the requirement for further assessment to demonstrate that the proposed emissions will not damage or destroy the interest features for which the SSSIs have been notified. Recent case law (Dutch Nitrogen ruling) makes it clear that small contributions should not be disregarded entirely. Where a site is in an unfavourable ecological state or condition or exceeds the environmental benchmarks, potential additional damaging effects will need careful justification. We advise that as the site</p>	<ul style="list-style-type: none"> The assessment in the ES did not just screen it out as the PC was 1.1% of the CL. It was considered further, both alone (Chapter 10, Appendix A, Section 4.4) and in combination with the effects from other emissions sources in the Cumulative Assessment (Chapter 18, Section 6.8). The predictions of the modelling and the assessment take account of a number of precautionary approaches that are additive. For example: <ul style="list-style-type: none"> the modelling predictions are based on maximum emission limits, and such plants do not operate at emission limits, and in the case of ammonia will typically operate at 70% to 80% below the emission limit; five years of data were used in the modelling and the assessment was undertaken against the worst of the five years that were modelled. The average impacts over those five years would be more reflective of long term impacts on habitats; 	

<p>is already in exceedance, the potential for impacts due to additional inputs should be considered in a SSSI impact assessment.</p> <ul style="list-style-type: none">• Natural England welcome the additional clarifications provided for this ref. For the U1b/c/d/e grassland feature it is stated that the lower CL for acid has been used. However, as this has been listed as precautionary measure it should be clarified whether this is the most suitable value to use, or if the habitats present should be assessed against a higher CL. This will give a more site/habitat specific approach.• Natural England and the developer have agreed to have a meeting following the submission of the SoCG to determine a resolution to the outstanding air quality exceedance issues.	<ul style="list-style-type: none">• the assessment has used the minimum value for the CL range.• The acid grassland habitat is listed as in an unfavourable condition but recovering. Natural England's unit condition monitoring confirmed that the acid grassland U1a that supports lichens was in a favourable condition, with grasslands U1b/c/d/e all in an unfavourable condition, but recovering after a drought in 2018 and it is closely grazed.• Adverse effects on the integrity of the SSSI were predicted to be unlikely based on several factors and not a simple rounding down of the 1.1%:<ul style="list-style-type: none">• the favourable status of the lichen grassland and the recovering status of the other sub communities despite the apparently elevated baseline and sensitivity to acid deposition;• the predicted PC of only 1.1% of the CL despite multiple layers of worst-case assumptions in the predictions, suggesting the predicted loads are likely to be a considerable over-estimate;• that any additional effects to the SSSI are expected from NGLEP alone.	
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	<ul style="list-style-type: none"> The Applicant is undertaking further assessment of the predicted levels taking account of a more reasonable operating case as discussed with NE. 	
<p>Refs 14 and 15 - Humber Estuary SAC/SPA/Ramsar site/SSSI Potential Disturbance to Migration Route of River and Sea Lampreys – Noise and Vibration (Construction)</p> <ul style="list-style-type: none"> The HRA does not include an assessment of potential impacts from noise and vibration generated during the construction phase on migrating river and sea lamprey. The proposals state that the construction work will include piling, therefore the potential impact for disturbance due to the maximum noise levels should be considered. An assessment of the potential impacts should be included within the HRA and suitable mitigation proposed if required. SSSI advice as above. We advise evidence of sound levels at the designated site from bored piling should be included within the HRA. 	<ul style="list-style-type: none"> There will be no piling in the River Trent and hence no effects on lamprey species. Piling on land will be bored piling and barely perceptible even typically at about 10-20 m away from the source. Transfer of vibration from land to water is insignificant due to the difference in the acoustic properties of the land and the water, and any effects on water (underwater sound) is typically scoped out if only piling on land is being carried out. Piling on land and then dredging to expose the piled wall is sometimes used as a mitigation measure to avoid high levels of underwater sound in the water. However, as stated, in this case there is no requirement for piling in the water. <p>Further information (see below) provided to NE on 23rd January 2023 and NE indicated in a call on 6th February that this information was satisfactory and should be included in the updated HRA.</p> <ul style="list-style-type: none"> As previously stated and assessed in the ES, the piling will be bored piling and is required to enable construction of the building foundations. The nearest building constructed to the River Trent as part of the 	

Project (the carbon capture building), is over 40 m from the river.

- There is no specific information about the effects of piling on lamprey species, and the references used in the SoCG to date relate to human perceptions. BS 5228 (Code of Practice for noise and vibration control on construction and open sites, part 2 Vibration) suggests for humans the threshold of perception of vibration is between 0.14 mm^{-1} (just perceptible in most sensitive situations) and 0.3 mm^{-1} (just perceptible in a residential environment). Measurements undertaken by ERM close to CFA bored piling activities on another project (for DLR in London) recorded vibration levels of between 0.4 and 1.4 mm/s at a distance of 3 m. Using the method in BS 5228 the highest measurement is estimated to reduce to below 0.14 mm/s at a distance of 20 m.
- Whilst acknowledging that these figures / distances relate to human perception, the River Trent (at its closest point) is located at a considerably greater distance from the piling source. It should be noted also that the river will currently experience vibration from existing industrial activities in the area, including the loading and unloading of steel that currently takes place at Flixborough Wharf. Hence, it is considered that the River Trent and the lamprey

species it supports are unlikely to be affected significantly by the bored piling.

- Of note also is the technical guidance issued by the California Department of Transportation (Technical Guidance for the Assessment of the Hydroacoustic Effects of Pile Driving on Fish, 2020) which highlights the benefits of undertaking piling on land to avoid effects on fish in water:
 - *“The most effective option for avoiding and minimizing underwater sound pressure during construction of deep-water foundations for new bridge construction is designing the new foundations to span the wet channel.....where it is feasible, land-based pile driving is an excellent approach to avoid and minimize impacts on the environment and greatly reduces the potential for additional mitigation under the CESA that might result from driving within the wet channel. The further away the pile is from the wet channel during construction, the more attenuation would be achieved through transmission loss as the energy from the pile moves through the land toward the wet channel. Although designing a longer bridge span to avoid placing piles in the water may prove more expensive, such a design also reduces off-site mitigation requirements and associated costs often associated with*

	<p><i>impacts to listed species that may occur when driving in the wet channel."</i></p>	
<p>Refs 16 and 17 - Humber Estuary Ramsar site/SSSI Impacts from Noise, Vibration and Visual Disturbance (Construction and Operation)</p> <ul style="list-style-type: none"> Natural England notes that the HRA 4.5.1.3-4.5.1.6 states that <i>"The wintering and migratory bird survey also found that the area of the River Trent adjacent to the Project did not support significant populations of most waterbirds, with only small numbers of birds recorded"</i> and <i>"Given... the low numbers of qualifying feature bird species recorded, the effects of disturbance or displacement on birds from the Ramsar designation are not predicted to be significant."</i> However, Natural England does not support this conclusion. The stretch of the River Trent adjacent to the proposed site is part of the Humber Estuary Ramsar designated site. Therefore, the application of a 1% threshold to rule out likely significant effect on Ramsar birds (generally applied in the context of functionally linked land) is considered inappropriate in this instance as the River Trent is within a site designated for bird features. The proposed site falls within a 50m impact risk zone for the Humber Estuary SSSI (and Ramsar). We therefore advise that further assessment should be provided in the appropriate assessment regarding potential impacts associated with noise, vibration and visual disturbance during construction and operation. The HRA does not include an assessment of noise impacts on ecological receptors. Consideration should be given to potential noise/vibration disturbance from highly disturbing construction works, such as piling, in 	<p>1%</p> <ul style="list-style-type: none"> Reference to the 1% threshold was used in the HRA screening in considering effects on the functionally linked land for the Humber Estuary SPA (see Section 4.5.2 of the HRA), but not for the assessment for the Ramsar site (see Section 4.5.1 of the HRA). <p>Vibration</p> <ul style="list-style-type: none"> The only piling that is proposed as part of the Project is bored piling and this will not result in any significant effects to ecological receptors associated with the Ramsar site, or the SSSI along the River Trent (see response to Refs 14 and 15 above). <p>Noise</p> <ul style="list-style-type: none"> The assessment of the NLGEP Project has taken account of noise levels and predicted noise levels at human receptors (including in offices within 30 m of construction work) hence predictions are L_{Aeq} values as required by BS 5228. Effects on fauna species including birds are typically assessed based on L_{Amax} levels and the occurrence of 	

proximity to the River Trent. We note that the HRA 5.3.1.4 refers to “*The existing industrial location of the site means that birds will be habituated to some disturbance already.*” However, the HRA should consider how noise levels during construction will compare to the existing background noise levels on site. Volume 6 of the ES 6.2.9 Water Resources and Flood Risk refers to construction work including “*drilling/piling for foundations*”. Noise from piling activity will result in loud bangs which have a more significant disturbance impact on bird features than constant ambient noise. Therefore, a detailed assessment of potential impacts from piling works should be included in the HRA and suitable mitigation measures should be introduced (see below).

- Natural England welcomes reference to potential lighting impacts and relevant mitigation in 8.2.2.17 of the ES Ecology and Nature Conservation chapter. We recommend that the Indicative Lighting Strategy at Annex 4 to the ES (Document Reference 6.3.4) is included as mitigation in the HRA appropriate assessment.
- Further assessment should also be provided regarding other visual disturbance during operation. We note that additional information regarding increased disturbance from traffic and human presence on wintering birds has been provided in 8.2.2.18 of the ES Ecology and Nature Conservation chapter. We recommend that these details are included in the HRA to inform the assessment.
- Natural England recommends that the mitigation measures previously included in Chapter 10, paragraph 7.1.2.2 of the Preliminary Environmental Impact Report (PEIR) should be reintroduced via the previously proposed Construction Ornithological Monitoring Plan (COMP). We do not agree with the statement in Table 2 of the ES Ecology and Nature Conservation chapter that “*A Construction Ornithological*

occasional and often sudden high levels to reflect potential startle responses. There are no formal guidelines for this. However, the work on NLGEP will not involve activities such as percussive / driven piling and noise is expected to be at a more consistent level due to a number of construction activities happening at the same time. Therefore, in this case the L_{Aeq} levels were considered likely to be similar to the L_{Amax} levels and any higher-level noise events occurring during this work are likely to be less obtrusive than if they were happening in isolation.

- Predicted un-mitigated levels during building construction across the river from the site at Amcotts approximately 320 m west of the Project (Location 3 – see Chapter 7) are up to 62 dB L_{Aeq} (at 1 m from the façade of the building), but along the river west of Location 1, approximately 900 m from the Project Red Line Boundary, levels are predicted to have reduced to approximately 50 dB L_{Aeq} , a level that are unlikely to result in significant effects on birds. In open areas away from buildings the noise level would be 3 dB lower. Mitigation (eg hoarding) is likely to reduce these levels by about 10 dB L_{Aeq} and hence in practice the effects of noise on birds associated with the designated sites (predominantly mallard, with occasional redshank) along the river (upstream and downstream) are expected to be much more localised along the river.

Monitoring Plan (COMP) is no longer required. Therefore, the mitigation measures previously proposed for highly disturbing works close to the River Trent taking place between October-March should be assessed in the Appropriate Assessment. The Appropriate Assessment should determine whether adverse effect on integrity of the Humber Estuary Ramsar can be ruled out, taking into account any mitigation measures proposed. As stated in our previous response dated 23 July 2021, mitigation measures should be agreed and implemented before construction work begins and Natural England advises against reliance on a 'monitor and manage' approach which we have found to be very difficult to implement.

- The additional information provided by the applicant should be included within a revised HRA, along with consideration of how the noise levels during construction and operation will compare to the baseline background noise levels.
- We advise evidence of sound levels at the designated site from bored piling should be included within the HRA to evidence the impact this will have on designated birds present on the designated site.
- We welcome the reinstatement of the COMP to control impacts during construction on wintering and passage bird features. We note the statement that timing of loud construction activities could be timed to avoid sensitive months of the year. We would advise that if this is secured as mitigation within the DCO for the most disturbing construction activities (ie. piling) it would significantly reduce impacts during construction.
- Some more elevated noise levels are likely, associated with specific activities for example, breaking of concrete that are predicted to generate unmitigated levels of 75 dB LAeq (72 dB LAeq without façade effect) at 100 m. However, hoardings will be installed to help reduce the noise levels at local properties and it is expected that these alone will reduce the levels generated by such activities by approximately 10 dB and that free-field noise levels could be down to or below 55 dB LAeq at 400 – 500 m.
- Wherever possible timing of construction activities likely to generate higher levels will be undertaken to avoid effects on bird species associated with the designated areas (e.g. between October and March).
- NLGEP is happy to reinstate the COMP and agree specific construction activities with Natural England that would require it to be implemented.
- Once operational, noise levels are predicted to be much lower as expected, with only areas adjacent to the works exceeding 55 dB LAeq (see Chapter 7). Significant effects on birds are not predicted.
- Further information including figures showing bird species, numbers and locations, and background and predicted noise levels is being prepared and will be submitted to NE for their comments and incorporated into the updated HRA. On the call with

	<p>NE on 6th February NE noted that this information would be helpful and they would review it further on receipt.</p> <p>Visual Disturbance</p> <ul style="list-style-type: none"> Measures to reduce the risk of disturbance effects from lighting from the project have been drawn up as part of an Indicative Lighting Strategy. The measures it contains specifically focus on avoiding light spill onto the River Trent from the Project. These measures will be secured via the DCO. Natural England has indicated already that they are broadly satisfied with these measures. 	
<p>Refs 18 and 19 - Humber Estuary SPA / Ramsar site/SSSI Impacts from Potential Loss of Functionally Linked Land (Construction)</p> <ul style="list-style-type: none"> Natural England highlights that the HRA likely significant effect test identifies whether there is a credible risk that the project might undermine the conservation objectives for the European site. In this case, we advise that likely significant effect cannot be ruled out at the screening stage for loss of functionally linked land associated with the Humber Estuary SPA/Ramsar, due to: the proximity of the proposed site to the designated sites; potential habitat suitability for SPA/Ramsar birds; scale of the project; and bird records returned. Therefore, we advise that the bird survey results should be assessed at the appropriate assessment stage of the HRA. Natural England has reviewed the data provided in the Technical Appendix E: Ornithological Surveys of the ES Ecology and Nature 	<ul style="list-style-type: none"> Effects on functionally linked land were screened in and included as part of the Appropriate Assessment (Section 5.3). No adverse effects were concluded. <p>Pink-footed Goose</p> <ul style="list-style-type: none"> Pink-footed goose was considered, but it was recorded in flight across the Project area and along the River Trent only. None were recorded using the Project site, or the immediate surrounds and no functionally linked land was identified for this species. We acknowledge this should have been stated in the HRA. <p>Redshank</p>	

Conservation chapter. However, we advise that there is currently a lack of clarity in the assessment of these results in the HRA. We recommend that the relevant bird survey results are presented more clearly in the HRA to inform the assessment, for example using a summary table that highlights peak counts, date and location recorded for the relevant SPA/Ramsar species.

- We note that Technical Appendix E: Ornithological Surveys includes survey results for pink-footed goose and redshank. Pink-footed goose and redshank are component species of the Humber Estuary SP/Ramsar designated sites; therefore, potential impacts on these species should be assessed in the HRA.
- We also note that the ES Ecology and Nature Conservation chapter 6.2.2.21 refers to “24 [mallard] birds using the water drains and arable farmland within the Order Limits” and 8.3.1.2 states that these habitats “will not be affected by habitat loss.” However, this information is not included in the HRA. Please clarify whether this area of functionally linked land is proposed to be lost in the HRA to inform whether likely significant effect from loss of functionally linked land can be ruled out.

Natural England notes the provision of the additional survey information. We advise this should be incorporated into the HRA to inform the assessment.

- Only one redshank was recorded within the red line boundary (March 2022 where loss of land will occur - where the Project runs north of the Flixborough Industrial Estate).
- Small numbers (mostly single birds with one group of four) were recorded along the eastern part of Lysaght’s Drain close to the Skippingdale Retail Park or in flight along the drain. It will not be developed (*ie* lost) despite being within the Red Line Boundary, rather it will remain as it is in the flood management area, over 600 m from the new access road and the main development areas.
- Other records of passage / wintering redshanks were outside the Project boundary, mostly in areas that will be largely unaffected by the Project:
 - individuals seen approximately 100 m and 150 m north of the Flixborough Industrial Estate towards and along the Burton and Flixborough Drain;
 - small numbers (1 to 8 individuals) further north on the Burton and Flixborough Drain, approximately 600 m from the Project Red Line Boundary;
 - one bird seen on the west banks of the River Trent;

- No breeding redshanks were recorded during any breeding bird surveys.
- Whilst there were records of redshank in the Red Line Boundary during the surveys, only one record was made in land that will be developed.

Mallard

- Passage / wintering mallard were seen predominantly outside the Project Red Line Boundary in the River Trent.
- Birds within the Red Line Boundary were typically records of only single birds, especially in Lysaght's Drain.
- A group of 14 mallard was seen in the Red Line Boundary in the landward side of the embankments east of Stather Road. However, this road is to be stopped up and replaced with a new access road to the Flixborough Industrial Estate created approximately 250 m further east from where the mallard were recorded.
- The majority of mallard records were in habitat outside the Project Red Line Boundary and will not be lost, or in areas within it that will remain undeveloped (eg part of the flood management area, or will form part of the new wetland / SuDs habitat

	<p>that will be created with a nature conservation focus.</p>	
<p>Refs 20 and 21 - Humber Estuary SPA / Ramsar site/SSSI Impacts from Noise, Vibration and Visual Disturbance on Functionally Linked Land (Construction and Operation)</p> <ul style="list-style-type: none"> Natural England recommends that potential impacts from noise, vibration and visual disturbance on functionally linked land associated with Humber Estuary designated sites should also be included in the appropriate assessment. We recommend that additional information is provided in the HRA, including further assessment of potential noise and lighting impacts during construction and operation (as highlighted above, Natural England key issue reference 16.) We note that the measures recommended to mitigate for disturbance impacts on the Ramsar site (Natural England key issue reference 16) may also provide mitigation for potential construction impacts to functionally link land and should therefore be considered in the appropriate assessment for this impact pathway. We advise evidence of sound levels from bored piling dissipating 10-15m away from the source should be included within the HRA to demonstrate the impact the construction work may have on designated birds which utilise the functionally linked land. Consideration of how the noise levels during construction and operation will compare to the baseline background noise levels should also be included in the assessment. 	<ul style="list-style-type: none"> Refs 18 and 19 above highlight the locations of important bird species of functionally linked land. The majority of records are in areas outside the Project Red Line Boundary (eg the River Trent, Lysaght’s Drain, north of the Project around the Burton and Flixborough Drain) in areas that will not be greatly affected by the Project due to noise and vibration, or visual disturbance. The only piling on land will be bored piling and this will barely be perceptible, even 10-15 m away from the source. Few birds associated with functionally linked land were recorded and the majority were some distance from the Project, or in areas where there will not be at significant risk of disturbance due to Project activities (eg Lysaght’s Drain near Skippingdale Retail Park, close to Stather Road where it will be stopped up). Measures to reduce the risk of disturbance effects from lighting from the Project have been drawn up as part of an Indicative Lighting Strategy. The measures it contains specifically focus on avoiding unnecessary light spill into areas surrounding the Project, including the proposed wetland area from the new access road. These measures will be secured via the 	

	<p>DCO. Natural England has indicated already that they are broadly satisfied with these measures.</p>	
<p>Refs 22 and 23 - Humber Estuary SPA / Ramsar site/SSSI Recreational and Disturbance Impacts Due to Accessibility of Wetland Habitat (Operation)</p> <ul style="list-style-type: none"> Further information is required to determine the potential for impact due to recreational access. Section 4.5.3.2 of the HRA states that bird species associated with the designation have only been recorded in small numbers in the adjacent section of the River Trent. However, as per our advice in key issue reference 16 above, the adjacent section of River Trent is included within the Ramsar designation, and the potential for the development to prevent the ability for the site to support birds in future should be considered. The potential for bird flushing due to disturbance should be considered, and the assessment should include information on lighting and predicted visitor numbers. The height of the embankment should also be clarified to determine whether visitors will be sufficiently screened from the estuary. The additional information provided by the applicant should be incorporated into a revised HRA. 	<ul style="list-style-type: none"> The embankments along the River Trent are between 2 and 3 m high. They provide effective screening for birds on the River Trent from operational activities on the Project site and visitors to the new visitor centre. The new access road to the Flixborough Industrial Estate and the visitor centre will be moved further east, away from the River Trent as described above (see Ref 18 and 19). Measures to reduce the risk of effects from lighting have been drawn up as part of an Indicative Lighting Strategy and will be secured via the DCO. Natural England has indicated already that they are broadly satisfied with these measures. 	

2. THE EFFECT ON PROTECTED SPECIES AND HABITATS

Further information is required to determine that the project will not adversely affect the following protected species:

European Water Vole: In Table 2, ES Chapter 10 Ecology and Nature Conversation, it is stated that water vole are found at the eastern end of the main Lysaght's Drain. The risk of fragmentation exists if the eastern end of this drain is not connected to other suitable habitat. However, fragmentation does not seem to be considered in the overall report.

Following clarification from the developer that there is a distance of 900m between the two locations and there will not be fragmentation of habitat due to the proposed development it is determined that this matter is now resolved. We advise the developer to apply for any suitable licences as required.

Water Vole: Within the NLGEP Land, evidence of water voles was recorded at the eastern end of the Lysaght's Drain, as well as a drain connecting to the western section of the Lysaght's Drain. The distance between the two locations is approximately 900 m and no further evidence of water voles was identified between them. Both locations will remain connected to suitable water vole habitat provided by surrounding ditches and the Lysaght's Drain is proposed to be enhanced along its length, increasing the suitability of the habitat for water voles. The road crossing and adjacent development (at the western end of the drain) will result in temporary disturbance during construction, however the road crossing will be designed to maintain connectivity along the banks of the drain. As such, in the long-term it is not anticipated that connectivity along the Lysaght's Drain will be significantly affected for water vole.



<p>Bats: In section 6.2.2.12 of ES Chapter 10, it is not clear how many of the buildings were categorised as having ‘negligible’ or ‘low’ potential. The bat survey report only describes two buildings and those having ‘low-high-potential (these buildings not impacted by the development). It is also not stated that the buildings with low potential were subject to emergence and/or re-entry bat activity surveys. The Bat Surveys for Professional Ecologists – Good Practice Guidelines states low potential buildings should be surveyed at the ecological consultants discretion. However, there are no building descriptions so therefore Natural England is unable to assess the suitability of the bat surveys with regards to buildings.</p> <p>Following the clarification from the developer that the building descriptions are within Appendix F, Natural England advise this matter is resolved as the building descriptions align with the potential for bat presence as described in the report.</p>	<p>Bats: Building descriptions are provided within Appendix E of the Bat Survey Report (Appendix F to the Ecology Chapter) (APP-058). The descriptions identify the two ‘low’ potential buildings as having minor structural cracks and potential gaps underneath a section of flat roof. As neither building will be directly impacted by the proposed scheme (both buildings are now located outside of the Order Limits), they were scoped out of any emergence/re-entry surveys.</p>	
<p>Should highly disturbing works, such as piling close to the River Trent, be scheduled for between October and March, Chapter 10, paragraph 7.1.2.2 outlines mitigation measures to be included within a Construction Ornithological Monitoring Plan (COMP). Mitigation measures should be agreed and implemented before construction work begins and Natural England advises against reliance on a ‘monitor and manage’ approach which we have found to be very difficult to implement.</p>	<p>Chapter 10: Ecology and Nature Conservation of the Environmental Statement (Document Reference 6.2.10) lists mitigation actions required in respect of wetland birds and functionally linked land impacts on the Humber Estuary Ramsar/SAC and SPA. An ecological clerk of works (or similar) will be employed to oversee and monitor levels of disturbance during construction activities. Mitigation measures will be secured by the Construction Environmental Management Plan (CEMP). However, a Construction Ornithological Monitoring Plan (COMP) is no longer required. The possible need for the COMP was initially identified to address construction works close to the River Trent undertaken during the wintering bird season (October to March), such as piling close to the river bank, which could cause high levels of</p>	

	<p>disturbance and impacts on birds which are qualifying features of the Humber Estuary SPA. On further analysis, including as part of the HRA, it was assessed that such significant effects were unlikely to occur and that standard measures contained in the CEMP and the provision of an ecological clerk of works would be adequate mitigation. Piling is not proposed within the River Trent or its banks.</p>	
<p>3. MITIGATION MEASURES AND ENHANCEMENTS, INCLUDING LIKELY EFFECTIVENESS OF MITIGATION, MONITORING PROCEDURES, HOW MITIGATION WILL BE SECURED WITHIN THE DCO AND THE CONTENT OF THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN/ CODE OF CONSTRUCTION PRACTICE</p>		
<p>SOILS</p>		
<p>Large areas of land within the Order Limits will remain undeveloped, although it is unclear whether any works are proposed. Natural England would welcome clarification about current and future plans for the eastern part of the Energy Park Land (referred to as “F - Site East” in the Flood Risk Assessment, Annex 3 of the PEIR). Soil is a finite resource that fulfils many important functions and services (ecosystem services) for society, for example as a growing medium for food, timber and other crops, as a store for carbon and water, as a reservoir of biodiversity and as a buffer against pollution. It is therefore important that the soil resources are protected and used sustainably. The assessment should consider the following issues as part of the Environmental Statement:</p> <p>1. The degree to which soils are going to be disturbed/harmed as part of this development and whether ‘best and most versatile’ agricultural land is</p>	<p>Please refer to the Environmental Statement Project Description and layout figure in Chapter 3: The Project Description and Alternatives of the Environmental Statement (Document Reference 6.2.3) for further information on areas of land to be disturbed for construction purposes, those areas to be enhanced through biodiversity measures, and those areas which will remain in their current form as agricultural land in accordance with the Flood Risk Assessment (FRA) in Annex 3 of the Environmental Statement (Document Reference 6.3.3).</p> <p>Please also refer to Section 6.8, Chapter 14: Economic, Community and Land Use Impacts of the Environmental</p>	

<p>involved. This may require a detailed survey if one is not already available. For further information on the availability of existing agricultural land classification (ALC) information see www.magic.gov.uk. Natural England Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land also contains useful background information.</p> <p>2. If required, an agricultural land classification and soil survey of the land should be undertaken. This should normally be at a detailed level, e.g. one auger boring per hectare, (or more detailed for a small site) supported by pits dug in each main soil type to confirm the physical characteristics of the full depth of the soil resource, i.e. 1.2 metres.</p> <p>3. The Environmental Statement should provide details of how any adverse impacts on soils can be minimised. Further guidance is contained in the Defra Construction Code of Practice for the Sustainable Use of Soil on Development Sites.</p>	<p>Statement (Document Reference 6.2.14) for further information on agricultural land classification.</p>	
<p>Based on the information provided with the planning application, it appears that the proposed development comprises approximately 235 ha of agricultural land (Environment Statement para 6.8.1.4). This includes approximately 101 ha agricultural land required for construction (Environment Statement para 8.2.5.5), of which 36 ha will be permanently lost (Environment Statement para 8.3.6.1). In addition a further 103 ha is set aside for replacement floodplain storage (Environment Statement para 8.3.6.2) which may impact on soil resources. Natural England notes that the impact of the proposal on agricultural land quality is assessed in Chapter 14 of the Environmental Statement however we do not consider that sufficient evidence has been provided to reach the conclusions and recommendations presented.</p> <p>Natural England notes that the assessment appears to rely exclusively on the Provisional Agricultural Land Classification (ALC) dataset which is not appropriate in this context. The dataset does not utilise the most up to date</p>	<p>The Applicant can confirm that they have considered the post 1988 ALC Survey data as recommended and is liaising with Natural England further on this point.</p>	

<p>methodology for determining ALC grade, does not subdivide between grades 3a and 3b agricultural land and is presented at a scale which is only appropriate for strategic planning at a regional level. We advise that site level ALC data is necessary to assess the degree to which soils are going to be disturbed/harmed as part of this development and the impact of agricultural resources from the proposal.</p> <p>Natural England advises that the assessment makes use of the available post 1988 ALC survey which covers a large area of the proposal site and is available online at [REDACTED].</p> <p>This survey was undertaken using the most up to date ALC methodology and is appropriate for the assessment of agricultural land quality. However the survey does not cover the entire proposal site so additional ALC surveys should be undertaken for these areas. This should be at a detailed level, e.g. one auger boring per hectare (or more detailed for a smaller site), supported by pits dug in each main soil type to confirm the physical characteristics of the full depth of the soil resource, i.e. 1.2m. For more information see Natural England Technical Note TIN049 available online at [REDACTED].</p> <p>In addition we would expect to see a soil resource survey undertaken prior to commencement to inform soil handling.</p>		
<p>Natural England notes that no reference is made to the policy context for soils and agricultural land in the Environment Statement. We would expect National Planning Policy Framework paragraphs 174 and 175 and EN-1 Overarching National Policy Statement for Energy Paragraph 5.10.8 of Section 5 to be referred to as a minimum.</p>	<p>The Applicant is continuing to liaise with Natural England on this matter and is setting up a call to discuss this following Deadline 4.</p>	

<p>Natural England notes that, in addition to the 36 ha of potentially best and most versatile agricultural land (BMV) lost to development and 101 ha affected by construction, 103 ha is proposed to be permanently set aside to provide replacement floodplain storage. We do not consider that this has been properly taken into account in the assessment and disagree with the conclusions of para 8.3.6.2. The applicant should undertake an assessment of the potential impact of increased flooding of the land on the ALC grade due to changes to frequency and duration of flooding, which are direct factors considered in the ALC assessment, and therefore may result in a change of ALC grade and a potential loss of BMV agricultural land.</p> <p>Notwithstanding the absence of data we do not consider that sufficient justification has been included in the assessment in order to conclude that BMV agricultural land is a low sensitivity receptor due to the relative abundance in this area. The sensitivity and scale of magnitude considered should be in line with the thresholds presented in the Institute of Civil Engineers EIA Handbook (2019) and IEMA guidelines (2022). Consideration of the development impacts on the soil resource and soil function should also be considered.</p>		
<p>Natural England notes that the Outline Landscape and Biodiversity Management and Monitoring Plan identifies the need for approximately 20ha of topsoil stripping and the development of wetland and woodland habitats on best and most versatile (BMV) agricultural land.</p> <p>We advise that additional information regarding sustainable soil management should be included in the Soil Handling Management Plan (SHMP). Topsoil stripping will result in a surplus of the finite soil resource.</p> <p>In order to both retain the long term potential of this land and to safeguard all soil resources as part of the overall sustainability of the whole</p>	<p>The Outline Landscape and Biodiversity Management and Monitoring Plan states that for the purposes of habitat and landscape management, soils will be used from the Application Land. Soils will be stored, protected, managed, and handled in accordance with the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Defra 2009) (see also the requirement for a Soil Management Plan in the CoCP (Document Reference 6.3.7).</p> <p>The Soil Management Plan (SMP) will be included in the Construction Environmental Management Plan (CEMP)</p>	

development, it is important that the soil is able to retain as many of its many important functions and services (ecosystem services) as possible.

Sustainable soil management should aim to minimise risks to the ecosystem services which soils provide, through appropriate site design / masterplan / Green Infrastructure etc.

Natural England advises that, where appropriate, the habitat creation and seed mixes are tailored to the soil resource present on site, avoiding the need for soil stripping or inversion.

Finally, we recommend the applicant considers the botanical value map available on MAGIC and NE Open Data Portal to understand the suitability of the woodland planting location. When inappropriately sited, tree planting and woodland establishment can damage existing wildlife and carbon-rich habitats.

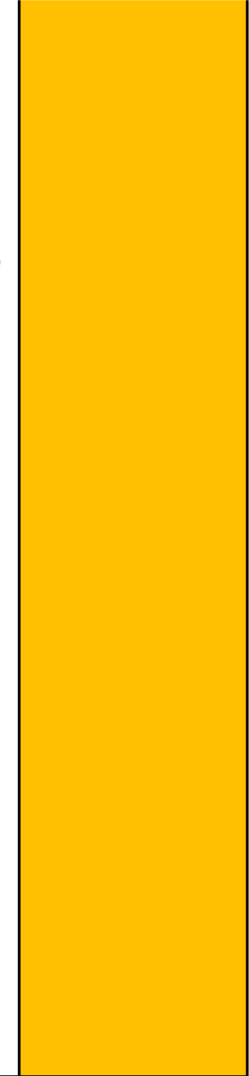
and will cover all aspects of soil assessment, stripping, storage and reinstatement from pre-construction through to the end of construction of each part of the Project.

Where topsoil is required to complete the new proposed levels, it will be re-used, and where appropriate, provided in suitable depths equivalent or in excess of the original soil depth.

Measures to protect soils will include:

- Selection and use of earth moving and handling plant to minimise trafficking, disturbance, and compaction.
- Avoiding contamination of topsoil with subsoil, stone, hardcore, rubbish or material from demolition work.
- Handling topsoil in the driest conditions possible.
- Avoiding the handling of topsoil during or after heavy rainfall or when it is wetter than the plastic limit as defined by BS 3882, Annex N2.

The Outline Landscape and Biodiversity Management and Monitoring Plan states that creation, particularly over former arable land may require (but does not rely on) 'soil nutrient stripping' to remove of the top layer of soil. Phosphorus levels within the existing arable topsoil are likely to be too high to rapidly establish species-rich grassland.



However, it is recognised that topsoil stripping and inversion are intensive processes and where possible, alternative techniques to strip the soil of nutrients will be considered. These may include nutrient stripping alongside grazing/cutting and the selection of tailored seed mixes that reflect the soil conditions. Habitat creation methods will be evaluated and the most suitable used at different locations.

It is also noted that the commitment to a 30 year management period presents the opportunity to trial different techniques that do not require soil stripping/inversion in order to achieve the target conditions identified by the Defra Biodiversity Metric.

The botanical value maps are currently not reliable, they are generally extremely coarse and provide limited information at the Project location. Poor survey data and a lack of habitat indicators (and presence of rare/scarse/threatened species) is recorded within the monads where proposed woodland creation will take place.

4.0 SIGNATURES

4.1.1 This Statement of Common Ground is agreed:

On behalf of Natural England:

Name: XXXX

Signature: XXXX

Date: XX

On behalf of the Applicant:

Name: XXXXX

Signature: XXXX

Date: XXXXX

DRAFT