NORTH LINCOLNSHIRE GREEN ENERGY PARK

Planning Act 2008

Infrastructure Planning (Applications Prescribed Forms and Procedure) Regulations 2009

APFP Reg. 5(2)(a)

Infrastructure (Environmental Impact Assessment) Regulations 2017

North Lincolnshire Green Energy Park

Volume 6

Environmental Statement

6.2.14 Economic, Community and Land Use Impacts

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Acronyms and Abbreviations

Name	Description
AAP	Area Action Plan
ALC	Agricultural Land Classification
BEIS	Business, Energy and Industrial Strategy
BMV	Best and Most Versatile
BW	Bridleway
CEMP	Construction Environmental Management Plan
CoCP	Code of Construction Practice
DBIS	Department for Business Innovation and Skills
DCR	Dedicated Cycle Route
DEFRA	Department for Environment, Food and Rural Affairs
DHPWN	District Heat and Private Wire Network
DLUHC	Department for Levelling Up, Housing and Communities
ERCE	Energy Recovery Centre of Excellence
ERF	Energy Recovery Facility
ES	Environmental Statement
FP	Footpath
FTE	Full Time Equivalent
GVA	Gross Value Added
HCA	Homes and Communities Agency
HGV	Heavy Goods Vehicle
IIA	Immediate Impact Area
IMD	Index of Multiple Deprivation
JSA	Job Seekers Allowance
LDF	Local Development Framework
LEP	Local Enterprise Partnership
LIA	Local Impact Area

Name	Description
LNR	Local Nature Reserve
LSoA	Lower Super Output Area
MHCLG	Ministry of Housing, Communities and Local Government
NCN	National Cycle Network
NLC	North Lincolnshire Council
NLGEP	North Lincolnshire Green Energy Park
NPPF	National Planning Policy Framework
ONS	Office for National Statistics
PPG	Planning Policy Guidance
PRoW	Public Right of Way
SMP	Soil Management Plan
TTWA	Travel to Work Area
UA	Unitary Authority
WIA	Wider Impact Area

1. INTRODUCTION

1.1.1.1 This chapter of the Environmental Statement (ES) presents the likely economic, community and land use impacts of the construction, operation and decommissioning of the Project.

1.1.1.2 The baseline economic, community and land use interests of the Application Land and surrounding area are described, potential effects identified, proposed mitigation measures listed and an assessment of the significance of residual effects is made.

1.1.1.3 Potential impacts of the Project on economic, community and land use aspects consist mainly of the following:

- investment of approximately £1.5 billion;
- reuse of previously developed land;
- employment and expenditure in the local economy during construction;
- job creation during construction and operation;
- provision of educational opportunities through the visitor centre;
- economic benefits arising from direct and indirect expenditure associated with the Project, for example through placing local orders for goods and services and maintenance;
- potential disruption to land uses and the local community during construction and operation including additional traffic and pressure on community infrastructure and services; and
- an important contribution to the security of energy supply both regionally and nationally, thereby supporting economic activities locally and contributing to achieving the aims of The Overarching Energy National Policy Statement EN-1.

2. POLICY CONTEXT, LEGISLATION, GUIDANCE AND STANDARDS

2.1 Policy Context

2.1.1.1 A review has been undertaken of general planning and strategic policy and guidance such as national policy documents and the Local Development Framework (LDF) and community strategies. This is presented in Chapter 2 of the ES (**Document Reference 6.2.2**). The policy context of greatest relevance to economic, community and land use is summarised in Table 1 and demonstrates that the Project is aligned with relevant national, regional and local policy.

2.1.1.2 The National Planning Policy Framework (2021, as amended), the Overarching Energy National Policy Statement (EN-1) (DECC, 2011a), National Policy Statement for Renewable Energy Infrastructure (EN-3) (DECC, 2011b) and the National Policy Statement for Electricity Networks Infrastructure (EN-5) (DECC, 2011c) constitute the relevant national planning policy context. An updated Draft Overarching National Policy Statement for Energy (EN-1) was published in September 2021 which sets out emerging policy.

2.1.1.3 Part 2 of the EN-1 recognises that energy is vital to economic prosperity and social well-being and thus establishes that it is important to ensure that the UK has secure and affordable energy.

2.1.1.4 Part 2 of the updated 2021 draft of EN-1 re-emphasises the importance of the security of supply of energy and that decarbonising the energy system will necessitate a significant amount of energy infrastructure, both large and small-scale contributing to the ambition to support jobs in the UK's clean energy industry and local supply chains.

2.1.1.5 There is no specific guidance related to social, community and economic assessments in EN-3 or EN-5.

2.1.1.6 The National Planning Policy Framework (NPPF) sets out the government's planning policies for England and how these are expected to be applied. It sets out economic, social and environmental objectives for achieving sustainable development in England. Section 6 (building a strong, competitive economy) seeks to ensure that planning decisions help create a strong and competitive economy. More specifically paragraph 81 states:

> *'Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. The approach taken should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation, and in areas with high levels of productivity, which should be able to capitalise on their performance and potential'.*

2.1.1.7 The local planning policy context is provided by the North Lincolnshire Local Development Framework Core Strategy (adopted 2011), saved policies of the North Lincolnshire Local Plan (adopted 2003) and the associated Housing and Employment Land Allocations Development Plan Document (adopted 2016). North Lincolnshire is currently preparing a new Local Plan. The Publication Draft of the Local Plan [1] was consulted upon between October and December 2021. Due to its emerging nature, limited weight can be given to it at this stage.

2.1.1.8 In addition, the Greater Lincolnshire Strategic Economic Plan (2014) and the Humber Strategic Economic Plan (2014) provide the basis upon which the local authority and local enterprise partnership (LEP) seek to increase the prosperity of North Lincolnshire and the broader area.

2.1.1.9 Within these plans, those policies and objectives of greatest relevance to economic and land use characteristics are summarised in Table 1.

Table 1: Economic, Community and Land Use Planning and Development Policy

Topic	Economic, Community and Land Use Aspects/Relevance
Overarching National Policy Statement for Energy (EN-1), 2011	Section 5.12, which identifies generic socio-economic impacts.
Draft Overarching National Policy Statement for Energy (EN-1), 2021	Section 5.13, which identifies generic socio-economic impacts.
National Planning Policy Framework 2021 (NPPF)	Paragraph 8 addresses three overarching objectives to sustainable development including economic and social objectives, in addition to an environmental objective. Section 6 - Building a strong, competitive economy (paragraphs 81 to 85) Paragraphs 82 and 83 identify the need for planning decisions to recognise locational requirements of development sectors. Paragraphs 84, 92 and 93 on social sustainability including the need to promote healthy and safe communities. Paragraphs 98 to 100 on open space, recreation and public rights of way.
North Lincolnshire Local Development Framework, Core Strategy, Adopted June 2011	CS2: Delivering More Sustainable Development CS11: Provision and Distribution of Employment Land CS13: Lifelong Learning and Skills CS18: Sustainable Resource Use and Climate Change CS20: Sustainable Waste Management CS22: Community Facilities and Services CS24: Health Care Provision
North Lincolnshire Local Development Framework, Housing and Employment Land Allocations	The Application Land cover part of the Lincolnshire Lakes development covered by an Area Action Plan (AAP). The Application Land cover small areas of employment allocation at Normanby Enterprise Park (Policy SCUE-1) and housing

(1) North Lincolnshire Local Plan Publication Plan, October 2021

Topic	Economic, Community and Land Use Aspects/Relevance
Development Plan Document (DPD), Adopted March 2016	allocations at Phoenix Parkway Phase 1 (Policy SCUH-1) and Land South of Ferry Road West (Policy SCUH-10).
North Lincolnshire Local Plan (saved policies), 2003	DS21: Renewable Energy R5: Recreational Paths Network C3: Planning for Accessibility
Lincolnshire Lakes Area Action Plan, 2016	The Policies Map and Parameter Plans within the AAP confirm that the fixed, key elements of the Lincolnshire Lakes scheme are only located at the southern extent of the Application Land detailed in this ES which relates to the Southern District Heat and Private Wire Network (DHPWN). Policy SS4: Development Limits SSA1: Strategic Mixed Use Area and District Centre SSA6: Village 6 and Lake 4
Planning for Renewable Energy Development Supplementary Planning Document, 2011	Policy 7: Community Impact
Greater Lincolnshire Strategic Economic Plan, Greater Lincolnshire, 2014	The Strategic Economic Plan was developed in 2014 and refreshed in 2016 to reflect ongoing priorities for continued growth and investment. The plan is also called the Growth Plan, with a business investment programme across Lincolnshire, North Lincolnshire and North East Lincolnshire which aims to help create 13,000 new jobs and help 22,000 businesses grow. The Plan supports a low carbon economy with a focus on renewable energy.
Humber Strategic Economic Plan, 2014	The Strategic Economic Plan is an integrated plan for growth, informed by experience and expertise from across the Humber LEP area. From an economic perspective, it identifies the need for a thriving renewables sector, with ambitious capital schemes well underway and a growing reputation for excellence and expertise.

2.1.1.10 The local policy for economic development is established through the Core Strategy Policy CS11 - Provision and Distribution of Employment Land: 'The Council will support the continued expansion and improvement of North Lincolnshire's economy in order to create a step change in the area's role regionally and nationally'.

2.1.1.11 Local Plan Policy DS21 states that proposals for the generation of energy from renewable resources will be permitted provided that any detrimental effect on local character and amenity is outweighed by environmental benefits.

2.1.1.12 Local Plan Policy R5 states that favourable consideration will be given to development proposals that provide additional links to the recreational network/improve the conditions and appearance of existing links or provide additional links to the recreational network (amongst other factors outlined in the policy). Local Plan Policy C3 requires access provision for all people, particularly those with disabilities and restricted mobility for

buildings which the public are likely to use. Core Strategy Policy CS18 promotes the use of a greenspace strategy and a green infrastructure plan to help reduce the effects of climate change.

2.1.1.13 Planning for Renewable Energy Development Supplementary Planning Document (2011), Policy 7 Community Impact, states that developers should work with local communities to identify and address key concerns and that the Council should be satisfied that appropriate levels of community engagement have taken place and where concerns are raised, they are appropriately mitigated or minimised.

2.1.1.14 National and local planning policies relating to agricultural land are described in Appendix B, Section 2.

2.2 Legislation and Guidance

2.2.1.1 There are no legislative requirements that dictate the content and form of the economic, community and land use assessment that should be carried out. The approach adopted follows UK Government guidelines and best practice, as summarised in Section 2.2.2, and takes account of the responses from the Planning Inspectorate as set out in Section 3, Table 2.

2.2.2 Guidance and Standards

2.2.2.1 In terms of considering the economic impacts, this assessment follows guidance and standards set out in the following:

- Section 5.12 of Overarching National Policy Statement for Energy (EN-1);
- Section 5-13 of Draft Overarching National Policy Statement for Energy (EN-1), 2021;
- HM Treasury's Green Book, 2020, ('the Green Book');
- Homes and Communities Agency (HCA), Additionality Guidance, 2014;
- Department for Business Innovation and Skills (DBIS), Research to Improve the Assessment of Additionality, 2009; and
- HM Treasury, Magenta Book: Guidance for Evaluation, 2011.

2.2.2.2 Specific assumptions in the assessment of additional impact of the Project are set out in Section 4. Where relevant standards for assessment do not exist, professional judgement and established practice in economic assessment has been applied.

2.2.2.3 In terms of community and land use impacts, the following social criteria are considered based on professional judgement and established practice in economic assessment:

- demographic and population characteristics (population changes, relocation of populations, influx and/or outflow of temporary workers);
- economic and community structures (economic characteristics, employment opportunities, industrial diversity);
- land use;

- direct/indirect impacts on specific businesses including agricultural land holdings, tourism and recreation;
- social infrastructure capacity impacts;
- amenity impacts on recreational users; and
- in-combination impacts on communities.

2.2.2.4 The guidance used in relation to assessing effects on soils and agricultural land is described in Appendix B, Section 2.

2.2.2.5 An assessment of cumulative economic, community and land use impacts during construction and during operation has been undertaken and is reported in Chapter 18 (**Document Reference 6.2.18**).

3. CONSULTATION

3.1.1.1 Table 2 presents an excerpt from the scoping response received from the Planning Inspectorate specific to the economic, community and land use assessment. Table 2 describes how each response has been addressed by the Project.

Table 2: Scoping Consultation Responses

PINS ID	Issue	Inspectorate's comments	Response / Action	Reference within this document
4.10.1	Proposed to be scoped out: Operational impacts on property prices	Although information within the Scoping Report summaries studies that show Energy Recovery Facilities (a proxy for the Project) do not impact house prices, no evidence has been provided that shows the re-opening and use of a railway line and other development elements would not impact property prices. The ES should include evidence that demonstrates the re-opening and use of the railway line and other development elements would not impact property prices and/or result in consequential effects on other matters such as health care provision.	The scope has not been changed to include a house price market assessment as this is not a material planning consideration as described in Planning Policy Guidance (PPG) on 'Determining a planning application': 'A material planning consideration is one which is relevant to making the planning decision in question (eg. whether to grant or refuse an application for planning permission). The scope of what can constitute a material consideration is very wide and so the courts often do not indicate what cannot be a material consideration. However, in general they have taken the view that planning is concerned with land use in the public interest, so that the protection of purely private interests such as the impact of a development on the value of a neighbouring property or loss of private rights to light could not be material considerations'. Paragraph: 008 Reference ID: 21b-008-20140306 Revision date: 06 03 2014 The ES scope includes an assessment of other consequential effects of reopening of the railway.	N/A

PINS ID	Issue	Inspectorate's comments	Response / Action	Reference within this document
4.10.2	Operational impacts on demographic effects and impacts on community infrastructure, housing, education, and other community facilities.	The Inspectorate notes that the scale and characteristics of the development are such that significant effects on such facilities may arise during operation and does not agree that this matter can be scoped out of consideration in the ES. Scope to include assessment of any potential significant effects on community infrastructure, housing education and other community facilities.	The ES includes an assessment of potential significant effects on community infrastructure, and other community facilities. An assessment of potential significant effects on housing and education facilities has been scoped out as the nature of the Project does not lead to any direct impacts or demographic changes that will impact on housing and educational resources.	Section 8.3.2
4.10.3	Potential impacts	The ES should ensure the assessment of severance and land take is incorporated into the wider assessment of economic impact that may arise from the Project. This should include any information on temporary, or permanent loss in farmland, or changes in access to businesses and the subsequent economic impacts that may arise.	The ES includes an assessment of potential significant effects as a result of severance and land take, including agricultural land.	Section 8.2.5 and Appendix B
4.10.4	Potential impacts	Scoping Report section 15.5 does not definitely state the spatial scope of the study area, and instead states likely areas to be affected by the Project. The ES should clearly define the spatial scope of the assessment and effort should be made to agree the spatial scope of the assessment with the relevant statutory undertakers.	The ES clearly defines the spatial scope of study.	Section 4.1

3.1.1.2 Table 3 below sets out the key stakeholder comments from the pre-application statutory consultation specific to Traffic and Transport. The table describes how each response has been or will be addressed by the Project. Responses have been included when they are directly relevant to the Infrastructure Planning (Environmental Impact Assessment)

Regulations 2017 (the Infrastructure EIA Regulations 2017), have required a technical clarification and / or further impact assessment. The full set of responses is contained in the Consultation Report (**Document Reference: 7.1 Appendix I-1**).

3.1.1.3 The consultee types for the purposes of statutory consultation under the 2008 Act are as follows:

- s42(a) is with prescribed consultees;
- s42(b) is with local authorities;
- s44 is with consultees with an interest in land; and
- s47 is with the local community.

Table 3: PEIR Consultation Responses

Consultee type	Consultee	Comment	Response / Action	Reference within this document
S42(a)	Burton upon Stather Parish Council	The Parish Council believes it will have a negative impact on the area as no jobs are guaranteed for local people. If jobs are offered to people from outside the area it will affect the local infrastructure.	We are working with NLC, the Greater Lincolnshire Local Enterprise Partnership and education providers to ensure as many local people as possible are aware of the training and employment opportunities offered by NLGEP and have the right skills to take advantage of them. The Applicant will prepare an Employment and Skills Policy to maximise the uptake of local employment opportunities and in addition is committed to supporting training and apprenticeship schemes.	7.2.1.3
S42(a)	Burton upon Stather Parish Council	Our local natural environment already offers educational facilities in the area.	We agree that the local natural environment offers educational opportunities. The Project will improve access to these through new foot and cycle paths, opening up access to the banks of the River Trent, and the creation of new woodland and wetland landscapes.	7.2.1.3
S42(a)	Burton upon Stather Parish Council	The Parish Council understands the government will not allow educational opportunities on site.	We understand this refers to early discussions with the Parish Council about the potential inclusion of an Energy Recovery Centre of Excellence as part of the Project.	N/A

Consultee type	Consultee	Comment	Response / Action	Reference within this document
			When the Project was at an early stage in development the Applicant consulted the Department for Business, Energy and Industrial Strategy (BEIS), Ministry of Housing, Communities and Local Government (MHCLG) (now Department for Levelling Up, Housing and Communities - DLUHC) and PINS to understand the appropriate route for seeking development consent with regards to a potential a) Energy Recovery Centre of Excellence (ERCE), b) Enterprise Business Park and c) Commercial Glasshouse Development. This informed the submission on 20 December 2019 of a request to the Secretary of State for BEIS and the Secretary of State for MHCLG for a Direction under section 35 of the 2008 Act regarding the inclusion of these elements within the DCO for the Project. The Applicant received a Direction on 20 February 2020 which explained that whilst the Secretary of State for MHCLG was satisfied that the ERCE did fall within a business or commercial project of a prescribed description for the purposes of section 35(2)(a)(ii) of the 2008 Act it would not have a significant impact on an area wider than a single local authority and so was not of the view that it was a project of national significance which would fall within the PA 2008 regime. This direction informed the Project presented in subsequent public consultation.	
S42(a)	Flixborough Parish Council	It is highly likely that those with the skills needed to work in such a plant will be hired from outside of the area and so there is no guarantee that the	The Applicant will prepare an Employment and Skills Policy to maximise the uptake of local employment opportunities and is committed to supporting training and apprenticeship schemes.	7.2.1.3

Consultee type	Consultee	Comment	Response / Action	Reference within this document
		jobs will go to local residents. Apprenticeships were mentioned but no guarantee was given that this would ever happen, how it would occur and how many opportunities would be available. It is understood that the educational opportunities will be limited due to health and safety and so this may not be as beneficial as it first appears. The visitor centre will be taking up space on the site, if the visitor centre was not in the development then less agricultural land would be needed.	The Applicant is working with NLC, the Greater Lincolnshire Local Enterprise Partnership and education providers to ensure as many local people as possible are aware of these opportunities and have the right skills to take advantage of them.	
S42(a)	Public Health England	The impact on the use of the allotments should be re-assessed and include consultation with the allotment holders to identify potential significance of the impacts, mitigation and benefits that can be gained during the restoration process. If you require any clarification on the above points or wish to discuss any particular issues please do not hesitate to contact us.	Land take from allotments has been reviewed and all impacts on allotments have been designed out. Therefore, no impacts on allotments are reported in the Environmental Statement (**Document Reference 6.0).**	N / A
S42(b)	North Lincolnshire Council	The energy sector has been identified as a key sector across the Humber and the Greater Lincolnshire regions. This sector is identified in the North Lincolnshire Economic Growth Plan as a dedicated growth sector for the Humber Energy cluster. North	This is noted. Given the mix of employment types anticipated during construction and operation, the assessment has used a single average value for Gross Value Added (GVA) per worker based on data for North Lincolnshire. This is set out in Chapter 14 of the Environmental Statement **(Document Reference 6.2.14**).	5.2.2.2, Table 4

Consultee type	Consultee	Comment	Response / Action	Reference within this document
		Lincolnshire Council have opted to play an integral role in this challenge through the implementation of its strategy: A Green Future: Our Plan for Positive Change (2021). The North Lincolnshire Economic Growth Plan sets out foundations for sustainable growth and the clear goals needed to improve the areas economic prosperity and position in the area. The plan aims to stimulate growth through capital investment to enable regeneration, infrastructure, and embed and progress clean growth. Within this plan, it included 10 priorities, 2 of which were "grow the manufacturing and engineering supply chain hub" and "support the growth and diversification of the Humber chemical and energy cluster". Therefore, this project could play a valuable role in meeting the aims of the Economic Growth Plan. North Lincolnshire Council is satisfied with the approach to the assessment of socio-economic impacts presented in Chapter 14. The methodology used to determine the impact of the Project is clear and helpful, indicating levels that can be easily reviewed. However, for more meaningful Economic Impact Key Assumptions relevant to the LIA,		

Consultee type	Consultee	Comment	Response / Action	Reference within this document
		North Lincolnshire Council suggests that in regard to potential GVA values in both the construction phase and Operation the Applicant includes information drawn from regional data source alongside national data and suggest the figure for GVA per worker should take into account the local economy. (DEFRA published a 'Rural productivity and GVA' paper that quantified GVA per worker for rural authorities as ~83% of England average.		
S42(b)	North Lincolnshire Council	It is agreed that based on the figures provided the potential for between 247-319 total jobs supported during construction phase of the Project will be a positive moderate effect and significant economic benefit through the provision of temporary jobs creating opportunities for local businesses as part of the North Lincolnshire Green Energy Park construction phase. It is considered that the potential for between 100-129 total jobs supported during the operation of the Project is a moderate benefit as the operational figures indicated are low compared to the size of the development.	This is noted. Net operational employment figures and the input data and calculation are reviewed in Chapter 14 of the Environmental Statement **(Document Reference 6.2.14**).	Section 5.2.2

Consultee type	Consultee	Comment	Response / Action	Reference within this document
		North Lincolnshire Council support the Applicant's proposal to enter into a Local Labour Agreement to provide additional job opportunities to enable local residence to enhance their skills and qualifications within the green energy sector, particularly. This will help shape the local labour force to meet industry requirements, raise ambitions and aspirations and help residents to understand better the employment and training opportunities available to them. A LLA would support North Lincolnshire's plans to achieve a more highly skilled workforce, higher paid jobs, full employment and increase prosperity in the LIA. Alongside a LLA, it would be beneficial to submit an Employment and Skills Plan for the project.		
S42(b)	North Lincolnshire Council	The LPA would encourage communication, if this has not yet occurred, between the Applicant and the affected businesses identified in para 8.1.1.2. The ES should also consider the potential impacts should it not be possible to relocate businesses within the Order Limits or the LIA.	The affected businesses have all been consulted as land interests under S42(1)(d) of the 2008 Actt. Full details of the consultation undertaken is set out in the Consultation Report (**Document Reference 7.1**). Importantly, whilst the DCO process does not accommodate the relocation of displaced businesses, the Applicant has engaged with all the businesses that will be impacted by the Project and is working with the landlord and tenants along with other landlords, including NLC, to find alternative accommodation or	8.2.1

Consultee type	Consultee	Comment	Response / Action	Reference within this document
			commercial compensation for those that may choose to retire or close their businesses. Chapter 14: Socio-economics of the Environmental Statement (**Document Reference 6.2.14)** considers the socioeconomic impact of the Project in relation to commercial premises demolished with their occupants and employees needing to relocate to allow for construction of the Project.	
S42(b)	North Lincolnshire Council	The proposed provision of the Visitor Centre to include community and educational facilities is recognised by North Lincolnshire Council as having the potential to support to the local communities, the wider area (regionally and nationally). Whilst also having the potential to positively impact on North Lincolnshire Visitor Economy.	The Visitor Centre will include a classroom, which will allow visits for educational purposes by schools and other community groups. The Applicant is working with NLC Council, the Greater Lincolnshire Local Enterprise Partnership and education providers to ensure as many local people as possible are aware of the training and employment opportunities offered by the Project. The Applicant will prepare an Employment and Skills Policy to maximise the uptake of local employment opportunities and is committed to supporting training and apprenticeship schemes.	7.2.1.3
S42(b)	North Lincolnshire Council	Whilst it is agreed that the proposed development would have limited impact upon community resources it is noted that there is the potential for shortages in temporary accommodation should the development be brought forwards alongside other major proposed developments in the local area (such as Keadby 3).	An assessment of potential significant effects on housing facilities has been scoped out as the nature of the Project does not lead to any direct impacts or demographic changes that will impact on housing resources. This is et out in Chapter 14: Socio-economics of the Environmental Statement (**Document Reference 6.2.14).**	N / A
S42(b)	North Lincolnshire Council	The LPA would encourage communication, if this has not yet	The affected businesses have all been consulted as land interests under S42(1)(d) of the Act 2008. Full	

Consultee type	Consultee	Comment	Response / Action	Reference within this document
		occurred, between the Applicant and the affected businesses identified in para 8.1.1.2. The ES should also consider the potential impacts should it not be possible to relocate businesses within the Order Limits or the LIA.	details of the consultation undertaken is set out in the Consultation Report (**Document Refence 7.1**). Importantly, whilst the DCO process does not accommodate the relocation of displaced businesses, the Applicant has engaged with all the businesses that will be impacted by the Project and is working with the landlord and tenants along with other landlords, including NLC, to find alternative accommodation within the local area or to provide commercial compensation for those that choose to retire or close their businesses. Chapter 14 of the Environmental Statement (**Document Reference 6.2.14**) considers the economic impact of the commercial premises to be demolished with their occupants and employees needing to relocate to allow for construction of the Project.	
S44	AB Agri	AB Agri's principal concern is the proposed NLGEP's impact on the biosecurity of the animal feed mill. The consultation documents suggest that RDF (Refuse Derived Fuel) will be delivered in sealed containers, which addresses some of our concerns in the absence of specific components of waste to be delivered. However, the delivery routes and the ERF are proposed in such a proximity to the raw materials intake section of ABN's plant, which will place an unacceptable risk to the biosecurity of AB Agri's operation. In particular, the	Material will be delivered to site in sealed containers or in bales. The material will then be stored in a sealed building, which is maintained at a negative pressure. The delivery routes to the Energy Recovery Facility (ERF) are on the southern face of the building, away from AB Agri's facility, with the tipping hall door more than 250m from AB Agri's facility. The Applicant is continuing to engage with AB Agri to resolve all outstanding technical issues to ensure that there will be no impact on the viability of its business and identify any need for additional mitigation measures to address specific concerns.	8.2.1

Consultee type	Consultee	Comment	Response / Action	Reference within this document
		use and handling of any RDF containing animal origin material in such close proximity to ABN places significant commercial risks to the business.		
S47	Local Community	For the size of the development, the long term jobs created is minimal.	As set out in Chapter 14 of the Environmental Statement (**Document Reference 6.2.14)**, construction of the Project could result in the creation of up to 3350 full time equivalent (FTE) jobs over the whole duration of the construction phase. Not all the jobs will be taken up by residents of the LIA and WIA and overall, the net direct job creation from construction is 2280 FTE, taking account of direct leakage and displacement. The Project is likely to directly provide around 290 FTE jobs once operational.	Section 8.2.1, Table 16 and 8.3.2, Table 19
S47	Local Community	Take on local businesses, not major companies that will build/construct and then leave the area. Make sure all the plans/designs are kept and backed up for the next generation when it is being built.	The Applicant is working with NLC, stakeholders and education providers to ensure as many local people and businesses as possible are aware of the opportunities presented by the Project and have the right skills to take advantage of them. This includes seeking to open up our supply chain to local businesses where possible. The Applicant will prepare an Employment and Skills Policy to maximise the uptake of local employment opportunities and is committed to supporting training and apprenticeship schemes.	7.2.1.3
S47	Local Community	Does not appear that it will create large numbers of jobs	As set out in Chapter 14 of the Environmental Statement (**Document Reference 6.2.14)**, construction of the Project could result in the creation of up to 3550 full time equivalent (FTE) jobs over the whole duration of the construction phase. Not all the jobs will be taken	Section 8.2.1, Table 16 and 8.3.2, Table 19

Consultee type	Consultee	Comment	Response / Action	Reference within this document
			up by residents of the LIA and WIA and overall, the net direct job creation from construction is 2280 FTE, taking account of direct leakage and displacement. The Project is likely to directly provide around 290 FTE jobs once operational.	
S47	Local Community	Proposed employment is a selling point to try and justify the site.	The Government has set out its plans for a green industrial revolution, which could see billions of pounds invested and create 250,000 highly-skilled green jobs. The creation of new employment and training opportunities at projects such this is an important part of realising this vision. As set out in Chapter 14 of the Environmental Statement (**Document Reference 6.2.14)** , construction of the Project could result in the creation of up to 3550 full time equivalent (FTE) jobs over the whole duration of the construction phase. Not all the jobs will be taken up by residents of the LIA and WIA and overall, the net direct job creation from construction is 2280 FTE, taking account of direct leakage and displacement. The Project is likely to directly provide around 290 FTE jobs once operational. The Applicant will prepare an Employment and Skills Policy to maximise the uptake of local employment opportunities and is committed to supporting training and apprenticeship schemes.	Section 8.2.1, Table 16 and 8.3.2, Table 19 and Section 7.2.1.3
S47	Local Community	I'm not convinced that so many jobs are possible when the Solar 21 project in East Yorks only employs 28 local people. This appears to be wishful thinking.	As set out in Chapter 14 of the Environmental Statement (**Document Reference 6.2.14)**, construction of the Project could result in the creation of up to 3550 full time equivalent (FTE) jobs over the whole duration of the construction phase. Not all the jobs will be taken up by residents of the LIA and WIA and overall, the net	Section 8.2.1, Table 16 and 8.3.2, Table 19

Consultee type	Consultee	Comment	Response / Action	Reference within this document
			direct job creation from construction is 2280 FTE, taking account of direct leakage and displacement. The Project is likely to directly provide around 290 FTE jobs once operational. We are working with North Lincolnshire Council, stakeholders and education providers to ensure as many local people and businesses as possible are aware of the opportunities presented by NLGEP and have the right skills to take advantage of them.	
S47	Local Community	Further investment must be made in the towns and local areas instead of open ended promises.	The Project represents a significant investment into the local area, which will deliver a number of benefits for those living in the local area. This includes: ■ Supporting the creation of net 2280 FTE jobs over the whole duration of the construction phase. and around 290 jobs once operational. ■ Creating apprenticeships, post-graduate programmes and funded research placements. ■ Increasing revenues from business rates from the Projects and associated developments. ■ Providing low carbon heat and power to new residential development and businesses through the local district network. ■ Creating new routes for walking and cycling. ■ Providing better access to the River Trent and the countryside. ■ Improving local biodiversity. ■ Creating educational opportunities for local schools through a Visitor Centre.	N / A
S47	Local Community	Excellent opportunities clearly emerging for all within the local community to integrate and develop within the area. It would also be hoped that as part of this local partnerships	As part of the Applicant's commitment to developing local skills, we will support apprenticeship schemes, incorporating the re-training of mature participants, post-graduate training programmes, and funded research placements. Training opportunities will be	7.2.1.3

Consultee type	Consultee	Comment	Response / Action	Reference within this document
		with other local industries can be combined as well as local educational facilities to provide training as well as early age education.	made available at the Project and in collaboration with local partners. The Visitor Centre proposed will also create educational opportunities for local educational institutions. The Applicant will prepare an Employment and Skills Policy to maximise the uptake of local employment opportunities and is committed to supporting training and apprenticeship schemes.	
S47	Local Community	very few, if any local firms will be involved in the construction. New job numbers seem very optimistic.	Construction of the Project could result in the creation of up to 3550 FTE jobs over the whole duration of the construction phase. The Applicant will prepare an Employment and Skills Policy Agreement to maximise the uptake of local employment opportunities and in addition is committed to supporting training and apprenticeship schemes. Indeed, as set out in Chapter 14 of the Environmental Statement **(Document Reference 6.2.14**), direct construction employment could also lead to opportunities for local businesses to supply the project or to benefit from expenditure of construction workers	Section 8.2.1 and 8.3.2 and Section 7.2.1.3
S47	Local Community	The opportunity for employment and training in green energy further down the East Coast is a far better prospect, with less negative impact on the local communities being positioned as they are.	Flixborough Industrial Estate is considered an ideal site for a facility of this type. It was selected based on the local availability of RDF feedstock supplies currently going either to landfill or export through the Humber ports, the availability of available grid export capacity and the availability of an operational port providing rail and sea links within an established industrial zone. A description of 'reasonable alternative' locations that were considered as part of the selection process is set out in Chapter 3: The Project Description and	Chapter 3 and 6.4.7

Consultee type	Consultee	Comment	Response / Action	Reference within this document
			Alternatives of the Environmental Statement **(Document Reference 6.2.3)**. Furthermore, the Index of Multiple Deprivation places the Local Impact Area in the top 10-25% of most deprived areas in terms of Education Skills and Training. This suggests that the local community will benefit from the training and employment opportunities offered by the Project.	
S47	Local Community	I was a local Headteacher and have seen how promises and proposals made by companies about educational opportunities sound exciting and look persuasive but in reality come to nothing after a very short period of time. There are other opportunities to find out more and balance the arguments so I am not persuaded of the positive impact of the educational argument put forward.	The Applicant is working with NLC, stakeholders and education providers to ensure as many local people and businesses as possible are aware of the opportunities presented by the Project and have the right skills to take advantage of them. This includes seeking to open up our supply chain to local businesses where possible. The Applicant will prepare an Employment and Skills Policy to maximise the uptake of local employment opportunities and is committed to supporting training and apprenticeship schemes.	7.2.1.3
S47	Local Community	I would like to see young people from school/college given opportunities to break cycle of unemployment in Scunthorpe.	The Project will result in the creation of up to 290 FTE new jobs once it is operational. These will be a mix of full and part-time jobs including operatives, shift team leaders, mechanical engineers and thermal energy specialists. As part of the Applicant's commitment to developing local skills, we plan to create new apprenticeships incorporating the re-training of mature participants, post-graduate programmes, and funded research placements. The Applicant is working with NLC, stakeholders and education providers to ensure as many local people	8.3.2 and 7.2.1.3

Consultee type	Consultee	Comment	Response / Action	Reference within this document
			and businesses as possible are aware of the opportunities presented by the Project and have the right skills to take advantage of them. This includes seeking to open up our supply chain to local businesses where possible. The Applicant will prepare an Employment and Skills Policy to maximise the uptake of local employment opportunities and is committed to supporting training and apprenticeship schemes.	
S47	Local Community	I am not happy with the park going ahead at all because of the future impact on my property. This could lead to a devaluation of the property and not wanting to live near the park. Also, I do not want it imposing on my surroundings. I don't agree with the park going ahead.	There is no evidence that ERFs reduce the prices of nearby properties. As such this has been scoped out of the assessment. According to research undertaken in relation to seven operational energy recovery facilities in the UK by Cranfield University in 2013, “no significant negative effect was observed on property prices at any distance within 5 km.” This indicated that the perceived negative effect of the thermal processing of waste on local property values is negligible.	N / A
S47	Local Community	Will you create apprentice posts for young adults/school leavers?	We are working with education providers to ensure local people are aware of the apprenticeship opportunities to be provided by the Project. As part of the Applicant’s commitment to developing local skills, we plan to create new apprenticeships incorporating the re-training of mature participants, post-graduate programmes, and funded research placements. The Applicant is working with NLC, stakeholders and education providers to ensure as many local people and businesses as possible are aware of the opportunities presented by the Project and have the right skills to take advantage of them.	7.2.1.3

Consultee type	Consultee	Comment	Response / Action	Reference within this document
			The Applicant will prepare an Employment and Skills Policy to maximise the uptake of local employment opportunities and is committed to supporting training and apprenticeship schemes.	
S47	Local Community	Can you inform us which businesses will be affected, are they being reimbursed for the cost of moving including any potential loss of income and jobs as a result of the re-location? Have GLEP representatives met with these business owners and reached agreements on the aforementioned?	The two main operators at Flixborough Wharf whose premises will be affected by the Project are RMS Ports and Rainham Steel. At the time of writing, RMS Ports' preferred option is to continue their operation at the Port using other facilities and to provide the services for the new requirements of the operational ERF. However, should RMS Ports decide not to remain on the site after construction, they would be able to relocate their current operations at Flixborough Wharf to their existing facilities at Gunness and Althorpe. It is proposed that the steel stockyard currently operated by Rainham Steel will be re-located to a location to be agreed with Rainham Steel. We are in the process of agreeing commercial arrangements for the relocation of Rainham Steel operations within the Scunthorpe area to allow for their current level of steel-stocking operations to continue. There are also buildings at Wharfside Court which will require demolition as part of the Project. The Applicant has been in contact with each of these businesses and there are currently a number of relocation opportunities within the local area which are being explored. The details of discussions with each business are commercially sensitive and we are therefore unable to provide more detail on them at this time.	8.2.1

Consultee type	Consultee	Comment	Response / Action	Reference within this document
S47	Local Community	The area now has a promise of 257 full time jobs, this number has reduced since the first inception of the proposal, how can residents be certain that this paltry figure will not decrease even further. Your documentation refers to the fact that there is a potential for more than 1000 further jobs at the site due to it being a more attractive place for other businesses to relocate to. The consensus of opinion is that Flixborough Industrial Site is not suited for further expansion given the fact that this is a predominantly rural farming area in close proximity to small village settlements.	As set out in Chapter 14 of the Environmental Statement **(Document Reference 6.2.14**), construction of the Project could result in the creation of up to 3550 full time equivalent (FTE) jobs over the whole duration of the construction phase. The Project is likely to directly provide around 290 FTE jobs once operational. However, by providing low-carbon heat and power, the Project could become an attractive place for businesses to locate, providing an additional 1000 jobs at the site. Whilst this is still an important part of our vision, we need to get permission to build the Energy Recovery Facility and the facilities that will let us treat and use the by-products first. They will help create the right conditions for further investment in jobs and skills. Separate planning permission for any development associated with the wider site would need to be sought from North Lincolnshire Council	Section 8.2.1 and Section 8.3.2
S47	Local Community	Residents also have major concerns regarding the fact that this incineration plant will devalue their properties. We already have at least one instance whereby a sale fell through due to the buyers discovering this proposed development could be on the doorstep.	There is no evidence that ERFs reduce the prices of nearby properties. As such this has been scoped out of the assessment. According to research undertaken in relation to seven operational energy recovery facilities in the UK by Cranfield University in 2013, “no significant negative effect was observed on property prices at any distance within 5 km.” This indicated that the perceived negative effect of the thermal processing of waste on local property values is negligible.	N / A
S47	Local Community	Needs a dedicated training centre, to offer courses for schools and colleges. Very good to educate in energy and the environment.	The Visitor Centre will provide training facilities, delivered in consultation with education providers.	7.2.1.3

Consultee type	Consultee	Comment	Response / Action	Reference within this document
			The Applicant is working with education providers to ensure local people are aware of the apprenticeship opportunities to be provided by the Project. As part of the Applicant's commitment to developing local skills, we plan to create new apprenticeships incorporating the re-training of mature participants, post-graduate programmes, and funded research placements. The Applicant is working with NLC, stakeholders and education providers to ensure as many local people and businesses as possible are aware of the opportunities presented by the Project and have the right skills to take advantage of them. The Applicant will prepare an Employment and Skills Policy to maximise the uptake of local employment opportunities and is committed to supporting training and apprenticeship schemes.	
S47	Local Community	The creation of new jobs in an area is always a good thing and with the way things need to change in the future this sounds like it will be good opportunity for people to learn new roles and skills to help in this area. The visitor centre sounds like a great idea. As a parent of 2 young boys more needs to be done to educate people on the changes we need to make and this will be brilliant step towards this. The ideas put forward seem really positive, it would be a	This is noted.	N / A

Consultee type	Consultee	Comment	Response / Action	Reference within this document
		place I would like to visit once completed.		
S47	Local Community	New jobs do not equate to the devaluation of our health and our homes!	The assessment in Chapter 17 of the Environmental Statement **(Document Reference 6.2.17)** concludes that the Project is not expected to lead to significant negative impacts on health and wellbeing. There is no evidence that ERFs reduce the prices of nearby properties. As such this has been scoped out of the assessment. According to research undertaken in relation to seven operational energy recovery facilities in the UK by Cranfield University in 2013, "no significant negative effect was observed on property prices at any distance within 5 km." This indicated that the perceived negative effect of the thermal processing of waste on local property values is negligible.	Chapter 17
S47	Local Community	Good idea as long as the incinerator isn't built and the education is used to actually create pollution free energy and not try to cover over money making company who wants to pollute our towns with no consideration to our health.	The Project meets the R1 energy efficiency criteria set out in the Waste Framework Directive 2008/98/C (WFD) to qualify as an energy recovery operation and is therefore an Energy Recovery Facility rather than an incinerator. The Project combines technologies to capture, store and use by-products from the energy recovery process. We have assessed impacts on climate change - how 'green' the project is – in Chapter 6 of the ES (**Document Reference 6.2.6**). compared to the alternative of managing waste through landfill, we expect operation of NLGEP to result in an overall reduction in the release of the greenhouse gases which contribute to climate change. The Visitor Centre is anticipated to provide educational opportunities for children and adults to learn more about living sustainably.	Chapter 6 and Chapter 17

Consultee type	Consultee	Comment	Response / Action	Reference within this document
			With regards to health, the assessment in Chapter 17: Health of the Environmental Statement **(Document Reference 6.2.17**) concludes that the Project is not expected to lead to significant negative impacts on health and wellbeing.	

4. ASSESSMENT PARAMETERS

4.1 Defining the Project's Area of Influence

4.1.1.1 One of the first stages in developing a methodology for the assessment is defining a project's area of influence. This is the area in which effects (be they positive or negative) may occur through the construction, operation and decommissioning of the Project. The effects of decommissioning are considered likely to be similar to those encountered during the construction of the Project and therefore are not considered separately.

4.1.1.2 The Project is located in North Lincolnshire to the north of Scunthorpe on the eastern bank of the River Trent. It has direct links to the A1077 and the M181.

4.1.1.3 North Lincolnshire Unitary Authority (UA) and the Scunthorpe Travel to Work Area (TTWA) are the most likely to be affected by the potential economic impacts of the Project. The relevant study areas are shown in Figure 5 and 6, namely:

- Immediate Impact Area (IIA) – the Local Super Output Areas (LSOA) covering the site;
- Local Impact Area (LIA) – North Lincolnshire Unitary Authority area; and
- Wider Impact Area (WIA) - Scunthorpe Travel to Work Area.

4.1.1.4 NLC is satisfied with the extent of the impact areas that have been defined. The assessment of the impacts within each defined impact area includes regional and national level comparisons.

4.1.1.5 The assessment study areas include the areas of land required both temporarily and permanently for the Project. It also includes a wider corridor within which receptors or resources could be affected by a combination of significant residual effects drawing from the findings of other technical disciplines: noise, vibration, air quality, traffic (in relation to heavy goods vehicles (HGV)) and visual intrusion.

4.2 Temporal/Phasing

4.2.1.1 The likely effects associated with the stages of the Project on economic, community and land use resources and receptors will vary and are considered in the following broad categories:

- construction impacts: including temporary disruption to resources and receptors and economic impacts such as employment, expenditure through the supply chain and accommodation requirements for in-migrating contractors; pressure on local services; and
- operational impacts: including economic impacts such as generation of employment opportunities or loss of employment from business displacement.

4.2.1.2 The effects of the Project have been assessed for the construction and commissioning phase. Construction and commissioning is phased over this period. The first element of the Project, the ERF, is planned to come

into operation in 2028. Should this programme change, within reason, there would be no material change to the significance of the effects reported.

5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

5.1 Introduction

5.1.1.1 This section sets out the assessment methodology and description of the significance criteria upon which the assessment is based.

5.2 Methodology

5.2.1 Net Economic Impacts

5.2.1.1 One of the main aspects of the assessment is the net economic gain derived from the Project for the construction and operational phases. The assessment considers:

- net economic gain taking account of leakage and displacement;
- employment effects reported as full time equivalent (FTE) jobs and the GVA by these jobs;
- employment, economic and community effects often interact so interrelationships between these are also considered. For example, increased employment rates and economic activity provide additional economic benefits to local communities through indirect expenditure;
- estimates of construction jobs, provided by the Applicant and validated based on ERM's experience of similar developments; and
- the analysis of the direct operational phase employment effects, based on the estimated number of workers to be employed at the facility from information supplied by the Applicant.

5.2.1.2 The assessment of likely effects on the local, regional and national economies during construction, operation and decommissioning of the Project consider the scale of the following:

- direct economic effects: jobs and GVA that are wholly or largely related to construction, decommissioning and operation of the Project.
- indirect economic effects (positive and negative): jobs and GVA generated in the areas of influence in the chain of suppliers of goods and services to the direct project activities.
- induced economic effects: jobs and GVA created by direct and indirect employees' spending in the study area or in the wider economy.
- wider economic effects (positive and negative): employment and income generated in the national / regional economy related to the Project.

5.2.2 Economic Impact Key Assumptions

Construction

5.2.2.2 The key assumptions that are used in the economic impact assessment of the construction phase in terms of input data and additionality are set out in Table 4.

Table 4: Construction Economic Impact Key Assumptions

Assumption	Value	Source
Leakage	25%	HCA Additionality Guide, 2014, Table 4.3, P27
Displacement	10%	HCA Additionality Guide, 2014, Table 4.8, P30
Composite Multiplier	1.29	Local Area, HCA Additionality Guide, 2014, Table 4.12, P35
GVA per worker	£47,650	GVA for filled worker, North Lincolnshire, all economy, ONS 2017

5.2.2.3 Leakage is the level of benefits likely to go outside the LIA/WIA. The leakage level of 25% is the medium rate from the HCA Additionality Guide, given that the construction jobs will include a substantial proportion of specialist roles.

5.2.2.4 Displacement is the proportion of economic benefits that are displaced from elsewhere in the LIA/WIA. Displacement is assumed to be 10%, as there will be only marginal displacement of construction activities from elsewhere in the LIA and WIA. Direct displacement/relocation of businesses within the Application Land is taken into account in the calculation of net new jobs created.

5.2.2.5 There will also be multiplier effects associated with construction jobs as construction activities lead to other associated business benefits through the supply chain. Multiplier impacts are secondary impacts within the local economy from supply linkages through procurement (indirect effects) and income associated with local expenditure from employees (induced effects). A multiplier of 1.29 has been assumed based on national guidance for estimating the likely scale of composite multipliers at the sub-regional level.

Operation

The key assumptions that are used in the economic impact assessment of the operational phase in terms of input data and additionality are set out in Table 5.

Table 5: Operational Economic Impact Key Assumptions

Assumption	Value	Justification
Additionality		
Leakage	23%	Leakage across the area is assumed to be relatively low
Displacement	30%	The overall level of displacement is assumed to be low to medium as the Project will not significantly displace economic activity from elsewhere given its unique nature. In line with the HCA Additionality Guide Table 4.8, P30
Composite Multiplier	1.29	Local Area, HCA Additionality Guide, 2014, Table 4.12, P35
Data Assumptions		
GVA per worker	£47,650	GVA for filled worker, North Lincolnshire, all economy, ONS 2017

5.2.2.6 Leakage is assumed to be 23%, based on travel to work flows of around 23% of jobs in North Lincolnshire which are filled by non-district residents. This also reflects that the principal labour market catchment area, the Scunthorpe TTWA, contains at least 75% of the area's workforce that both live and work in the area.

5.2.2.7 A displacement level of 30% is a low-medium rate from the HCA Additionality Guide as the unique nature of the Project will not result in significant displacement of economic activity elsewhere. A multiplier of 1.29 has been assumed based on national guidance for estimating the likely scale of composite multipliers at the sub-regional level.

5.2.3 Community Assessment

5.2.3.1 The community assessment addresses the likely effects on residential properties (and their occupants), community facilities, including recreational facilities, open space and Public Rights of Way (PRoWs) (and their users) and communities as a whole. The assessment of tourism impacts is considered in relation to impacts on individual tourist related businesses.

5.2.3.2 Effects may result from:

- a loss or gain as a result of the land required for the construction or operation of the Project;
- isolation as a consequence of barriers (physical, psychological and social) that communities would face resulting from construction or operation of the Project;
- in-combination effects relating to a change in the amenity value of community resources, as a consequence of a combination of factors (noise and vibration, HGV traffic, air quality and visual impacts); and
- the temporary presence of construction workers and their demands on community facilities.

5.2.3.3 There are no industry-wide accepted methods for assessing community effects. The method that has been developed for predicting and assessing

effects in this ES draws on existing guidance, analysis and methods used by ERM for other large infrastructure projects.

5.2.3.4 Effects have been derived from the interaction between the magnitude of impacts (which broadly reflect their severity, duration or extent) and the sensitivity of the resources and receptors (which broadly reflects their ability to accommodate impacts without fundamentally changing their functionality or amenity value).

5.2.3.5 The community assessment is largely based on qualitative information. However, relevant quantitative inputs have been used wherever possible (eg. numbers of properties affected, net change in open space provision, diversions of PRoWs). Opportunities to mitigate community effects have been identified during the course of the development and consultation on the Project and will continue to be developed through discussion with those affected.

5.2.3.6 Significant in-combination effects may arise from the combination of two or more residual significant effects reported by other disciplines on the amenity of a group (street, hamlet or village) of residential properties or on community facilities. Amenity may be affected by a combination of factors such as sound, noise and vibration, air quality, landscape and visual and traffic and transport, taking into account the sensitivity of the resource and receptors.

5.2.3.7 The spatial scope of the community assessment varies, depending on the nature of the receptors and the impacts being considered. The effects of construction on the land used for construction and/or operation are confined to the immediate vicinity of the route. Effects resulting from a combination of effects or relating to the overall functionality of a community will typically apply to wider areas such as neighbourhoods or whole settlements.

5.2.3.8 Generally, the assessment methodology excludes, for the purposes of reporting in-combination effects, residential properties where the total number of dwellings affected in a group is fewer than five. In-combination impacts on individual properties or groups of less than five properties do not constitute a significant community effect.

5.2.4 Significance Criteria

5.2.4.1 The economic, community and land use assessment is determined by the:

- sensitivity of receptors;
- magnitude of impacts; and
- significance of effects.

5.2.4.2 The evaluation of the significance of effects involves the assessment of how the potential changes to baseline conditions might result in effects. There are no published economic, community or land use standards that define receptor sensitivity, magnitude or significance. The definitions presented in Table 6, Table 7 and Table 8 which have been developed and applied to the assessment, are based on professional judgement and precedent set in similar assessments.

5.2.4.3 The assessment criteria outlined in Table 6, Table 7and Table 8 have been used and an assessment made of the magnitude of the impacts in combination with receptor sensitivity to determine the significance of any effects.

Receptor Sensitivity

5.2.4.4 For economic effects (including employment), the availability of labour and skills is critical in accommodating the demands, needs and requirements of the Project. Adequate capacity, ie. a sufficient labour supply in an area, results in a low sensitivity; while limited capacity results in a high sensitivity. For social effects, receptor sensitivity is principally defined by the ability of the social receptor to absorb or adapt to change and the level of usage by sensitive or vulnerable social groups. These are defined in Table 6. Appendix B, Section 3, provides the receptor sensitivity criteria specifically applied for agriculture and soil resources.

Table 6: Receptor Sensitivity

Sensitivity	Description
High	There is no or low availability of relevant labour and skills in the wider study area workforce, for example as a result of very low unemployment rates. The Project would lead to labour market pressure and distortions (ie. skills and capacity shortages, import of labour, wage inflation). The receptor is of international or national importance and/or has little or no ability to absorb change or recover/adapt and/or is solely used by sensitive groups such as older people, children and people of poor health.
Medium	The area has a constrained supply of labour and skills. The Project may lead to some labour market pressure and distortions. The receptor is of regional or local importance and/or has medium ability to absorb change or recover/adapt and/or is principally used by sensitive groups such as older people, children and people of poor health.
Low	The area has a readily available labour force with some skill deficits. The Project is unlikely to lead to labour market pressure and distortions. The receptor is of local importance and/or has ability to absorb change or recover. It may also be used by sensitive groups such as older people, children and people of poor health.
Very Low/Negligible	An effect would not be discernible in the context of the number of jobs created or lost within the wider study area and the capacity of that area to accommodate the change. The receptor is of local importance and/or is able to absorb change and/or recover or adapt to the change and is not specifically for use by sensitive groups such as older people, children, and people of poor health.

Magnitude of Impacts

5.2.4.5 The magnitude of impacts is determined by the extent of the change and the scale of the impact. A level of impact magnitude has been assigned in Table 7 taking into consideration the following:

- extent of change – taking account of the number of people affected and the size of the area impacted upon; and
- scale of the impact – whether permanent during operation or temporary/short-term during construction.

Table 7: Magnitude of Impact (beneficial and adverse)

Impact Magnitude	Description
High	■ The impact would dominate over baseline conditions. ■ Impacts would be experienced at an international or national scale. ■ Constitutes a long-term change to baseline. Impacts would be of long-term duration (continuous ie. permanent and irreversible) ■ Major impact on large numbers of businesses, employment creation or well-being of receptors/local people (with number depending on the local context).
Moderate	■ A medium-term impact on the baseline conditions (ie. 3-5 years). ■ Impacts would be experienced at a regional or sub-regional scale. ■ Moderate impact on businesses, employment creation or well-being of receptors/local people (with number depending on the local context).
Low	■ A short term impact on the baseline conditions (ie. 1-2 years). ■ Impacts would be experienced at a local level. ■ Minor impact on businesses, employment creation or well-being of receptors/local people (with number depending on the local context).
Very Low/Negligible	■ A very short-term/temporary change to the baseline (ie. < 1 year). ■ Any impacts would be experienced at a local level. ■ Slight/no impact on businesses, employment creation or well-being of receptors/local people (with number depending on the local context).

5.2.4.6 Appendix B, Section 3, provides the impact magnitude criteria specifically applied for agriculture and soil resources.

Significance of Effects

The level of significance is determined by the sensitivity of the receptor and magnitude of the impacts upon them (see Table 8 and for agricultural land, Appendix B, Section 3). For the purposes of the assessment and the EIA Regulations, 'significant effects' are those identified as being moderate or major (adverse or beneficial). Minor and negligible effects are not considered to be 'significant'.

Table 8: Significance of Effect

		Sensitivity of Receptors			
		High	**Medium**	**Low**	**Very Low/ Negligible**
Magnitude of Impact	**High**	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Negligible	Negligible
	Very Low/ Negligible	Minor	Negligible	Negligible	Negligible

5.2.4.7 The significance of effects is assessed relative to the baseline. The effects are defined as being:

- Beneficial – advantageous or beneficial on an impact area/defined receptors;
- Negligible – imperceptible/no effect on an impact area/defined receptors; and
- Adverse – disadvantageous or negative effect on an impact area/defined receptors.

6. BASELINE AND RECEPTORS

6.1 Introduction

6.1.1.1 This section outlines the baseline receptors which are considered as part of the economic, community and land use assessment.

6.1.1.2 The economic, community and land use assessment is based on available published data at the time of writing, with no specific surveys or site visits undertaken.

6.2 Data Sources

- ONS - Employment and labour market data;
- NOMIS - labour market profiles;
- Census 2011 - Population and demographics;
- Index of Multiple Deprivation, 2020;
- North Lincolnshire Settlement Survey, 2019;
- North Lincolnshire Open Space Study, 2019;
- North Lincolnshire Public Rights of Way Definitive Map and modifications orders; and
- North Lincolnshire Strategic Housing and Economic Land Availability Assessment, September 2019.

6.3 Existing Land Use

6.3.1.1 The Project is located at and around Flixborough Wharf, adjacent to Flixborough Industrial Estate, Stather Road/First Avenue, Flixborough DN15 8SF. The location of the Application Land is shown in Figure 1 of Chapter 3 (**Document Reference 6.2.3**), and comprises an area of approximately 263ha.

6.3.1.2 A full description of the site and surrounding area is set out in Chapter 3 (**Document Reference 6.2.3**).

6.3.2 Order Limits

6.3.2.1 The site is on the east bank of the tidal River Trent, immediately west of the village of Flixborough and within 2km north west of Scunthorpe. The extent of the Application Land is shown in Figure 4 of Chapter 3 (**Document Reference 6.2.3**).

6.3.2.2 The main focus of the permanent works is located on brownfield and agricultural land to the south of Flixborough Wharf and the Flixborough Industrial Estate in North Lincolnshire. The Application Land has national and international transport connectivity by road, rail, and river to sea via the River Trent and River Humber.

6.3.2.3 The disused railway line between the main Network Rail line at Dragonby and Flixborough Wharf is to be reinstated as part of the Project. The line runs through predominantly agricultural land and industrial mineral

workings land before passing Foxhills Industrial Park and Flixborough village. It then loops around the northern edge of Flixborough Industrial Estate prior to terminating at the wharf edge.

6.3.2.4 The route of the Northern District Heat and Private Wire Network (DHPWN) runs from the ERF down the new access road to the southern end of the Energy Park, where the B1216 (Ferry Road West) meets the A1077 (Phoenix Parkway). The route follows the A1077 towards the east. At the roundabout junction with the A1430 (Normanby Road), the route continues south through the built-up urban centre of Scunthorpe.

6.3.2.5 The route of the Southern DHPWN runs from the southern end of the Energy Park where the B1216 joins the A1077 and then heads south through agricultural land to the west of the A1077 passing under the Crowle to Scunthorpe railway line and terminates in the field to the north of the B1450 (Burringham Road).

6.3.2.6 Small areas of the Application Land fall within the boundary of an employment allocation at Normanby Enterprise Park (Policy SCUE-1) and housing allocations at Phoenix Parkway Phase 1 (Policy SCUH-1) and Land South of Ferry Road West (Policy SCUH-10). Land South of Ferry Road West is no longer being promoted as a housing allocation in North Lincolnshire Council's Draft Local Plan (Publication Draft). The Project will not affect the viability of these allocations.

6.3.2.7 Part of the Application Land falls within the Lincolnshire Lakes AAP. The Southern DHPWN is located within two development sites within the Lincolnshire Lakes AAP; SSA1 Strategic Mixed Use area, and SSA6 Village 6. There is an extant outline planning permission (PA/2013/1003) for a commercial park covering area SSA1 and outline planning permission (PA/2015/0392) for 2,550 dwellings covering SSA6. The Southern DHPWN consists of buried infrastructure which will not affect the viability of these developments.

6.3.3 Surrounding Area

6.3.3.1 Land immediately adjacent to the Application Land is currently a mix of both brownfield and greenfield land with the River Trent forming the western boundary. Large industrial facilities within the wider Flixborough Industrial Estate and on adjacent land include a cement works, wind turbines, grain processing facilities and a small power station. The current industrial operations at the Flixborough Wharf and the Flixborough Industrial Estate provide a brownfield setting that is appropriate for further development.

6.3.3.2 Adjacent land includes areas in arable agriculture, comprising a number of fields separated by hedgerows and well-established drainage ditches and areas of open space, which are also Local Nature Reserves served by a network of public rights of way (PRoW).

6.3.3.3 To the north and north east of the Application Land, it is predominately a rural area with a number of small villages. To the south east, the character becomes increasingly urban with industrial and retail parks and residential areas of Scunthorpe.

6.4 Employment/Demographic Statistics

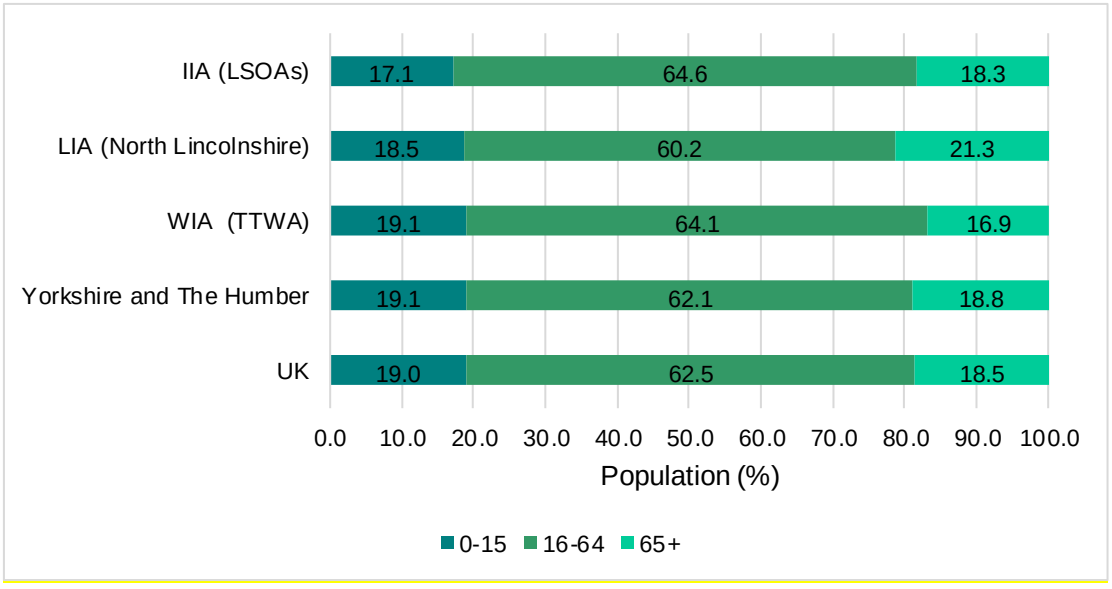
6.4.1.1 This section outlines the economic baseline conditions in the IIA, LIA and WIA as defined in Section 4.1, providing comparisons to regional and national statistics where appropriate. The local population and labour market are the main receptors for consideration of economic impacts. The baseline conditions determine the impact of the demographic and economic changes generated by the Project. The impact is mainly determined by the size of the local labour market and whether it has the relevant skills, occupations and sector strengths to capitalise on the employment and economic opportunities.

6.4.2 Demographic Profile

6.4.2.1 Mid-2019 estimates made by the ONS

6.4.2.2 (Figure 1) states that the IIA had a population of 17,693, whilst the LIA had a population of 172,292. The WIA had a population of 179,507, as recorded in the 2011 Census. The IIA had a smaller proportion of young people (ages 0-15) (17.1%) in comparison to the LIA (18.5%), WIA (19.1%) and UK average (19.0%), as well as a smaller proportion of older people (ages 65 and over) (18.3%) compared to the LIA (21.3%), but very similar to the UK (18.5%). The IIA also has the largest proportion of working age population (ages 16-64) (64.6%) compared to other impact areas. It is most similar to WIA levels (64.1%), but slightly above both regional (62.1%) and national (62.5%) averages.

Figure 1:1 Age Breakdown of Population by Impact Area



Source: ONS 2019 mid-year estimates. WIA data for the Scunthorpe TTWA has been taken from 2011 Census of Population.

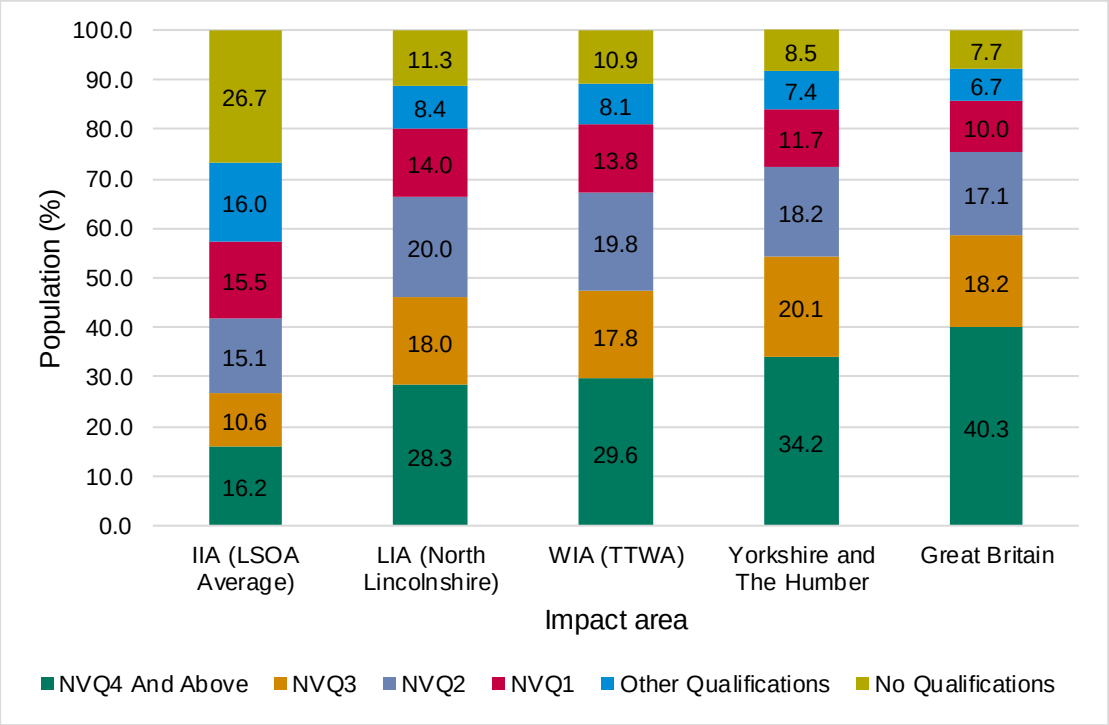
6.4.3 Qualifications

6.4.3.1 Qualifications of residents vary significantly between the different impact areas (Figure 2). The IIA has a significantly higher percentage of people without qualifications (26.7%) compared to the LIA (11.3%) and WIA (10.9%). Similarly, there is a lower proportion of people obtaining NVQ2 in the IIA (15.1%) than in the LIA (20.05) and the WIA (19.8%), although these are slightly above the regional and national levels.

6.4.3.2 The IIA also has the lowest percentage of people achieving a qualification of NVQ4 equivalent or above (16.2%) compared with the LIA (28.3%), WIA (29.6%) and regional (34.2%) and national (40.3%) levels.

6.4.3.3 Overall, the IIA, LIA and WIA have lower percentages of people with the highest qualification levels than the regional and national averages.

Figure 2: Qualification Levels



Note: Incomplete data for WIA due to lack of published data. Percentages calculated by differences in composite values for qualification levels. IIA and Yorkshire and The Humber records a total 100.1% likely due to rounding of figures by the data source.

Source: LIA, WIA, Yorkshire and The Humber and Great Britain estimates from ONS APS 2019. IIA data based on 2011 Census of Population.

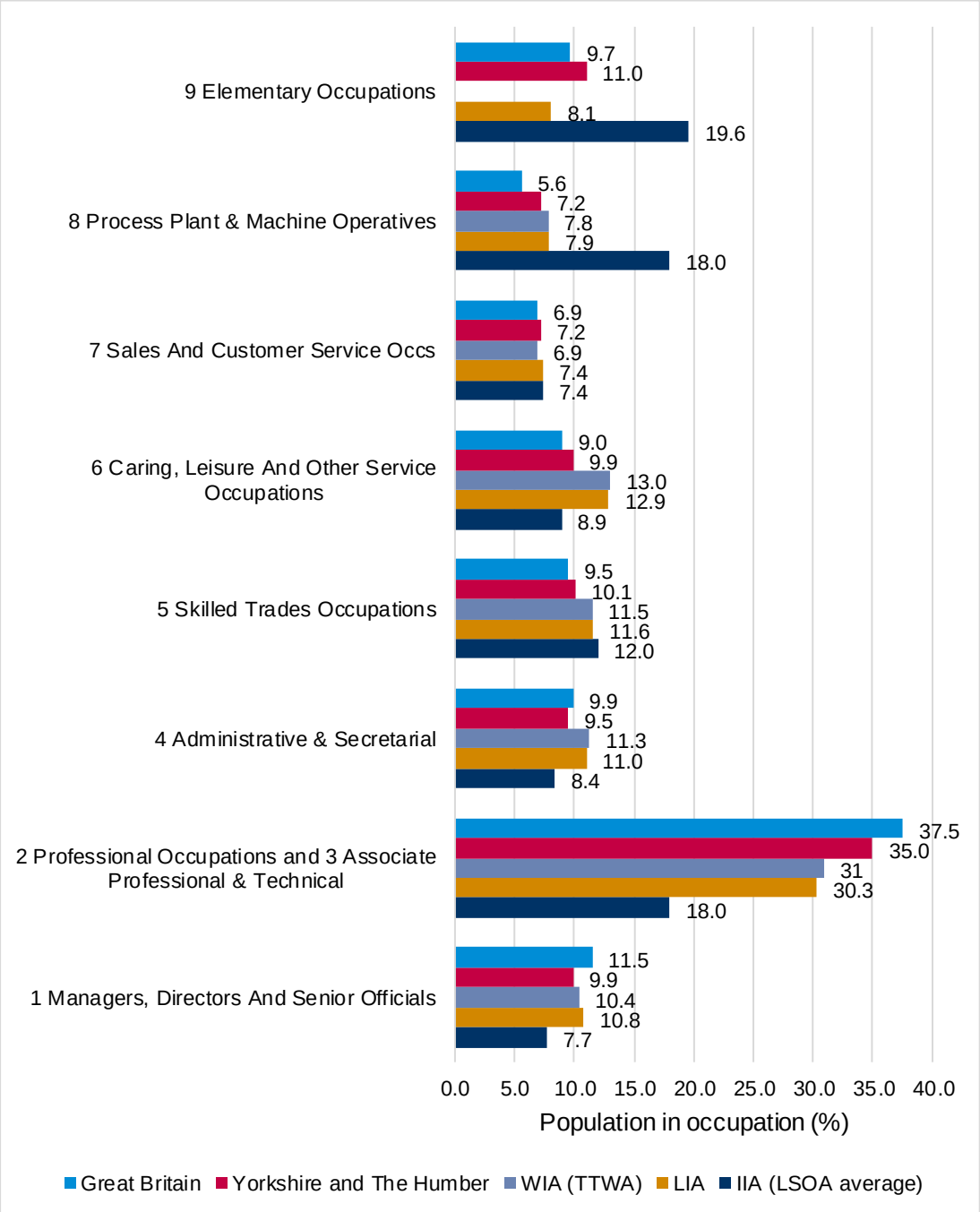
6.4.4 Occupational Structure

6.4.4.1 The workforce occupational profile structure varies noticeably between the different impact areas (Figure 3). The largest proportion of the workforce in the IIA is in elementary occupations (19.6%). This is significantly higher than in the LIA (8.1%), regionally (11.0%) and nationally (9.7%). The IIA has a higher average of people who are process plant and machine

operatives (18%) compared to around 7% in the LIA, WIA and the region as a whole.

6.4.4.2 The IIA has significantly lower levels of people in professional occupations (18%) and those in Managers, Directors and Senior Official Occupations (7.7%) than in the LIA (30.3% and 10.8% respectively) and the WIA (31% and 10.4% respectively). The LIA and WIA have lower levels of people in professional occupations than regionally or nationally.

Figure 3: Workforce Occupations



Note: Some missing data for WIA, not all occupations have been reported.

Source: ONS APS Oct 2019 – Sep 2020 for LIA, WIA, Yorkshire and The Humber and Great Britain. ONS APS 2015-2016 for IIA.

6.4.5 Employment

6.4.5.1 Table 9 shows that the largest employment sectors for the LIA are in manufacturing (19%), wholesale and retail trade (17.2%), human health and social work (16.6%). This compares to around 23% in the manufacturing sector in the LIA and WIA which is significantly higher than the regional and national averages. The wholesale and retail sectors are more dominant in the IIA than the LIA (14.9%) and WIA (14.5%) and at the regional and national level. Similarly, the human health and social work sector is slightly larger in the IIA than the LIA (13.5%) and WIA (14.5%).

6.4.5.2 All of the impact areas are under-represented in the professional, scientific and technical sector (1.9% compared to 6.9% and 8.7% regional and national averages), in information and communication activities (0.3% compared to 2.9% and 4.3% regional and national averages) and the financial and insurance sectors (0.6% compared to 2.8% and 3.5% regional and national averages).

Table 9: Percentage of Residents (aged 16-64) by Industry Sector (%)

	IIA (LSOA average)	LIA (North Lincolnshire)	WIA (TTWA)	Yorkshire and The Humber	Great Britain
A : Agriculture, forestry and fishing or B : Mining and quarrying	0.9	1.4	0.4	0.6	0.9
C : Manufacturing	19.0	23.0	23.2	11.3	8.0
D : Electricity, gas, steam and air conditioning supply	0.2	0.3	0.4	0.3	0.4
E : Water supply; sewerage, waste management and remediation activities	3.0	1.2	1.0	0.7	0.7
F : Construction	6.8	8.1	7.2	5.4	4.9
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	17.2	14.9	14.5	15.4	15.0
H : Transportation and storage	11.3	8.1	5.8	5.1	4.9
I : Accommodation and food service activities	4.1	4.7	5.1	6.5	7.6
J : Information and communication	0.3	0.8	0.7	2.9	4.3
K : Financial and insurance activities	0.6	0.5	0.5	2.8	3.5
L : Real estate activities	0.3	0.8	0.9	1.3	1.7

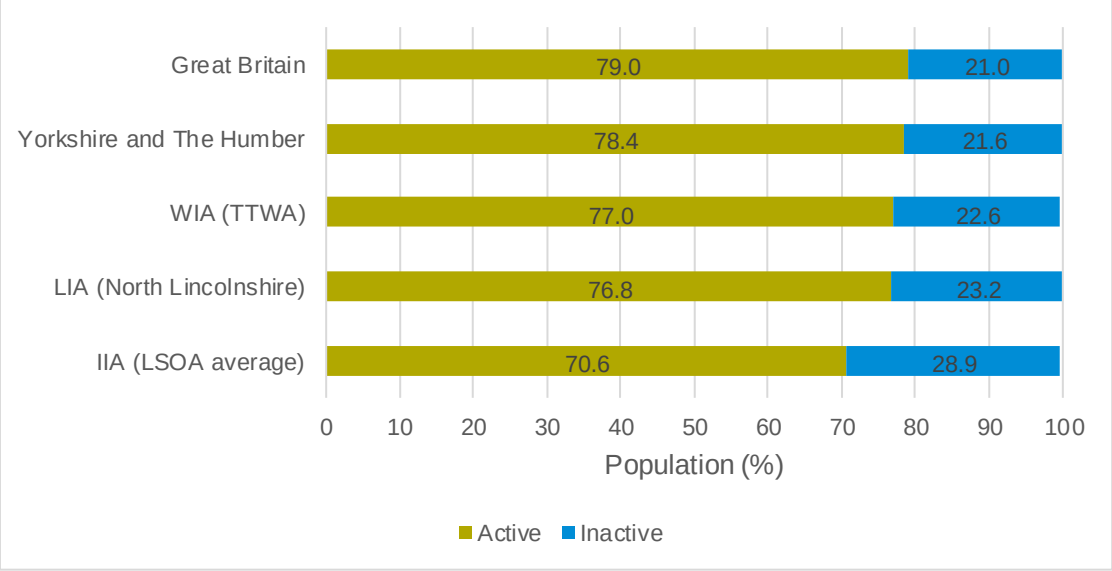
	IIA (LSOA average)	LIA (North Lincolnshire)	WIA (TTWA)	Yorkshire and The Humber	Great Britain
M : Professional, scientific and technical activities	1.9	3.4	3.3	6.9	8.7
N : Administrative and support service activities	8.1	6.8	7.2	8.4	8.8
O : Public administration and defense; compulsory social security	3.4	2.7	2.9	4.4	4.4
P : Education	2.8	6.8	7.2	9.4	8.6
Q : Human health and social work activities	16.6	13.5	14.5	14.1	13.0
R,S,T,U other	4.2	3.4	3.6	4.4	4.5

Source: ONS APS 2019

Economic Activity

6.4.5.3 As shown in Table 10, there are lower levels in economic activity in the IIA (70.6%) than the LIA (76.8%) and WIA (77.0%) and the regional and national averages. It should be noted that the data for the IIA based on LSoA data is based on an economically active population aged 16-74 as opposed to 16-64 for the other impact areas.

Table 10: Economic Activity



Source: ONS APS 2019. IIA based on 2011 census data.

6.4.5.4 As highlighted in Table 11, economic activity decreases with scale from the national average down to the IIA level (79% to 70.6%). Those economically active that are in employment also follow the same trend from national average to IIA (75.7% to 62.4%). Furthermore, this trend follows for both employees (65.1% to 56.6%) and the self-employed (10.3% to 5.8%).

Table 11: Economic Activity by Impact Area (%)

	IIA (LSOA Average)	LIA	WIA	Yorkshire and The Humber	Great Britain
Economically active	70.6	76.8	77.4	78.4	79.0
In employment	62.4	72.5	73.0	74.6	75.7
Employees	56.6	62.5	63.0	65.2	65.1
Self-employed	5.8	10.0	10.0	9.2	10.3
Unemployment rate	5.7	4.3	4.0	5.1	4.2

Note: not all data available for impact areas and regions

Source: ONS APS 2019

6.4.5.5 Table 12 provides a breakdown of types of economic inactivity among the populations in each impact area. There are increased levels of economic inactivity as the spatial scale reduces (21% national average compared to 28.9% in the IIA). Of the total number of economically inactive people, there is a similar percentage of people who are retired in the IIA (14.8%) as there are in Great Britain (13.5%), but the percentage in the LIA is higher at 20.8%. The IIA has a significantly smaller percentage of students at 3.4% (as a proportion of those who are economically inactive) than in the LIA (25.2%) and Great Britain (26.9%) as a whole. The IIA and LIA both have a noticeably smaller number of people looking after family (3.9% and 13.8% respectively) than the regional and national averages. There is a larger proportion of those who are economically inactive who are registered as long-term sick in the LIA (27.4%) compared to the Great Britain average (23.8%).

Table 12: Economic Inactivity by Impact Area (%)

	IIA (LSOA average)	LIA	WIA	Yorkshire and The Humber	Great Britain
Total	28.9	23.2	22.6	21.6	21.0
Student	3.4	25.2	n/a	25.3	26.9
Looking after family	3.9	13.8	n/a	21.6	20.8
Temporary sick	n/a	n/a	n/a	2.0	1.9
Long-term sick	4.7	27.4	n/a	24.9	23.8
Discouraged	n/a	n/a	n/a	0.4	0.5

	IIA (LSOA average)	LIA	WIA	Yorkshire and The Humber	Great Britain
Retired	14.8	20.8	n/a	13.9	13.5
Other	2.2	11.5	n/a	11.9	12.7

Source: ONS APS 2019

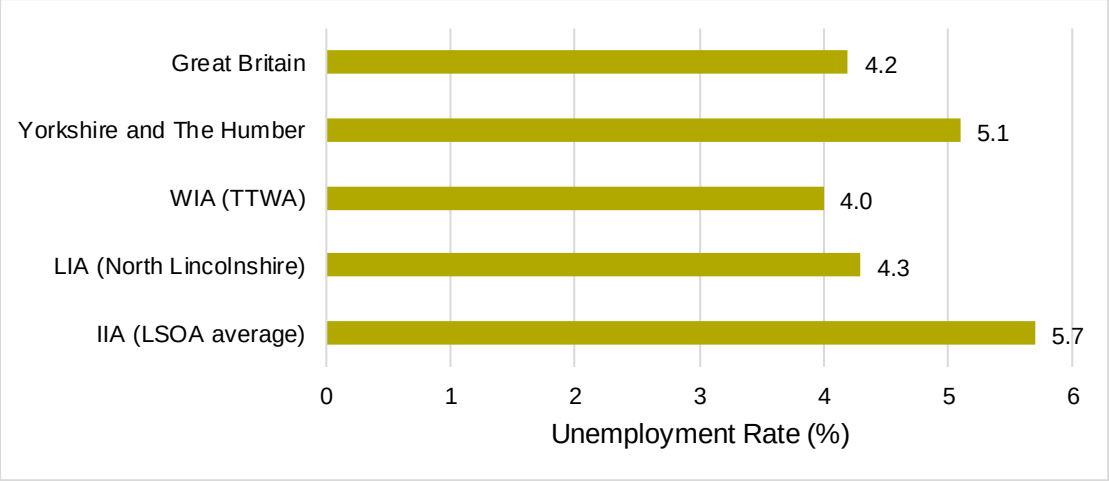
Note: WIA (TTWA) data unavailable in %, number only (population data not up to date enough to compare with economic inactivity). For IIA, total is the sum of the other categories based on ONS estimates, but other impact areas have overlapping percentages.

Source: IIA data is based on that taken from the 2011 census, whereas other areas are based on ONS APS 2019 data.

6.4.6 Unemployment

6.4.6.1 As shown in Table 13, unemployment rates in the IIA (5.7%) are higher than those for the LIA (4.3%) and WIA (4.0%) but similar to the regional level of 5.1%. The unemployment levels for the LIA and WIA are more in line with the national average of 4.2%.

Table 13: Unemployment Rates in Impact Areas



Source: ONS APS 2019. IIA based on 2011 census data.

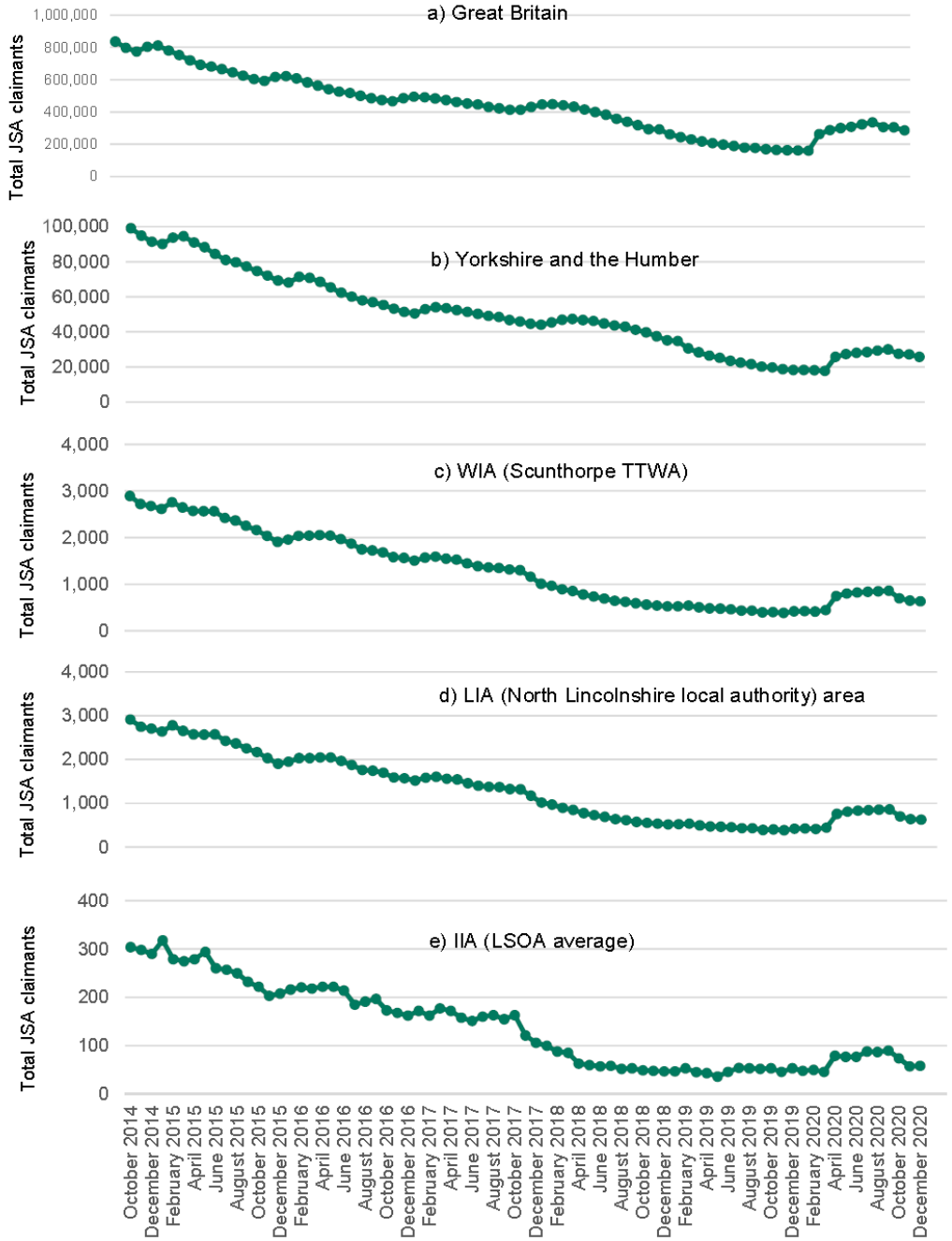
6.4.6.2 The number of residents claiming Job Seekers Allowance (JSA) is a commonly used proxy for unemployment. The most recent data for December 2020 finds the total JSA claimants in each area as highlighted in Table 14.

6.4.6.3 Figure 4 shows that, since 2014, total JSA claimants have fallen at all spatial scales. Whilst actual claimant counts between regions vary, the overall trends have followed a similar pattern.

Table 14: Total Number of JSA Claimants (December 2020)

IIA	LIA	WIA	Yorkshire and The Humber	Great Britain
58	627	633	25,670	286,650

Figure 4: Number of JSA Claimants, 2014-2020



Note: Data for LSOAs only available from ONS as far back as 2014 – other areas have been monitored for longer periods, however.

Source: ONS 2020

6.4.7 *Deprivation*

6.4.7.1 The Index of Multiple Deprivation (IMD) scores for LSOAs within the Application Land have been averaged to give an average IMD score for the IIA as shown in Table 15. There is a total of 32,844 different LSOAs in England, with those scoring the lowest (1) being the most deprived of these areas, and those scoring highest (32,844) being the least deprived. With an average rank of 11,263, the IIA falls outside of the 25% most deprived areas. Although still outside the 25% most deprived areas for health and disability and education, skills and training, the deprivation ranking for these areas are lower than the IIA's average IMD ranking.

6.4.7.2 There are 317 different local authorities in England. The LIA is the North Lincolnshire local authority area. The composite rank of IMD indices indicates those scoring 1 as the most deprived and those scoring 317 as the least deprived. The LIA falls outside of the 25% most deprived areas in terms of the overall IMD score, but falls within the 10-25% most deprived areas in respect of education, skills and training.

Table 15: Indices of Multiple Deprivation for the IIA and LIA

Indices	IIA: Average LSOA rank	LIA: average rank
Rank of Index of Multiple Deprivation Score	**11,263**	**120**
Rank of Income Score	**12,269**	**108**
Rank of Employment Score	**10,619**	**80**
Rank of Health Deprivation and Disability Score	**9,267**	**96**
Rank of Education Skills and Training Score	**9,668**	**76**
Rank of Barriers to Housing and Services Score	**16,961**	**280**
Rank of Crime Score	**12,831**	**118**
Rank of Living Environment Score	**17,796**	**201**

Source: Department for Communities and Local Government, http://opendatacommunities.org/def/concept/folders/themes/societal-wellbeing Accessed: 22/02/2021

Key for IIA

Top 10% most deprived is ranks 1 - 3,284
Top 10% - 25% most deprived is ranks 3,285 - 8,211
Between median and 25% most deprived ranks are 8,212 - 16,422
Between median and 25% least deprived ranks are 16,423 - 24,633
Top 10% - 25% least deprived is ranks 24,634 - 29,560
Top 10% least deprived is ranks 29,561 - 32,844

Key for LIA

Top 10% most deprived is ranks 1 - 32
Top 10% - 25% most deprived is ranks 33-79
Between median and 25% most deprived ranks are 80 - 159
Between median and 25% least deprived ranks are 160 - 238
Top 10% - 25% least deprived is ranks 239 - 285
Top 10% least deprived is ranks 286 - 317

6.4.8 Businesses

6.4.8.1 The main business centres close to the site, outside the Application Land, are those associated with the Flixborough Industrial Estate and Flixborough Wharf, Skippingdale Retail Park, Foxhills Industrial Estate and Normanby Enterprise and Distribution Park.

6.4.8.2 Flixborough Industrial Estate is an established industrial area with a mix of light and general industrial, haulage and office premises and Glanford Power Station. It is accessed via Ferry Road West (B1216) and the A1077 to the strategic road (M181/M180). A number of businesses benefit from the wharf facilities on the River Trent.

6.4.8.3 Skippingdale Retail Park is an out-of-town retail park north of the A1077 and Scunthorpe town centre with a mix of large-scale convenience and comparison outlets.

6.4.8.4 Foxhills Industrial Estate is an established industrial estate with a variety of national and local occupiers.

6.4.8.5 Normanby Enterprise and Distribution Park is currently occupied by a few quality, larger-scale business premises, including office accommodation, light industrial, and storage and distribution uses, but there are still areas of vacant land within the enterprise park.

6.4.8.6 An existing solar farm is located adjacent to the Application Land to the south east of Flixborough Industrial Estate.

6.5 Communities

6.5.1.1 The closest residents to the Application Land are located in the village of Flixborough, where certain parts of the Application Land Limits run up to the settlement boundary. Other residential areas are concentrated in the villages of:

- Amcotts – 225m from the Application Land;
- Burton-upon-Stather – 2.05km from the Application Land;
- Dragonby – 235m from the Application Land;
- Gunness – 0.95km from the Application Land; and
- Normanby – 1.50km from the Application Land.

6.5.2 Flixborough

6.5.2.1 Flixborough lies to the east of the Project with the Application Land adjoining the south western boundary of the village. The village includes approximately 110 residential properties with a population of around 255 (2011 Census). Located in the village is a church [1], village hall and dental practice. The village has a number of areas of open space including a village green and playground. In addition, the Blue Lagoon Nature reserve and Phoenix Parkway Local Nature Reserve (LNR) are situated to the south of the village. Local businesses include the Fenestra Conference Centre.

6.5.3 Amcotts

6.5.3.1 Amcotts is a small rural village located to the west of the River Trent in the northern part of the Isle of Axholme on the bank of the River Trent, to the north of Althorpe and Keadby on the B1392. It lies 225m from the Project. The village has a population of around 260 people and includes approximately 110 residential properties, a church, pub and tea shop. The surrounding land is agricultural.

6.5.4 Burton-upon-Stather

6.5.4.1 Burton-upon-Stather is a large village 2.05km to the north of the Project. The village has a population of around 2,535 people and includes approximately 1,100 residential properties. The village offers a range of community facilities including a primary school and children's nursery, three churches, village hall, GP surgery and medical practice, and open space including a village green, playing fields, bowling green and allotments.

6.5.4.2 Local businesses located within and close to the village include a post office, two pubs, restaurants, two caravan/camping sites and dog kennels.

6.5.5 Dragonby

6.5.5.1 Dragonby is a small village located 235m east of the Project (specifically the Railway Reinstatement Land at Dragonby sidings) and to the west of the A1077 (Winterton Road). It has a population of around 115 people and includes approximately 50 residential properties. A LNR lies to the south west of the village. Local businesses include Options Thorpe House an assisted living residence, Sawcliffe Farm Bed and Breakfast and the Silver Lake carp fishery.

6.5.6 Normanby

6.5.6.1 Normanby lies 1.50km north of the Railway Reinstatement Land separated by agricultural land. The village has a population of around 150 people and includes approximately 65 residential properties. The village developed as an estate village in the C19th associated with nearby Normanby Hall.

([1]) The All Saint's Church grounds accommodate the memorial to the Nypro disaster in 1974;

Located in the village is a church. Normanby Hall and Country Park and Normanby Hall Golf Course lie to the east of the village. Normanby Hall and Country Park offers a range of facilities which include the manor house and walled gardens, community woodland and museum, café and gift shop, playgrounds and Go Ape. Other local businesses within and close to the village include Normanby Hall Caravan Park and campsite, Normanby Park Riding School, the Eddie Wright Raceway, Paramotor Training an aviation training institute and Airkings trampoline Park.

6.5.7 Gunness

6.5.7.1 Gunness village is located on the east bank of the River Trent at the east end of the Keadby bridge, due west of Scunthorpe and 0.95km west of the Application Land. The village has a population of 765 with 365 dwellings. It has a range of community facilities including a recreation ground with a children's playground, two places of worship, a village hall, a primary school, a post office and two pubs. Gunness Wharf and associated facilities to the south of the village are the main employment focus in the village.

6.5.8 Crosby/Scunthorpe

6.5.8.1 The former village of Crosby has become subsumed into the wider urban settlement of Scunthorpe, to the south of the A1077 (Phoenix Parkway). The urban boundary abuts the Application Land south of the A1077.

6.5.8.2 Scunthorpe is the main urban settlement in North Lincolnshire and provides much of the employment, health, social and educational facilities for the area. It is the centre for community and civic uses and a cultural sector and it includes the main retail centre. It is the location of a number of industrial estates, business parks, and a range of other employment sites.

6.5.8.3 Local hospital provision is provided at Scunthorpe General Hospital which is the main hospital for North Lincolnshire offering a wide range of district general services, including an A&E department. There are plans to extend the existing hospital to include an Acute Assessment Unit.

6.5.8.4 In March 2021, the Government announced 45 Town Deals across England to give towns the tools to design and implement a growth strategy for their area and aid recovery from the impact of COVID-19. NLC was successful in securing £20.9m of funding for Scunthorpe, which could go towards a number of proposed initiatives, including a new Health and Emergency Services Hub. At the time of writing, it is understood that this will be designed to help alleviate pressure on Scunthorpe General Hospital, rather than to replace it.

6.5.8.5 Secondary school provision in the area is concentrated in Scunthorpe, offering a wide range of courses. This includes the Engineering University Technical College Lincolnshire which specialises in engineering and renewable energies and the CATCH Academy which specialises in industrial engineering, construction and engineering.

6.6 Public Rights of Way (PRoW)

6.6.1.1 There are a number of PRoW and cycleways, parts of which are within the Application Land, as shown on Figure 7, namely:

- Bridleway (BW) FLIX304;
- Footpath (FP) FLIX175/SCUN175;
- FP FLIX176;
- FP FLIX177;
- FP FLIX178;
- FP GUNN180;
- Stather Road Dedicated Cycle Route (DCR); and
- National Cycle Network (NCN) Route 169.

6.6.1.2 Three of the PRoWs (BW FLIX304, FP FLIX175 and FP FLIX178) cross the railway which is being brought back into use.

6.6.1.3 In addition, there is some evidence that the disused railway line is currently used as an informal recreational walking route without consent. It is not a formal PRoW.

6.6.2 BW FLIX304

6.6.2.1 BW FLIX304 is a 1.5km long bridleway linking from the road network south of Flixborough Industrial Estate at First Avenue northwards to Burton-Upon-Stather. The BW currently utilises a level crossing over the railway which also serves as an access/maintenance track for the adjacent wind farm. North of the access track, BW FLIX304 is mainly an unmade bridleway, rural in character running along the western edge of Burton Wood for the most part. BW FLIX304 is well used by both pedestrians and cyclists.

6.6.3 FP FLIX175/SCUN175

6.6.3.1 FP FLIX175/SCUN175 is a 3.9km long rural unmade footpath running from the south eastern boundary of Flixborough across the railway (via a level crossing) then continuing across agricultural land and the woodland area of Phoenix Parkway LNR and the heathland of areas of Atkinson's Warren LNR before crossing the A1077 and continuing south via Skippingdale Plantation and South Lodge to terminate at Ferry Road in the Crosby area of Scunthorpe. FP FLIX175/SCUN175 is well used by pedestrians, providing an amenity link between Flixborough and Scunthorpe.

6.6.3.2 A section of FP FLIX175 between Ferry Road in the Crosby area of Scunthorpe to the northern extent of Foxhill Plantation forms part of the Opencast Way. This is a 32-mile circular walk around Scunthorpe utilising the Scunthorpe Ridge Walk and the wider PRoW network and connects to Normanby Hall Country Park.

6.6.3.3 FP FLIX175 joins to FP FLIX176 and FP FLIX177 to provide a local network of PRoWs to the south of Flixborough and the railway, with links south to Scunthorpe.

6.6.4 FP FLIX176

6.6.4.1 FP FLIX176 is a 1.0km rural unmade footpath running from FP FLIX175 at a point immediately to the south of the railway through agricultural land following a field boundary before re-joining FP FLIX175 east of Willow Holt.

6.6.4.2 FP FLIX176 is part of the local PRoW network but is less well used than FP FLIX175 and FP FLIX177.

6.6.5 FP FLIX177

6.6.5.1 FP FLIX177 is 1.1km long rural unmade footpath running from FP FLIX175 at a point immediately to the south of the railway, then running for 112m along the side of the railway on a field edge. The footpath then runs south, east and south along the edge of woodland of the Phoenix Parkway LNR before re-joining FP FLIX175 east of Park Ings Farm. FP FLIX177 is a well-used local amenity route.

6.6.6 FP FLIX178

6.6.6.1 FP FLIX178 is a 0.8km long footpath running south eastwards from the eastern edge of Flixborough (Lodge Lane) across fields and the railway to join Nisa Way in the northern part of the Foxhills Industrial Estate. The path does not look to be currently in use with security fencing in place at the railway boundary. It is not well connected to the wider PRoW network.

6.6.7 FP GUNN180

6.6.7.1 FP GUNN180 is a 3.5km long footpath running west from the outskirts of Scunthorpe, south of Glanford Park, across a footbridge over the M181 and agricultural land to Gunness.

6.6.8 Stather Road DCR

6.6.8.1 There is a dedicated cycle route along Stather Road from Flixborough in the north, serving Flixborough Industrial Estate and then running south along the east side of the River Trent.

6.6.9 NCN Route 169

6.6.9.1 NCN 169, also known as the Scunthorpe Ridgeway, is a six-mile cycle route running from central Scunthorpe in the south to Normanby Hall in the north, connecting residential areas with the colleges, the hospital, parks and Normanby. A small section of NCN169 follows the alignment of FP175 from Ferry Road to the north of the Foxhill Plantation. NCN169 is well used by cyclists.

6.7 Open Space

6.7.1.1 There is one area of land within the Application Land, Atkinson's Warren LNR, to which the public have access as 'open space' as defined in the North Lincolnshire Open Space Study[1] and shown on the Local Plan Proposals Map[2]. This area is divided by the A1077 and is shown on Figure 8.

6.8 Agricultural Land

6.8.1.1 This section provides a description of the current baseline for agriculture. Consideration is given to the extent and quality of the agricultural land within the Application Land and the presence of any related land-based enterprises, eg. equestrian activities. The assessment is based on the areas of undeveloped agricultural land identified using the Agricultural Land Classification (ALC) data provided by Natural England.

6.8.1.2 The study area for the agriculture assessment covers all the Application Land and assumes a worst case. As the Project design has been refined, the Order Limits have been reduced. The resources and receptors that have been identified are agricultural land, together with farm and related rural holdings.

6.8.1.3 The baseline data refers to the presence of best and most versatile (BMV) agricultural land as shown in **Error! Reference source not found.**1.1 of Appendix B; the classification in was compiled from three data sources (see Appendix B, Section 4). The quality of agricultural land in England and Wales is assessed according to the Agricultural Land Classification (ALC) system, which classifies agricultural land into five grades from excellent quality Grade 1 land to very poor quality Grade 5 land. BMV is conventionally defined as grades 1, 2, and 3a of the agricultural land classifications. For the majority of the Application Land two of the data sources provide a distinction between Grades 3a and 3b. For a small area to the north of the Flixborough industrial estate where there is no Post-1988 data and the Provisional grade is 3, this has been assigned Subgrade 3a (good) as a worst case scenario for the purposes of the assessment.

6.8.1.4 The Study Area in Appendix B includes approximately 154 ha of agricultural land (see also Table 1.4 of Appendix B). For the purposes of the assessment, the study area for the agricultural land assessment comprised the main energy park land and the parcel to the north of the Flixborough industrial estate, as shown in Figures 1.1 and 1.2 of Appendix B. The other parts of the Application Land were not included for detailed assessment due to the railway spur and the Northern District Heat and Private Wire Network (DHPWN) not encroaching materially on the agricultural land, and in the Southern DHPWN disturbed land will be reinstated to agricultural land following best practice methods in accordance with the Soil Management Plan (SMP) (i.e. there will be no permanent occupation or change in use).

[1] North Lincolnshire Open Space Study, 2019

[2] North Lincolnshire Local Plan Proposals Map, Adopted 2003

6.8.1.5 Flooding of low-lying land is a limitation to agricultural land use in the south of the study area, particularly in the vicinity of Park Ings Farm, Stather Road, Flixborough. Much of this land represents the floodplain of the River Trent and is classified as Flood Zone 3, relating to a 1 in 100 annual or greater probability of river flooding.

6.8.1.6 At the southern end of the study area, agricultural land is divided between large fields of arable cropping. Most of the fields within the Application Land are large, reflecting larger scale arable agriculture.

6.8.1.7 Further details on the agricultural land use and soils within the Application Land are provided in Appendix B, Section 4.

6.9 Cumulative Impacts

6.9.1.1 Chapter 18 (**Document Reference 6.2.18**) identifies other nearby developments which are likely to have been built before the Project, which are considered to be part of the Future Baseline of the Project. Certain other developments have the potential to give rise to cumulative impacts when considered alongside the Project. Potential cumulative economic effects during construction are considered in Chapter 18 (**Document Reference 6.2.18**).

7. MITIGATION

7.1 Introduction

7.1.1.1 This section sets out the mitigation measures which have been assumed to be included as integral parts of the implementation of the Project. The assessment of impacts on economic, community and land use receptors assumes that these measures will be implemented, with the significance of effects assessed on the basis that these measures are effective.

7.1.1.2 Where currently identified mitigation measures do not fully avoid or mitigate impacts, additional targeted mitigation measures will be implemented to offset adverse impacts.

7.1.1.3 An Economic & Employment Group has been established to help ensure that the economic benefits of the Project are maximised locally. The group includes various regional stakeholders, such as NLC, Hull and Humber Chamber of Commerce, North Lindsey College, CATCH, Greater Lincolnshire LEP, HETA and Lincolnshire Chamber of Commerce. Its objective is to:

- maximise job opportunities for local people;
- maximise supply chain opportunities for local businesses;
- work with local training providers to ensure that local people have the right skills to take advantage of the opportunities the Project presents, including reskilling people that are unemployed; and
- raise awareness of the green jobs offered by the Project and encourage local people, particularly under-represented groups, to consider a career in 'net zero' industries.

7.2 Mitigation Measures

7.2.1.1 Environmental mitigation and monitoring measures are included within the Project design or will be delivered through implementation of the CEMP to ensure adverse impacts upon the environment are avoided (in the first instance) or minimised. The CEMP will be developed by the construction contractor in accordance with the Code of Construction Practice (CoCP) at Annex 7 of the ES (**REP5-020**).

7.2.1.2 Although the scope of the community assessment recognises that aspects of the assessments for noise, air quality and landscape and visual impacts can establish the overall impact on quality of life, the mitigation measures specifically relating to these issues are presented in the individual topic chapters.

7.2.1.3 In respect of the assessment of economic and community impacts, a range of avoidance and mitigation measures have been or will be adopted, including:

- avoiding all settlements, where practicable;
- avoiding areas, where practicable, of known built development, outside of Flixborough Wharf, and permanent active uses including sport, leisure and recreational facilities, commercial and industrial uses

(including retail), residential, healthcare, education, public institutions and open space;

- use of best practice methods;
- implementation of a CEMP, which will be secured by a DCO requirement;
- in relation to permanent land take requirements, the Applicant intends to discuss with affected parties and agree commercial terms with them, wherever possible;
- local suppliers will be informed of the proposed construction works and participation of local and regional companies in the tendering process will be encouraged;
- specific provision of employment and education opportunities for the local community will be made, including apprenticeship schemes, post-graduate training programmes, funded research placements and contributions to educational and vocational training;
- The Applicant will prepare an Employment and Skills Policy to cover local suppliers and employment opportunities as part of the CEMP;
- operators of nearby sensitive facilities will be informed of construction activities that may affect their usual operations and activities, such as access, opening hours, and planned events;
- provision of a visitor centre including community and educational facilities;
- provision of employment and education opportunities for the local community with apprenticeship schemes, post-graduate training programmes, funded research placements and contributions to educational and vocational training;
- the adoption of measures to control the deposition of dust on adjacent open space, PRoWs and agricultural land;
- a soil resource assessment will be undertaken to feed into both the design of landscaping and biodiversity enhancement and the Soil Management Plan (SMP) (see below);
- all soil handling, placing, compaction and management will be undertaken in accordance with best practice (such as DEFRA, 2009 and others noted in Appendix J to the CoCP in Annex 7 to the ES (REP5-020));
- a SMP will be prepared in advance of construction to ensure protection, conservation, reuse and reinstatement of soil material, its physical and chemical properties and functional capacity for agricultural and ecological/habitat reinstatement. An outline SMP is provided as Appendix J to the CoCP in Annex 7 to the ES (**REP5-020**);
- plant and traffic movements will be confined to designated routes (eg. haul routes and vehicle access routes) to minimise the potential for soil disturbance, compaction and indirect contamination;

- reinstatement of land and soils after completion of works, in line with the principles of the SMP, unless otherwise agreed with the landowner;
- the reinstatement of agricultural land which is used temporarily during construction to agriculture, in line with the requirements of the SMP, where this is the agreed end use;
- arrangements for the maintenance of farm and field accesses, land drainage and water supply where these are affected by construction;
- the protection of agricultural land within the Application Land, where adjacent to construction sites, including the provision and maintenance of appropriate stock-proof fencing;
- the reinstatement of open space which is used temporarily during construction;
- creation of temporary footpath diversions for affected PRoW during construction, where possible;
- Temporary PRoW diversions/closures will be communicated to NLC and other relevant organisations, including Parish Councils. Information will include the duration of the proposed closures;
- creation of a new footpaths and cycleways providing improved public access in the area;
- re-opening and reinstatement of PRoWs post construction and provision of new pedestrian crossing points at the existing ground level crossings across the railway; and
- the areas identified for future mitigation and an area of wetlands created beside the River Trent will allow for public access and this will result in a net increase in open space provision.

7.2.1.4 In order to provide continued amenity access along the route of the disused branch line, a new path is being created from the new footbridge being provided over the railway on FP FLIX178. This will allow the public to walk along the southern edge of the railway line and rejoin the PRoW network at FP FLIX177.

8. ASSESSMENT OF LIKELY RESIDUAL EFFECTS

8.1 Introduction

8.1.1.1 This section sets out the assessment of likely residual effects predicted to remain after the implementation of mitigation, compensation and enhancement measures as set out in Section 7.2.

8.2 Construction Impacts

8.2.1 Employment and Economic Activity

8.2.1.1 The proposed construction works are assessed for potential economic effects in relation to:

- commercial premises demolished with their occupants and employees needing to relocate to allow for construction of the Project;
- in-combination effects (eg. sound, noise and vibration, air quality, landscape and visual and traffic and transport) and isolation of an area, which could affect business operations; and
- potential employment opportunities arising from construction in the local area (including in adjacent community areas).

8.2.1.2 In total, there are 16 business premises within the Application Land, which will require demolition. Of these, 13 are currently occupied. These 13 business premises, where there are potentially significant effects on business activities and employment, are:

- eight buildings associated with the operation of Flixborough Wharf;
- two buildings on Wharfside Court comprising 14 occupied small industrial units. One building comprises eight units and the other six units, both containing multiple occupiers;
- Bellwin House – currently a vacant two storey office block with planning permission (PA/2020/855) for change of use from office to self-storage purposes; and
- two agricultural barns under single ownership.

8.2.1.3 There are two main operators (RMS Ports and Rainham Steel) at Flixborough Wharf, currently operating within the Application Land.

8.2.1.4 The Applicant has an option agreement with RMS Ports to take their entire site, including the railway, with no requirement to allow them to continue to operate from Flixborough Wharf or to support the relocation of the business. However, it is planned to maintain an operational port facility at Flixborough Wharf and RMS Ports will have the opportunity to continue their operation at the port using other facilities and to provide the services for the new requirements of the operational Project. This is the current preferred option for RMS Ports. However, should RMS Ports decide not to remain on the site after construction, they would be able to relocate their current operations at Flixborough Wharf to their other existing facilities at Gunness and Althorpe, without any loss of jobs.

8.2.1.5 Rainham Steel operations within the Application Land is used as a steel stockyard. It is proposed that the steel stockyard will be re-located outside the Application Land to a location to be agreed with Rainham Steel. The Applicant is in the process of agreeing arrangements for the relocation of Rainham Steel operations within the Scunthorpe area to allow for their current level of steel-stockholding operations and employment to continue.

8.2.1.6 The Applicant has consulted each of the affected businesses in Wharfside Court and there are currently a number of relocation opportunities within the local area which are being explored. There would be a direct loss of up to 40 jobs associated with the relocation of the businesses at Wharfside Court [1] unless these businesses are able to relocate locally within the LIA. For the purposes of assessment, it has been assumed that all of these jobs will be lost.

8.2.1.7 AB Agri, located in Flixborough Industrial Estate, raised a number of specific concerns over the impact of the construction and operation of the Project on the viability of its business in response to statutory consultation. The Order Limits have changed since the PEIR and Applicant is no longer looking to permanently acquire any land owned by AB Agri , although temporary possession of a small area along their boundary will be required for the construction of a flood defence. The Applicant is continuing to engage with AB Agri to resolve all outstanding technical issues to ensure that there will be no impact on the viability of its business and identify any need for additional mitigation measures to address specific concerns.

8.2.1.8 Construction of the Project could result in the creation of up to 3550 FTE jobs over the whole duration of the construction phase. Depending on skill levels required and the skills of local people, these jobs are potentially accessible to residents in the locality and to others living further afield. Not all the jobs will be taken up by residents of the LIA and WIA. Overall, the net direct job creation from construction is 2280 FTE, taking account of direct leakage and displacement.

8.2.1.9 Direct construction employment could also lead to opportunities for local businesses to supply the project or to benefit from expenditure of construction workers. The construction phase could support a further 660 jobs as a result of the multiplier effect resulting in a total construction net employment gain of 2940. Using a GVA figure of £47,650, this equates to a net economic impact of £140.1m spread across the seven year construction period.

8.2.1.10 Table 16 sets out these construction employment and economic impacts.

Table 16: Total Employment Impacts during Seven Year Construction Period (FTE)

Category	Value
Direct jobs supported	3550
Direct employment loss	40
Net direct jobs supported	3510

([1]) Based on HCA Employment Density Guide, 2015.

Category	Value
Leakage	25%
Displacement	10%
Net direct construction jobs	***2280***
Composite multiplier	1.29
Indirect and induced jobs	660
Total jobs supported during construction	**2940**
GVA per worker	£47,650
Total GVA	**£140.1m**
Note: Figures rounded to nearest 10	

8.2.1.11 Although these economic benefits will only last for the duration of the construction period (seven years), these net effects are considered to be a positive moderate effect and are therefore significant.

8.2.1.12 There will be a temporary significant adverse effect on the businesses at Wharfside Court, unless suitable alternative premises are found.

8.2.1.13 An assessment of the impact of the permanent overshadowing for the Project on the adjacent solar farm shows that there will be a 0.24% reduction in electricity production from the Solar Farm, which is considered to be a minor adverse impact and to not have a significant effect. This has been assumed as a worst-case scenario for construction impacts. No other businesses have been identified that are expected to experience significant disruption and/or severance effects as a result of the Project. On-going stakeholder engagement with affected commercial concerns may identify the need for additional mitigation measures to address specific concerns. In the event that this is the case, the Applicant will consider the incorporation of such mitigation into the CEMP and related plans and/or detailed design of the Project provided this can be accommodated within the scope of the Application.

8.2.1.14 Businesses within the study area may experience sound, noise and vibration, air quality, landscape and visual and traffic and transport impacts, which could disrupt business operations, as a result of construction of the Project. Taken in combination, the residual effects from these other topic assessments have the potential to be significant. However, there have been no significant in-combination effects identified during construction.

8.2.2 Communities and Social Infrastructure

8.2.2.1 There are no community infrastructure resources considered likely to experience significant direct effects during the construction of the Project.

8.2.2.2 The Project includes provision of a visitor centre which will serve a number of community and educational uses.

8.2.2.3 Whilst some highly skilled or niche construction workers are likely to be drawn from outside the WIA, the scale of this is expected to be small and will not affect the demographic character of the study areas and make no

significant difference to the baseline conditions in relation to the demand for local services, eg. health and education or the use of community facilities. These workers will continue to use community and recreational resources in their place of permanent residence. Where construction workers do temporarily relocate to the area, they are most likely to reside in Scunthorpe (eg. lodgings or bed and breakfast), where accommodation and a wider range of services are available, rather than in smaller rural communities with limited availability of local accommodation and services. There will be no significant effect from construction workers on the demand for local services.

8.2.2.4 The Applicant is in discussions with other promoters/developers in relation to the potential to connect the Southern DHPWN to the Lincolnshire Lakes development and the potential new Health and Emergency Services Hub.

8.2.2.5 There have been no significant in-combination effects identified during construction.

8.2.3 Public Rights of Way

8.2.3.1 Table 17 sets out the temporary impacts on PRoWs during construction.

Table 17: Temporary Impacts on PRoWs during Construction

PRoW	Type	Length of PRoW within Application Land (m)	Construction Impact	Comments
BW FLIX304	*Bridleway*	*360m*	*Existing access under railway to be maintained*	*No temporary diversions proposed.*
FP FLIX175	*Footpath*	*870m*	*Temporarily stopped up for a period of a about a month.*	*Temporary closure of crossing over the railway to manage foot traffic through the construction area.*
FP SCUN175	*Footpath*	*20m*	*Crossing over A1077 temporarily diverted.*	*Temporary diversion proposed to manage foot traffic through the construction area.*
FP FLIX176	*Footpath*	*120m*	*No impact.*	
FP FLIX177	*Footpath*	*350m*	*No impact.*	
FP FLIX178	*Footpath*	*70m*	*Temporarily stopped up for a period of about a month.*	*Temporary closure of crossing over the railway to manage foot traffic through the construction area.*
FP GUNN180	*Footpath*	*235m*	*No impact.*	

Note: Distances rounded to the nearest 5m.

8.2.3.2 Where PRoWs are to be diverted, the width of the temporary diversions will be no less than the existing provision available, where practicable. Where this is not possible, the following minimum widths will apply: Public Footpaths: 2m and Public Bridleways: 3m.

8.2.3.3 The current assumption is that the works to upgrade the existing railway can be undertaken without any need for engineering works to the BW FLIX304 underpass and the stopping up or diversion of the PRoW.

8.2.3.4 FP FLIX175, across the railway, will need to be stopped up for a period of about a month in order to allow the works to the railway to be completed. Given the short duration FP FLIX175 will be stopped up for there will be a negligible adverse impact on the use of the PRoW, which is not significant.

8.2.3.5 Temporary works associated with the construction of the Northern DHPWN will require a temporary and short diversion of FP SCUN175 adjacent to the A1077. Access and use of FP SCUN175 will be maintained throughout the construction period and there will be no adverse impact on the use of the PRoW.

8.2.3.6 As FP FLIX178 appears currently not to be in use (based on observations from a site visit), the temporary stopping up of the PRoW will have no impact on access and convenience for PRoW users.

8.2.3.7 There have been no significant in-combination effects on amenity for the users of PRoW in terms of sound, noise and vibration, air quality, landscape and visual and traffic and transport identified during construction.

8.2.4 Open Space

8.2.4.1 During construction there will be a direct impact on two separate areas of Atkinson's Warren open space, namely:

- Atkinson's Warren LNR north and south of the A1077 (total area of LNR is 77.95ha); and
- Atkinson's Warren south of the A1077 (total area of open space is 11.64ha).

8.2.4.2 A linear strip of 0.2ha of Atkinson's Warren will be required to facilitate the construction of the Northern DHPWN to the south of the A1077. This represents only 0.3% of the total area of open space. It is anticipated that trenching works will take place within the highway boundary where practicable, and a very limited area of the public open space may be needed to facilitate construction. Access to Atkinson's Warren LNR will be maintained during construction via FP FLIX175 and therefore any impact is considered to be negligible.

8.2.4.3 An area (11ha) of open access land close to Atkinson's Warren has been identified as an area for future ecological mitigation where the existing habitat mix will be enhanced and managed in the future by the Applicant as part of the wider day-to-day management of the site. This is subject to landowner agreement. Access will be maintained during construction via FP FLIX175 and any impact is considered to be negligible.

8.2.4.4 No direct construction effects on recreational facilities are anticipated.

8.2.4.5 There have been no significant in-combination effects on the amenity of users of public open space in terms of sound, noise and vibration, air quality, landscape and visual and traffic and transport identified during construction.

8.2.5 Agricultural Land

8.2.5.1 The acquisition and use of land for the Project will interfere with existing agricultural uses of land and, in some locations, preclude existing land uses or sever and fragment individual fields and land holdings. This could result in potential effects associated with the ability of affected agricultural interests to access and effectively use residual parcels of land.

8.2.5.2 Land used to construct the Project will fall into the following two categories:

- occupied by the operational Project for various purposes; and
- occupied temporarily for construction laydown and installation of the District Heating and Private Wire networks and then returned to agricultural use (with aftercare).

8.2.5.3 Whilst the overarching principle is to reinstate all viable agricultural land within the Application Land post-construction, the design of the Project results in the permanent severance of small pockets of land currently in agricultural use, making them inaccessible, severed and unviable. Where this has occurred, these parcels of land will be designed to form part of the environmental mitigation works, to be managed as part of the wider day-to-day management of the Project (this is addressed in detail in Section 8.3.6 and Appendix B, Section 5).

8.2.5.4 The main issue in the assessment of the impacts on agricultural land is the extent to which land of BMV agricultural quality is affected by the Project. Long-term effects on agricultural land and soils are addressed in detail in Section 8.3.6 and Appendix B, Section 5. Short-term construction effects resulting from use of temporary laydown areas and installation of the District Heating and Private Wire Networks (mainly the southern) will affect very small areas of mainly Grade 2 agricultural land (based on the Provisional classification, see also Figure 1.1 of Appendix B) in comparison with the operational phase. All temporarily occupied areas will be subject to Soil Resource Assessment and soils will be handled and reinstated in accordance with the SMP.

8.2.5.5 The main issue for farm holdings is potential disruption by the Project of the physical structure of agricultural holdings and the operations taking place upon them. Formal consultation has been undertaken with landowners and agricultural tenants to understand any potential for impacts on the operation of agricultural holdings during construction.

8.2.5.6 Batey (2015) conducted a review of the effects of pipeline construction in agricultural land. The review concluded that "*Current reinstatement techniques are to provide an effective system of drains running parallel to the pipeline with gravel backfill above the drain to reach the base of the topsoil, with thorough loosening of compact subsoil prior to the*

replacement of topsoil. When these techniques are used, relatively few instances of adverse effects on plant growth have been found in pipelines installed since 2000."

8.2.5.7 Putting aside the areas of agricultural land that will be occupied in the long-term by the Project (which are assessed in Section 8.3.6 and Appendix B, Section 5), the temporary disturbance during construction of small additional areas of BMV (mainly Grade 2) land for construction laydown and installation of the DHPWN, followed by their reinstatement (in accordance with the requirements of the SMP) and return to agricultural use, is assessed as an impact of negligible magnitude ('no discernible loss or reduction or improvement of soil functions or soil volumes that restrict current or proposed land use', see Table 1.2 of Appendix B) based on the Batey (2015) review of the effects of pipeline construction and the full application of soil protection measures set out in the outline SMP. Although, Grade 2 BMV land is assessed as a receptor of very high sensitivity the effect of the Project on BMV land during the construction phase is assessed as not significant.

8.2.5.8 Following completion of construction, temporary facilities will be removed, and the topsoil and subsoil reinstated in accordance with the SMP and agreed end use for the land.

8.2.5.9 The Applicant has engaged with local landowners in order to understand the impact of the temporary loss of agricultural land on the operation of individual land holdings and any associated impacts in terms of employment and economic activity. No impacts in terms of disruption or severance to agricultural land and individual land holdings associated with construction works or traffic have been identified. The Applicant will continue to liaise with landowners and will deal with any localised impacts on a case by case basis.

8.2.6 Transboundary Effects

8.2.6.1 Depending on the procurement strategy, a number of the physical components of the Project may be procured outside of the UK. Whilst these cannot be quantified until preferred suppliers have been identified, any impacts would result in positive transboundary effects.

8.3 Operational Impacts

8.3.1.1 This section provides a description of the likely impacts and significant effects of the operation of the Project.

8.3.2 Employment and Economic Activity

8.3.2.1 The Project is likely to directly provide around 260 FTE jobs once operational; The majority of these will be filled by residents of the WIA. In addition, there is likely to be around 30 FTE jobs associated with a dedicated haulage service to the ERF, based in the local area. In total, the direct operational employment associated with the Project will be 290 FTE jobs. Direct operational employment created by the Project will also create indirect employment opportunities for local businesses in terms of

potentially supplying the Project or benefiting from expenditure of directly employed workers on goods and services, the local multiplier effect.

8.3.2.2 Table 18 sets out these operational employment and economic impacts.

Table 18: Operational Impacts

Category	Value
Direct jobs supported	290
Leakage outside WIA	23%
Displacement from outside WIA	30%
Net direct jobs	**136**
Composite multiplier	1.29
Indirect and induced jobs	39
Total jobs supported	175
GVA per worker per annum	£47,650
Total GVA supported per annum	**£8.34m**

8.3.2.3 Not all jobs will be taken up by residents of the LIA and WIA. Overall, the net number of direct jobs from operation is 136, taking account of leakage and displacement.

8.3.2.4 Direct operational employment could also lead to opportunities for local businesses to supply the Project or to benefit from expenditure by permanent workers. The operational phase could support a further 39 jobs as a result of the multiplier effect resulting in a total operational net employment gain of 175.

8.3.2.5 The Applicant will adopt an Employment and Skills Policy to maximise the uptake of local employment opportunities and in addition is committed to supporting training and apprenticeship schemes.

8.3.2.6 Using a GVA figure of £47,650 this equates to a net economic impact of £8.3m per annum within the WIA.

8.3.2.7 This results in a moderate positive benefit which is significant.

8.3.2.8 There are no economic resources considered likely to experience significant direct effects during the operation of the Project, over and above those already identified as having to relocate.

8.3.2.9 There will be no other permanent impacts on the viability of existing business which currently operate from Flixborough Wharf.

8.3.2.10 An assessment of the impact of the permanent overshadowing for the Project on the solar farm shows that there will be a 0.24% reduction in electricity production from the Solar Farm, which is considered to be a minor adverse impact and not to have a significant effect.

8.3.2.11 No businesses have been identified within the area which are expected to experience significant in-combination effects as a result of disruption from the operation of the Project.

8.3.3 Communities and Social Infrastructure

8.3.3.1 There are no community infrastructure resources considered likely to experience significant direct adverse effects during the operation of the Project.

8.3.3.2 Whilst some in-migration is expected for higher skilled operational roles, the scale of this is not expected to significantly affect the baseline conditions in relation to local services, eg. health and education or the use of community facilities. This will result in a negligible/minor adverse impact and the effects of permanent employees on the demand for local services will not be significant.

8.3.3.3 There have been no significant in-combination effects identified.

8.3.4 Public Rights of Way

8.3.4.1 There are no public rights of way considered likely to experience significant direct effects during the operation of the Project.

8.3.4.2 Replacement level crossing provision is to be made for FP FLIX175 and FP FLIX178 which will reinstate the PRoW network in the local area. The at-grade crossing of FP FLIX175 will be upgraded and a new pedestrian bridge will be provided on FP FLIX178 to the south east of Flixborough.

8.3.4.3 The replacement level crossing provisions have been agreed in consultation with the Public Rights of Way team at NLC and have been the subject of a rail safety audit. All appropriate barriers and signs will be erected and maintained at the level crossings. During operation the overall integrity of the PRoW network will be maintained with no impact on access or convenience to the public.

8.3.4.4 FP SCUN175 will be reinstated, and surfaces made good post construction. There will be no operational impacts on the use and amenity of FP SCUN175.

8.3.4.5 There have been no significant in-combination effects on the users of the PRoW in terms of sound, noise and vibration, air quality, landscape and visual and traffic and transport identified during operation.

8.3.4.6 The Project includes a number of new footpaths, namely:

- a shared foot and cycle way along the east side of the new access road between Ferry Road West (B1216) and the ERF building, segregated from the road from the road by verges and trees;
- Stather Road north of Neap House will be closed to vehicles, but will be maintained as an access to allow walking and cycling along the river in a north – south direction;
- from the stopped up section of Stather Road, a new access will be created orientated west – east, which will run from Stather Road to the open land at Foxhills Plantation / Atkinson's Warren, providing a new circular walking route and connectivity between the river and the northern edge of Scunthorpe; and

- from the new footbridge being provided over the railway on FP FLIX178 a new footpath link will be created. This will allow the public to walk along the southern edge of the railway line and rejoin the PRoW network at FP FLIX177.

8.3.4.7 Where possible within the Application Land, the new public access routes will be enhanced to act as ecological corridors. The new routes along the new access road and the connection to Foxhills Plantation / Atkinson's Warren will incorporate structural planting to provide visual screening.

8.3.4.8 Overall there will be a moderate positive benefit in terms of public access in the area, which is significant.

8.3.5 Open Space

8.3.5.1 There are no areas of open space considered likely to experience significant direct effects during the operation of the Project.

8.3.5.2 The area of the Atkinson's Warren temporarily required for construction will be reinstated to compensate for any temporary habitat loss.

8.3.5.3 The areas identified for future ecological mitigation will retain public access.

8.3.5.4 The new area of wetland habitat to be created to the west of the new access road will contain a number of informal paths that allow access and facilitate physical activity, play, and relaxation through improved quality and access to open space/nature for both local residents and people working at the Energy Park and Flixborough Industrial Estate. These informal paths will link to the existing PROW network and provide connectivity to other areas of open space. There will be management and maintenance arrangements put in place for the wetlands areas and footpaths within it, as part of the wider day-to-day management of the Project (see the outline Landscape and Biodiversity Management and Monitoring Plan, **Document Reference 5.7**). The Applicant is currently in discussions with the Lincolnshire Wildlife Trust, who have experience of managing the Far Ings Nature Reserve, about potentially taking on the management of the wetland areas.

8.3.5.5 No direct operational effects on recreational facilities are anticipated.

8.3.5.6 Overall, there will be a moderate positive benefit associated with access to increased areas of open space, which is significant.

8.3.5.7 There have been no significant in-combination effects in terms of the amenity for users of public open space in terms of sound, noise and vibration, air quality, landscape and visual and traffic and transport identified during operation.

8.3.6 Agricultural Land

8.3.6.1 It is worth noting the context for the occupation of agricultural land by the Project, and specifically BMV land. As noted in Section 6 of Appendix B, BMV land makes up a very large proportion of all agricultural land in Lincolnshire and is therefore difficult to avoid in siting infrastructure for a project of this nature, especially when flood risk also needs to be considered. Flood risk was the predominant consideration in the siting of

the development as explained in Chapter 3 of the ES, Project Description and Alternatives, Section 9.6 [Rev 2, REP6-018]. Paragraph 9.6.3.1 also explains that one of the reasons that the Southern Option for placement of the ERF, RHTF and CBMF was not pursued was that it would take greater areas of agricultural land compared to the Central Option. The Project is also committed to providing Biodiversity Net Gain through creation of various habitats. In siting the permanent built infrastructure the design has sought to minimise encroachment onto agricultural land and maximise the use of brown field land. However, once habitat creation is also included there is an inevitable need to use some agricultural land, the majority of which is BMV.

8.3.6.2 An assessment of the long-term effects on agricultural land and soils is provided in Appendix B, Section 5. The assessment focused on the operational land for the Project and considered it in terms of the following categories of use:

- where agriculture will be retained as the main land use and main functioning as agricultural land;
- where soils will remain in a functional state for a range of ecosystem services but not for agricultural production, i.e. the land use will change for landscaping and wetlands, etc.; and
- where soils and agricultural land will be permanently lost to water bodies used as part of the operational surface water management infrastructure and the built development (buildings, hardstandings and roads).

8.3.6.3 Table 19 summarises the agricultural land use change for each of the above categories by grade of land quality.

Table19: Agricultural Land Use Change

Agricultural land quality	Permanent Loss to built infrastructure and water bodies (ha)	Land use change for landscaping, biodiversity enhancement including wetland (ha)	Retained in Agriculture (ha)	Total (%)
Grade 1	0.8	5.4	4.6	10.8
Grade 2	7.0	23.8	58.6	89.4
Sub-grade 3a	4.5	18.0	17.9	40.4
BMV Total	***12.2***	***47.2***	***81.2***	***140.6***
Sub-grade 3b	0.2	2.3	4.7	7.1
Grade 4	0.3	6.0	0.0	6.3
Grade 5	.0	0.0	0.0	0.0
Non-agricultural	8.8	27.0	7.8	43.6
Total	**21.6**	**82.5**	**93.6**	**197.7**

8.3.6.4 Considering the changes from the baseline for areas where agricultural land will be retained, the main land use will continue to be biomass production. The effect of the additional flooding on the ALC grade is likely to be Negligible due to the very low frequency of the potential flooding events occurring as a "1 in 100 year event". This would not constitute a change in the ALC grade of the land, and the frequency required would be much greater than the minimum requirement of "very rare – not more than once in 15 years" and only applicable to the summer flood risk. For ecological habitats; carbon cycle; hydrological cycle; source of materials; or archaeology, cultural Heritage, geodiversity and community, there would be no change from the baseline. The area of land retained in agricultural production is 93.6 ha, 47.4 % of the Study Area, including 81.2 ha of BMV agricultural land. For all components the magnitude of change from the baseline is expected to be No Change, and hence the overall effect on the baseline for areas that are currently agricultural land and will be retained in agricultural use is Neutral and Not Significant.

8.3.6.5 The areas where the land use changes will occur is to the north of the Flixborough industrial estate (landscaping and planting), and to the west (mainly) of the new access road (biodiversity and landscaping). There would be a loss of one soil function in these areas, however the soil resources would remain in situ and be available for return to agricultural production if required (Table 1.6 of Appendix B provides more detail on the changes in soil functions). Areas of woodland would contribute to biomass production for carbon storage, but not for materials. There will also be a positive effect on three soil functions including an improvement for support of ecological habitats. Returning the soils to a more natural state and reducing the intensity of the management of the soils will encourage natural processes to store more carbon in the soils, and improve the quality of the buried peat resources, particularly in the wetland areas. The planting of trees and landscaping will provide carbon capture and biodiversity benefits. Returning the wetland and biodiversity areas into a more natural state where more water can be stored will provide additional water storage potential. The change in land use would lose the biomass production for the area, but provide additional benefits to existing soil functions in a greater capacity than they are currently. Overall the aforementioned will affect 82.5 ha, 41.7 % of the Study Area including 47.2 ha of BMV land. As such the overall impact on soils and land due to the change in land use from agriculture to biodiversity and landscaping is of Negligible magnitude, and therefore Minor and Not Significant.

8.3.6.6 The construction of built development and permanent water bodies will permanently remove all soil functions from an area of 12.2 ha of BMV land, 0.5 ha non-BMV and 8.8 ha non-agricultural. Hence the magnitude of change will be Medium as the total permanent loss of agricultural land and functional in situ soils will be 12.7 ha, including 12.2 ha of BMV. Overall, the impact on soils and land due to the permanent loss of Very High to High sensitivity agricultural land to built infrastructure is of Medium magnitude, and therefore the overall effect is Major and Significant. However, all soils that are to be removed for the construction of built

infrastructure will be sustainably managed and retained on site for use in the biodiversity and landscaping areas.

8.3.6.7 It should be emphasised that the vast majority of agricultural land that will be lost from agricultural use is as a result of the delivery of the wetlands and Biodiversity Net Gain (BNG). Only 7.8 ha of Grade 1 and 2 BMV land is permanently lost as a result of built development associated with the Project, with the remaining 29.2 ha for landscape mitigation, and BNG, and 63.2 ha retained in agriculture.

8.3.6.8 Natural England estimates (see Appendix B, Section 7) that 42% of agricultural land in England is of BMV quality (Grade 1, Grade 2 and Subgrade 3a). Within Lincolnshire this is as high as 94 %. The North Lincolnshire Core Strategy stated, and the Local Plan which is in development reiterates, the abundance of BMV land and recognises that development will be required but should ensure that soil resources are safeguarded, suitably managed and conserved, and that developments enhance the natural environment.

8.3.6.9 The Project in overall terms will have a Not Significant effect in this regional context, and will provide beneficial effects on land and soils based on the provision of a range of soil functions and ecosystem services. The Project will also contribute to the sustainable management of soils and safeguarding of the soil resources within the Study Area by promoting beneficial land use change for biodiversity and landscaping.

8.3.6.10 The two agricultural barns that are to be demolished will not be replaced and the landowner will be compensated. The Applicant has engaged with local landowners in order to understand the impact of the permanent loss of agricultural land and impacts on the quality of land on the operation of individual land holdings and any associated impacts in terms of employment and economic activity. No impacts have been identified.

8.3.6.11 There have been no in-combination effects identified.

8.3.6.12 Decommissioning of the Project in terms of returning land to its original uses (including agricultural use) has not been considered in technical impact assessment terms at this stage. Where agricultural land is to be occupied by built infrastructure this would be difficult and require the import of suitable soils following removal of buildings etc. On other parts of the Application Land used for landscaping and habitat creation, a return to agricultural use would be feasible with varying degrees of difficulty. However, it is worth noting that current policy such as the Environmental Improvement Plan 2023, among other matters, seeks a new balance in the countryside between food production and biodiversity. Where that balance is in some 35 years time will be a key factor to be considered in a decommissioning plan for the Project. The decommissioning plan will assess the feasibility of returning agricultural land occupied by the Project to agricultural land use with no loss of agricultural land quality.

8.3.7 Transboundary Effects

8.3.7.1 There are no transboundary effects predicted for the operation of the Project.

9. CONCLUSIONS

9.1.1 Construction

Employment and Economic Activity

9.1.1.2 There are likely to be beneficial significant effects as a result of the Project. An estimated 2940 net FTE jobs over the whole of the construction phase of the scheme will benefit the area, supported through the implementation of an Employment and Skills Policy. There will be a net economic impact of £140.1m spread across the six year construction period.

9.1.1.3 There will be a temporary significant effect on the businesses at Wharfside Court[1] unless suitable alternative premises can be agreed.

9.1.1.4 There have been no significant in-combination effects identified.

Communities and Social Infrastructure

9.1.1.5 There are no community resources considered likely to experience significant direct effects during the construction of the Project and demand for local services will not be significant.

9.1.1.6 There have been no significant in-combination effects identified.

Public Rights of Way

9.1.1.7 No significant direct adverse effects on PRoWs have been identified.

9.1.1.8 There have been no in-combination effects identified.

Open Space

9.1.1.9 No significant direct adverse effects on open space have been identified. No direct construction effects on recreational facilities are anticipated.

9.1.1.10 There have been no significant in-combination effects identified.

Agricultural Land

9.1.1.11 No significant adverse effects on agricultural land have been identified.

9.1.1.12 There have been no significant in-combination effects identified.

9.1.2 Operation

Employment and Economic Activity

9.1.2.2 There are likely to be beneficial significant effects as a result of the Project. An estimated 175 net FTE jobs will be created as a result of the Project with a net economic impact of £8.34m per annum, supported through the implementation of an Employment and Skills Policy and training and education opportunities.

9.1.2.3 There have been no significant in-combination effects identified.

([1]) Based on HCA Employment Density Guide, 2015.

Communities and Social Infrastructure

9.1.2.4 There are no community resources considered likely to experience significant direct effects during the operation of the Project and demand for local services will not be significant.

9.1.2.5 There have been no significant in-combination effects identified.

Public Rights of Way

9.1.2.6 There are no public rights of way considered likely to experience direct effects during the operation of the Project. The creation of new paths and public access represents a moderate positive benefit, which is significant.

9.1.2.7 There have been no significant in-combination effects identified.

Open Space

9.1.2.8 There are no areas of open space considered likely to experience direct effects during the operation of the Project. Overall, there will be a moderate positive benefit associated with access to increased areas of open space, which is significant. No direct operational effects on recreational facilities are anticipated.

9.1.2.9 There have been no significant in-combination effects identified.

Agricultural Land

9.1.2.10 The effects on land and soils of the landscaping and biodiversity enhancement areas will be not significant as will the effects on land that will remain in agricultural use. Effects of major significance will occur for the BMV agricultural land and soils occupied by built infrastructure; however taken in a regional context and considering beneficial effects on land and soils based on the provision of a range of soil functions and ecosystem services the overall effects is assessed as not significant.

9.1.2.11 There have been no significant in-combination effects identified.

9.2 Monitoring and Community Liaison

9.2.1.1 The Employment and Skills Policy will contain a commitment to prepare an annual reporting in a Monitoring Report which will monitor against agreed criteria set out in the Employment and Skills Policy. This will be secured through the CEMP. Monitoring measures could include:

- percentage of people recruited and retained living within the LIA/WIA;
- number of apprentices employed living in the LIA/WIA; and
- evidence of procurement of local goods and services.

9.2.1.2 On-going stakeholder engagement with affected commercial, agricultural and community concerns may identify the need for additional mitigation measures to address specific concerns. In the event that this is the case, the Applicant will consider incorporating such mitigation into the CEMP and related plans and/or detailed design of the Project as far as possible.

9.3 Overall Conclusions

9.3.1.1 This assessment of economic, community and land use impacts of the Project has found that the scale and location of the Project could result in a number of potentially significant effects both positive and adverse at several different receptors.

9.3.1.2 No adverse significant economic, community and land use effects have been identified during construction or operation of the Project.

9.3.1.3 Overall, there have been beneficial significant effects identified in terms of employment and economic activity during construction and operation of the Project. Permanent beneficial significant effects are associated with improved public access and new provision of open space.

9.3.1.4 There have been no significant construction or operational in-combination effects identified.

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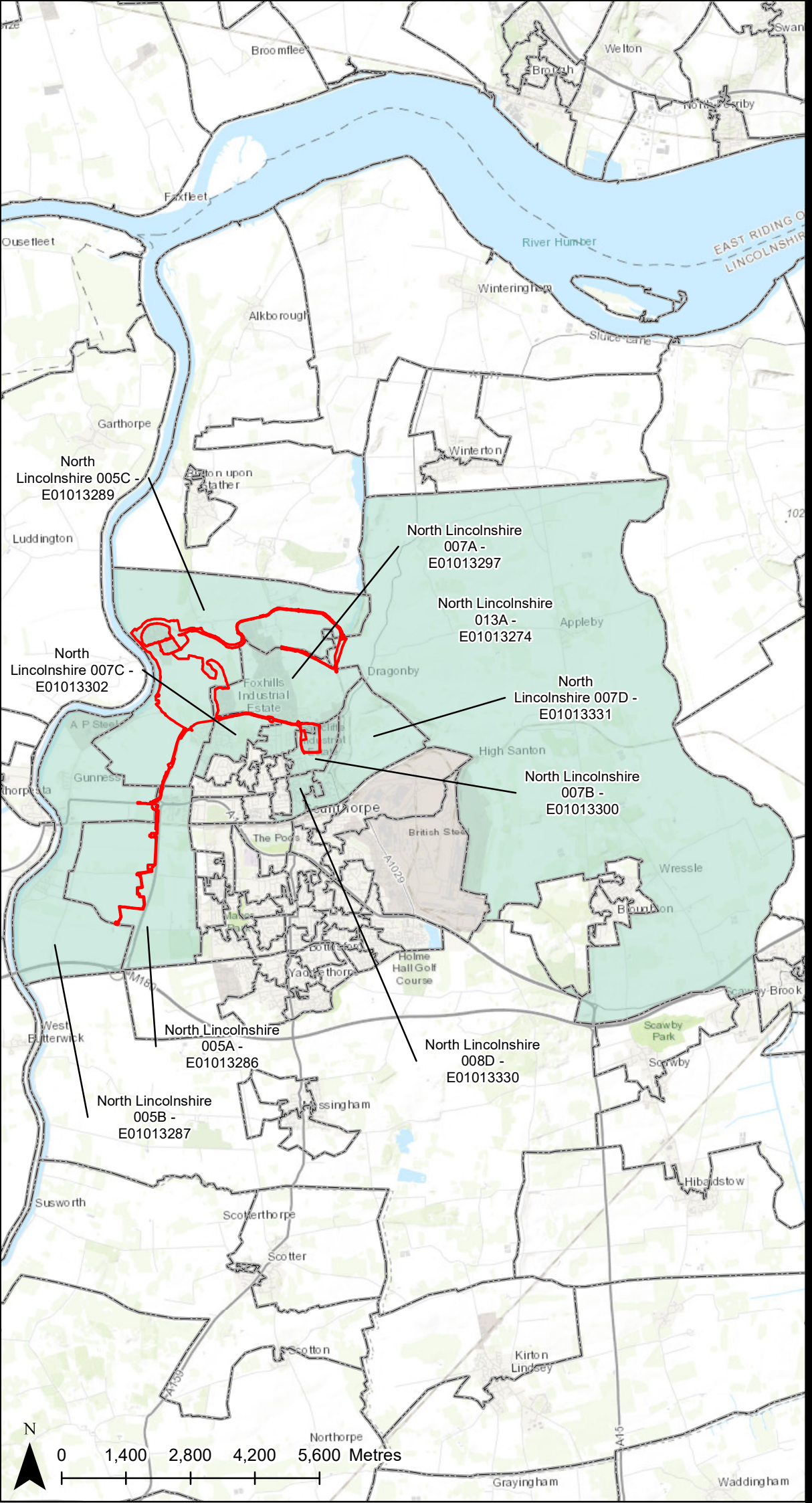
- North Lincolnshire Council (2019) North Lincolnshire Local Plan: Strategic Housing and Economic Land Availability Assessment
- North Lincolnshire Council (2019) North Lincolnshire Open Space Study A Report, Appendices & Maps
- Humber Local Enterprise Partnership (2014) Humber Strategic Economic Plan

APPENDIX A FIGURES

Date: March 2023



NORTH LINCOLNSHIRE GREEN ENERGY PARK

ERM

North Lincolnshire Green Energy Park

Title	Figure 5 Economic Study Area – Immediate Impact Area (IIA)

Client Information

Client	North Lincolnshire Green Energy ParkLtd.
PINS Proj No	EN010116
Date	15/03/2022
Drawn by	MTC
Checked by	SG
Version	P0

Map Information

CRS EPSG	27700
CRS Name	British National Grid
Scale	110,000

ArcMap File

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SOC_ES_StudyAreaLSOA_A01

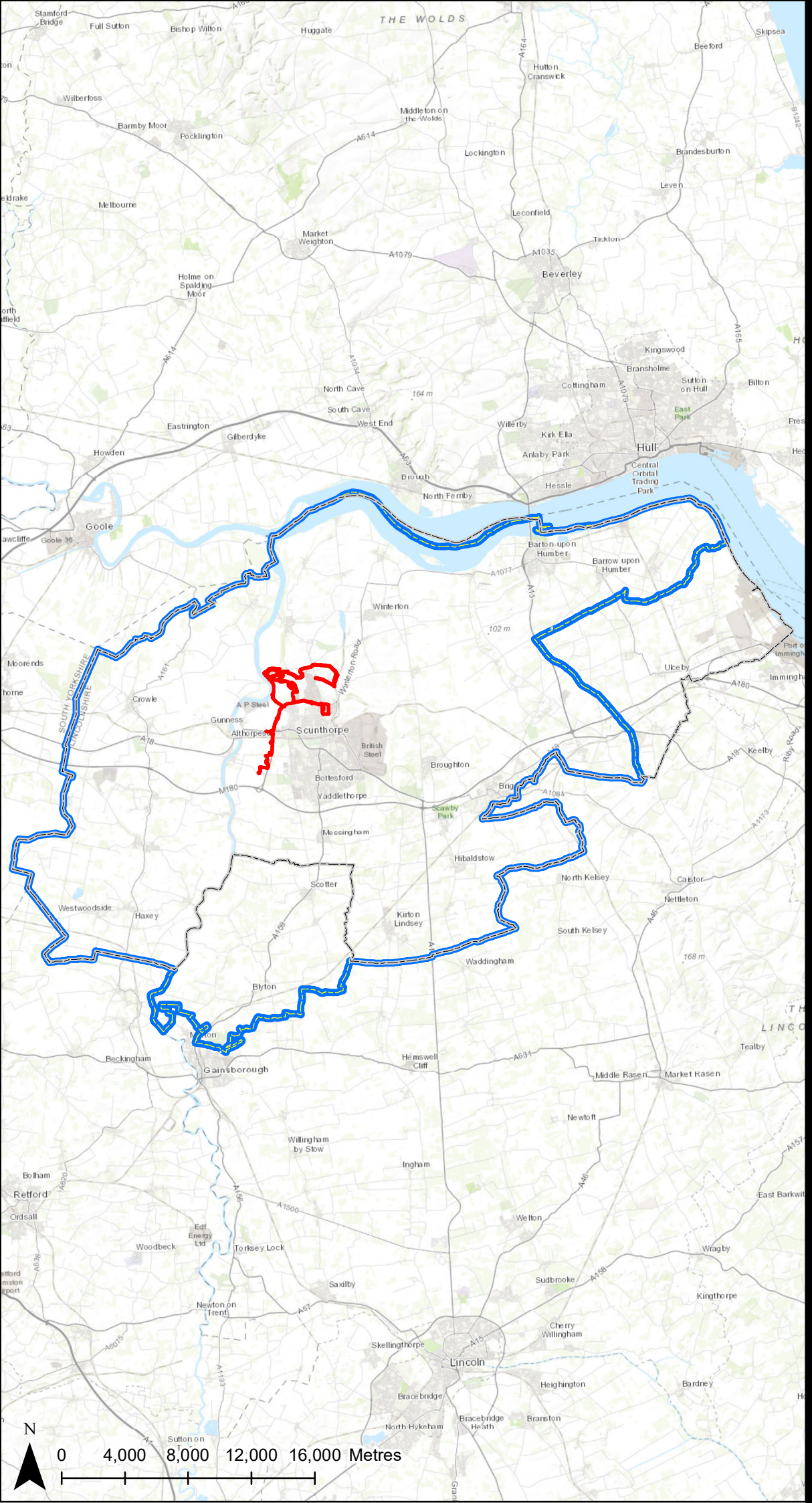
Legend

- Order Limits
- Lower Super Output Area
- LSOA IIA Areas

Layer Source Information

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI,

DO NOT SCALE THIS DRAWING



NORTH LINCOLNSHIRE GREEN ENERGY PARK

ERM

North Lincolnshire Green Energy Park

Title	Figure 6 Economic Study Area - Local Impact Area (LIA) and Wider Impact Area (WIA)

Client Information

Client	North Lincolnshire Green Energy ParkLtd.
PINS Proj No	EN010116
Date	15/03/2022
Drawn by	MTC
Checked by	SG
Version	P0

Map Information

CRS EPSG	27700
CRS Name	British National Grid
Scale	320,000

ArcMap File

\\UKSSMBNAF-

SOC_ES_StudyAreaLocalAuthority_A01

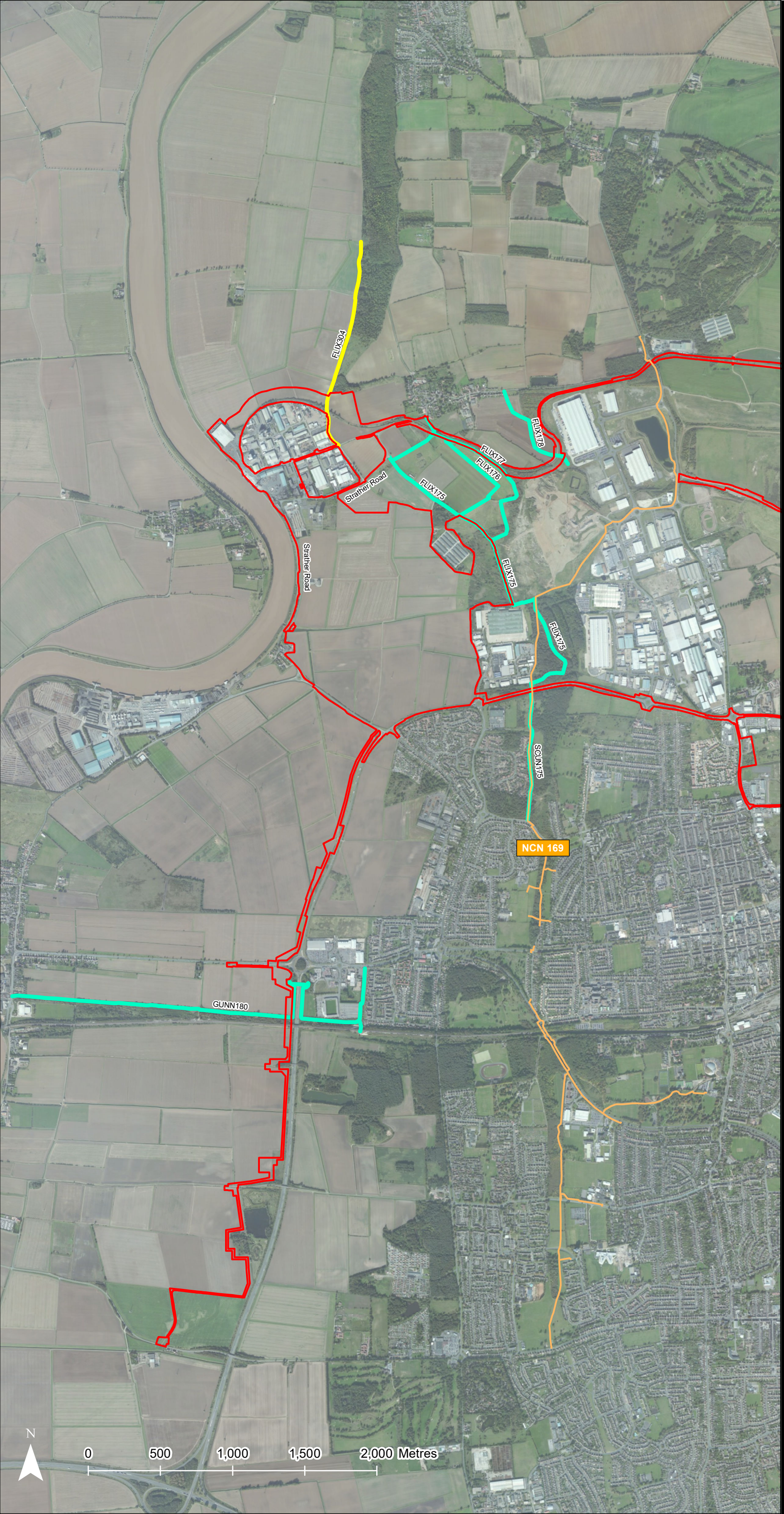
Legend

- Order Limits
- Local Authority District - North Lincolnshire (LIA)
- Travel to Work Area – Scunthorpe (WIA)

Layer Source Information

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI,

DO NOT SCALE THIS DRAWING



NORTH LINCOLNSHIRE GREEN ENERGY PARK

ERM

North Lincolnshire Green Energy Park

Title Figure 7
Public Rights of Way within the Order Limits

Client Information

Client	North Lincolnshire Green Energy Park Ltd.
PINS Proj No	EN010116
Date	15/03/2022
Drawn by	MTC
Checked by	SG
Version	P0

Map Information

CRS EPSG	27700
CRS Name	British National Grid
Scale	25,001
ArcMap File	\\UKSSMBNAF- SOC_ES_PRoW_Cycleways_A01

Legend

- Order Limits

Public Rights of Way

- Footpath
- Bridleway

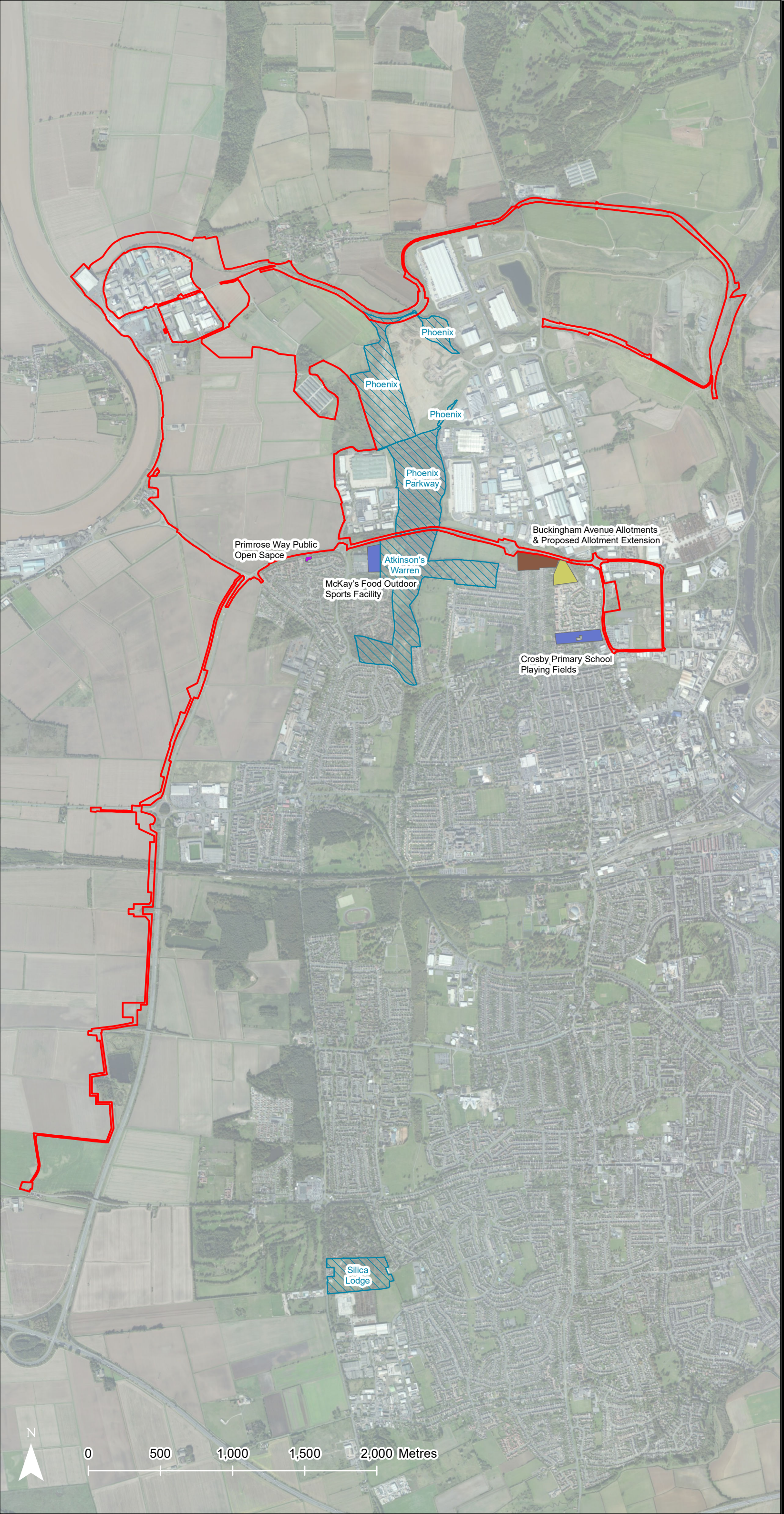
National Cycle Network

- Traffic Free

Layer Source Information

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

DO NOT SCALE THIS DRAWING



NORTH LINCOLNSHIRE GREEN ENERGY PARK

ERM

North Lincolnshire Green Energy Park

Title Figure 8
Open space within the Order Limits

Client Information

Client	North Lincolnshire Green Energy Park Ltd.
PINS Proj No	EN010116
Date	15/03/2022
Drawn by	MTC
Checked by	SG
Version	P0

Map Information

CRS EPSG	27700
CRS Name	British National Grid
Scale	25,001
ArcMap File	\\UKSSMBNAF-

SOC_ES_OpenSpaceWithinApplicationLand_A01

Legend

- Order Limits
- Local Nature Reserve

Open Green Space

- Allotments Or Community Growing Spaces
- Amenity Greenspace
- Other Sports Facility
- Proposed

Layer Source Information

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

DO NOT SCALE THIS DRAWING

APPENDIX B APPENDIX B AGRICULTURAL LAND LOSS ASSESSMENT

Date: May 2023

Appendix B

Agricultural Land and Soils Assessment

Glossary

Agricultural Land Classification (ALC)	**A standardised method for classifying agricultural land according to its versatility, productivity and workability, based upon inter-related parameters including climate, relief, soil characteristics and drainage. These factors form the basis for classifying agricultural land into one of five grades (with Grade 3 land divided into Subgrades 3a and 3b), ranked from excellent (Grade 1) to very poor (Grade 5). ALC is determined using the Ministry of Agriculture, Fisheries and Food (MAFF) Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land, 1988.**
Best and Most Versatile (BMV)	**Agricultural land is described in the National Planning Policy Framework, 2021, which defines BMV agricultural land as land of excellent (ALC Grade 1), very good (Grade 2) and good (Subgrade 3a) agricultural quality. BMV land is afforded a degree of protection against development within planning policy. Moderate, poor and very poor-quality land is designated Subgrade 3b or Grades 4 and 5, respectively, and is restricted to a narrower range of agricultural uses.**
Field Capacity Days (FCD)	**The condition in which the soil is saturated with water and any water from rainfall will infiltrate quickly under the force of gravity or create waterlogging, measured in days.**
Peat	**Peat soil is a soil which meets both the following criteria: 1. More than 40 cm of peaty textured material within the upper 80 cm of the soil profile; and 2. Organic mineral or peaty textures present within 30 cm depth. (See also Natural England Technical Information Note TIN037 Soil texture).**
Soil	**The upper layers of the earth's surface, comprising a mixture of mineral and organic components that contain air, water and micro-organisms. It provides a substrate for plant growth, a habitat for animals and storage for water and carbon. Generally, soils are considered to occur to a maximum depth of 1.2m.**
Soil Association	**Groupings of related soil series.**
Soil Functions	**Soil functions are general capabilities of soils that are important for various agricultural, environmental, nature protection, landscape architecture and urban applications. Soil perform many functions related to the natural ecosystems, agricultural productivity, environmental quality, source of raw material, and as base for buildings.**
Soil Series	**The lowest category in the soil classification system and are precisely defined based upon particle-size distribution, parent**

	material (substrate) type, colour, and mineralogical characteristics.
Soil Texture	**The mixture of different particle sizes, defined on the relative proportions of sand, silt and clay, in soils and names such as sandy loam and clay are used to describe these mixtures.**

CONTENTS

TABLES

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APPENDICES

1.0 INTRODUCTION

1.0 The North Lincolnshire Green Energy Park (NLGEP), located at Flixborough, North Lincolnshire, comprises an Energy Recovery Facility (ERF) capable of converting up to 760,000 tonnes of residual non-recyclable waste into 95 MW of electricity and a Carbon Capture Utilisation and Storage facility which will treat a proportion of the excess gasses released from the ERF to remove and store CO_2. Prior to emission into the atmosphere. The design of the ERF and CCUS will also enable future connection to the Zero Carbon Humber pipeline to be applied for, when this is consented and operational, to enable the possibility of full carbon capture in the future.

1.1 The Nationally Significant Infrastructure Project (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 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 (H_2) 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.

1.3 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.

1.4 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.

The Purpose of the Document

1.5 The Project is currently undergoing Examination by the Planning Inspectorate and this report has been produced in response to interested parties' representations and written questions from the Examining Authority (ExA).

1.6 This report provides an assessment of the potential impact on agricultural land from the Project. The assessment methodology will utilise the Institute of Environmental Management and Assessment (IEMA) Guide: A New Perspective on Land and Soil in Environmental Impact Assessment, which includes a wider array of soil functions for assigning sensitivity rather than considering food production only. The main measure of agricultural land quality which will be used is the Agricultural Land classification (ALC).

1.7 This assessment builds on the work of the Environmental Statement Economic, Community and Land Use Impacts Chapter (Volume 6, Environmental Statement Chapter 6.2.14 [APP-062] provided as part of the DCO application for the North Lincolnshire Green Energy Park. Further information has been provided by Natural England since this chapter was prepared, which has resulted in a reappraisal of the effect of the project on agricultural land. The figures in Table 18 and Table 20 of APP-062 are therefore no longer correct, and overly simplistic. They have therefore been updated alongside the preparation of this assessment. This assessment has been undertaken to the latest published guidance on assessing soils and land for Environmental Impact Assessments, rather than the previous significance thresholds of a permanent loss of 20 ha of BMV. As such this assessment will provide a more holistic and environmentally focused assessment of the impact of the development considering the wider value of soils for the environment and society.

1.8 The Study Area for this report will comprise the main energy park land and the parcel to the north of the Flixborough industrial estate, as shown in Figures 1.1 and 1.2. The areas in the peripheral of

the site have not been included due to the railway spur and the Northern District Heat and Private Wire Network (DHPWN) not encroaching materially on the agricultural land, the DHPWN to the south where disturbed will be reinstated to agricultural land following best practice methods.

Statement of Expertise

1.9 This report has been prepared by Dr Bill Crooks and Dr Kirsty Charles.

1.10 Bill has over 15 years of experience in environmental consultancy. He is an experienced Soil and Water Scientist providing services to the construction, agricultural, waste management and regulatory sectors. His main interests are the accurate characterisation, evaluation, monitoring and effective management of our water, soil, and land resources. He specialises in supporting clients to ensure they are managing our natural capital sustainably and that any impacts are accurately understood, minimised, and mitigated appropriately.

1.11 Kirsty has two years' experience in preparing Environmental Statements for a range of projects throughout the UK and Environmental and Social Impact Assessments internationally. Her background is in environmental science, holding an integrated Masters with first class honours in Environmental Science (MEnvSci), and a PhD in Soil Science. Kirsty is also a full member of the Institution of Environmental Sciences and an early career member of the British Society of Soil Science, showing her commitment to continued professional development within the industry.

2.0 LEGISLATION, POLICY, & GUIDANCE

2.1 The Proposed Development is considered to fall within Schedule 1 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[1]. The Project will have a generating capacity of up to 95 MW and therefore qualifies as a Nationally Significant Infrastructure Project (NSIP) requiring development consent under the Planning Act 2008[2]. As such the relevant National Policy Statements (NPSs) will be the policy against which the application is determined. Legislation and other planning policy and guidance has also been included where relevant in the context of the Proposed Development.

National Policy

National Policy Statement for Energy (EN-1)[3]

2.2 National Policy Statement for Energy (EN-1) (2011) sets out the national planning policy for energy infrastructure.

2.3 Referring to agricultural land, paragraph 5.10.8 states 'Applicants should seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5) except where this would be inconsistent with other sustainability considerations. Applicants should also identify any effects and seek to minimise impacts on soil quality taking into account any mitigation measures proposed.'

Draft Overarching National Policy Statement for Energy (EN-1)[4]

2.4 The latest draft Overarching National Policy Statement for Energy (EN-1) (2021) sets out the draft national planning policy for energy infrastructure. Once designated, it will have effect for decisions by the Secretary of State on applications for specified energy developments that qualify as NSIPs under the Planning Act 2008. Draft NPS EN-1 contains the same wording for agricultural land to that within adopted policy, namely that the preference is to use poorer quality areas, but this is not prohibited, particularly where this would lead to wider sustainability benefits.

[1] The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (EIA Regulations). Available at: https://www.legislation.gov.uk/uksi/2017/572/contents/made Accessed February 2023.
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National Policy Statement for Renewable Energy Infrastructure (EN-3)[5]

2.5 There is no specific mention of agricultural land within EN-3, although there is a brief mention of potential negative effects on soils and geology from onshore wind projects located on peat soils which are a rich carbon store (paragraph 2.7.32).

Draft National Policy Statement for Renewable Energy Infrastructure (EN-3)[6]

2.6 The latest Draft NPS for Renewable Energy Infrastructure (EN-3) (2021) includes references to agricultural land specifically with regard to solar development, but not for other types of renewable energy. It is relevant however that the policy direction with regard to solar development is that land type should not be a predominating factor in determining the suitability of the site location (paragraph 2.48.13).

National Planning Policy Framework (NPPF)[7]

2.7 Whilst policies in the NPPF are not determinative for NSIPs, they can be important and relevant considerations under the Planning Act 2008. Under Section 15 of the NPPF 2021: Conserving and enhancing the natural environment, Paragraph 174 states that *'planning policies and decisions should contribute to and enhance the natural and local environment by:*

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

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

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions

[5] National Policy Statement for Renewable Energy Infrastructure (EN-3) (2011). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37048/1940-nps-renewable-energy-en3.pdf Accessed March 2023.

[6] Draft National Policy Statement for Renewable Energy (EN-3) (2021). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015236/en-3-draft-for-consultation.pdf Accessed February 2023.

[7] Ministry of Housing, Communities and Local Government (2021). National Planning Policy Framework (NPPF). Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740441/National_Planning_Policy_Framework_web_accessible_version.pdf Accessed February 2023.

such as air and water quality, taking into account relevant information such as river basin management plans; and

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

2.8 The footnote to Paragraph 175 states that *'Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality'.*

2.9 A draft of the NPPF is currently undergoing consultation (December 2022). The draft is at an early stage, however, it is proposed to add the following words to the footnote referred to above - "*The availability of agricultural land used for food production should be considered, alongside the other policies in this Framework, when deciding what sites are most appropriate for development*." It is not currently clear how it is intended that this would be measured – whether regionally, nationally or locally. Notwithstanding this, it is noted that this is not a current policy requirement, for NSIPs or for projects determined locally under the Town and Country Planning Act 1990 (as amended).

2.10 The Planning Practice Guidance ('PPG')[8] which accompanies the NPPF is split into a number of guidance notes. Guidance on soils and agricultural land is found in the Planning Practice Guidance for the Natural Environment 2019 ('PPGNE')[9] under the heading Agricultural Land, Soil and Brownfield Land of Environmental Value. This advises that the ALC be used to assess the quality of farmland to enable informed choices to be made about its future use within the planning system; and explains that the ALC places agricultural land into five grades with Grade 3 subdivided into 3a and 3b. The BMV land is defined as Grades 1, 2 and 3a. The PPGNE states that *'Planning policies and decisions should take account of the economic and other benefits of the best and most versatile agricultural land'.*

2.11 The PPGNE also recognises soil as an essential natural capital asset that provides important ecosystem services, 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 also recommends Defra's Code of Practice for the Sustainable Use of Soils on Construction Sites[16] as a

[8] Planning Practice Guidance. Available at: https://www.gov.uk/government/collections/planning-practice-guidance Accessed February 2023.

[9] Planning Practice Guidance for the Natural Environment (2019). Available at: https://www.gov.uk/guidance/natural-environment Accessed February 2023.

useful tool when setting planning conditions for development sites, as it provides advice on the use and protection of soil in construction projects, including the movement and management of soil resources.

Local Planning Policy

North Lincolnshire County Council

2.12 As noted above, whilst not determinative for NSIPs, local policies can be important and relevant considerations in the context of decisions on DCO applications. The North Lincolnshire Core Strategy[10], includes two policies/objectives on soils and land use for development.

2.13 Core Strategy 2 - Delivering More sustainable development, states that *"All future development in North Lincolnshire will be required to contribute towards achieving sustainable development"* and to *"take account of local environmental capacity and to improve air, water and soil quality and minimise the risk and hazards associated with flooding"*.

2.14 Spatial Objective 7 - Efficient Use and Management of Resources, states that *"To ensure the efficient use of resources, maximising recycling of minerals and waste products, minimising pollution, maintaining and improving air, soil and water quality, and employing sustainable building practices in new development."*

2.15 The draft North Lincolnshire Local Plan is undergoing examination, the proposed submission[11] sets out the North Lincolnshire vision which includes "protecting soil resources".

2.16 Policy RD1 – Supporting Sustainable Development in the Countryside also effectively repeats policy in NPS EN-1 and NPPF and states that *"2. Development will be expected to protect the best and most versatile agricultural land. Areas of lower quality agricultural land should be used where the proposals result in the significant development of agricultural land in preference to the best and most versatile agricultural land."* And *"3. All development proposals should demonstrate that soil resources will be managed and conserved in a viable condition and used sustainably in line with accepted best practice and only permitted where it safeguards and enhances the natural*

[10] North Lincolnshire Core Strategy (2011) available at: https://m.northlincs.gov.uk/public/planningreports/corestratergy/adopteddpd/FullCoreStrategy.pdf Accessed March 2023

[11] North Lincolnshire Local Plan Submission, November 2022. https://m.northlincs.gov.uk/public/localplan/examination/North%20Lincolnshire%20Local%20Plan%20-%20Submission%202022.pdf Accessed March 2023.

environment and considers biodiversity through the provision of measurable biodiversity net gain and links to coherent ecological networks."

2.17 Paragraph 8.10 also states that *"Where land is identified as Grade 3 on the ALC maps and an agricultural land classification statement is not provided, the council will consider the land to be best and most versatile land unless it is proven otherwise."*

Guidance

2.18 The applicable guidance in relation to soils and agricultural land is summarised as follows:

- HM Government (2019). Planning Practice Guidance for the Natural Environment[12];
- Natural England (2009). Technical Information Note 049 (TIN049): Agricultural Land Classification: Protecting the Best and Most Versatile Agricultural Land[13];
- Natural England (2021). Guide to Assessing Development Proposals on Agricultural Land[14];
- Institute of Environmental Management and Assessment (IEMA) (2022)[15]. A New Perspective on Land and Soil in Environmental Impact Assessment;
- Department for Environment, Farming, and Rural Affairs (DEFRA) (2018). Construction Code of Practice for the Sustainable Use of Soils on Construction Sites[16]; and
- Ministry of Agriculture, Food and Fisheries (MAFF) (1988). Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land[17].

[12] HM Government (2019). Planning Practice Guidance for the Natural Environment. Available at https://www.gov.uk/guidance/natural-environment Accessed February 2023.
[13] Natural England (2009). Technical Information Note 049 (TIN049): Agricultural Land Classification: Protecting the Best and Most Versatile Agricultural Land. Available at: https://www.iow.gov.uk/azservices/documents/2782-FE14-Natural-England-TIN049-Agricultural-Land-Classification.pdf Accessed February 2023.
[14] Natural England (2021). Guide to assessing Development Proposals on Agricultural Land. Available at: https://www.gov.uk/government/publications/agricultural-land-assess-proposals-for-development/guide-to-assessing-development-proposals-on-agricultural-land Accessed February 2023.
[15] IEMA (2022). A New Perspective on Land and Soil in Environmental Impact Assessment. IEMA; Lincoln.
[16] DEFRA (2018). Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. Available at: https://www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites Accessed February 2023.
[17] MAFF (1988). Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land. Available at: http://publications.naturalengland.org.uk/publication/6257050620264448. Accessed February 2023.

3.0 ASSESSMENT METHODOLOGY

3.1 The assessment methodology utilised draws upon the IEMA guidance 'A New Perspective on Land and Soil in Environmental Impact Assessment' which was published on 17 February 2022[15]. This guidance comprises the first published guidance on the consideration of soils and land in EIA but does not include a methodology for how such assessment should be undertaken. The aims of the guidance are to advocate 'a broader approach that involves assessing the natural capital and functional ecosystem services provided by land and soils'. The assessment methodology presented below reflects the most up to date industry guidance on assessing the impacts on land and soils in EIAs, which encompasses all of the ecosystem services that soils provide.

Significance Criteria

3.2 The significance criteria set out below and the sensitivity criteria and magnitude of change criteria have been detailed separately.

Receptor Sensitivity

3.3 The gradation of sensitivities from very high to negligible is not necessarily one of discrete categories for soil functions, and it is not possible to anticipate all possible permutations of soil resources and soil functions outlined in Table 2 of the IEMA guidance. Therefore, assigning sensitivity involves an element of professional judgement taking into consideration all of the available information.

3.4 Using IEMA guidance, the overall sensitivity of soils will be based on the wide range of ecosystem services that soils provide. The receptor sensitivity criteria are outlined in Table 1.1.

Table 1.1 – Receptor Sensitivity

RECEPTOR SENSITIVITY	JUSTIFICATION (SOIL RESOURCE AND SOIL FUNCTIONS)
Very High	**Biomass production:** ALC Grades 1 & 2. **Ecological habitat, soil biodiversity and platform for landscape:** Soils supporting protected features within a European site (e.g., SAC, SPA, Ramsar); Peat soils; Soils supporting a National Park, or Ancient Woodland. **Soil carbon:** Peat soils. **Soils with potential for ecological/landscape restoration.** **Soil hydrology:** Very important catchment pathway** for water flows and flood risk management. **Archaeology, Cultural heritage, Community benefits and Geodiversity:** SAMs and adjacent areas; World Heritage and European designated sites; Soils with known archaeological interest; Soils supporting community/recreational/educational access to land covered by National Park designation.

	Source of materials: Important surface mineral reserves that would be sterilised (i.e., without future access).
High	**Biomass production:** ALC Grade 3a. **Ecological habitat, soil biodiversity and platform for landscape:** Soils supporting protected features within a UK designated site (e.g., UNESCO Geoparks, SSSI or AONB, Special Landscape Area, and Geological Conservation Review sites); Native Forest and woodland soils; Unaltered soils supporting semi-natural vegetation (including UKBAP Priority habitats). **Soil carbon:** Organo-mineral soils (e.g., peaty soils). **Soil hydrology:** Important catchment pathway for water flows and flood risk management. **Archaeology, Cultural heritage, Community benefits and Geodiversity:** Soils with probable but as yet unproven (prior to being revealed by construction) archaeological interest; Historic parks and gardens; RIGS; Soils supporting community/recreational/educational access to RIGS and AONBs. **Source of materials:** Surface mineral reserves that would be sterilised (i.e. without future access).
Medium	**Biomass production:** ALC Grade 3b **Ecological habitat, soil biodiversity and platform for landscape:** Soils supporting protected or valued features within non-statutory designated sites (e.g. Local Nature Reserves (LNR), Local Geological Sites (LGSs), Sites of Nature Conservation Importance (SNCIs), Special Landscape Areas; Non-Native Forest and woodland soils. **Soil carbon:** Mineral soils. **Soil hydrology:** Important minor catchment pathway for water flows and flood risk management. **Archaeology, Cultural heritage, Community benefits and Geodiversity:** Soils with possible but as yet unproven (prior to being revealed by construction) archaeological interest; Soils supporting community/recreational/educational access to land. **Source of materials:** surface mineral reserves that would remain accessible for extraction
Low	**Biomass production:** ALC Grades 4 & 5 or Urban soils. **Ecological habitat, soil biodiversity and platform for landscape:** Soils supporting valued features within non-designated notable or priority habitats/landscapes. Agricultural soils. **Soil carbon:** Mineral soils. **Soil hydrology:** Pathway for local water flows and flood risk management **Archaeology, Cultural heritage, Community benefits and Geodiversity:** Soils supporting no notable cultural heritage, geodiversity nor community benefits; Soils supporting limited community/ recreational/ educational access to land. **Source of materials:** Surface mineral reserves that would remain accessible for extraction.
Negligible	As for low sensitivity, but with only indirect, tenuous, and unproven links between sources of impact and soil functions.

Magnitude of Change

3.5 The magnitude of change criteria for agricultural land is shown in Table 1.2, which has been adapted from Table 3 of the IEMA guidance.

3.6 It is noted that the IEMA guidance includes a High magnitude of change for developments with a 20 ha threshold of irreversible loss of one or more soil functions or soil volumes. This is in line with previous methodologies for assessing the significance of the loss of BMV agricultural land originating from the Town & Country Planning (Development Management Procedure) (England) Order 2015, Schedule 4 paragraph 1(y)(i) which states that a local planning authority must consult Natural England if the development is not for agricultural purposes and is not in accordance with the provisions of a development plan and involves the loss of not less than 20 ha of BMV agricultural land.

Table 1.2 – Magnitude of Change

MAGNITUDE OF CHANGE	JUSTIFICATION (DESCRIPTION OF IMPACTS RESTRICTING PROPOSED LAND USE)
High	Permanent, irreversible loss of one or more soil functions or soil volumes (including permanent sealing or land quality downgrading) over an area of more than 20 ha or loss of soil-related features set out in Table 1.1 above (including effects from 'temporary developments'). Or Potential for permanent improvement in one or more soil functions or soil volumes due to remediation or restoration over an area of more than 20ha, or gain in soil-related features set out in Table 1.1 above, as advised by other topic specialists in EIA team (including effects from 'temporary developments'*).
Medium	Permanent, irreversible loss of one or more soil functions or soil volumes over an area of between 5 and 20 ha or loss of soil-related features set out in Table 1.1 above (including effects from 'temporary developments'). Or Potential for improvement in one or more soil functions or soil volumes due to remediation or restoration over an area of between 5 and 20ha, or gain in soil-related features set out in Table 1.1 above, as advised by other topic specialists in EIA team.
Low	Permanent, irreversible loss over less than 5 ha or a temporary, reversible loss of one or more soil functions or soil volumes, or temporary, reversible loss of soil-related features set out in Table 1.1 above as advised by other topic specialists in EIA team. Or Potential for permanent improvement in one or more soil functions or soil volumes due to remediation or restoration over an area of less than 5ha or a temporary improvement in one or more soil functions due to remediation or restoration or off-site improvement, or temporary gain in soil-related features set out in Table 1.1 above, as advised by other topic specialists in EIA team.

Negligible	No discernible loss or reduction or improvement of soil functions or soil volumes that restrict current or proposed land use.
No Change	No discernible change from the baseline.

Classification of Effect

3.7 The classification of effects for agricultural land will be assessed using Table1. 3. Where effects are determined as Major or Moderate, the effect will be considered Significant in EIA terms. Where effects are determined as Minor or Negligible, the effect will be considered Not Significant in EIA terms. Where effects are Minor to Moderate they may be significant in EIA terms and professional judgement and sound reasoning will be used to determine significance.

Table 1.3 – Classification of Effects

Sensitivity / value of receptor	**Magnitude of Change**				
	High	**Medium**	**Low**	**Negligible**	**No Change**
Very High	Major (Significant)	Major (Significant)	Major or Moderate (Significant)	Minor (Not Significant)	Neutral (Not Significant)
High	Major (Significant)	Major or Moderate (Significant)	Moderate or Minor (Potentially Significant*)	Minor (Not Significant)	Neutral (Not Significant)
Medium	Major or Moderate (Significant)	Moderate (Significant)	Minor (Not Significant)	Minor (Not Significant)	Neutral (Not Significant)
Low	Moderate or Minor (Potentially Significant*)	Minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant)	Neutral (Not Significant)
Negligible	Minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant)	Neutral (Not Significant)

**Professional judgement will be used to determine the significance of the effect in the particular circumstances.*
Note: Major, Moderate or Minor effect have the potential to be adverse or beneficial.

4.0 BASELINE

4.1 The current primary land use within the Study Area is agricultural land, as such the current main soil function is for biomass production. Although this is the main soil function, the areas in agricultural land use will also provide other ecosystem services such as water storage, carbon storage, ecological habitats, although to a lesser extent than biomass production. Hence the baseline has considered primarily the capacity for soils for food production, as measured by Agricultural Land Classification (ALC).

4.2 Within the Study Area there is also a large proportion of land (71.51 ha) that is currently occupied by non-agricultural land, including built development and infrastructure (including parts of the Flixborough Industrial Estate); common land; and woodland.

Agricultural Land Classification

4.3 The current ALC system was devised by the Ministry of Agriculture, Fisheries and Food (MAFF) (1988)[18] and is the standard method for determining the quality of agricultural land in England and Wales according to its versatility, productivity and workability, based upon inter-related parameters including climate, relief, soil characteristics and drainage; i.e. ALC assesses land quality based upon the type and level of agricultural production the land can potentially support. The ALC places land into one of five grades: Grade 1 (excellent); Grade 2 (very good); Grade 3 (good to moderate) which is divided into Subgrades 3a (good) and 3b (moderate); Grade 4 (poor); and Grade 5 (very poor). The Best and Most Versatile (BMV) agricultural land, which comprises Grade 1, Grade 2 and Subgrade 3a agricultural land.

4.4 Soils information for the Study Area has been obtained from primary ALC reports and also from secondary data sources.

Primary Data

4.5 Post-1988 ALC data has been collected through detailed or recognisance scale survey, providing commentary on the soils and details of the ALC for the survey area. Within the Study Area two Post-1988 surveys are available covering a portion of the northern fields; and a large portion of the central agricultural area. These have been summarised below and are available in full in Appendix

[18] MAFF (1988). The Agricultural Land Classification (ALC) of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land. Available at: [redacted] February 2023.

1 and 2. Appendix 3 provides a map that distinguishes between the area covered in post -1988 surveys and areas where the provisional 1988 classification has been used.

Northeast (ALCL07391)[19]

4.6 A survey of the Flixborough Grange area was conducted in 1991 by MAFF. The 36.9 ha survey area was designated as 33.6 ha of Grade 2 and 3.3 ha of Non-Agricultural where the River Trent flood embankment runs down the western edge of the site.

4.7 The agricultural soils were calcareous warp soils with heavy silty clay loam topsoils over heavy silty clay loam and silty clay loam subsoils. They were mainly well drained and stoneless, limited by heavy textures soils and workability issues.

4.8 This survey covers 2.1 ha of the Study Area.

Central (ALCL00890)[20]

4.9 A survey of the Proposed Glanford Business Park, Scunthorpe was conducted in 1990 by MAFF. The 163.6 ha survey area was designated as 10.9 ha of Grade 1, 94.2 ha of Grade 2, 38.3 ha of Subgrade 3a, 17.6 ha of Subgrade 3b and 2.6 ha of non-agricultural land (consisting of farm buildings and woodland).

4.10 The mineral soils across the site are the result of artificially deposited river alluvium (warp) which forms a variable mineral soil cover over underlying peat and sand. As alluvium the texture and depth of the topsoil and subsoils vary substantially over short distances. Buried peat deposits were found within the soil profile. The land grading depends on the active drainage system (Lysaght's Drain), flood defences, and the distribution of medium and heavy textured topsoils.

4.11 This survey covers 148.9 ha of the Study Area.

Secondary Data

4.12 For England and Wales, a Provisional scale ALC maps[21] were originally produced in 1967-1974 at a 1:2,000,000 scale (1 inch to 1 mile), the regional Provisional ALC plans at a 1:250,000 scale are available from the Natural England Website and were most recently updated in 2020. This provides

[19] MAFF (1991). Agricultural Land Classification detailed Post 1988 ALC survey, Flixborough, Flixborough Grange (ALCL07391). Available at [redacted] Accessed February 2023.
[20] MAFF (1990). Agricultural Land Classification detailed Post 1988 ALC survey, Scunthorpe, Glanford Business Park (ALCL00890). Available [redacted]. Accessed February 2023.
[21] Provisional Agricultural Land Classification Maps and Data. Available at: https://data.gov.uk/dataset/952421ec-da63-4569-817d-4d6399df40a1/provisional-agricultural-land-classification-alc Accessed February 2023.

an indication of the prevalent ALC grade in an area but does not provide a division of Grade 3 into Subgrade 3a (BMV) and Subgrade 3b (Non-BMV).

Best and Most Versatile Likelihood

4.13 As the Best and Most Versatile likelihood for the Site is predominantly high, where there is no Post-1988 data and the Provisional grade is 3, in line with the North Lincolnshire Core Strategy (Paragraph 8.10) all provisional Grade 3 agricultural land has been assigned Subgrade 3a (good) as a worst case scenario.

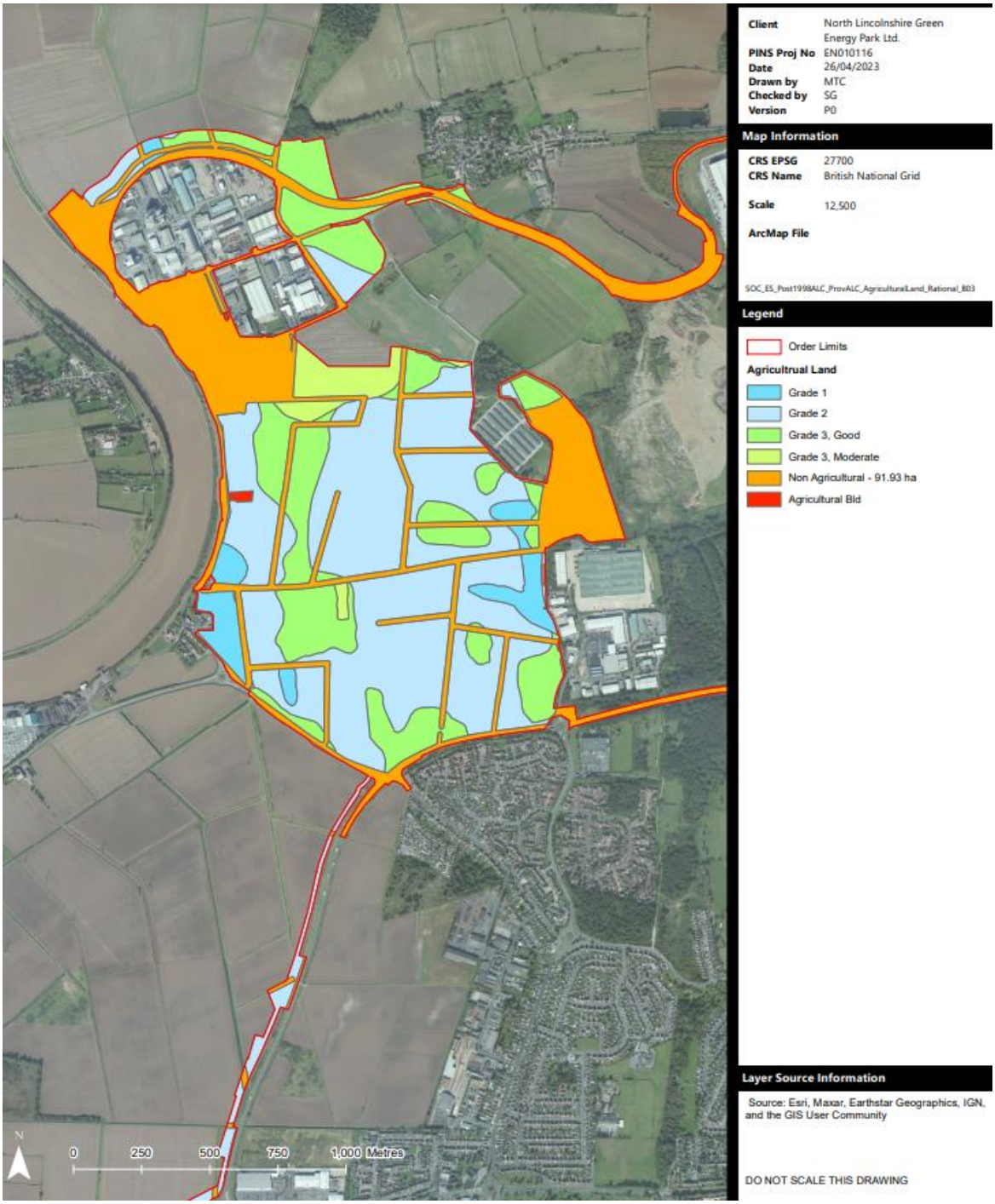
Combined ALC Baseline for the project

4.14 Figure 1.1 shows the combined Post-1988 and Provisional ALC for the draft Study Area, this has been calculated in ha and is shown in Table 1.4.

Table 1.4 – Combined ALC Baseline for the Study Area

ALC GRADE	AREA (HA)	PERCENTAGE (%)
Grade 1	10.8	5.4
Grade 2	89.4	45.2
Subgrade 3a	46.7	23.6
Subgrade 3b	7.1	3.6
Grade 4	0.0	0.0
Grade 5	0.0	0.0
Non-Agricultural	43.6	22.1
Total	**197.7**	**100.0**
Total BMV	**146.9**	**74.3**

Figure 1.1 – Combined ALC Baseline for the Study Area



Land Management Data

4.15 Through discussions with the landowner it has been established that the use of the agricultural land within the southern portion of the Study Area is not considered suitable for the production of root crops, which are a requirement of the ALC Grade 1 designation. The areas of Grade 1 land are too small to support investment in irrigation, combined with the workability and wetness issues of the soils, this poses a risk to successful harvesting of root crops. As such the areas mapped as Grade 1 agricultural land, cannot be practically managed as such, and the designation of Grade 2 may be more appropriate in these areas.

Other Soil Functions

4.16 Arable land represents the most abundant habitat type in the Study Area, however in line with the assessment within the Ecology and Nature Conservation Chapter (APP-058), the arable fields are of low ecological value. Field margins comprising semi-improved neutral grassland offer greater botanical diversity and vegetation cover for a range of fauna in the area, including common amphibians, foraging bats, badgers and birds. There is also an extensive network of ditches across the Energy Park Land, which offer moderately suitable habitat for otter and water vole.

4.17 Soil carbon storage is an important soil function, within the Study Area there has been buried peat identified, particularly within the central portion of agricultural land and towards the flooding embankment. However, the peat in these areas is drained and likely to be in a dried and degraded state. Over much of the area peat occurs in the lower profile at depths as shallow as 30 cm in some locations indicating the original site was flooded regularly and the “natural soils” would have been peat or organic in a wetland/tidal environment.

4.18 The soils within the Study Area lie on a natural floodplain that has been cut off from the natural flooding and hydrological storage of the area by the flood defences. However, the soils will still provide some water storage and retention. The land is also actively drained to support agriculture, reducing the natural volume of water that would be stored in the soils.

4.19 The pre- and post-application archaeological assessment of agricultural land within the order limits consisted of a desk-based assessment, a geophysical survey, a geoarchaeological borehole evaluation and deposit model, and a trial trench evaluation. These surveys identified a number of locations that contain buried features of archaeological interest. Further investigation of these features during the pre-construction (post-determination) phase is planned as part of a broader archaeological mitigation strategy.

4.20 There is not considered to be any mineral deposits of value underlying the Study Area, and there is no direct public use or community benefit from the soil at present.

Key Considerations from the Baseline Data

4.21 The predominant land use within the Order Limits is agriculture, followed by built infrastructure.

4.22 The mineral soils across the site are the result of artificially deposited river alluvium (warp) which forms a variable mineral soil cover over underlying peat and sand. As alluvium the texture and depth of the topsoil and subsoils vary substantially over short distances.

4.23 The ALC grading assumes that an active drainage system (Lysaght's drain) remains operational. In the absence of this system the local water table would be higher and pose a limitation on the ALC grading of the site.

4.24 The Grade 1 land occurs in small, isolated pockets and does not form a consistent area that can be managed separately from the other ALC grades.

4.25 Over much of the area peat occurs in the lower profile at depths as shallow as 30 cm in some locations, indicating the original site was flooded regularly and the "natural soils" would have been peat or organic in a wetland/tidal environment.

4.26 The areas currently comprising built infrastructure do not have any valuable functional soil resources.

5.0 ASSESSMENT OF AGRICULTURAL LAND LOSS

Project Design

5.1 Areas that are currently non-agricultural are to remain non-agricultural and these are predominantly areas where built infrastructure already exists. From a soils and land perspective the baseline in these areas will not be affected by the proposed development and has been scoped out of the assessment. The only exception is the agricultural buildings within the central western area of the Study Area (0.66 ha) which will be returned to nature for BNG.

5.2 The assessment of the development on soils and land can be split into three categories (1) where **agriculture will be retained** as the main land ; (2) where soils will remain in a functional state for a range of ecosystem services but not for agricultural production, i.e. the **land use will change** for landscaping and wetlands, etc.; and (3) where soils and agricultural land will be **permanently lost** to permanent water bodies, built development and associated infrastructure.

5.3 The project design of these three categories have been described in further detail below.

Retained Agriculture

5.4 A large portion of agricultural land within the Study Area to the east of the new access road will be retained in agricultural use (93.6 ha), this area has been included in the Study Area due to the need for additional floodwater storage in the event that an extreme weather event may overflow or breach the existing flood defences of the river.

5.5 In the modelling this is anticipated to have a 0.5% chance of happening in any given year over the lifetime of the development (1 in 200 year event with allowance for climate change). The flood modelling shows that this area of land would flood to an approximate depth of 1m in the baseline scenario (with no project scheme in place), if the river embankment was overtopped or breached. With the project scheme in place, the frequency of the extreme flood event would not change, but there will be additional flood depth in the east agricultural fields . This additional depth would be approximately 5% (c. 5cm) higher than in the baseline scenario.

Land Use change

5.6 Areas where agricultural land would be removed from agricultural use but the soils would continue to provide a range of ecosystem services. This includes land that will be used for landscaping, biodiversity and surface water management.

5.7 Arable land will be converted as part of the habitat creation measures, including species-rich grassland, scrub, woodland, and wetland areas. Once established, new habitats will provide

considerably higher ecological value than the existing arable fields. As such, there are no residual ecological effects resulting from the loss of arable land to the development.

5.8 The wetland habitat areas, which are not permanent standing bodies of water (seasonal ponding), but are allowed to naturally re-wet to a semi natural state, in line with the natural environment if no human interactions (active drainage and flood defences) had been implemented in the area. There will be a requirement for some areas of localised reprofiling to provide rises and falls in the topography. The buried peat deposits in these areas would be rewetted which is a beneficial management strategy for degraded peat to maintain carbon storage. There is also the opportunity to translocate peat which may be excavated from areas of built development within the Study Area to the wetland area, which would improve the peat condition and secure the carbon store, which would be beneficial for the peat and carbon storage.

5.9 Proposed grasslands incorporate a range of habitat types shown on the Indicative Landscape and Biodiversity Plans (REP3-007) and the Outline Landscape and Biodiversity Management and Monitoring Plan (REP2-018). These include amenity grassland surrounding the development buildings and infrastructure; areas of lowland meadow/neutral grassland; and damper areas of grassland within the wetland habitat complex. With the exception of amenity areas, these grasslands will be managed to maximise the species-richness of the sward and provide biodiversity value. This will include adopting an appropriate grazing or cutting regime, wildflower seeding, and the control of invasive non-native and other undesirable species. There may be a residual agricultural use for these areas although this is not certain at this stage, hence the assessment has assumed they will not be used for grazing as a worst case scenario.

5.10 A proportion of the agricultural land within the Study Area will also be changed to support amenity planting, landscaping and screening, soils in these areas would be able to function and provide a range of ecosystem services other than food production.

5.11 These areas where land use change will occur are required for the project for other reasons, such as biodiversity net gain, visual screening, and surface water management.

Permanent Loss

5.12 Areas of agricultural land where there will be a permanent loss of agricultural land and functional soils occur where new built infrastructure, or active surface water management, will be located. This will include new access roads, buildings and associated infrastructure, as well as permanent water bodies (detention basins).

5.13 There will also be a permanent loss of soils and soil functioning in areas where there will be permanent use as part of the surface water management strategy in the form of a pond or detention basins, but not included in the Land Use Change category above.

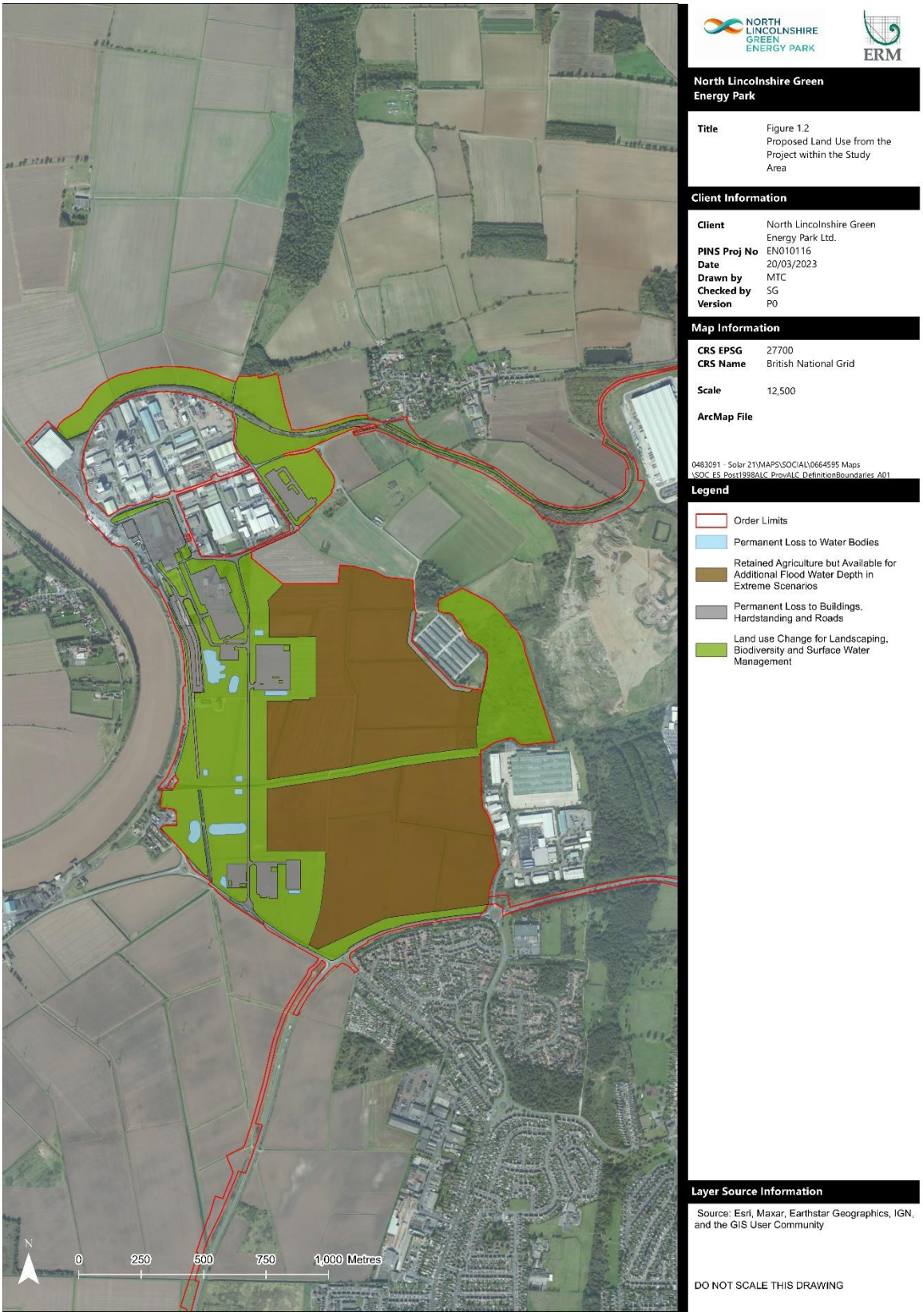
Summary of Agricultural Land Use change for the Project

5.14 Figure 1.2 shows the spatial extent of the three land use changes that will occur due to the Project. Table 1.5 provides a breakdown of the ALC for these areas.

Table 1.5 – Summary of Agricultural Land Use change for the Project

AGRICULTURAL LAND CLASSIFICATION	PERMANENT LOSS TO BUILT INFRASTRUCTURE OR PERMANENT WATER BODIES (HA)	LAND USE CHANGE FOR LANDSCAPING, BIODIVERSITY AND SURFACE WATER MANAGEMENT (HA)	RETAINED IN AGRICULTURE BUT AVAILABLE FOR ADDITIONAL FLOOD WATER DEPTH IN EXTREME SCENARIOS (HA)	TOTAL (HA)
Grade 1	0.8	5.4	4.6	10.8
Grade 2	7.0	23.8	58.6	89.4
Subgrade 3a	4.8	24.0	17.9	46.7
Subgrade 3b	0.2	2.3	4.7	7.1
Grade 4	0.0	0.0	0.0	0.0
Grade 5	0.0	0.0	0.0	0.0
Non-Agricultural	8.8	27.0	7.8	43.6
Total	**21.6**	**82.5**	**93.6**	**197.7**
Total BMV	**12.6**	**53.2**	**81.2**	**146.9**

Figure 1.2 – Proposed Land Use from the Project within the Study Area



Embedded mitigation

5.15 Within the project design all soils will remain on site for reuse in landscaping, visual bund creation or biodiversity.

5.16 Soil management and handling will be undertaken in line with industry best practice (as set out in Appendix J of the Code of Construction Practice, REP5-020) which includes but is not limited to the following guidance documents:

- DEFRA (2011) Code of Practice for the Sustainable Use of Soils on Construction Sites[22].
- The Institute of Quarrying (2021) Good Practice Guide for Handling Soils in Mineral Workings[23], which updates and supersedes the MAFF Good Practice guide for Handling Soils (2000).
- British Society of Soil Science (2022) Benefitting from Soil Management in Development and Construction[24].
- IEMA Assessing Land and Soils for Environmental Impact Assessments (2022)[15]. In particular Annex E – Soil Handling for Peat and Peaty Soils, Annex F – Soil Handling for Restoration to Agriculture, Ecology and Landscape design, Annex J – Process for the Sustainable Use of Soil Resources and Other Excavated Materials; and Annex K – Soil Handling Guidance for Site Agents and Contractors.

Assessment of effects

5.17 The project design includes areas which remain in their current state (i.e. non-agricultural or agricultural), areas which would result in land use change, but still be in use for a range of ecosystem services, and areas where there will be a permanent change to the environment through the introduction of built development and permanent use as part of the surface water management strategy in the form of a pond or detention basins. The discussion below includes an assessment of the baseline receptor sensitivity and the proposed magnitude of change based on the three land use changes the Project would impose.

5.18 The assessment has utilised the methodology described in Section 3.0 Assessment Methodology and looks at the changes in soil functions that would occur given the current baseline and the

[22] DEFRA (2011) Code of Practice for the Sustainable Use of Soils on Construction Sites.
[23] The Institute of Quarrying (2021) Good Practice Guide for Handling Soils in Mineral Workings.
[24] British Society of Soil Science (2022). Benefitting from Soil Management in Development and Construction. Available at: [redacted] Accessed March 2023.

proposed project design. Soil functions capabilities of soils that are important for various agricultural, environmental, nature protection, landscape architecture and urban applications. Soil can perform many functions and these include functions related to the natural ecosystems, agricultural productivity, environmental quality, source of raw material, and as base for buildings.

Baseline Receptor Sensitivity

5.19 The baseline receptor sensitivity is primarily driven by the main soil function of biomass production and measured by agricultural land classification. Where the land is of Grade 1 and 2 these will be of Very High Sensitivity, and where the land is of Subgrade 3a of High sensitivity. This includes the majority of the agricultural land within the Study Area. For land of ALC Subgrade 3b the sensitivity would be Medium and for Grade 4 the sensitivity would be Low.

Retained Agriculture

5.20 Considering the changes from the baseline for areas where agricultural land will be retained, and made available for additional flooding during extreme events, the main land use will continue to be biomass production. The effect of the additional flooding on the ALC grade is likely to be Negligible due to the frequency of the potential flooding events occurring as a tidal "1 in 200 year event" and the minimal difference in depth from the baseline, which would not constitute a change in the ALC grade of the land, and the frequency required would be much greater than the minimum requirement of "very rare – not more than once in 15 years" and only applicable to the summer flood risk.

5.21 The Project will also not increase the rate of runoff from developed areas to the agricultural fields due to the new surface water drainage system that will restrict runoff to existing greenfield rates of runoff. For ecological habitats; carbon cycle; hydrological cycle; source of materials; or archaeology, cultural Heritage, geodiversity and community, there would be no change from the baseline.

5.22 The area of land retained in agricultural production is 93.6 ha, 47.4 % of the Study Area, including 81.2 ha of BMV agricultural land.

5.23 For all components the magnitude of change from the baseline is expected to be No Change, and hence the overall effect on the baseline for areas that are currently agricultural land and will be retained in agricultural use is **Neutral and Not Significant**.

Land Use change

5.24 The areas where the proposed land use change will be located are in the north, and to the west of the Study Area both for biodiversity net gain and landscaping, as shown in Figure 1.2.

5.25 There would be a loss of one soil function (biomass production) in these areas, however the soil resources would remain in situ and be available for return to agricultural production if required. Areas of woodland would contribute to biomass production for carbon storage, but not for materials. This will affect 82.5 ha, 41.7 % of the Study Area including 53.2 ha of BMV land.

5.26 There will also be a positive effect on three soil functions (ecology, carbon storage and hydrology) including a greater improvement for support of ecological habitats within the area marked as Land Use Change on Figure 1.2. Returning the soils to a more natural state and reducing the intensity of the management of the soils will encourage natural processes to store more carbon in the soils, and improve the quality of the buried peat resources, particularly in the wetland areas. The planting of trees and landscaping will provide carbon capture and biodiversity benefits. Returning the wetland habitat areas into a more natural state where more water can be stored will provide additional water storage potential.

5.27 Overall, there would be no change to the soil functions as a source of materials (surface mineral reserves) or archaeology, cultural heritage, geodiversity and community benefits. The change in land use would lose the biomass production for the area, but provide additional benefits to existing soil functions in a greater capacity than they are currently. As such the overall impact on soils and land due to the change in land use from agriculture to biodiversity and landscaping is of Negligible magnitude, and therefore **Minor and Not Significant**.

Permanent Loss

5.28 The construction of built development and permanent water bodies will permanently remove all soil functions from an area of 12.6 ha of BMV land, 0.2 ha non-BMV and 8.8 ha non-agricultural. Hence the magnitude of change will be Medium as the total permanent loss of agricultural land and functional in situ soils will be 12.8 ha, including 12.6 ha of BMV.

5.29 Overall, the impact on soils and land due to the permanent loss of Very High to High sensitivity agricultural land to built infrastructure is of Medium magnitude, and therefore the overall effect is Major and Significant. However, all soils that are to be removed for the construction of built infrastructure will be sustainably managed and retained on site for use in the biodiversity and landscaping areas.

Summary of Change to Soil Functions

5.30 Table 1.6 shows how the functions which soils provide within the Study Area are for the baseline, and how they will be affected by the Project. The table indicates whether this function is provided

as a Yes or No and how these would be affected in the proposed project design, i.e. will they still provide the function Yes or No and will there be any change positive, negative or neutral.

Table 1.6 – Summary of Change on Soil Functions

LAND USE CHANGES WITHIN THE STUDY AREA	SOIL FUNCTIONS AS COMPONENTS OF TERRESTRIAL ECOSYSTEM						SUMMARY OF SOIL FUNCTIONS (SF)
	BIOMASS PRODUCTION	ECOLOGICAL HABITATS & LANDSCAPING	INTERACTIONS WITH ATMOSPHERE		SOURCE OF MATERIALS	ARCHAEOLOGY & CULTURAL FEATURES	
			CARBON CYCLE	HYDROLOGICAL CYCLE			
Baseline							
Agricultural Land (154 ha)	Y	Y	Y	Y	N	Y	4 SF
Non-Agricultural Land (43.6 ha)	N	N	N	N	N	N	0 SF
Proposed							
Retained Agricultural Land (93.6 ha)	Y 0	Y 0	Y 0	Y 0	N 0	N 0	No change to the baseline
Ecological , landscaping and surface water management (82.5 ha)	N -ve *(potential for low intensity grassland)*	Y +ve	Y +ve	Y +ve	N 0	N 0	Loss of one SF, positive change to 3 SF Gain of 3 SF for agricultural building returned to natural environment .
Built development, associated infrastructure and permanent water bodies (21.6 ha)	N -ve	N -ve	N -ve	Y	N 0	N 0	Loss of 4 SF
"Y" - Yes, "N" – No, "+ve" - positive change, "-ve" -negative change, "0" – no change							

Summary of Effects

5.31 Based on the justification provided above in sections 5.17 to 5.29, the summary of effects for the Project are shown in Table 1.7.

Table 1.7 – Summary of Effects on Soils and Land

RECEPTOR	IMPACT	OVERALL SENSITIVITY	OVERALL MAGNITUDE OF CHANGE	OVERALL PROJECT EFFECT
Agricultural Land	Retained in agriculture but available for additional flooding during extreme events	Very High to High	No Change	Neutral (Not Significant)

Agricultural Land	Change in land use for biodiversity and landscaping	Very High to High	Negligible	Minor (Not Significant)
Agricultural Land	Permanent loss to built development or water bodies	Very High to High	Medium	Major (Significant)
Non-Agricultural Land	Retained in non-agricultural use	Negligible	No Change	Neutral (Not Significant)

6.0 SITE CONTEXT

6.1 It is useful to consider the wider context of the site and surrounding area to consider the potential effects in the context of the national and regional landscape.

National Context

6.2 Natural England in their Technical Information Note TIN049[25] estimates that 42% of agricultural land in England is of BMV quality (Grade 1, Grade 2 and Subgrade 3a).

Regional Context

Lincolnshire Ceremonial County

6.3 Whilst England has around 42% of agricultural land as BMV, in Lincolnshire this rises to as much as 94% based on the Natural England BMV Likelihood Maps. This indicates that if you are developing an infrastructure project in Lincolnshire, it is highly likely to be on BMV land. Within Lincolnshire the area of BMV land is 328,560ha. Of this 82,600ha is Grade 1 and 203,600ha is Grade 2.

6.4 Table 1.9 shows the Provisional ALC breakdown for Lincolnshire (boundary is based on Ordnance Survey open data).

Table 1.9 – Provisional ALC for Lincolnshire

AGRICULTURAL LAND CLASSIFICATION	AREA (HA)	PERCENTAGE (%)
Grade 1	75,757	12.8
Grade 2	186,750	31.6
Grade 3	296,245	50.1
Grade 4	7,448	1.3
Grade 5	0.0	0.0
Non-Agricultural	17,132	2.9
Urban	8,486	1.4
Total	591,820	100

6.5 Natural England also provides a Likelihood of Best and Most Versatile (BMV) Agricultural Land assessment. For Lincolnshire this shows that the majority of the land has a high likelihood (>60 % area BMV) of being BMV so we should assume the Grade 3 Provisional is BMV as well in the absence of any other supporting information.

[25] Natural England Technical Information Note TIN049, Agricultural Land Classification: protecting the best and most versatile agricultural land Second edition (2012). Available at: [redacted] Accessed March 2023.

6.6 In total this means that over 90% of the land in Lincolnshire should be assumed to be BMV for the purposes of this assessment however the actual area is likely to be smaller but would require detail surveys to confirm.

Flixborough Area

6.7 The area to the south of the Flixborough Industrial Estate is all Predictive ALC Grade 1 and 2, up to the non-agricultural edges of Scunthorpe. There is some Grade 3 land further north around Flixborough and towards Burton on Stather.

Project Context

6.8 It should be emphasised however that the vast majority of agricultural land that will be lost from agricultural use is as a result of the delivery of the wetlands and Biodiversity Net Gain (BNG). Our calculations show that 7.8 ha of Grade 1 and 2 BMV land is permanently lost as a result of built development associated with the NLGEP, with the remaining 29.2 ha for landscape mitigation, BNG and flood risk mitigation, and 63.2 ha retained in agriculture.

6.9 The creation of the significant new areas of wetland are an important part of the overall vision and how the Project achieves good design in the context of the NPS. As explained in this assessment, they are also an important part of the overall soil function as a national resource, which is not simply to deliver biomass production. NLGEP started with the central vision of providing more than just an ERF. The Project wanted to deliver wider benefits to the area and worked with NLC from an early stage to understand their aspirations. Whilst the Defra Biodiversity Metric (version 3.0) only shows the Project as delivering 13.74% BNG (for habitats), this is as a result of the inclusion of large areas of retained agricultural land within the Study Area which are required for flood management and artificially reduce the % BNG net gain figure. If these fields were removed from the calculation, the figure would be expected to exceed 30%.

6.10 Clearly there is a balance to be set between often competing Government priorities of delivering ecological improvement and protecting the best quality agricultural land.

Farming Initiatives and Countryside Schemes

6.11 Government announced two schemes in January 2022 designed to give farmers a range of options in how they manage their land, with payments to enable farmers to deliver biodiversity improvements, encouraging farmers to create more diversity on their farms. The Local Nature Recovery scheme will pay farmers for locally-targeted actions which make space for nature in the farmed landscape and countryside such as creating wildlife habitat, planting trees or restoring peat and wetland areas. The Landscape Recovery scheme will support more radical land-use change and

habitat restoration such as establishing new nature reserves, restoring floodplains, or creating woodland and wetland. Together the Government said that these schemes would bring up to 60% of England's agricultural soil under sustainable management by 2030, and restoring up to 300,000 hectares of wildlife habitat by 2042.

6.12 An early version of these schemes is understood to be available for applications in 2023, with a more ambitious roll out in 2024. They replace the previous Countryside Stewardship schemes.

7.0 CONCLUSIONS

7.1 The assessment of impacts of the North Lincolnshire Green Energy Park to soils and agricultural land includes three levels of impact: (1) land retained in agriculture but that is available for flooding in extreme events; (2) land that will change in land use from agriculture but soils will continue to provide a range of ecosystem services; and (3) permanent loss of agricultural land where soils will be retained on site for reuse.

7.2 Land retained in agriculture but that is available for flooding in an extreme event is 93.6 ha. This has been assessed as Neutral and Not Significant.

7.3 Land that will change in land use from agriculture but where the soils will continue to provide a range of ecosystem service is 82.5 ha. This has been assessed as Minor and Not Significant.

7.4 Permanent loss of BMV agricultural land where soils will be retained on site for reuse will occur to 12.6 ha. This has been assessed as Major and Significant. However, the soils removed from in-situ will be retained on site for use in the landscaping and biodiversity areas.

7.5 Natural England in their Technical Information Note TIN049 estimates that 42% of agricultural land in England is of BMV quality (Grade 1, Grade 2 and Subgrade 3a). Within Lincolnshire this is as high as 94 %. The North Lincolnshire Core Strategy stated, and the Local Plan which is in development reiterates, the abundance of BMV land and recognise that development will be required but should ensure that soil resources are safeguarded, suitably managed and conserved, and that developments enhance the natural environment.

7.6 Overall, the project will have a Not Significant impact, and provide beneficial effects on land and soils based on the provision of a range of soil functions and ecosystem services. The Project will also contribute to the sustainable management of soils and safeguarding of the soil resources within the Study Area by promoting beneficial land use change for biodiversity and landscaping.

APPENDIX 1: POST 1988 SURVEY DATA - NORTHEAST (ALCL07391)

AGRICULTURAL LAND CLASSIFICATION

Flixborough Grange
Flixborough
South Humberside

MAFF
Leeds Regional Office

September 1991
File Ref: 2FCS 5480
Project No: 73/91

CONTENTS

AGRICULTURAL LAND CLASSIFICATION REPORT ON LAND ADJOINING FLIXBOROUGH GRANGE, SCUNTHORPE, SOUTH HUMBERSIDE

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:- SE 857155

Location Details:- 6 km NW of Scunthorpe town centre on the eastern bank of the River Trent

Site Size:- 37 ha

1.2 Survey Methods

Date Surveyed:- 30 August 1991

Boring Density and Spacing Basis:- Approximately one boring per hectare at 100 m intervals at points pre-determined by the National Grid

Sampling Method:- By hand auger, to a depth of 1.00 m

Number of Borings:- 33

~~Number of Soil Pits (used for):-~~

All land quality assessments were made using the methods described in "Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for grading the quality of agricultural land (MAFF 1988)".

1.3 **Land Use:-** With the exception of a narrow band of non-agricultural land which runs along the banks of the River Trent on the western edge of the site, all land is in arable (wheat and potatoes) production.

1.4 **Climate and Relief**

Average Annual Rainfall (AAR):-	620 mm
Accumulated Temperature above 0°C (January-June):-	1408 day °C
***Field Capacity Days*:-**	136 days
Altitude average:-	3 m a.o.d.
maximum:-	3 m a.o.d.
minimum:-	3 m a.o.d.
Climatic limitation (based on interaction of rainfall and temperature values:-	None
Relief:-	Flat
Slopes (°):-	0°
Gradient Limitations:-	None

1.5 Geology and Soil

Solid Strata:-	Mercia mudstone (Keuper Marl)
Depth of solid rock from surface:-	At considerable depth
Drift types:-	Estuarine Alluvium
Thickness of drift and distribution:-	Considerable thickness over the whole site

Soil Types and Distribution:- Calcareous heavy warp soils cover the entire site

Soil Textures (topsoils and subsoils):- Heavy textured soils consisting of heavy silty clay loam topsoils over heavy silty clay loam, silty clay or silt loam subsoils

Soil Series/Associations:-

On 1/250000 map:- Blacktoft Association

Identified on site:- Blacktoft Association

Soil Limitations and type:- Heavy topsoil texture and thus soil workability

1.6 Drainage

Soil type and Wetness Class:- The soils are generally well drained, falling within Wetness Class I

Drainage Limitations:- None

2.0 Agricultural Land Classification Grades

The ALC grades occurring on the site are as follows:-

Grade/Subgrade	Hectares	Percentage of Agricultural Area	Percentage of Total Area
2	33.6	100	91.06%
Non Agricultural	3.3		8.94%
Total		100	100

Grade 2

Distribution on site:- With the exception of the non-agricultural flood embankment on the western edge of the site, Grade 2 land covers the whole area.

Soil Type(s) and Texture(s):- Calcareous warp soils with heavy silty clay loam topsoils over heavy silty clay loam, silty clay or silt loam subsoils.

Depth to Slowly Permeable Layers:- There are no slowly permeable layers in most profiles.

Wetness and Drainage Class:- Mainly Wetness Class I. Well drained.

Stone Percentage and Type:- Soils are generally stoneless.

Grade Limiting Factors:- Heavy textured topsoils limit soil workability and this is the principal limiting factor on ALC grade.

Non Agricultural

Type and location of land included:- River Trent flood embankment running down the western edge of the site.

Resource Planning Group
Leeds Regional Office
September 1991

MAP

FLIXBOROUGH GRANGE, FLIXBOROUGH

Assessment of Land adjoining Development Proposal

Agricultural Land Classification

Agricultural Land

Agricultural Grades	Agricultural Land Quality	Area within the site (ha.)
Grade 1	*Excellent*	Nil
Grade 2	*Very Good*	33·6
Grade 3	*Good*	Nil
Sub-Grade 3a		
Sub-Grade 3b	*Moderate*	Nil
Grade 4	*Poor*	Nil
Grade 5	*Very Poor*	Nil

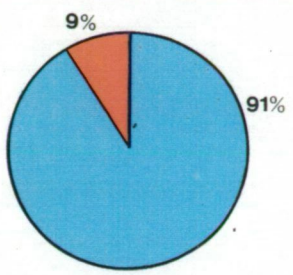
Land in Other Categories

	Area within the site (ha.)
Urban *Including housing industry, commerce, derelict land, sports facilities, transport.*	Nil
Non-agricultural *Including golf courses, parks, sports fields, allotments, airfields.*	3·3
Woodland *Farm woodland*	Nil
Commercial woodland	Nil
Agricultural buildings *Including glasshouses*	Nil
Open water	Nil
Land not surveyed	Nil

Statistics

Area of Agricultural Land: **33·6** ha.

Area of Other Land: **3·3** ha.



SCALE – 1:5,000

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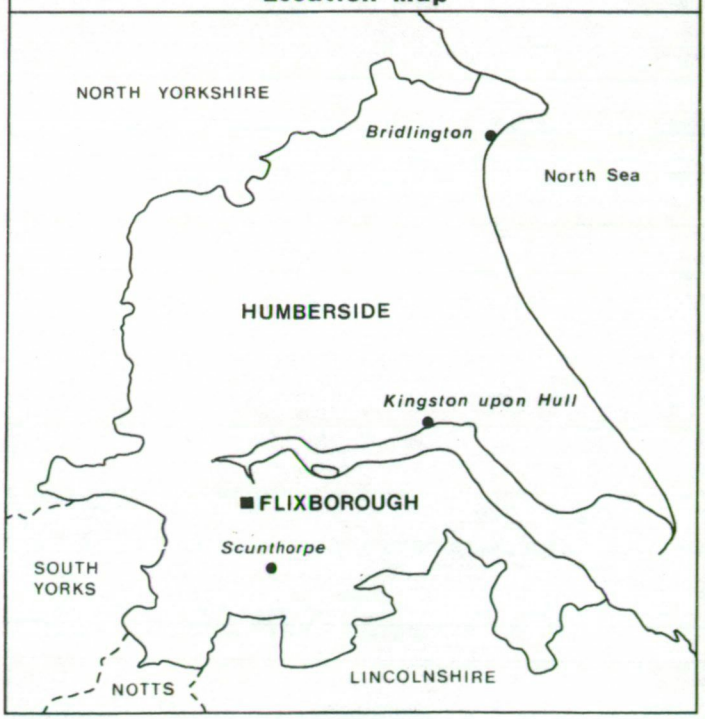
Metres

Location Map



MAFF

Ministry of Agriculture, Fisheries and Food.

Method of Classifying Agricultural Land

1	2	3
The physical limitations to agriculture are assessed: CLIMATE, TOPOGRAPHY, SOIL	The most limiting factor is identified and it's degree of limitation assessed: NO or MINOR ⇩ VERY SEVERE	The degree of limitation determines: ⇩ FINAL AGRICULTURAL GRADE

Further details contained in revised Agricultural Land Classification MAFF 1988

Information compiled by Resource Planning Group, Farm and Countryside Service, Leeds R.O.
Map produced by Resource Planning Cartographic Unit.
Project Number **73/91**

SOURCE MAPS
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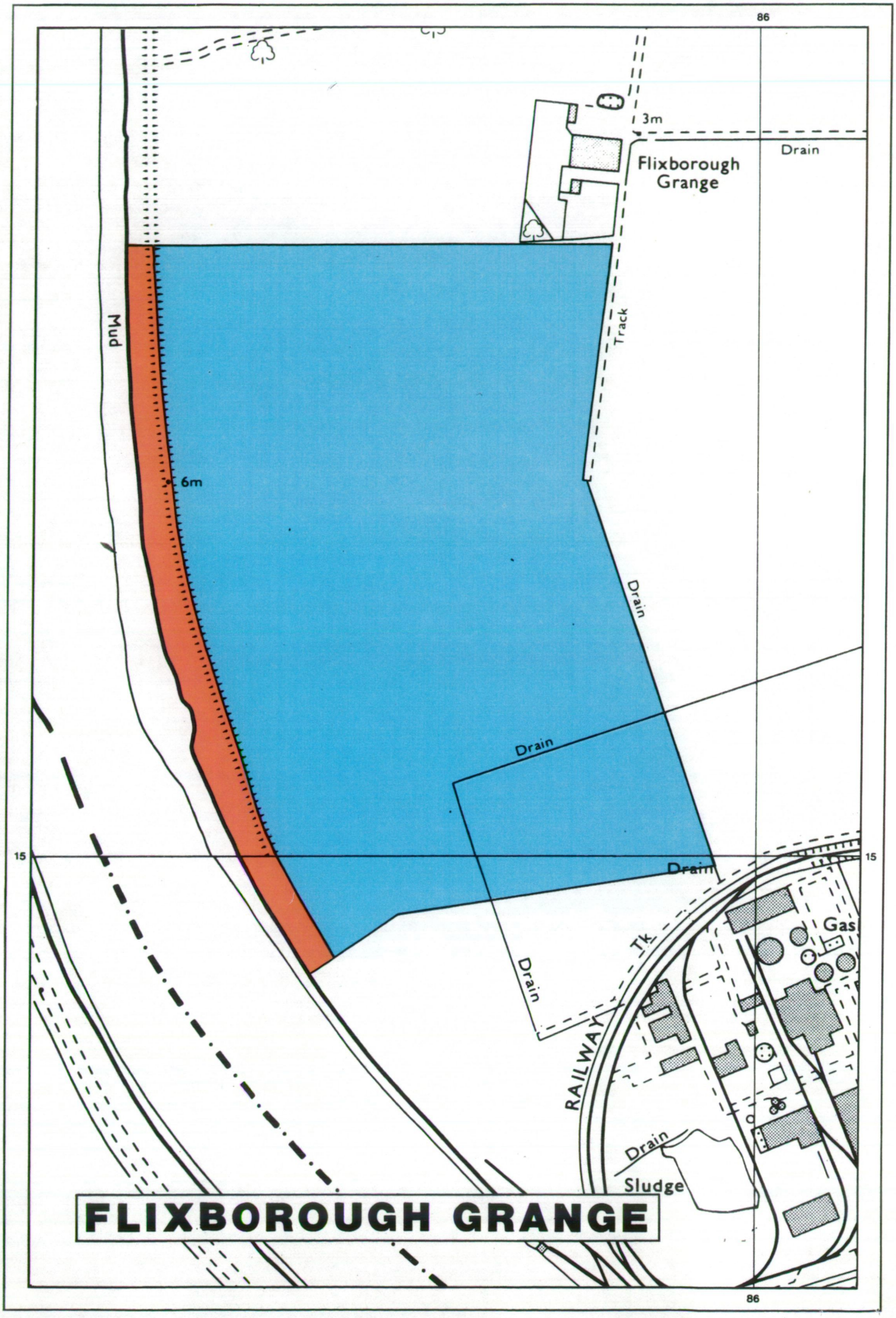
SE 81 SE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Flixborough Grange
Mud
Track
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Gas
Tk
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RAILWAY
Drain
Sludge
FLIXBOROUGH GRANGE
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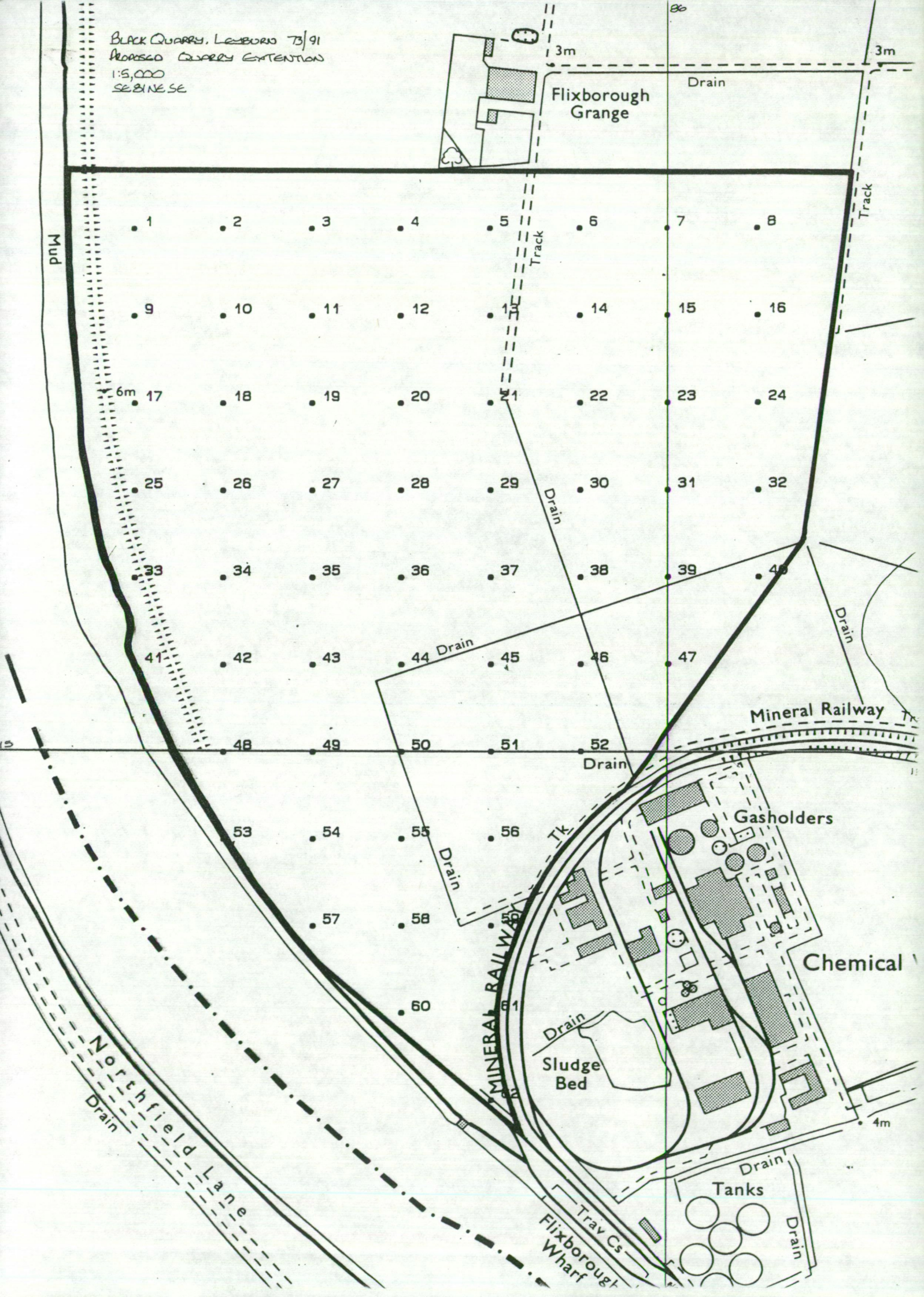
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Drain
Mineral Railway
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49
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51
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Drain
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54
55
56
Tk
Drain
Gasholders
57
58
59
MINERAL RAILWAY
Chemical
60
61
Drain
Sludge Bed
Northfield Lane
Drain
4m
Drain
Tanks
Drain
Trav Cs
Flixborough Wharf

APPENDIX 2: POST 1988 SURVEY DATA - CENTRAL (ALCL00890)

AGRICULTURAL LAND CLASSIFICATION

(REVISION)

PROPOSED GLANFORD BUSINESS PARK

SCUNTHORPE, HUMBERSIDE

MAFF

Leeds Regional Office

September 1990

File Ref: 2FCS 4751

Project No: 8/90

lds.AL1.Glanford

CONTENTS

MAPS

AGRICULTURAL LAND CLASSIFICATION REPORT FOR THE PROPOSED GLANFORD BUSINESS PARK, SCUNTHORPE, HUMBERSIDE.

SECTION 1: INTRODUCTION AND SITE CHARACTERISTICS

This report is a revision to that produced in March 1990. As a result of the planning application being subject to a local inquiry further survey work was carried out in September 1990 at the invitation of the landowner. In the light of this work the land grade in some small areas of the site has been changed. A revised agricultural land classification map is appended to this report.

1.1 LOCATION

The site is located around national grid reference SE 868136, approximately 3 km north west of Scunthorpe Town centre. It covers 163.6 hectares, 93 per cent of which is in agricultural use.

1.2 SURVEY METHOD

Survey work was carried out in February 1990 when soils were examined by hand auger borings at 100 metre intervals pre-determined by the National Grid. Soil profile pits were also dug where necessary to assess stoniness, soil structural characteristics and gley morphology. In September 1990 a further 20 soil pits were examined together with a number of intermediate soil anger borings to refine grade boundaries.

All land quality assessments were made using the methods described in "Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land" (MAFF 1988).

1.3 LAND USE

All agricultural land on the site is in an arable use. At the time of survey winter cereals were the main arable crop. Sugar beet, potatoes, vining peas and field beans are also grown.

1.4 CLIMATE

Average annual rainfall in the area is approximately 617 mm. Accumulated temperature above 0°, between January and June, is 1412 day °C and the land is at field capacity for about 134 days a year. There is thus no overall climatic restriction on ALC grade. Soil moisture deficits of 111 mm for winter wheat and 103 mm for potatoes indicate a moderate drought limitation for the sandy to very coarse loamy profiles that occur in isolated patches across the site and in the extreme north. The fine silty to clayey soils which predominate on the site are not significantly limited by drought.

1.5 RELIEF

The majority of the site is virtually level at a mean altitude of 2 metres above ordnance datum. It gently rises to 8 metres aod in the north east.

1.6 DRAINAGE

Ground water tables are kept low, even in winter, by a network of ditches feeding Lysaght's Drain. This runs east-west to a point north of Neap House (NGR SE 862134) where water is pumped to the River Trent.

Soil wetness problems on the site are chiefly influenced by slowly permeable subsoil horizons. Where present these create a slight to moderate wetness limitation which, depending on topsoil workability characteristics, can restrict ALC grade.

1.7 SOILS AND GEOLOGY

Most soils have developed over artificially deposited river alluvium (warp) which forms a variable cover over underlying peat and sand.

Soils typically consist of stoneless fine silty topsoils over a clayey subsoil that passes into peaty textures at depth. Topsoils are slightly calcareous except in the north eastern quarter of the site where non-calcareous topsoils are the norm.

Where the alluvium is thin or absent, sand patches occur close to the surface. Soils developing over these deposits mainly consist of non calcareous coarse loamy to medium sandy topsoils over sand to depth. They tend to be stoneless, except near Stather Road where gravelly outwash gives rise to a small area of moderately stony subsoils.

SECTION 2: AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on this site are as follows.

Grade	Hectares	Percentage of Total Site Area
1	10.9	6.5
2	94.2	57.5
3a	38.3	23.5
3b	17.6	11.0
Farm Woodland	1.9	1
Farm Buildings	0.7	0.5
TOTAL	163.6	100%

Grade 1

Grade 1 land occurs in three areas: the extreme east near Lysaght's Drain, around Neap House and to the south east of Neap House.

Soils in the extreme east have developed over thin calcareous warp and consist of medium silty clay loam topsoils and upper subsoils that pass into loamy peat and peat below about 60 cm depth.

The soils around Neap House have developed over thicker deposits and consist of non-calcareous medium silty clay loam or silty loam topsoils over similar subsoils to depth.

The small area to the south east of Neap House has silt loam or medium silty loam topsoil giving way to peat at 30-40 cm depth.

All of these soils fall within wetness class I. They are light to medium in texture, are easily worked for most of the year and have adequate reserves of available water during summer months. There are thus, no significant restrictions on ALC grade.

Grade 2

Grade 2 land is widespread throughout the site.

Soils adjacent to the River Trent consist of non-calcareous medium silty clay loam topsoils over heavy silty clay loam and silty clay which becomes gleyed and slowly permeable below 50 to 70 cm depth. Here, soil wetness and workability problems are the overriding restriction to ALC grade.

Elsewhere, profiles typically consist of calcareous heavy silty clay loam topsoils over heavy silty clay loam and silty clay which often pass into peat below 80 cm. These also fall within wetness class II and are similarly restricted by wetness and topsoil workability problems.

Subgrade 3A

The main area of subgrade 3a occurs in the west near Flixborough Parkings. Soils fall within wetness class II and consist of non-calcareous heavy silty clay loam topsoils over silty clay. Workability problems are more restricting than on the adjacent grade 2 land and thus forms the overriding restriction on ALC grade. The isolated area of subgrade 3A east of the centre of the site has calcareous heavy silty clay loams that just fall into wetness class III and therefore causes a workability limitation.

Remaining soils in this subgrade have a patchy distribution along the eastern and southern site boundaries where the warp tends to be superficial or absent. They chiefly consist of medium silty clay loam to sandy loam topsoils, about 30-40 cm thick over medium sand. These fall within wetness class I and are restricted to subgrade 3a by a moderate summer drought risk.

Subgrade 3B

Along the north eastern edge of the site and along a very slight ridge south of Lysaght's Drain soils consist of stoneless to slightly stony

loamy medium sand passing into similar or slightly lighter textured subsoils. Soil droughtiness is moderately to severely limiting and forms the overriding restriction on ALC grade.

Remaining areas falling within this subgrade consist of silty clay topsoils over gleyed and slowly permeable silty clay. They fall within wetness classes III or IV and are limited by a combination of soil wetness and workability problems more severe than on adjacent 3a quality land.

Farm Woodland

Approximately 1.9 hectares of farm woodland occurs at Willow Holt in the north east of the site.

Farm Buildings

This consists of general farm buildings at Flixborough Parkings.

Resource Planning Group
Leeds Regional Office
March 1990

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	----MOTTLES--- COL	ABUND	CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD	POROSITY	pH	ORG. MATTER
001	3B	0-25	msl	10YR43							C				
		25-100	ms	75YR46											
002	3B	0-35	lms	10YR43							N				
		35-100	lms	75YR46											
003	3A	0-25	scl	10YR44							C				
		25-50	scl	75YR56											
		50-120	lmstone	0							C				
004	3A	0-30	mzcl	10YR42							C				
		30-50	fsl	10YR43							C				
005	3B	0-35	lms	10YR43							N				
		35-100	ms	75YR46											
006	3B	0-35	zc	10YR42							N				
		35-100	zc	75YR42	G	C	D		H						
007	3B	0-25	hcl	10YR42							N				
		25-90	c	10YR52		C	D		H						
		90-100	ms	10YR62											
008	3B	0-30	lms	10YR43							C				
		30-60	lms	75YR46											
		60-100	ms	10YR62											
009	3A	0-30	msl	10YR43							C				
		30-35	lms	10YR43											
		35-100	ms	75YR46											
010	3B	0-25	hcl	10YR42	O	F	F				C				
		25-100	c	10YR52	OG	C	D		H						
011	3A	0-40	hzcl	10YR42							C				
		40-60	c	10YR52	OG	C	D		H						
		60-100	peat	5YR32											
012	2	0-40	hzcl	10YR42							C				
		40-60	hzcl	10YR42	OC	D	D				C				
014	3B	0-40	zc	10YR42	OF	F	F				N				
		40-100	zc	10YR52	OG	C	D		H						
015	3B	0-40	zc	10YR42							N				
		40-100	zc	10YR52	OG	M	P		H						
016	2	0-55	hzcl	10YR42							C				
		55-100	zc	N5	O	M	P								

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUND	MOTTLES CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD POROSITY	pH	ORG. MATTER
017	2	0-40	hzcl	10YR42							C			
		40-120	hzcl	10YR41	O	F	D				C			
018	2	0-45	hzcl	10YR41							C			
		45-120	hzcl	10YR43	O	F	D				C			
019	2	0-45	hzcl	10YR42							C			
		45-65	zc	10YR52							C			
		65-120	zc	10YR51	O	F	D				C			
020	2	0-45	hzcl	10YR43							C			
		45-60	hzcl	10YR32										
		60-120	zc	10YR51	O	F	F							
021	NA	0-0	na	0							C			
022	NA	0-0	non.agri	0							C			
023	3B	0-30	lms	10YR43										
		30-120	ms	10YR68										
024	2	0-40	mzcl	10YR32							C			
		40-60	mzcl	10YR33										
		60-100	zc	10YR52	OG	C	D							
025	3B	0-40	hzcl	10YR32							N			
		40-60	zc	10YR51	O	C	D							
026	3A	0-35	hzcl	10YR32							N			
		35-50	hzcl	10YR33	O	F	F							
		50-70	zc	10YR61	OG	M	P							
027	3B	0-30	hzcl	10YR32							N			
		30-45	zc	10YR51	O	C	P							
		45-80	zc	10YR52	OG	C	P							
028	2	0-35	mzcl	10YR32										
		35-40	hzcl	10YR33										
		40-80	zc	10YR52	OG	M	P							
029	3A	0-45	hzcl	10YR32							C			
		45-120	hzcl	10YR41							C			
030	2	0-55	hzcl	10YR42							C			
		55-100	hzcl	10YR52	O	F	F				C			
031	2	0-40	hzcl	10YR43							C			
		40-100	vfszl	10YR52	O	F	F							

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	----MOTTLES--- COL	ABUND	CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD	POROSITY	pH	ORG. MATTER
032	3A	0-45	hzcl	10YR42							C				
		45-65	hzcl	10YR52	O	F	D								
		65-100	ms	10YR21											
033	NA	0-0	non.agri	0											
034	NA	0-0	non.agri	0											
035	NA	0-0	non.agri	0											
036	2	0-35	mzcl	10YR32							C				
		35-50	mzcl	10YR33	O	F	D								
		50-70	zc	10YR52	OG	M	P								
037	3A	0-35	mzcl	10YR32							N				
		35-40	hzcl	10YR33	O	F	D								
		40-70	zc	10YR51	OG	M	P								
038	3B	0-30	hzcl	10YR32							N				
		30-100	zc	10YR52	OG	M	P								
039	3B	0-40	hzcl	10YR32							N				
		40-70	zc	10YR52	OG	M	P								
040	3A	0-40	hzcl	10YR42							C				
		40-80	hzcl	10YR52	O	F	F				C				
		80-100	mzcl	10YR53	O	F	F								
041	2	0-40	hzcl	10YR43							C				
		40-100	mzcl	10YR52	O	C	D								
042	1	0-30	mzcl	10YR33							C				
		30-35	msl	10YR33											
		35-46	zl	10YR31							S				
		46-60	csl	75YR44											
		60-80	mscl	75YR44	O	C	D								
		80-100	mscl	5YR46											
043	2	0-45	mzcl	10YR42							C				
		45-80	hzcl	10YR51	OG	F	F				C				
		80-120	peat	5YR251							N				
044	2	0-30	mzcl	10YR33							C				
		30-60	hzcl	10YR33		F	F				C				
		60-120	peat	5YR251							N				
045	1	0-30	mzcl	10YR33							C				
		30-55	hzcl	10YR33	O	G	F				C				
		55-75	mls	10YR31							N				
		75-120	ms	10YR46	O	F	F								

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	----MOTTLES--- COL	ABUND	CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD	POROSITY	pH	ORG. MATTER
046	2A	0-80	msl	10YR33											
		80-100	mscl	10YR54											
047	3A	0-30	msl	10YR33											
		30-60	msl	75YR46	O	F	F								
		60-80	mscl	75YR54	O	C	D								
		80-100	mcl	5YR56	O	C	D								
048	2	0-40	mzcl	10YR32							N				
		40-60	mzcl	10YR54	O	F	D								
		60-75	mzcl	10YR52	O	C	D								
		75-100	zc	10YR52	OG	C	D								
049	3B	0-35	hzcl	10YR32							N				
		35-40	hzcl	10YR42	O	C	D								
		40-80	zc	10YR52	OG	C	P								
050	3B	0-30	hzcl	10YR32							N				
		30-100	zc	10YR51	OG	C	D								
		100-120	c	5Y61											
051	2	0-40	hzcl	10YR32	O						N				
		40-80	hzcl	10YR33	O	F	D								
		80-100	zc	10YR52		M	P								
052	2	0-45	mzcl	10YR33							C				
		45-90	hzcl	10YR41	O	C	D				N				
		90-120	p	5YR251											
053	1	0-40	mzcl	10YR32							C				
		40-60	hzcl	75YR32	O	C	D				N				
		60-100	p	5YR251											
054	1	0-30	mzcl	10YR33							C				
		30-50	zl	10YR33							C				
		50-70	mzcl	10YR33	O	F	D				C				
		70-100	p	5YR251											
055	1	0-40	mzcl	10YR32							S				
		40-80	hzcl	10YR33	O	F	F				S				
		80-100	p	5YR251											
056	1	0-40	mzcl	10YR33							S				
		40-60	zl	10YR43	O	C	D				S				
		60-100	p	5YR251											
057	3A	0-40	zl	10YR32							N				
		40-60	p	5YR251											
		60-100	lms	75YR42											

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	----MOTTLES--- COL	ABUND	CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD	POROSITY	pH	ORG. MATTER
058	2	0-40	hzcl	10YR32							C				
		40-60	fszl	10YR53		F	D								
		60-120	pl	10YR21											
059	3A	0-50	msl	10YR32											
		50-65	msl	75YR34	O	C	F								
060	2	0-40	zl	10YR33							N				
		40-75	mzcl	10YR33	OG	C	F								
		75-100	zc	10YR41	O	C	P								
061	2	0-40	mzcl	10YR33							N				
		40-55	hzcl	10YR43	O	C	D								
		55-100	zc	10YR41	O	M	P								
062	3A	0-40	zc	10YR42							C				
		40-100	zc	10YR52	OG	M	D		H		N				
063	2	0-40	mzcl	10YR42							C				
		40-70	c	10YR52	O	C	D				C				
		70-100	peat	5YR21											
064	2	0-35	mzcl	10YR42							C				
		35-60	szl	10YR43	O	C	F				C				
		60-90	c	10YR53	OG	C	D				C				
		90-100	peat	5YR21											
065	2	0-40	hzcl	10YR42							C				
		40-80	hzcl	10YR43	O	C	D				C				
		80-100	peat	5YR21											
066	2	0-40	hzcl	10YR42							C				
		40-100	hzcl	10YR43	O	C	D				C				
067	3A	0-45	hzcl	10YR32							C				
		45-60	zc	10YR53	O	C	P								
		60-80	zc	10YR52	OG										
068	3A	0-40	hzcl	10YR54							C				
		40-60	zc	10YR54	O						C				
		60-80	zc	10YR53	OG										
069	2	0-40	hzcl	10YR32							C				
		40-50	zc	10YR33											
		50-70	lms	10YR31											
		70-120	ms	10YR63	O	F	D								
070	1	0-50	mzcl	10YR32							C				
		50-80	lp	10YR21											
		80-120	ms	10YR61											

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	----MOTTLES--- COL	ABUND	CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD POROSITY	pH	ORG. MATTER
071	1	0-45	msl	10YR31							N			
		45-80	msl	10YR31										
		80-120	pl	10YR21										
072	2	0-55	zl	10YR33							N			
		55-80	mzcl	10YR41	O	C	D							
		80-100	hzcl	10YR41		M	D							
073	2	0-50	zl	10YR33							N			
		50-80	hzcl	10YR42	O	C	D							
		80-100	zc	10YR42	O	C	P							
074	2	0-35	hzcl	10YR42							C			
		35-60	hzcl	10YR43	O	C	F				C			
		60-100	c	N6	O	C	D							
075	2	0-40	hzcl	10YR42							C			
		40-65	zc	10YR43	O	C	D				C			
		65-100	c	N5	OG	C	D		H					
076	2	0-35	hzcl	10YR42							C			
		35-90	hzcl	10YR43	O	C	D				C			
		90-100	peat	5YR21										
077	2	0-40	zc	10YR42							C			
		40-90	zc	10YR43	O	C	D				C			
		90-100	peat	5YR21										
078	2	0-35	zc	10YR42							C			
		35-100	zc	10YR43	O	C	F				C			
079	3A	0-45	hzcl	10YR42							C			
		45-80	zc	10YR42	O	C	D							
		80-100	p	5YR251										
080	3A	0-45	zc	10YR42							C			
		45-60	hzcl	10YR42	O	C	F							
		60-90	zc	10YR42	O	C	D							
		90-100	p	5YR251										
081	3A	0-45	hzcl	10YR33							C			
		45-75	zc	10YR42	OG	C	F							
		75-100	ms	10YR53										
082	2	0-45	hzcl	10YR33							C			
		45-60	zl	5YR251										
		60-80	ms	10YR54										
		80-100	ms	75YR56										

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	----MOTTLES--- COL	ABUND	CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD POROSITY	pH	ORG. MATTER
083	3A	0-55	zc	10YR33							S			
		55-70	zc	10YR42	OG	C	F							
		70-100	p	5YR251										
084	1	0-50	zl	10YR33							N			
		50-100	zl	10YR43										
085	2	0-45	zl	10YR33							N			
		45-70	mzcl	10YR52	O	C	D							
		70-100	zc	10YR42	O	M	P							
086	3A	0-35	hzcl	10YR42							C			
		35-40	hzcl	10YR43							C			
		40-60	zc	10YR53	OG	M	D		H					
		60-100	n5	N5	O	C	D		H					
087	2	0-40	hzcl	10YR42							C			
		40-70	hzcl	10YR43							C			
		70-100	c	10YR51	OG	C	D		H					
088	2	0-35	hzcl	10YR42							C			
		35-70	hzcl	10YR43	O	C	D				C			
		70-95	c	10YR51	O	M	D		H					
		95-100	peat	5YR21										
089	2	0-35	hzcl	10YR42							C			
		35-90	hzcl	10YR43	O	C	D				C			
		90-100	mzcl	10YR53	O	C	F				C			
090	2	0-35	hzcl	10YR42							C			
		35-60	hzcl	10YR43	O	C	F				C			
		60-100	mzcl	10YR54	O	C	D				C			
091	2	0-35	mzcl	10YR33							C			
		35-90	hzcl	10YR31	O	F	F				S			
		90-120	zc	10YR52	OG	M	D				S			
092	1	0-100	mzcl	10YR43					N		C			
093	2	0-50	hzcl	10YR32							C			
		50-60	hzcl	10YR33	O	F	D							
		60-120	p	5YR251										
094	2	0-50	hzcl	10YR33							S			
		50-65	hzcl	10YR33		F	F							
		65-100	p	100										
095	1	0-40	zl	10YR33							C			
		40-100	zl	10YR44										

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	----MOTTLES--- COL	ABUND	CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD	POROSITY	pH	ORG. MATTER
096	2	0-45	zl	10YR33							N				
		45-65	mzcl	10YR44											
		65-100	mzcl	10YR51	O	C	D								
097	2	0-30	mzcl	10YR42							C				
		30-65	hzcl	10YR42	O	M	F								
098	2	0-30	mzcl	10YR42							C				
		30-60	mzcl	10YR42	O	F	F								
		60-90	hzcl	10YR43	O	F	F								
		90-120	zc	10YR51	OG	C	D								
099	2	0-32	mzcl	10YR42							C				
		32-60	hzcl	10YR43	O	F	F								
		60-100	zc	10YR51	OG	M	D								
		100-120	peat	5YR251											
100	2	0-30	mzcl	10YR33							C				
		30-45	mzcl	10YR42							C				
		45-80	zc	10YR41	O	C	P				N				
		80-100	p	5YR251											
101	3B	0-30	lms	10YR31							N				
		30-60	cs	75YR32							N				
		60-120	cs	75YR46							N				
102	2	0-30	mzcl	10YR42							C				
		30-45	hzcl	10YR43		F	F								
		45-70	zc	10YR51	OG	C	D				N				
		70-120	peat	5YR251							N				
103	2	0-60	mzcl	10YR42					N		C				
		60-80	hzcl	10YR52	O	C	D				C				
		80-100	p	BLACK											
104	2	0-50	hzcl	10YR42							C				
		50-55	zc	10YR31	O	F	D								
		55-100	p	2.5Y40	O	C	D								
105	2	0-60	hzcl	10YR42							C				
		60-100	p	2.5Y40											
106	1	0-35	msl	10YR22							N				
		35-75	scl	10YR32											
		75-100	hzcl	10YR42	O	C	F								
107	1	0-60	mzcl	10YR33							C				
		60-100	p	5YR251											

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUND	MOTTLES CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD	POROSITY	pH	ORG. MATTER
108	1	0-50	mzcl	10YR33							S				
		50-80	hzcl	10YR33	OG	F	F								
		80-100	p	5YR251											
109	1	0-50	mzcl	10YR33							N				
		50-100	mzcl	10YR44	OG	C	F								
110	1	0-40	mzcl	10YR33							S				
		40-80	hzcl	10YR33							N				
		80-100	mzcl	10YR41	O	F	D				N				
111	2	0-30	mzcl	10YR33							S				
		30-45	zl	10YR53	O	C	D				C				
		45-60	mzcl	10YR41	O	C	D				N				
		60-100	p	5YR251											
112	3A	0-30	mzcl	10YR32							S				
		30-45	hzcl	10YR41	O	C	D				N				
		45-120	p	5YR251											
113	3B	0-30	lms	10YR33							N				
		30-120	lms	10YR54	O	F	F				N				
114	1	0-35	mzcl	10YR32							C				
		35-60	hzcl	10YR33	O	F	D				S				
		60-100	p	5YR251											
115	2	0-60	mzcl	10YR42							C				
		60-80	hzcl	10YR43	O	C	D								
		80-100	p	10YR31	O	C	D				C				
116	2	0-40	mzcl	10YR42							C				
		40-65	hzcl	10YR41	O	F	D								
		65-100	p	2.5Y40											
117	2	0-33	mzcl	10YR32							C				
		33-50	hzcl	10YR33											
		50-100	hcl	10YR54	O	F	D								
118	2	0-35	hzcl	10YR32							C				
		35-50	zc	75YR32	OG	C	D								
		50-100	pt	75YR20											
119	2	0-35	zc	10YR32							C				
		35-50	zc	10YR53	OG	C	D								
		50-100	pt	25YR21											
120	1	0-33	mzcl	10YR32											
		33-90	fszl	10YR54	OG	C	D								
		90-100	pt	25YR21											

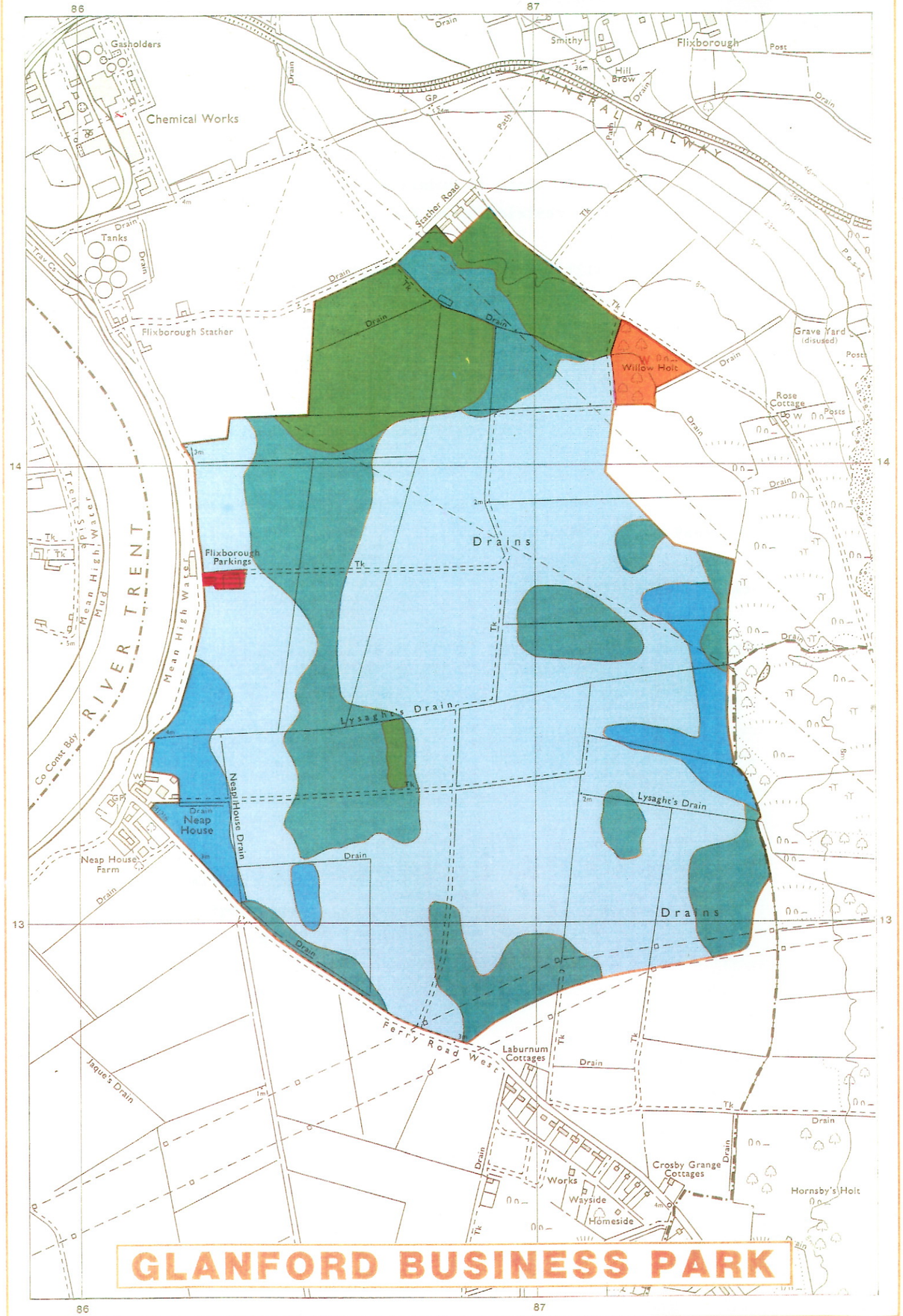
SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUND	MOTTLES CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD	POROSITY	pH	ORG. MATTER
121	1	0-40	mzcl	10YR33							N				
		40-70	mzcl	10YR43	OG	C	D								
		70-100	zl	10YR44											
122	1	0-30	mzcl	10YR33							S				
		30-70	hzcl	10YR43	OG	M	D				N				
		70-120	peat	5YR251							N				
123	2	0-30	mzcl	10YR42							N				
		30-45	hzcl	10YR42	O	F	F								
		45-70	zc	10YR51	O	M	D				N				
		70-120	peat	5YR251											
124	3A	0-30	mzcl	10YR42							N				
		30-40	hzcl	10YR43	O	F	F				N				
		40-65	zc	10YR41	OG	M	D								
		65-120	pt	5YR251							N				
125	3A	0-40	msl	10YR33							N				
		40-80	ms	10YR46											
		80-120	ms	10YR64	R	F	D								
126	1	0-35	mzcl	10YR33							C				
		35-65	hzcl	10YR33							C				
		65-120	p	5YR251											
127	3A	0-40	hzcl	10YR42							C				
		40-70	hzcl	10YR52	O	C	D								
		70-100	p	2.5Y50											
128	2	0-40	hzcl	10YR42							C				
		40-65	mzcl	10YR41	O	F	D								
		65-100	p	2.5Y40	O										
129	2	0-40	hzcl	10YR32							C				
		40-60	hzcl	10YR53	OG	C	D								
		60-100	pt	75YR20											
130	3A	0-38	zc	10YR32							C				
		38-100	ms	75YR68											
131	2	0-37	mzcl	10YR32							C				
		37-65	zc	10YR52	OG	C	D								
		65-100	pt	75YR20											
132	1	0-32	mzcl	10YR32											
		32-60	zc	10YR33	OG	C	D								
		60-100	pt	75YR20											

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	----MOTTLES--- COL	ABUND	CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD	POROSITY	pH	ORG. MATTER
133	2	0-55	mzcl	10YR33							N				
		55-65	c	10YR42	O	M	D								
		65-100	pl	5YR251											
134	1	0-38	mzcl	10YR33							N				
		38-90	pl	5YR251											
		90-100	p	5YR251											
135	2	0-55	hzcl	10YR33							N				
		55-100	pl	5YR251											
136	1	0-35	mzcl	10YR33							N				
		35-70	msl	10YR34											
		70-100	lms	10YR34											
137	2	0-35	zl	10YR34							C				
		35-80	lms	10YR34											
		80-100	ms	10YR46											
138	1	0-35	mzcl	10YR42							C				
		35-100	vfszl	10YR52	O	C	D								
139	1	0-40	mzcl	10YR42	O	C	D				C				
		40-100	vfszl	10YR52	O	F									
140	3A	0-37	hzcl	10YR32							C				
		37-65	zc	10YR52	OG	C	D								
		65-100	lp	75YR20											
141	1	0-40	hzcl	10YR32							C				
		40-45	zc	10YR32											
		45-60	hzcl	10YR42	OG	C	D								
		60-100	ms	10YR63											
		100-120	pt	75YR20	OG	C	D								
142	2	0-35	mzcl	10YR32							C				
		35-60	hzcl	10YR33											
		60-80	zc	10YR52	OG	C	D								
		80-100	pt	75YR20											
143	3A	0-35	hzcl	10YR32							C				
		35-100	ms	10YR62											
144	3A	0-38	msl	10YR32							C				
		38-100	ms	10YR73											
145	3A	0-45	hzcl	10YR33							N				
		45-75	zc	10YR42	OG	C	D								
		75-100	lp	5YR251											

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	----MOTTLES--- COL	ABUND	CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD	POROSITY	pH	ORG. MATTER
146	1	0-40	mzcl	10YR33							N				
		40-100	lp	5YR251											
147	2	0-45	hzcl	10YR33							N				
		45-100	lp	5YR251											
148	2	0-55	hzcl	10YR33							N				
		55-75	lp	5YR251											
		75-120	ms	10YR63											
149	3A	0-45	msl	10YR33							N				
		45-80	ms	10YR46											
		80-120	ms	10YR64	O	F	D								
150	2	0-40	mzcl	10YR42							C				
		40-65	hzcl	10YR52	O	F	F								
		65-100	p	2.5Y40	O										
151	3A	0-40	hzcl	10YR43							C				
		40-55	hzcl	10YR52	O	F	F								
		55-100	p	2.5Y50											
153	3A	0-40	zc	10YR32							C				
		40-50	zc	10YR52	ZG	C	D								
		50-100	pt	75YR20											
154	2	0-40	hzcl	10YR32							C				
		40-60	zc	10YR52	O	C									
		60-100	pt	75YR20											
155	3A	0-38	msl	10YR32							C				
		38-50	msl	10YR33											
		50-70	lms	10YR51	O	C	D								
		70-100	ms	10YR52											
156	3A	0-35	hzcl	10YR33							N				
		35-55	zc	10YR42	OG	C	D								
		55-100	p	5YR251											
157	1	0-60	mzcl	10YR33							N				
		60-80	mszl	10YR33											
		80-95	ms	75YR44											
		95-100	ms	10YR64	R	F	D								
158	3A	0-40	msl	10RY42							N				
		40-120	fs	10YR68											
159	2	0-60	hzcl	10YR43							C				
		60-100	hzcl	10YR41	O	F	F								

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	----MOTTLES--- COL	ABUND	CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD	POROSITY	pH	ORG. MATTER
160	3A	0-33	mzcl	10YR42							C				
		33-120	ms	10YR68											
161	3A	0-40	msl	10YR32							N				
		40-80	ms	10YR62											
		80-100	ms	75YR66											
162	3A	0-30	mzcl	10YR42											
		30-45	mzcl	10YR33							C				
		45-60	peat	5YR251							N				
		60-100	ms	5YR251							N				
		100-120	ms	10YR22							N				
163	1	0-30	mzcl	10YR33							S				
		30-45	hzcl	10YR33											
		45-55	lp	5YR251											
		55-100	ms	10YR64											
164	2	0-40	mzcl	10YR32							C				
		40-100	hzcl	10YR52											
165	3A	0-33	msl	10YR43							N				
		33-120	ms	10YR68											
166	3B	0-35	hcl	10YR33							N				
		35-40	zc	10YR53	O	F	D								
		40-100	zc	5GY51	O	C	P								
167	3B	0-32	zc	10YR33							N				
		32-70	zc	75YR52	OG	M	P								
168	3B	0-32	c	10YR32											
		32-40	c	10YR52	O	C									
		40-60	c	75YR52	OG	M	P								
169	3B	0-35	hzcl	10YR33							N				
		35-48	zc	10YR51	O	C	P								
		48-80	zc	25Y50	O	C	P								
170	3B	0-33	zc	10YR32							N				
		33-80	zc	25Y50	O	C	P								
171	3B	0-35	hzcl	10YR33							N				
		35-60	zc	10YR52	O	C	D								
172	3B	0-35	hzcl	10YR33							C				
		35-80	zc	25Y50	O	C	P								

SAMPLE	ALC	DEPTH	TEXTURE	COLOUR	----MOTTLES--- COL	ABUND	CONT	STONY	PACK. DENSITY	COMPACTED	CaCO3	PSD	POROSITY	pH	ORG. MATTER
173	1	0-40	mzcl	10YR33							C				
		40-60	zl	10YR43	O	F	F								
		60-120	hzcl	10YR33	O	C	D								
174	3B	0-35	hzcl	10YR33							N				
		35-100	zc	25Y50	O	C	P								



GLANFORD BUSINESS PARK SCUNTHORPE

Proposed Business Park

Agricultural Land Classification

Agricultural Land

Agricultural Grades	Agricultural Land Quality	Area within the site (ha.)
Grade 1	*Excellent*	10·9
Grade 2	*Very Good*	94·2
Grade 3 (Sub-Grade 3a)	*Good*	38·3
Grade 3 (Sub-Grade 3b)	*Moderate*	17·6
Grade 4	*Poor*	Nil
Grade 5	*Very Poor*	Nil

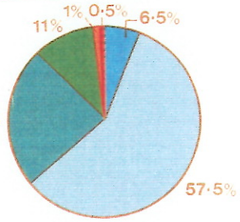
Land in Other Categories

	Area within the site (ha.)
Urban *Including housing industry, commerce, derelict land, sports facilities, transport.*	Nil
Non-agricultural *Including golf courses, parks, sports fields, allotments, airfields.*	Nil
Woodland *Farm woodland* (W)	1·9
Commercial woodland	Nil
Agricultural buildings *Including glasshouses*	0·7
Open water	Nil
Land not surveyed	Nil

Statistics

Area of Agricultural Land : 161·0ha.

Area of Other Land: 2·6ha.



Method of Classifying Agricultural Land

1 The physical limitations to agriculture are assessed:	2 The most limiting factor is identified and it's degree of limitation assessed:	3 The degree of limitation determines:
CLIMATE TOPOGRAPHY SOIL	NO or MINOR VERY SEVERE	FINAL AGRICULTURAL GRADE

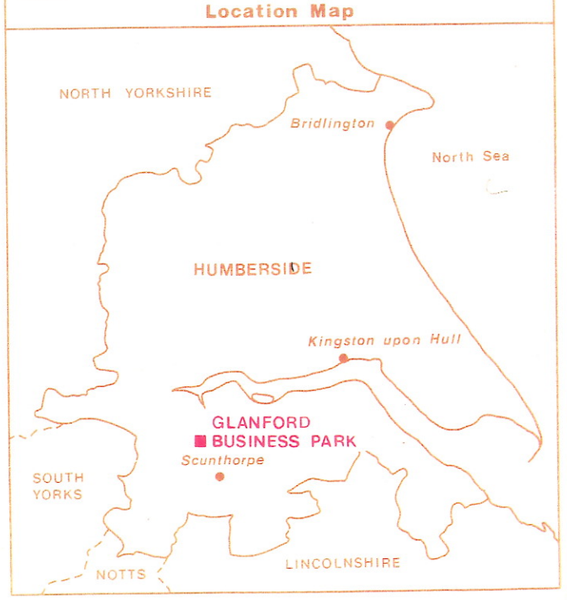
Further details contained in revised Agricultural Land Classification MAFF 1988

SCALE–1:10,000

100 0 100 200 300 400 500 600 700 Metres

MAFF Ministry of Agriculture, Fisheries and Food.

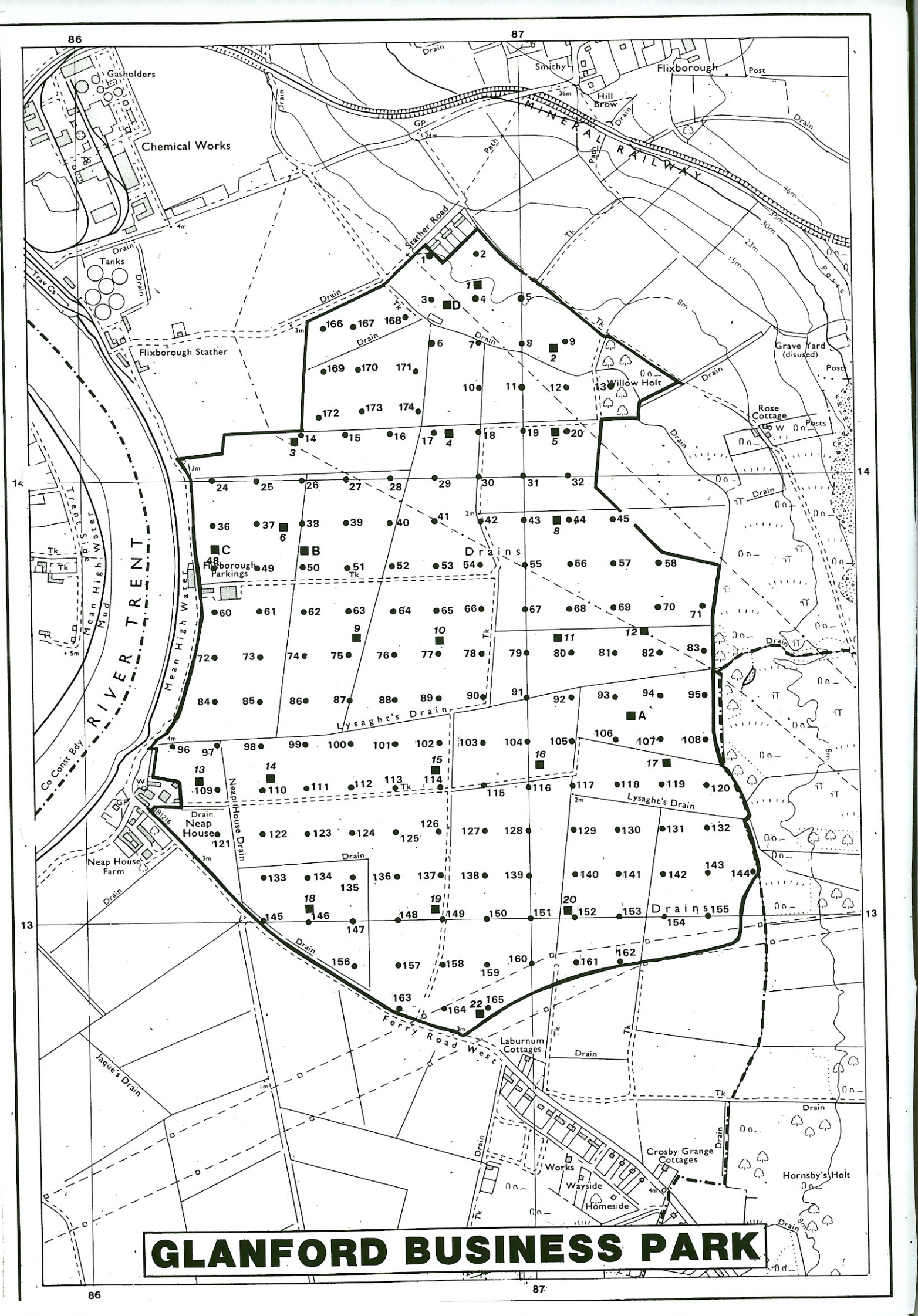
Location Map



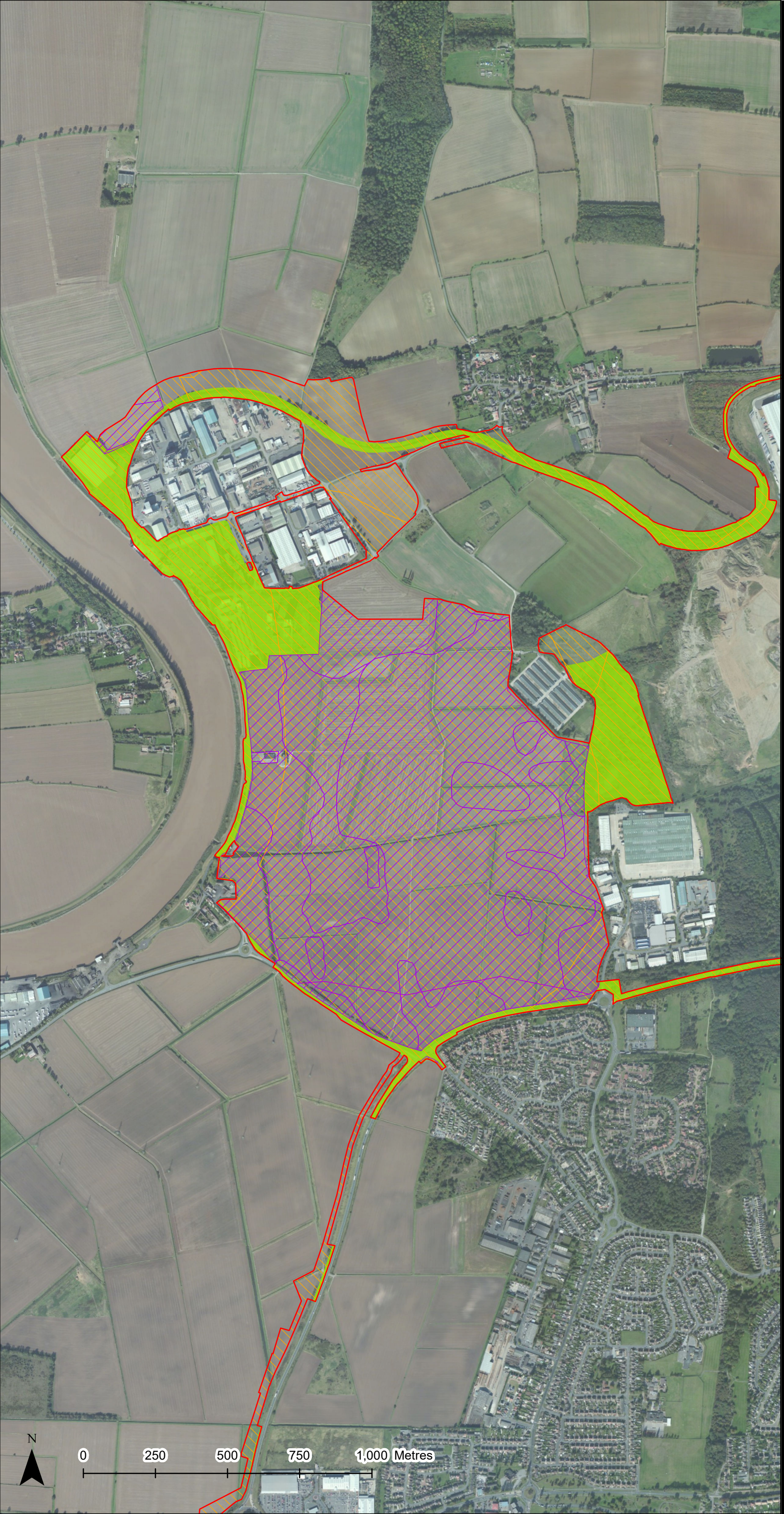
Information compiled by Resource Planning Group Farm and Countryside Service, Leeds R.O.
Map produced by Resource Planning Cartographic Unit
Project Number 8/90

Ordnance Survey maps reproduced with the permission of the Controller, H.M.S.O.

SOURCE MAPS	
1:10,000	SE 81 SE


86
87
Gasholders
Chemical Works
Smithy
Flixborough
Post
Hill Brow
MINERAL RAILWAY
Drain
Path
Stather Road
Tanks
Trav Cs
Flixborough Stather
Tk
Grave Yard (disused)
Posts
Willow Holt
Rose Cottage
Low
Drains
Flixborough Parkings
RIVER TRENT
Mean High Water
Mean High Water Mud
Lysaght's Drain
Co Const Bdy
Neap House
Neap House Drain
Neap House Farm
B1216
Jaque's Drain
Ferry Road West
Laburnum Cottages
Crosby Grange Cottages
Works
Wayside
Homeside
Hornsby's Holt
GLANFORD BUSINESS PARK

APPENDIX 3: AREAS COVERD BY POST 1988 SURVEY DATA AND THE 1988 PROVISIONAL CLASSIFICATION



NORTH LINCOLNSHIRE GREEN ENERGY PARK

ERM

North Lincolnshire Green Energy Park

Title Figure
Provisonal and Post 1998 Agricultural Land Classification

Client Information

Client	North Lincolnshire Green Energy Park Ltd.
PINS Proj No	EN010116
Date	02/05/2023
Drawn by	MTC
Checked by	SG
Version	P0

Map Information

CRS EPSG	27700
CRS Name	British National Grid
Scale	12,500
ArcMap File	SOC_ES_Post1998ALC_ProvALC_Provisional_Post1998_AgLand_B01

Legend

- Order Limits
- Post 1998 Agricultural Land Classification
- Provisonal Agricultural Land Classification
- Classified as Non Agricultural

Layer Source Information

Source: Esri, Maxar, Earthstar Geographics, IGN, and the GIS User Community

DO NOT SCALE THIS DRAWING