

Environmental Impact Assessment Scoping Report.

Land at Home Farm Road, Knowsley, L34 0EB.

On behalf of Hallam Land Management Ltd.

Date: 26/03/2025 | Pegasus Ref: P21-3399



Document Management.

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1. Introduction

1.1. Overview

- 1.1.1. This Environmental Impact Assessment (EIA) Scoping Report has been prepared by Pegasus Group¹ on behalf of Hallam Land Management Ltd (the 'Applicant') in respect of land at Home Farm Road, Knowsley, L34 OEB ('the Site'). This EIA Scoping Report seeks to agree the content of the forthcoming Environmental Statement (ES) to support an outline application for the erection of up to 730 residential dwellings (C3 use class), including details of access to but not within the Site, open space and any other necessary works ('the Proposed Development').
- 1.1.2. A Site Location Plan is included at **Appendix A** of this EIA Scoping Report. The Site is situated within the administrative area of Knowsley Metropolitan Borough Council (KMBC).
- 1.1.3. This Scoping Report has been prepared to accompany a formal EIA Scoping Request to KMBC under Regulation 15 of *The Town and Country Planning (Environmental Impact Assessment) Regulations 2017*, as amended² ('the EIA Regulations'). In accordance with the EIA Regulations, a person who is minded to make an EIA application may ask the relevant planning authority to state in writing their opinion as to the scope and level of detail of the information to be provided in the Environmental Statement (ES) (a 'Scoping Opinion').
- 1.1.4. Regulation 15(2) of the EIA Regulations states that a Scoping Report must include:
- *"A plan sufficient to identify the land;*
 - *A brief description of the nature and purpose of the development, including its location and technical capacity;*
 - *An explanation of the likely significant effects of the development on the environment; and*
 - *Such other information or representations as the person making the request may wish to provide or make."*
- 1.1.5. The purpose of this EIA Scoping Report is to provide sufficient information on the Proposed Development and its potentially significant environmental effects to allow KMBC to adopt an informed Scoping Opinion. EIA Scoping is a statutory process through which the content and detailed methodology of the EIA process is agreed, formally with the local planning authority and statutory consultees. It is best practice and ensures that any future and/or subsequent planning application is accompanied by a suitably proportionate and focused ES that takes all significant environmental issues into account.
- 1.1.6. The Applicant has appointed a team of specialist consultants to consider planning and environmental matters in relation to the forthcoming ES and to provide input into the production of this Scoping Report, as listed below.

¹ Institute of Environmental Management and Assessment (IEMA) qualified assessors.

² SI 2017/571 as amended by SI 2018/695

Table 1.1 Consultant Team

Topic	Consultant
Environmental Impact Assessment	Pegasus Group
Socio-Economics	Pegasus Group
Landscape and Visual Amenity	Pegasus Group
Cultural Heritage	Pegasus Group
Ecology & Biodiversity	FPCR
Transport and Access	Astute Transport
Air Quality	Air Quality Consultants
Noise and Vibration	Hoare Lea
Water Resources	Weetwood

- 1.1.7. The Scoping Report has been produced on behalf of the Applicant by Pegasus Group. Pegasus Group is registered to the EIA Quality Mark, a scheme operated by the Institute of Environmental Management and Assessment (IEMA) which allows consultancies that lead the co-ordination of statutory EIAs in the UK to make a commitment to excellence in their EIA activities and have this commitment independently reviewed.

1.2. Requirements of the Environmental Impact Assessment Process

- 1.2.1. The EIA process is the mechanism by which development proposals are appraised in terms of environmental and socio-economic criteria, in addition to the engineering and technical considerations. The EIA process defines the context of the Proposed Development and its construction, and examines the issues considered pertinent.
- 1.2.2. The purpose of the EIA is to establish the nature of the Site and its surroundings (i.e., the baseline conditions) and the nature of the Proposed Development and compare the baseline with the scenario once the proposals are in place, so to identify the likely significant effects that may arise as a result. This requires consideration of effects during construction, including any enabling works, and effects once operational. The document produced as a result of the EIA process is known as the Environmental Statement (ES).
- 1.2.3. The EIA Regulations require that any Proposed Development falling within the description of a 'Schedule 2 Development' within the meaning of the EIA Regulations, may be subject to an EIA where such development is considered likely to have 'significant' effects on the environment by virtue of factors such as its nature, size or location (Regulation 2 (b)).
- 1.2.4. The Proposed Development falls under Schedule 2, Category 10 (b) of the EIA Regulations as an 'Infrastructure Project'; specifically, an 'Urban Development Project'.
- 1.2.5. The applicable thresholds from Schedule 2, Category 10 (b) of the EIA Regulations above which EIA may be required are as follows:
- i. *The development includes more than 1 hectare of urban development which is not dwellinghouse development; or*
 - ii. *the development includes more than 150 dwellings; or*

iii. *the overall area of the development exceeds 5 hectares.*

1.2.6. Further indicative criteria and thresholds to assist whether EIA is likely to be required are set out within the National Planning Policy Guidance (EIA section). With respect to Category 10 (b) developments, the further indicative criteria is:

- *The development includes more than 1 hectare of urban development which is not dwellinghouse development; or*
- *the development includes more than 150 dwellings; or*
- *the overall area of the development exceeds 5 hectares.*

1.2.7. Whilst a formal EIA screening opinion was not sought from KMBC, in the context of the above, due to the size and nature of the Proposed Development, it is considered likely to have the potential for significant effects on the environment and is therefore considered to be 'EIA Development'.

1.2.8. Therefore, it is the intent of the Applicant to prepare and submit an ES in support of the forthcoming planning application, the content or 'scope' of which is set out and discussed throughout this document for KMBC comment.

1.3. Purpose of the Scoping Report

1.3.1. This Scoping Report has been prepared to accompany a formal EIA Scoping Request under Regulation 15 of the EIA Regulations. The purpose of the Scoping Request is to seek a formal view from KMBC (and other consultees where relevant) on the information to be contained within the ES which will accompany the forthcoming planning application on the Site.

1.3.2. In accordance with Regulation 15, paragraph 2, this Scoping Report contains:

- *"A plan sufficient to identify the land;*
- *A brief description of the nature and purpose of the development on the environment;*
- *An explanation of the likely significant effects of the development on the environment; and*
- *Such other information or representations as the person making the request may wish to provide or make."*

1.3.3. Specifically, this Scoping Report seeks to identify those potential likely significant environmental effects which could occur as a result of the Proposed Development and are subsequently proposed to be assessed in the EIA process and reported within the ES. Discussion and reasoned justification will also be provided within this report on topics which are proposed to be 'scoped out' of the EIA process.

1.3.4. This Scoping Report is submitted to KMBC as part of the formal request for a Scoping Opinion and we welcome comment on the proposed scope and content of the ES from KMBC and other consultees that they wish to nominate, in accordance with Regulation 15 of the EIA Regulations. It is anticipated such consultees may include the following:

- KMBC (various departments that include transport, environmental health, landscape and ecology)
- Other nearby Local Planning Authorities;
- Other Consultees such as:
 - The Environment Agency;
 - National Highways;
 - Natural England; and
 - Historic England.
- Relevant Parish Councils.

1.3.5. It is requested that the Applicant is informed of those consultees who are notified of this EIA Scoping Opinion Request.

1.4. **Finch v Surrey County Council, Supreme Court Ruling June 2024**

- 1.4.1. On the 20th June 2024 the Supreme Court issued their ruling on the Finch v Surrey County Council which considered a planning approval for the retention and expansion of an existing onshore oil well site and to drill four new wells, enabling the extraction of oil over a 20-year period. The issue under consideration was in relation to whether it was unlawful for the EIA to not include an assessment of the indirect impacts of downstream Greenhouse Gas (GHG) emissions resulting from the eventual use of the refined products of the extracted oil. The Supreme Court ruled that, in this instance, the EIA should have assessed this 'effect' given there was an 'inevitable causal link'; in essence it was not merely likely, but inevitable that the oil produced at that site would be refined, combusted, and result in GHG emissions and there were no realistic circumstances in which the extraction of oil will not lead to its use as fuel. As this effect had not been considered within the ES, the planning consent was overturned.
- 1.4.2. The decision also provides relevant consideration of the terminology of Schedule 4 (5) of the EIA Regulations which requires the assessment of 'likely' 'significant' 'effects'. In relation to 'likely', the ruling goes on to state in Paragraphs 74 and 77 that *"to determine that a potential effect is 'likely' requires evidence on which to base such a determination. If evidence is lacking so that a possible future occurrence is a matter of speculation or conjecture, then a rational person would not feel able to judge that it is 'likely'..... and..... "conjecture and speculation have no place in the EIA process".* The judgement also makes reference to the requirement for a meaningful assessment, at Paragraph 167, which states *"only effects which evidence shows are likely to occur and which are capable of meaningful assessment must be assessed"*.
- 1.4.3. With reference to the Proposed Development, consideration in relation to relevant indirect effects are discussed within each technical chapter of this report, particularly whether there is: an effect which demonstrates an inevitable causal link; whether this effect is 'likely' and 'significant'; and whether a meaningful assessment of the effect can be undertaken using an established methodology. In relation to the residential nature of the Proposed Development, it is not considered relevant for indirect effects to consider the potential for such matters pertaining to, for example, GHG emissions associated with the delivery of goods (e.g., Amazon deliveries) made to future residents, due to the increased local population resultant of the Proposed Development. Such matters would be based on conjecture and speculation and not

justified through “an inevitable causal link”. Such indirect effects should therefore be ‘scoped out’ of the forthcoming ES.

1.5. Structure of the EIA Scoping Report

1.5.1. The remainder of this EIA Scoping Report is divided into the following Sections:

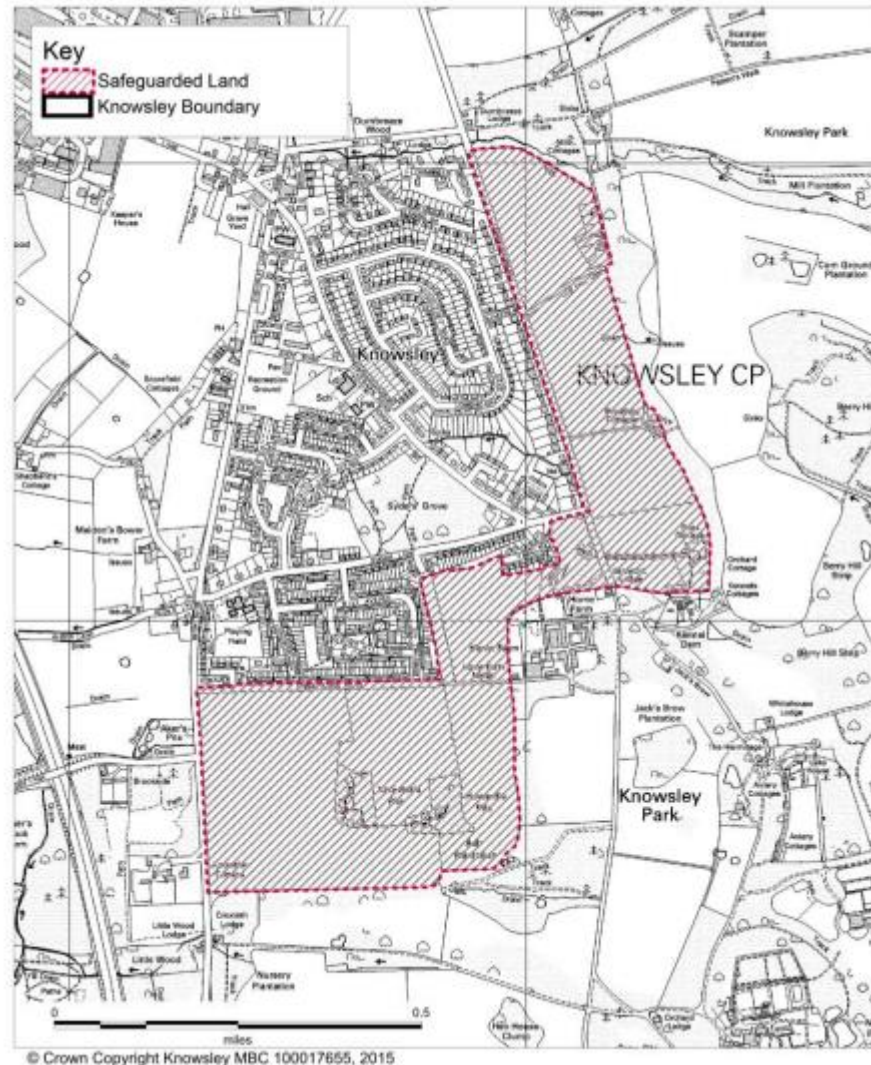
- **Chapter 2: The Site and Project Overview**
 - An overview of the Site and the Proposed Development.
- **Chapter 3: Legislative Requirements and the EIA Process**
 - A summary of the relevant EIA legislation and EIA process which will be undertaken.
- **Chapter 4: Topic to be 'Scoped In' and Proposed Layout of the ES**
 - Topic to be included in the ES and the proposed layout of the ES.
- **Chapters 5 – 12: Technical Chapters**
 - Individual discussions on the topics to be assessed within the ES, including information regarding specific methodology.
- **Chapter 13: Topics proposed to be Scoped Out of the ES**
 - Each environmental topic not proposed to be considered in the ES is discussed in turn.
- **Chapter 14: Structure of the ES**
 - The structure and format of the ES document is outlined.
- **Chapter 15: Environmental Statement Scoping Summary**

2. The Site and Proposed Development

2.1. Site Location

- 2.1.1. The Site is located adjacent to the southern edge of the settlement of Knowsley, approximately 680m north east of the settlement edge of Stockbridge Village and approximately 9km north east of the centre of the Liverpool city. The Site is located within the administrative area of Knowsley Metropolitan Borough Council (KMBC). A Site Location Plan is provided in **Appendix A and Appendix C**.
- 2.1.2. The Site is bordered by Knowsley Lane to the west and Home Farm Road to the north, the latter of which crosses the Site. The M57 is located to the west of the Site which provides connections into Aintree to the north and Whiston Cross to the south.
- 2.1.3. The Site covers approximately 33.6 hectares (ha) and comprises multiple parcels of arable agricultural land divided by hedgerows, with two wooded areas, known as Spookies Wood, in the centre of the Site. There are ponds and drainage ditches located within these wooded areas. An overhead telecom line runs through the centre of the Site in a general north/south direction.
- 2.1.4. The Sites boundaries are currently defined as:
- The northern boundary of the Site lies adjacent to Home Farm Road with residential properties beyond associated with the southern edge of Knowsley;
 - The eastern boundary lies adjacent to a commercial area in the north east with the remainder of the boundary located adjacent to a woodland known as Ash Plantation (which forms part of Knowsley Park), beyond which lies Ornskirk Road and the grounds within Knowsley Park (designated as a Registered Park and Garden, Local Wildlife Site and Geological Site);
 - The southern boundary is defined by a stone wall and trees and lies adjacent to the grounds of Knowsley Park and Knowsley Hall which is located to the south east of the Site; and
 - The western boundary lies adjacent to Knowsley Lane (B5202), beyond lies an area of woodland and the M57 motorway.
- 2.1.5. There are no Public Rights of Way (PRoW) located within the Site itself, Bridleway KN5/1 is located adjacent to the western boundary and travels in a westward direction on Fluker's Brook Lane and then northwards adjacent to the M57 motorway. National Cycle Network Route 862 follows a route approximately 360m west of the Site, adjacent to the western side of the M57.
- 2.1.6. The Site is relatively flat with a gentle rise from approximately 26m AOD in the west to approximately 35m AOD in the east. The landform rises to the east of the Site to around 95m AOD around Knowsley Park and Hag Brow, and to the north, south and west the surrounding landform is relatively flat.

- 2.1.7. The Site forms part of the only safeguarded land site identified under Policy SUE1 in the Knowsley Local Plan Core Strategy (adopted January 2016). The entire safeguarded site covers 58.9ha of land and the primary proposed uses are residential, with a notional capacity of 1,093 dwellings.



2.2. Site Context

- 2.2.1. As shown on the Environmental Designations Plan included at **Appendix C**, there are no statutory landscape designations within the Site itself or within proximity to the Site. Croxheath Country Park is located c. 1.3km west of the Site. The Site lies within National Character Area 32: Lancashire and Amounderness Plain of which the wider character comprises an area of high-grade agricultural land, made up of a series of low-lying landscape types.
- 2.2.2. There are no statutory designated sites for nature conservation and ecology located within the Site itself. There are no European statutory designated sites within 10km of the Sites boundary, nor are there any nationally statutory designated sites within 5km of the Sites

boundary. Whilst no internationally designated sites are located within 10km of the Site boundary, several sites on the National Network are located close to the 10km buffer zone:

2.2.3. The following designated sites will be included within the assessment:

- Sefton Coast SAC, c. 12.3km northwest;
- Ribble and Alt Estuaries SPA, c. 11.8km northwest;
- Ribble and Alt Estuaries Ramsar site, c. 11.8km northwest;
- Mersey Narrows and North Wirral Foreshore SPA, c. 11.2km southwest;
- Mersey Narrows and North Wirral Foreshore Ramsar site, c. 11.2km southwest;
- Martin Mere SPA, c. 18.8km north;
- Martin Mere Ramsar site, c. 18.8km north;
- Mersey Estuary SPA, c. 10.7km southwest;
- Mersey Estuary Ramsar site, c. 10.7km southwest; and
- Liverpool Bay SPA, c. 10.7km southwest.

2.2.4. There is one locally statutory designated site within 2km of the Sites boundary, Croxteth Local Nature Reserve (LNR) c. 1.3km west. There are the following non-statutory locally designated Sites and priority woodland habitat within 1km of the Site:

- Howards Pits and Knowles's Pits Priority Woodland (within the Site)
- Knowsley Park Local Wildlife Site (LWS) (adjacent to the eastern and southern border)
- River Alt and M57 corridor Nature Improvement Area (NIA) (adjacent to the western border)
- Ash Plantation Priority Woodland (adjacent to the Site within Knowsley LWS)
- Jacks Brow Plantation Priority Woodland (within Knowsley Park LWS)
- Akers Pits LWS (c. 13m west)
- Little Wood LWS (c. 290m west)
- The Roughs LWS (c. 390m west)
- Meakins Pits LWS (c. 649m north west)

2.2.5. In terms of heritage designations, Knowsley Park is located adjacent to the southern and eastern boundaries and is designated as a Grade II Registered Park and Garden (ref 1000997). Croxheath Hall Park located c. 100m south of the Site is also designated as a Grade II Registered Park and Garden (ref 1001304). Knowsley Conservation Area is located c. 110m north west of the Site.

- 2.2.6. There are no heritage assets located within the Site itself, nor are there any Scheduled Monuments located within 2km of the Sites boundary. Within 1km of the Sites boundary there are three Grade II listed buildings and two Grade II* listed buildings as follows:
- Grade II Little Wood Lodge (ref 1253469) c. 100m south;
 - Grade II* Knowsley Hall (ref 1253241) c. 770m east;
 - Grade II* Church of St Mary (ref 1253329) c. 800m north;
 - Grade II Knowsley and Old Vicarage (ref 1261765) c. 800m north; and
 - Grade II Knowsley War Memorial (ref 1463967) c. 800m north.
- 2.2.7. According to Natural England's Provisional Land Classification (ALC) Map, the western section of the Site is located on Grade 2 agricultural land, the central and eastern sections, and north eastern and southern boundaries are classed as non-agricultural land and the northern section is considered urban land. Grade 2 agricultural land is considered Best and Most Versatile (BMV), however it is acknowledged that this forms a small portion of the Site with the majority of the Site classed as either urban or non-agricultural land. An ALC survey will be undertaken to confirm the extend of the Grade 2 land located within the Site as will support the planning application.
- 2.2.8. The Site is located entirely within Flood Zone 1 as identified on the Environment Agency Flood Map for Planning and is, therefore, considered to be at lowest risk of flooding. The risk of flooding from surface water map indicates the Site is not at risk of flooding from drainage ditches and ponds within the locality and is typically at very low risk of flooding from pluvial surface water. Ponding of surface water is indicated in several areas across the Site, which represents local depressions in the existing topography. The mapping indicates that several overland flow routes develop in an extreme (1.0% to 0.1% annual probability) storm event. However, the areas of identified risk are relatively confined and form where the natural contours of the land forms a shallow valley where overland flow would be directed to. The nearest water course is Croxteth Brook c. 850m west of the Site.
- 2.2.9. The Site is not located within an Air Quality Management Area (AQMA), the closest AQMA is Liverpool City AQMA located c. 850m west declared for levels of Nitrogen Dioxide.

2.3. Proposed Development

- 2.3.1. The proposals are continuing to develop as the technical work progresses. However, for the purposes of Scoping, the Proposed Development is anticipated to include up to 730 residential dwellings (C3 use class), access, open space and any other necessary works. It is likely that all matters will seek permission in outline with the exception of points of access.
- 2.3.2. A summary of the likely proposals include:
- Up to 730 residential dwellings;
 - Green infrastructure likely to include the retention of existing hedgerows and trees where possible and creating new opportunities for ecological enhancement;
 - Pedestrian and cycle links;
 - Buffer zone which will be delivered as an access loop around the Sites southern and eastern boundaries to provide an offset from Knowsley Park; and
 - The main vehicle access will be taken from two points along Knowsley Lane (B5202) along the western boundary.
- 2.3.3. As such, the development could provide upto 730 quality new homes that are sensitive to the local context. The development will have a clearly legible hierarchy of streets, providing connectivity and access to local facilities, with clear access into Site along with ample pedestrian linkages to the surrounding area.
- 2.3.4. Options to provide a further vehicular connection through to the existing Stanley Grange Business Park located at the eastern boundary of the Site are also being considered.
- 2.3.5. The layout and urban form of the scheme will be such that it maximises the potential of the Site, whilst taking into account the surrounding land uses and taking advantages of opportunities to improve the green infrastructure on Site.

3. Legislative Requirements and the EIA Process

3.1. Legislative Requirements

- 3.1.1. The EIA process will be undertaken in accordance with the requirements of the EIA Regulations. Specifically, Schedule 4 (Regulation 18 (3)), sets out the information for inclusion in ESs, as replicated within **Appendix B** and summarised as follows:

Part 1:

- *'A description of the development' – including information on the location of the development, the physical characteristics of the development, the main characteristics of the operational phase, and estimate of expected residues and emissions.*

Part 2:

- *'A description of the reasonable alternatives studied by the developer' – for example with regard to development design, technology, location, size and scale, and an indication of the main reason for selecting the chosen option.*

Part 3:

- *'A description of the relevant aspects of the current state of the environment (baseline scenario)'– including how the baseline might evolve if the development were not to proceed.*

Part 4:

- *'A description of the factors specified in regulation 4(2) likely to be significantly affected by the development' – including with regard to population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.*

Part 5:

- *'A description of the likely significant effects of the development on the environment' – including with regard to: construction, existence and demolition works, the use of natural resources, emission of pollutants and the disposal of waste, the risks to human health, cultural heritage or the environment (for example due to accidents or disasters), cumulative effects with other developments, vulnerability with respect to climate change and the technologies and substances to be used.*
- *The description of the likely significant effects should cover 'direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development'*

Part 6:

- *'A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment' – including details of difficulties (technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.*

Part 7:

- *'A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment' – including where appropriate with regard to: any proposed monitoring arrangements (for example the preparation of a postproject analysis).*
- *The description should explain the 'extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset', and should cover both the construction and operational phases.*

Part 8:

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

Part 9:

- *'A non-technical summary of the information provided under paragraphs 1 to 8'.*

Part 10:

'A reference list detailing the sources used for the descriptions and assessments included in the environmental statement'.

3.2. The EIA Process

3.2.1. The topic area 'scoped in' the EIA, will undergo the following main steps:

Baseline Study

3.2.2. In the case of many of the environmental topics which will be covered in the ES, or which are proposed to be scoped-out of the ES, baseline studies have already been undertaken, and details of this work, where relevant, are discussed within each environmental topic within this Report. Baseline conditions will be established within each of the individual environmental assessments through the use of a number of sources including, desk top review of existing available data; site specific survey work; and consultation.

Assessment of Environmental Effects and Evaluation of Significance

3.2.3. The EIA Regulations require that the ES identifies *'likely significant effects of the Proposed Development on the environment'*. It is recognised in the EIA Regulations however that not all environmental effects are considered significant.

3.2.4. The evaluation and determination of significant effects will be carried out using specific criteria defined within each of the technical chapters of the ES. Where available, published standards and guidelines will be used as the basis for the significance criteria.

3.2.5. The proposed methodologies for individual environmental topics are discussed in the subsequent section. However, in many disciplines the following basic approach is utilised:

- The sensitivity of the receiving environmental receptor is evaluated using defined criteria;
- The nature of the impact is established in terms of its duration, extent, frequency, likelihood of occurrence, reversibility, and compliance with recognised standards;
- The magnitude of the impact is determined. The magnitude of change is a consideration of how much the impact alters the baseline condition; and

- The significance of the effect is determined by cross referencing the sensitivity of the receptor with the magnitude of change on the receptor.

3.2.6. Environmental effects arising from the Proposed Development may be direct or indirect; secondary; cumulative; short; medium; long-term; permanent; temporary; each of which could be positive or negative and will be noted where relevant within the ES. Effects will be considered both during the construction phase when the Proposed Development is being built out (often temporary effects) and following completion of the Proposed Development (often permanent effects). Given the nature and intended longevity of the Proposed Development's operational life, decommissioning is not appropriate to consider. Accordingly, the ES will focus on the potential likely significant effects during the construction and operational phases only.

Mitigation Measures and Residual Effects

3.2.7. Following the assessment of effects, mitigation measures to reduce and avoid these effects will be identified. Mitigation measures may include modification of the proposals, integral mitigation, or secondary measures. Any residual effects following the implementation of mitigation measures will be determined accordingly. The residual effects represent the overall likely significant effect of the Proposed Development on the environment having taken account of practicable/available mitigation measures.

3.3. Cumulative and In-combination Effects

3.3.1. The ES will respond to the requirement within the EIA Regulations to assess the cumulative effects of the Proposed Development which will specifically consider two types of effect:

- Intra-project Cumulative Effects: The combined effect of individual effects (for example noise, airborne dust or traffic) on a single receptor where deemed potentially significant; and
- Inter-project Cumulative Effects: The combined effects of development schemes which may, on an individual basis be insignificant but, cumulatively, have significant effect.

3.3.2. With respect to inter-project cumulative effects, the EIA Regulations state that consideration should be given to *"other existing and/or approved projects"* (Schedule 4, 5e). This is further supported by the National Planning Policy Guidance (NPPG) which states *"There are occasions.....when other existing or approved development may be relevant in determining whether significant effects are likely as a consequence of a proposed development."* (Paragraph: 024 Reference ID: 4-024-20170728)

3.3.3. Regard will therefore be had to relevant *"existing and/or approved projects"*, which alongside the Proposed Development, could potentially result in significant cumulative effects (discussed further below). It is relevant to note however that not all these projects will necessarily have significant cumulative impacts.

3.3.4. It is also acknowledged that there may be other proposals which are considered as *"reasonably foreseeable"* as referred to within the European Guidance in relation to the definition of cumulative impacts. It is important to recognise that it is not the role of the ES to assess all these types of potential developments and a staged approach in identifying which of these 'other sites' are relevant to consider is appropriate.

3.3.5. In this context, a review of the surrounding potential 'other sites' within 3km of the Proposed Development has been undertaken, searching KMBC's and Liverpool City Council³ (LCC) planning registers, which can be categorised into the below: (for the purposes of the Proposed Development and its setting, a proximity of 3km from the Site boundary and major applications has been considered appropriate)

- Committed schemes (i.e. proposals with planning permission/consented which are either under construction or yet to commence);
- Applications pending determination (i.e. schemes with live planning applications which may or may not be within adopted allocations), and
- Other potential schemes (e.g. adopted allocation or schemes which have screening / scoping submitted – some of these maybe considered relevant to include in cumulative assessment).

3.3.6. The below table sets out these schemes and which of these are proposed to be considered as part of the cumulative assessment. The team is not aware of any other projects within the vicinity of the Site which would be required to be considered as part of a cumulative assessment, however the applicant welcomes confirmation.

³ Liverpool City Council (LCC) also included as is within the 3km search radius although no cumulative Sites were identified in LCC search area.

Table 3.1 Potential Cumulative Schemes.

Address and Reference	Description of Development	Approx. Distance from the Site	Status	Certainty and relevance to consider in cumulative assessment	Proposed to be considered
22/00348/FUL Land bounded by East Lancashire Road, Ormskirk Road and Knowsley Lane	Erection of 3 no. commercial units (use class B2 or B8) including mezzanine floor, ancillary office and welfare floorspace together with service yard, loading bays, car and cycle parking, electric vehicle charging points, drainage infrastructure and landscaping together with improvements to public rights of way linking Ormskirk Road and Knowsley Lane including the diversion of the public right of way and other pedestrian accessibility works.	c. 1.5km north of the Site	Permission granted May 2023. Construction has not yet started.	Likely: Planning permission granted but construction has not yet started. Given the nature and location of the scheme, it is considered relevant to consider as part of the cumulative assessment.	YES
22/00163/FUL Land bounded by Villiers Road & Penrhyn Road	Erection of a industrial/commercial building (use classes B2/B8 and E (g) (iii) including mezzanine ancillary office space together with the construction of 2 no. new vehicular accesses to Villiers road, service yards, car/cycle parking, landscaping and other associated works.	c. 1.6km north of the Site	Permission granted November 2022. Construction has not yet started.	Likely: Planning permission granted but construction has not yet started. Given the nature and location of the scheme, it is considered relevant to consider as part of the cumulative assessment.	YES
18/00062/HYB Land at Knowsley Lane, Huyton	Detailed application for 4,180 sqm of employment floor space (use class B1), 3,275 sqm ancillary floor space (use classes A1/A4/C1/SUI generis), 154 residential dwellings, improvement to Lord Derby Playing Fields/Oak Plantation and associated landscaping and infrastructure including a dedicated 500kVA substation for the residential neighborhood and a 1000kVA substation	c.1.6km south of the Site	Granted July 2018 and remain extant with non-material amendments granted in Jun 2021. Development is part built.	Certain: formal planning permission granted and is part built. Given the nature and location of the scheme, it is considered relevant to consider as part of the cumulative assessment.	YES

Address and Reference	Description of Development	Approx. Distance from the Site	Status	Certainty and relevance to consider in cumulative assessment	Proposed to be considered
	for the eastern employment area and the demolition of Knowsley Lane Farm. Outline application for up to 26,350 sqm of employment flood space (use classes B1) and associated landscaping and infrastructure.				
22/00099/FUL Former Contract Chemicals Site Penrhyn Road	Erection of an industrial/logistics building (uses B2, B8 and E(g)(iii)) with ancillary offices, security gatehouse, transport office and associated works.	c. 1.7km north of the Site	Granted November 2023. Construction is underway.	Certain: Planning permission granted and construction is underway. As development is under construction and is likely to be complete before the construction of the Proposed Development it is considered within the baseline.	NO
19/00243/OUT Vacant Land at Junction Of Moorgate Road/M57 Slip Road And School Lane Reserved matters (RM) application 21/00929/REM	Outline application for the erection of petrol filling station of up to 476 sqm, a drive thru unit of up to 225 sqm and erection of 3 No. industrial units up to 3,827 sqm	c. 2km northwest of the Site	Permission granted April 2020 and RM granted in August 2022. Construction has not yet started.	Likely: Planning permission granted but construction has not yet started. Given the nature and location of the scheme, it is considered relevant to consider as part of the cumulative assessment.	YES

Address and Reference	Description of Development	Approx. Distance from the Site	Status	Certainty and relevance to consider in cumulative assessment	Proposed to be considered
24/00142/SO Land north of Cut Lane Kirkby	Screening opinion for proposed battery energy storage system (BESS) and associated infrastructure.	c. 2km north of the Site	Decision provided in May 2024 – no EIA required. No formal planning application has been made.	Uncertain: No formal planning application has yet been submitted. Given the nature of the development and the distance from Site significant cumulative effects are not likely.	NO
23/02008/FUL Land at Coopers Lane Knowsley Industrial Park	Proposed Development of a battery storage facility and associated infrastructure	c. 2km south of the Site	Granted April 2024. Construction has not yet started.	Likely: Planning permission granted but construction has not yet started. Given the nature and location of the scheme, it is considered significant cumulative effects are not likely and has therefore been scoped out of the cumulative assessment.	NO
22/00766/SO Land at Larkins Farm, Gellings Lane	Screening Opinion for the installation of a solar farm	c. 2.2km north west of the Site	Decided in January 2023 EIA not required – no formal application has been submitted	Uncertain: No formal planning application has yet been submitted. Given the nature of the development and the distance from Site significant cumulative effects are not likely.	NO
23/00456/FUL	Erection of 2 no. units (use class E9G)(II)(III) or B2 or B8 use) with ancillary office space, car parking and vehicular,	c. 2.3km north of the Site	Granted April 2024.	Likely: Planning permission granted but construction has not yet started. Given	NO

Address and Reference	Description of Development	Approx. Distance from the Site	Status	Certainty and relevance to consider in cumulative assessment	Proposed to be considered
Vacant Land at Alchemy Way, Knowsley Industrial Park	pedestrian circulation with access onto Alchemy Way		Construction has not yet started.	the nature and location of the scheme, it is considered significant cumulative effects are not likely and has therefore been scoped out of the cumulative assessment.	
19/00684/FUL Whitakers Garden Centre, Liverpool Road, Prescot	Erection of 227 no. dwellings together with vehicular/pedestrian accesses, landscaping & associated infrastructure	c. 2.5km south east of the Site	Permission granted December 2020 Development is part built.	Certain: Planning permission granted and construction is underway. As development is under construction and is likely to be complete before the construction of the Proposed Development it is considered within the baseline.	NO
23/01197/FUL Land to the north east of the junction of Gale Road and Admin Road, Knowsley Industrial Park,	Erection of 1 no. industrial unit (use Class B2 and B8) with ancillary office space including service yard, parking, substation and other associated works.	c. 2.6km north of the Site	Granted April 2024. Construction has not yet started.	Likely: Planning permission granted but construction has not yet started. Given the nature and location of the scheme, it is considered significant cumulative effects are not likely and has therefore been scoped out of the cumulative assessment.	NO
20/00379/FUL	Demolition of existing building and the erection of 2 no. industrial buildings (use Class B1/B2 and B8 with ancillary trade	c. 2.7km north of the Site	Granted March 2021.	Likely: Planning permission granted but construction has not yet started. Given	NO

Address and Reference	Description of Development	Approx. Distance from the Site	Status	Certainty and relevance to consider in cumulative assessment	Proposed to be considered
The Web Complex Admin Road Knowsley Industrial Park	counter) together with vehicular access, car parking and service area.		Construction has not yet started.	the nature and location of the scheme, it is considered significant cumulative effects are not likely and has therefore been scoped out of the cumulative assessment.	

3.3.7. Confirmation of the schemes within the above table for cumulative assessment is sought from KMBC as part of the EIA Scoping Opinion request.

3.4. Preparation of the ES

- 3.4.1. In accordance with the EIA Regulations, the ES will be prepared by competent experts, as listed at the outset of this report. A statement outlining the relevant experience of the experts who have undertaken the assessment and drafted the technical chapters within the ES will be provided. The EIA Regulations also require decision makers to ensure they have 'necessary skills in house'.

4. Topics to be 'Scoped In' and Layout of the ES

4.1. Environmental Topics

4.1.1. **Table 4.1** lists the environmental topics specified within the EIA Regulations as to potentially be considered as part of the EIA process. The table also summarises whether these topics are considered relevant to include within the EIA process, and where such topics will be considered within the ES where applicable. Where a topic has been scoped out, the reasoning is provided within Section 13 of this EIA Scoping Report.

Table 4.1 Environmental Topics as per EIA Regulations

EIA Topic	Scoped In / Out	Where Addressed within ES
Population	Scoped in	To be assessed within the Socio Economic and Health chapter
Human Health	Scoped in	To be assessed within various chapters as follows: Socio Economics and Health, Air Quality, Noise, Drainage, Landscape and Visual and Transport. A separate chapter on human health is not considered necessary given the nature of the scheme and the location / environment of the Site is unlikely to result in significant impacts in relation to human health.
Biodiversity (e.g. flora and fauna)	Scoped in	To be assessed within the Ecology & Biodiversity Chapter
Land (e.g. land take)	Scoped in	To be assessed within the Landscape and Visual and Ecology & Biodiversity Chapters.
Soil	Scoped out	Given the Site is unlikely to include significant areas of contamination, and the loss of any BMV soils would likely be under 20ha, it is proposed soil, land contamination and agricultural resources is scoped out. Further detail is provided in Section 13 of this report.
Water	Scoped in	To be assessed within the Water Resources and Ecology & Biodiversity Chapters
Air	Scoped in	To be assessed within the Air Quality Chapter
Climate	Scoped in	Climate to be assessed within various chapters as follows: Air Quality, Ecology & Biodiversity, and Flood Risk and Drainage. Given the nature of the proposals, it

EIA Topic	Scoped In / Out	Where Addressed within ES
		is not considered that there will be a significant impact in relation to 'climate change' in EIA terms relating to greenhouse gas emissions or any future significant impacts arising from climate change that would require adaptation within the Proposed Development. It is therefore not proposed to include a specific chapter regarding climate change mitigation and adaptation. See Section 13 for further details.
Material Assets ⁴	Scoped out	It is not considered there are any further 'material assets' to those already addressed within other EIA topics that may result in further significant effects.
Cultural Heritage (Architectural & Archaeological aspects)	Scoped in	To be assessed in the Cultural Heritage Chapter
Landscape	Scoped in	To be assessed in the Landscape and Visual Chapter
Interrelationship between above factors	Scoped in	Within each topic chapter

4.1.2. In the context of the above environmental topic, it is proposed that the resultant ES will include the following discipline / chapters each of which is further discussed below:

- Introduction;
- EIA Scope and Methodology;
- The Site
- The Proposed Development and Alternatives;
- Socio-economics and Health;
- Landscape and Visual Amenity;

⁴ Material Assets can be defined as follows: "The EIA Regulations refer to 'material assets', including architectural and archaeological heritage aspects. The phrase 'material assets' has a broad scope, which may include assets of human or natural origin, valued for socioeconomic or heritage reasons. Material assets are in practice considered across a range of topic areas within an ES, in particular historic environment and socioeconomics". Source: <https://digital-eia.rpsgroup.com/EnvironmentalAssessment.html>

- Ecology & Biodiversity;
- Cultural Heritage;
- Transportation and Access;
- Air Quality;
- Noise;
- Flood Risk and Drainage; and
- Summary.

4.1.3. A Standalone Non-Technical Summary (NTS) will also be provided.

4.1.4. The proposed scope of the technical ES Chapters is discussed in Chapters 5–12 of this report. Those topics that are proposed to be scoped out of the forthcoming ES are discussed in Chapter 13.

4.1.5. The below sets out the content of the proposed ES non-technical chapters.

4.2. Introduction Chapter

4.2.1. This chapter of the ES will provide an introduction to the document and present details of the ES's structure and context, in addition to how consultees and members of the public can comment on the document or obtain additional copies.

4.3. EIA Scope and Methodology Chapter

4.3.1. This chapter of the ES will provide a summary of the agreed scope of assessments to be considered, with reference to consultation responses and will explain the methodology used to prepare the technical chapters, including reference to the general approach in determining significance (proposed significance assessment criteria for each 'scoped in' topic is set out in the discipline specific proposed Chapters 5–12). Information in relation to cumulative impacts will also be set out in this chapter, along with any limitations or assumptions used throughout the ES.

4.4. The Application Site, Proposed Development and Alternatives Chapters

4.4.1. These chapters of the ES will describe the Site's location, context, existing use and features and will also provide a comprehensive description of the Proposed Development, including the construction process, and any relevant details on assumed timescales and phasing.

4.4.2. The EIA will be based upon a set of defined parameters, which will identify the extent of different land use areas (e.g., residential, open space etc), maximum heights of buildings and proposed ground levels (with appropriate flexibility) and key landscape mitigation proposals integral to the scheme.

4.4.3. The parameters approach ensures that subsequent approvals and/or reserved matters will remain the same as that assessed within the ES. These parameters and controls define those aspects of the Proposed Development capable of having significant effects, as defined in the

EIA Regulations. This ensures that key elements are assessed accordingly, however allows some flexibility for detail post submission.

- 4.4.4. The chapter will also provide a description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the Applicant, which are relevant, and an indication of the main reasons for selecting the chosen option.

4.5. Discipline Specific Chapters

- 4.5.1. The technical disciplines will be covered in individual chapters; further information and the assessment methodologies is provided below in Chapter 5–12.

4.6. Summary Chapter and Non-Technical Summary

- 4.6.1. A chapter summarising each of the above discipline's findings will be presented.
- 4.6.2. A separate NTS will also be provided in accordance with the EIA Regulations.

5. Socio-Economics and Health

5.1. Introduction

5.1.1. This chapter of the ES will provide an assessment of the likely significant socio-economic and health effects generated by the Proposed Development. This will include the identification and assessment of likely effects during the construction phase, the operational phase, and cumulative effects.

5.1.2. The assessment chapter will be prepared by the economics team within Pegasus Group.

5.2. Relevant Policy and Guidance

5.2.1. Relevant local plans and strategies will be reviewed, including:

- The **National Planning Policy Framework 2024**⁵ (NPPF), which is built around a policy commitment to sustainable development and establishes the social and economic role of the planning system.
- The **Knowsley Local Plan Technical Report – Planning for Employment Growth (July 2013)**⁶ which supports the Local Plan Core Strategy and its policies around planning for employment.
- The **Knowsley Local Plan Core Strategy (January 2016)**⁷ which sets out the vision, objectives and policies that will guide Knowsley's development up to the year 2028.
- The **Knowsley 2030 Evidence Base Report – Economy and Enterprise**⁸ which outlines the key messages about the current state of and opportunities within Knowsley's economy.
- The **Knowsley 2030 Strategy**⁹ which sets out five strategic outcomes for Knowsley to achieve by 2030.

The National Planning Policy Framework 2024

5.2.2. The most recent National Planning Policy Framework (NPPF) was published in December 2024. The NPPF outlines the building blocks for sustainable development within planning sectors across the nation and the overall planning system. This requires three distinct objectives that must be carried out in a mutually supportive way: Economic; Social; and Environmental.

⁵ National Planning Policy Framework: MHCLG, December 2024. Available at: [National Planning Policy Framework](#).

⁶ The Knowsley Local Plan Technical Report – Planning for Economic Growth. Available at: https://www.knowsley.gov.uk/sites/default/files/2023-11/TRO2_Planning-for-EmploymentGrowth-TechnicalReport-Submission.pdf.

⁷ The Knowsley Local Plan Core Strategy January 2016. Available at: <https://www.knowsley.gov.uk/sites/default/files/2023-11/knowsley-local-plan-adopted-core-strategy.pdf>.

⁸ The Knowsley 2030 Evidence Base Report – Economy and Enterprise. Available at: <https://knowsleyknowledge.org.uk/wp-content/uploads/2020/01/5-Economy-and-enterprise.pdf>.

⁹ The Knowsley 2030 Strategy. Available at: <https://www.knowsley.gov.uk/sites/default/files/2024-09/Knowsley%202030.pdf>.

The Knowsley Local Plan Technical Report – Planning for Employment Growth (July 2013)

- 5.2.3. This Technical Report supports the Knowsley Local Plan Core Strategy and sets out relevant influences and policy parameters affecting land requirements and employment provision which could be delivered in Knowsley. The national and local policy backgrounds in which Knowsley sits are discussed in relation to the Borough's economy.

The Knowsley Local Plan Core Strategy (January 2016)

- 5.2.4. The Core Strategy outlines the objectives and policies which Knowsley has adopted to achieve its ambition of delivering significant and accelerated economic growth. It aims to meet the needs and demands of existing businesses while attracting new economic investment to the Borough, subsequently delivering a stronger and increasingly diverse local economy. The Site forms part of a area of safeguarded land identified under Policy SUE1 in the Local Plan.

The Knowsley 2030 Evidence Base Report – Economy and Enterprise

- 5.2.5. This report outlines Knowsley's key assets and trends regarding economy and enterprise, giving an overview of the Borough's economic state and status. Knowsley's economy is a major contributor to the economic growth of the Liverpool City Region and a key location for employment across Liverpool and the North West. Knowsley is home to many established businesses, with a strong reputation as a manufacturing and logistics hub.

The Knowsley 2030 Strategy

- 5.2.6. The Knowsley 2030 Strategy is informed by the 'Let's Talk 2030' project, which is an ongoing conversation with communities to shape the 2030 Strategy and the future of Knowsley. By engaging with and talking to local people and businesses alongside working closely with community groups, organisations and schools, a clearer picture has been developed regarding how residents want life in the Borough to be, further establishing community aspirations for Knowsley in 2030.

5.3. Preliminary Assessment of Baseline Conditions

- 5.3.1. The assessment will establish baseline socio-economic conditions within those areas likely to be affected by the Proposed Development. Study areas are defined based on an understanding of relevant local and wider economic geographies, and the extent to which socio-economic effects are likely to be contained within these established statistical geographies. It is proposed to analyse data (where available) for the following geographies: Knowsley (LPA); North West region; and England. Where available, ward and Lower Super Output Area (LSOA) level data will also be analysed, including from the 2021 Census for relevant indicators.
- 5.3.2. Baseline socio-economic conditions will be established using the most up-to-date available secondary data, establishing the extent to which the following key indicators have changed over time:

- **Population:** Between 2013 and 2023 the population of Knowsley grew by 8.8% (12,873). This compares to growth of 7.0% in both the North West and England. The fastest growing age group in Knowsley in this time period was the 65+ age group which increased by 15.0%. This compares to the 0–15 age group in Knowsley increasing by 11.4% and the 16–64 age group increasing by 6.4% between 2013 and 2023.
- **Employment:** Based on data from the Office for National Statistics, as of 2023, there are 69,000 jobs in Knowsley, including self-employment. This is a rise of 4.5% (3,000) since 2015. This was below the increase in employment experienced in the North West (11.3%) and England (8.9%) over the same timeframe.
- **Economic Output:** Between 2012 and 2022, gross value added (GVA) in Knowsley grew by 50.9% in current prices (£1.4billion) to reach £4.0billion. This was above the growth in GVA that was seen in the North West (50.7%) and the England (48.9%).
- **Deprivation:** The Proposed Development is located within the Knowsley 005F LSOA (2011-based). Analysing data from the Index of Multiple Deprivation, Knowsley 005F LSOA has an overall rank of 4,755, putting it in the top 20% most deprived LSOAs in England.

5.3.3. Other key indicators that will be included in the baseline analysis are:

- Construction;
- Unemployment, including the claimant count;
- Economic activity;
- Education provision;
- Healthcare provision;
- Open space and public realm;
- Crime;
- Health profile of the local area; and
- Community infrastructure provision.

5.4. Potential Effects (including identification of specific receptors)

5.4.1. During the construction phase, it is anticipated that the Proposed Development will generate the following socio-economic and health effects:

- Employment – direct, indirect and induced jobs based in the local and wider impact areas, growing employment levels in their respective economies.
- Economic output – measured in Gross Value Added (GVA) generated by the employment supported during the construction phase).

- Disturbance to neighbourhood amenity – potential for disturbance to nearby receptors as a result of construction activities.

5.4.2. Once complete and operational, it is anticipated that the socio-economic effects associated with the Proposed Development will include the following:

- Employment – direct, indirect and induced jobs.
- Economic Output – measured in GVA (generated by the employment supported once operational).
- Housing – measured in terms of the contribution of the Proposed Development towards the housing delivery target in Knowsley.
- Council Tax – measured in uplift in Council Tax as a result of the Proposed Development in Knowsley.
- Economy – measured by consideration of household spend, first occupation and the increase in economically active people in Knowsley.
- Access to education provision – potential impacts on education provision as a result of the Proposed Development once operational for up to three miles from the Site.
- Access to healthcare provision – potential impact on healthcare provision as a result of the Proposed Development once operational.
- Access to open space – considering the impact on the provision of public realm for public use up to 1km from the Site.
- Health and wellbeing – potential for effects on health and wellbeing of nearby existing and future residents as a result of the Proposed Development once operational.

5.4.3. **Table 5.1** presents a summary of the scope of the assessment, including consideration of potential effects, the study areas within which the effect is applicable, and the relevant receptors.

Table 5.1: Summary of assessment scope

Potential effect	Relevant study area	Potential receptor(s)
CONSTRUCTION		
Employment opportunities	• Local scale	• Local workforce
Economic contribution	• Local scale	• Local economy
Neighbourhood amenity	• Local Scale	• Local Residents
OPERATION		
Employment	• Local scale	• Local workforce
Economic contribution	• Local scale	• Local economy
Housing	• Local scale	• Local economy
Council Tax	• Local scale	• Local economy & local workforce
Economy	• Local Scale	• Local Economy and local Residents
Access to Education	• Local Scale	• Local Residents

Access to Healthcare	• Local Scale	• Local Residents
Access to Open Space	• Local Scale	• Local Residents
Health and Wellbeing	• Local Scale	• Local Residents

5.5. Scope and Methodology of Assessment (including significance criteria)

- 5.5.1. There is no overarching Government guidance that sets out the preferred methodology for assessing the likely socio-economic effects of development proposals. Accordingly, the approach adopted for the assessment will be based on professional experience and best practice, and in consideration of the policy requirements/tests set out within the NPPF and Knowsley's Local Plan.
- 5.5.2. The first step in the assessment will be to identify the sensitivity of the receptors. In socio-economic assessments, receptors are not sensitive to changing environmental conditions in the same way as many environmental receptors are. To address this, the assessment will draw on a combination of measurable indicators (jobs, population, etc.) and a consideration of the importance of the receptor in policy terms to gauge the receptor's sensitivity. The sensitivity criteria proposed to be used in the Socio-Economics ES chapter is presented in **Table 5.2**.
- 5.5.3. The magnitude of change upon each receptor will then be determined by considering the predicted deviation from baseline conditions, both before and, if required, after mitigation. The magnitude of effect criteria proposed to be used in the Socio-Economics ES chapter is presented in **Table 5.3**.
- 5.5.4. Wherever possible the magnitude of change will be quantified. Where this is not possible, for example in relation to the social related considerations, consideration of magnitude of change will be on a qualitative basis and justified through baseline research, a review of relevant policy, and consultations undertaken.

Table 5.2: Criteria for Sensitivity of Receptor

Sensitivity	Evidence for Sensitivity Assessment
High	Evidence of direct and significant socio-economic challenges relating to receptor. Accorded a high priority in local, regional or national economic regeneration policy. Evidence of direct and significant socio-economic challenges including: • Areas of population increase / decrease well in excess of / below regional / national averages. • Areas with levels of unemployment well in excess of / below regional / national averages and high levels of relative deprivation (i.e. top 10%). • Areas with claimant count well in excess of / below regional / national averages. • Areas with economic activity rate well in excess of / below regional / national averages. • Areas with GVA increase / decrease well above / below regional / national averages. • Areas with a significant undersupply of housing against the housing target. • Areas within which social and community infrastructure (e.g. education, healthcare and community facilities) have no capacity / are over-subscribed. • Areas with a considerable shortfall of open and recreational spaces / poor quality resources.
Medium	Some evidence of socio-economic challenges linked to receptor, which may be indirect. Change relating to receptor has medium priority in local, regional and national economic and regeneration policy. Some evidence of socio-economic challenges, including: • Areas of population increase / decrease in excess of / below regional / national averages. • Areas with levels of unemployment above / below regional / national averages and levels of relative deprivation (i.e. top 50%). • Areas with claimant count well above / below regional / national averages. • Areas with economic activity rate above / below regional / national averages. • Areas with GVA increase / decrease above / below regional / national averages. • Areas with moderate oversupply / undersupply of housing against the housing target. • Areas within which social and community infrastructure (e.g. education, healthcare and community facilities) have limited capacity. • Areas with a shortfall of open and recreational spaces / moderate-quality resources.
Low	Little evidence of socio-economic challenges relating to receptor. Receptor is accorded a low priority in local, regional and national economic and regeneration policy. Little evidence of socio-economic challenges, including: • Areas of population increase / decrease in line with regional / national averages. • Areas with levels of unemployment in line with regional / national averages and levels of relative deprivation (i.e. bottom 50%). • Areas with claimant count in line with regional / national averages. • Areas with economic activity rate in line with regional / national averages.

Sensitivity	Evidence for Sensitivity Assessment
	- Areas with GVA increase / decrease in line with regional / national averages. - Areas with an oversupply of housing against the housing target. - Areas within which social and community infrastructure (e.g. education, healthcare and community facilities) have some capacity. - Areas with a surplus of open and recreational spaces / high-quality resources or recreational provision of local importance only.
Negligible	No socio-economic issues relating to receptor. Receptor is not considered a priority in local, regional and national economic development and regeneration policy. No socio-economic issues relating to a receptor, including: - No or little change in population. - Areas with levels of unemployment less than regional / national averages and low levels of relative deprivation (i.e. bottom 10%). - Areas with claimant count higher than average regional / national averages. - Areas with economic activity rate higher than average regional / national averages. - Areas with GVA increase / decrease higher than regional / national averages. - Areas with a considerable oversupply of housing against the housing target. - Areas within which social and community infrastructure (e.g. education, healthcare and community facilities) have substantial surplus capacity. - Areas with a considerable surplus of open and recreational space / high-quality resources.

Table 5.3: Criteria for Magnitude of Effect

Magnitude of Impact	Description / Criteria
High	Proposed Development would cause a large change to existing socio-economic conditions in terms of absolute and/or percentage change. - Greater than 5% increase / decrease on existing baseline levels of employment. - Greater than 5% increase / decrease in GVA from baseline. - Greater than 10% of total housing target. - Considerable increase / decrease in provision/quality of open and recreational space generated. - Considerable increase in demand on social and community infrastructure with no capacity / decrease in demand on social and community infrastructure with ample surplus capacity.

Magnitude of Impact	Description / Criteria
Medium	Proposed Development would cause a moderate change to existing socio-economic conditions in terms of absolute and/or percentage change. • 1% – 5% increase / decrease on existing baseline levels of employment. • 1% – 5% increase / decrease in GVA from baseline. • 1% – 5% increase / decrease of total housing target. • Moderate increase / decrease in provision/ quality of open and recreational space generated. • Moderate increase / decrease in demand on social and community infrastructure with limited capacity.
Low	Proposed Development would cause a minor change to existing socio-economic conditions in terms of absolute and/or percentage change. • Limited increase / decrease on existing baseline levels of 0.1% – 0.99% increase / decrease on existing baseline levels of employment. • 0.1% – 0.99% increase / decrease in GVA from baseline. • 0.1% – 0.99% of total housing target. • Limited increase / decrease in provision/quality of open and recreational space impacts. • Limited increase / decrease in demand on social and community infrastructure with surplus capacity.
Negligible	No discernible change in baseline socio-economic conditions.

- 5.5.5. There are no industry standard significance criteria for the assessment of socio-economic effects. The assessment is quantitative where possible. In circumstances where this is not possible, the assessment is qualitative in nature and based on professional judgement. The significance of effect is identified by combining the sensitivity of the receptor against the magnitude of impact using the matrix in **Table 5.4**.

Table 5.4: Significance of Effect

Magnitude of Change	Sensitivity of Receptor				
		High	Medium	Low	Negligible
	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor to Moderate	Negligible
	Low	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

5.6. Preliminary Discussions of Potential Mitigation and Enhancement Measures

- 5.6.1. Requirements for mitigation and opportunities for enhancement measures will be identified and discussed with relevant consultees and the Applicant as soon as practicable.

6. Landscape and Visual Amenity

6.1. Introduction

- 6.1.1. This chapter will assess the effects of the Proposed Development on landscape character and visual amenity. In particular it will identify and assess the anticipated effects of change resulting from the Proposed Development on the character and features of the landscape; and on people's views and visual amenity within the Landscape and Visual Impact Assessment Study Area. The Site is shown on the Site Location Plan, included at **Appendix A and Appendix C**.
- 6.1.2. The chapter will describe the methods used to assess the likely significant effects, the baseline conditions currently existing at the Site and surroundings, the potential direct and indirect effects of the Proposed Development on landscape and visual amenity, the mitigation measures required to prevent, reduce, or offset any identified significant effects and the residual effects.
- 6.1.3. This scoping text has been prepared by Frances Horne, Director at Pegasus Group. Ms Horne is a Chartered Member of the Landscape Institute and has over fifteen years of experience in preparing Landscape and Visual Impact ES Chapters.

6.2. Relevant Policy and Guidance

National Planning Policy Framework (December 2024)

- 6.2.1. Of most relevance is:
- Section 12, Achieving well-designed places (paragraphs 131 and 135–137); and
 - Section 15, Conserving and enhancing the natural environment (paragraph 187)¹⁰.

Knowsley Local Plan Core Strategy (June 2006)¹¹

- 6.2.2. Of most relevance is:
- **Policy CS2 – Development Principles, Principle 4 states:** development should recognise environmental limits, protect and enhance environmental assets, enhance local character and promote quality of place.
 - **Policy CS8 – Green Infrastructure states:** that new development must be served by Green Infrastructure to meet the needs of residents and the local environment.
 - **Policy CS19 – Design Quality and Accessibility in New Development:** seeks to enhance local distinctiveness, requiring development (among other things) to respond to and integrate positive characteristics of the immediate surroundings, including local

¹⁰ National Planning Policy Framework (December 2024), Section 12, Achieving well-designed places (paras. 131, 135–137); Section 15, Conserving and enhancing the natural environment (para. 187).

¹¹ Knowsley Borough Council (2006). *Knowsley Replacement Unitary Development Plan: Saved Policies*.

materials, scale, mass, form, layout, alignment and density of the existing built environment, and, to complement and enhance (where possible) existing landscape, topography, Green Infrastructure.

- **Policy CS20 – Managing the Borough’s Historic Environment** states: development proposals should preserve and enhance the borough’s historic and architectural assets.
- **Policy CS21 – Greenspaces and Trees:** seeks to enhance natural and semi-natural green space and to protect trees. Noting the council encourages development which incorporates the retention of existing trees and vegetations, provides adequate landscape planting and adequate replacement planting where loss is unavoidable.

Supplementary Planning Documents (SPDs)

6.2.3. The relevant SPDs are listed below:

- **Design Quality in New Development SPD (2016)¹²** – The SPD identifies the overarching context for design in the Borough, this includes guidance in relation to building design, density and form, and also landscaping and public open space.
- **Trees and Development SPD (2016)¹³** – The Trees and Development SPD explains the Council’s approach in relation to Trees and Development setting out guidance relating to: promoting best practice for proposals incorporating trees and landscaping within new developments; development proposals affecting existing trees, woodlands and other vegetation; requirements for detailed survey of all existing trees; and requirements for provision of replacement trees.

Knowsley Unitary Development Plan (2006) (June 2006)¹⁴

6.2.4. The majority of the policies with the UDP have been replaced by Local Plan Core Strategy policies, however those of relevance that have been saved are outlined below:

- **Policy DQ4 – Trees and Development:** states proposals for new development should include appropriate planting of trees or other soft landscaping, the location and details of which should be determined as an integral part of the development, and which shall have regard to the character of the surrounding area.

Guidance

6.2.5. The chapter shall be undertaken in accordance with the principles of best practice, as outlined in published guidance documents, notably the third edition of the Guidelines for Landscape and Visual Assessment (GLVIA3)¹⁵.

¹² Knowsley Borough Council (2-16). *Design Quality in New Development: Supplementary Planning Document*.

¹³ Knowsley Borough Council (2016). *Trees and Development Supplementary Planning Document (SPD)*.

¹⁴ Knowsley Borough Council (2006). *Knowsley Replacement Unitary Development Plan: Saved Policies*.

¹⁵ Landscape Institute and the Institute for Environmental Management and Assessment, 2013, *Guidelines for Landscape and Visual Assessment (GLVIA3)*.

6.2.6. The methodology and assessment criteria for the assessment shall be developed in accordance with the principles established in this best practice document. It should be acknowledged that GLVIA3 establishes guidelines, not a specific methodology. The preface to GLVIA3 states:

'This edition concentrates on principles and processes. It does not provide a detailed or formulaic 'recipe' that can be followed in every situation – it remains the responsibility of the professional to ensure that the approach and methodology adopted are appropriate to the task in hand.'

6.2.7. The approach shall therefore be developed specifically for this assessment to ensure that the methodology is fit for purpose.

6.2.8. The LVIA chapter will be prepared in accordance with the following guidance:

- Guidelines for Landscape and Visual Impact Assessment (GLVIA3), Third Edition, 2013; Landscape Institute and the Institute of Environmental Management and Assessment;
- Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third edition (GLVIA) – Technical Guidance Note LITGN-2024-01 (August 2024)¹⁶;
- Landscape Institute Technical Guidance Note 06/19 (2019)¹⁷ – Visual Representation of Development Proposals will be followed in respect of Type 1, Annotated Viewpoint Photographs; and
- Landscape Institute Technical Guidance Note 02/21¹⁸ – Assessing landscape value outside national designations will be followed in respect of the assessment of valuing the landscape.

6.3. Preliminary Assessment of Baseline Conditions

Designations

6.3.1. The Site is not covered by any national or local landscape designations (Figure 6.2 Environmental Designations Plan, **Appendix C**). It adjoins the Registered Park and Garden of Knowsley Hall along part of its eastern and all of its southern boundary. The nearest Listed Buildings to the Site are those of Grade II listed Littlewood Lodge (List Entry: 1253469), approximately 100m south of the Site and Grade II* listed Knowsley Hall (List entry: 1253241), approximately 770m to the east.

¹⁶ Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA) – Technical Guidance Note LITGN-2024-01 (August 2024), Landscape Institute.

¹⁷ Landscape Institute (2019). *Technical Guidance Note 06/19: Visual Representation of Development Proposals*. Landscape Institute.

¹⁸ Landscape Institute (2021). *Technical Guidance Note 02/21: Assessing Landscape Value Outside National Designations*. Landscape Institute.

- 6.3.2. There are no Public Rights of Way (PRoW) within the Site. There are no Tree Preservation Orders (TPOs) on the Site, but groups are located immediately adjacent to the south western boundary.
- 6.3.3. A bridleway marked on Knowsley Council Definitive Map is located immediately west of the Site on Fluker's Brook Lane, travelling westwards, crossing the M57. National Cycle Network Route 862 follows a route approximately 360m west of the Site, adjacent to the western side of the M57.
- 6.3.4. At a local level, the nearest relevant non-statutory designation to the Site is the Knowsley Conservation Area, which is located approximately 110m from the Site's north western boundary at its closest point. There is a further conservation area at Prescott Town Centre more than 2.7km to the south east of the Site.
- 6.3.5. The Site is Safeguarded Land, having been removed from the Green Belt which surrounds the Site to three sides.

Landscape Features

- 6.3.6. The Site is greenfield land occupying approximately 33.6ha. The Site comprises five agricultural fields, two centrally located woodland blocks and hedgerows to most field boundaries. The Site is relatively flat with a gentle rise from approximately 26m AOD in the west to approximately 35m AOD in the east.
- 6.3.7. The Site is bounded along the majority of the northern boundary by an established hedgerow, immediately adjacent to Home Farm Road and the settlement of Knowsley. The Site extends east of Berry Hill Avenue and Ross Close Playing Fields to the rear of residential properties on Sugar Lane and Parklands and the boundary with Home Farm, a cluster of buildings with commercial and office uses. The remainder of the eastern boundary and the southern boundary comprise part of the well wooded edges of Knowsley Park Registered Park and Garden. The western boundary is defined by a hedgerow and Knowsley Lane, beyond which a tract of woodland extends to the M57.

Landscape Character

- 6.3.8. The Site sits within National Character Area (NCA) 32¹⁹, Lancashire and Amounderness Plain but close to the boundary with NCA 58: Merseyside Conurbation, as shown at Figure 6.3 (Landscape Character Plan, **Appendix C**).
- 6.3.9. The NCA 32 is described as *"an area of high-grade agricultural land, bounded by Morecambe Bay in the north and Liverpool in the south. The eastern boundary is contained by the Bowland Fringe. The plain is made up of a series of low-lying landscape types: in the east, undulating lowland farmland on the highly productive coastal plain, and in the west, the former mosslands and their remnant sites, and the coastal marshes and dunes"*.

¹⁹ National Character Area 32, *Lancashire and Amounderness Plain*, from Natural England's *National Character Area Profile: 32 Lancashire and Amounderness Plain* (England's Natural Environment). Available at: <https://nationalcharacterareas.co.uk/lancashire-and-amounderness-plain/> Accessed 20.01.2025.

- 6.3.10. At a local level, the Site falls within Landscape Character Type (LCT) 'Urban Fringe Farmed Parkland' and Landscape Character Area (LCA)²⁰ 'Knowsley Estate' of the Landscape Character Assessment of Knowsley Metropolitan Borough²¹ (see Figure 6.3, **Appendix C**).
- 6.3.11. The key summary points of LCA, Knowsley Estate, of relevance to this report are outlined below:
- *"Both flat low-lying topography and gently rolling topography: ...*
 - *Private formal estate with some agricultural cropping to the north of the estate – Cereal and Market Gardening;*
 - *Clumps, planting belts and small woodlands provide a high tree cover within the estate. Mixes of deciduous and evergreen species provide seasonal interest and are used to enhance vistas throughout the estate;*
 - *Large country house set in walled parkland with a number of outlying estate houses and farm dwellings. Mainly red brick with some sandstone and pitched grey slate tiled roofs;*
 - *The Estate consists of the flat low lying topography to the North containing the farmland and the rolling topography of the south containing the formal estate and the pastures;*
 - *Urban influences on the area are minimal apart from some minor periphery noise from road traffic including the M57 and A580. This provides a sense of remoteness;*
 - *The Estate is enclosed within a sandstone wall providing a positive visual impact along its boundary;*
 - *The estate is well maintained and managed with ongoing restoration and replanting ensuring a quality landscape is sustained;*
 - *Woodland tree lines are always prominent as a backdrop to the estate landscapes".*
- 6.3.12. The Site and immediate surroundings comprise agricultural land with two areas of woodland located within the Site boundary. Field boundaries are generally defined by hedgerows. The southern boundary and majority of the eastern boundaries are defined by Knowsley Hall estate wall, although in a section close to Home Farm the wall has been reinstated in blockwork that is out of character with the original wall.
- 6.3.13. Home Farm is a cluster of buildings, associated with the former estate that are used for office and commercial use. The settlement of Knowsley abuts the northern boundary along Sugar Lane and Home Farm Lane. This residential area influences the character of the Site, being on the urban fringe and is visible from the majority of the Site. The mature woodland within the

²⁰ Specific excerpts about LCT 'Urban Fringe Farmed Parkland' and LCA 'Knowsley Estate' from *Landscape Character Assessment of Knowsley Metropolitan Borough*.

²¹ *Landscape Character Assessment of Knowsley Metropolitan Borough*, 2007.

grounds of Knowsley Hall and west of Knowsley Lane provide a wooded backdrop to the Site. The Site is very well contained on all boundaries.

Visual Receptors

- 6.3.14. Important visual receptors are likely to include residents, road users, recreational and other receptors and are summarised as follows:

Residential Receptors:

- Properties along Home Farm Lane;
- Properties along Berry Hill Avenue;
- Properties on Ross Close;
- Properties west of Knowsley Lane; and
- Knowsley Village Conservation Area²².

Recreational Receptors:

- PRoW Bridleway KN/5/1;
- PRoW Footpaths north of Pinfold Lane;
- Users within the grounds of Knowsley Hall; and
- Ross Close Playing Fields.

Road Receptors:

- Home Farm Lane, Berry Hill Avenue, Riding Hill Road, Longborough Road and Whitestone Close;
- Sugar Land and Ross Close;
- Ormskirk Road; and
- Knowsley Lane.

6.4. Potential Effects (Including Identification of Specific Receptors)

- 6.4.1. The chapter will address all phases of the Proposed Development and effects will be considered both during the construction phase, when the development is being built (temporary effects) and following completion of the development (permanent effects). Permanent landscape and visual effects would be assessed both in the winter of year 1 (the

²² *Knowsley Village Conservation Area Character Appraisal*, Knowsley Metropolitan Borough Council, available at: https://www.knowsley.gov.uk/sites/default/files/Knowsley_Village_Conservation_Area_Character_Appraisal.pdf

year in which the development is completed) and also in the summer of year 15 (15 years after completion of the development). In the Year 15 scenario it is assumed that vegetation planted as part of the Proposed Development will have established and exhibit a degree of maturity.

- 6.4.2. Consideration shall be given to seasonal variations in the visibility of the Proposed Development, and these will be described where necessary.
- 6.4.3. Both beneficial and adverse effects shall be identified in the assessment and reported as appropriate. Effects shall be described as 'neutral' where beneficial effects are deemed to balance the adverse effects. The adverse and beneficial effects shall be communicated in each case so that the judgement is clear.

Study Area

- 6.4.4. Preliminary appraisal work has already been undertaken in relation to the Proposed Development. This has included both desk study and analysis undertaken in the field, with a number of visits undertaken to the Site and its wider landscape context, at different times of the day and in different weather conditions. This work considered an initial study area of approximately 3km radius from the Site focussing upon locations from where a Zone of Theoretical Visibility (ZTV) indicated potential for development within the site to be seen. A ZTV and a Screened Zone of Theoretical Visibility (SZTV) for the proposed development is included at Figure 6.4, **Appendix C**.
- 6.4.5. The constrained visual envelope depicted in the SZTV (Figure 6.4, **Appendix C**) is a good reflection of the actual potential visibility in reality. As a result, it is proposed that for both landscape and daytime visual effects are assessed within a 1.5km study area. This area encompasses key visual receptors, including residents, road users, and recreational users of nearby spaces such as Ross Close Playing Fields and the bridleway.
- 6.4.6. Considering the built-up nature of the existing settlement edge to the north of the Site, and the wider Merseyside urban conurbation, assessment of night time effects is proposed to be scoped out of the LVIA.

Potential Landscape Effects

- 6.4.7. Potential effects on landscape will consider both the landscape character and landscape features. Taking into account the published character assessments and baseline landscape context as described above, effects upon the following landscape receptors which fall within the study area will be considered:
- Existing landscape features within and immediately adjoining the Site;
 - Knowsley Estate LCA;
 - Knowsley Village/M57 Corridor LCA; and
 - Settlement area of Kirkby LCA.
- 6.4.8. Effects upon the National Character Area (NCA) 32, Lancashire and Amounderness Plain are not deemed to be significant and are scoped out of the assessment.

Potential Visual Effects

- 6.4.9. The selection of visual receptors will be informed by desk study, Screened Zone of Theoretical Visibility (SZTV) (Figure 6.4, **Appendix C**) and site visits. The LVIA will include people with views towards the Site from publicly accessible locations such as Public Rights of Way, public open spaces and roads.
- 6.4.10. Based on initial site work, the actual extent of visibility is aligned with that shown in the SZTV. On this basis, a provisional list of viewpoints has been developed which it is considered would be appropriate for the assessment. The locations of the selected viewpoints are shown on Figure 6.4 included in **Appendix C**. The list of viewpoints has been selected to represent a range of views and viewer types and at varied distances from the Site to convey the nature of views towards it. The viewpoints cover a variety of different landscape character types and different visual receptor groups.

6.5. Scope and Methodology of Assessment (Including Significance Criteria)

Methodology

- 6.5.1. It is acknowledged from the outset that, in common with almost all development proposals of this scale, some landscape and visual effects would occur as a result of the proposals.
- 6.5.2. A key principle of the European Landscape Convention²³ is that all landscapes matter and should be managed appropriately. It is also acknowledged that landscapes provide the surroundings for people's daily lives and often contribute positively to the quality of life and economic performance of an area.
- 6.5.3. It is therefore proposed that a landscape and visual chapter is undertaken as part of the ES to support the planning application submission. This assessment will be undertaken by Chartered Landscape Architects at Pegasus Group who are experienced in the assessment of landscape and visual effects of residential developments and are familiar with the local landscape.
- 6.5.4. It is proposed that the main objectives of the LVIA will be as follows:
- To identify, evaluate and describe the current landscape character of the Site and its surroundings and also any notable individual or groups of landscape features within the Site;
 - To determine the sensitivity of the landscape to the type of development proposed;
 - To identify potential visual receptors (i.e. people that would be able to see the development) and evaluate their sensitivity to the type of changes proposed;

²³ *European Landscape Convention*, Council of Europe, 2000. Available at: <https://www.coe.int/en/web/culture-and-heritage/european-landscape-convention>

- To identify and describe any impacts of the Proposed Development in so far as they affect the landscape and/or views of it and evaluate the magnitude of change due to these impacts;
- To identify and describe mitigation measures that have been adopted to avoid, reduce and compensate for landscape and visual effects;
- To identify and assess any cumulative landscape and visual effects; and
- To evaluate the level of residual landscape and visual effects;

Distinction between Landscape and Visual Effects

6.5.5. In accordance with the published guidance, landscape and visual effects shall be assessed separately, although the procedure for assessing each of these is closely linked. A clear distinction has been drawn between landscape and visual effects as described below:

- Landscape effects relate to the effects of the proposals on the physical and perceptual characteristics of the landscape and its resulting character and quality; and
- Visual effects relate to the effects on specific views experienced by visual receptors and on visual amenity more generally.

Significance Criteria

6.5.6. The purpose of an LVIA when produced in the context of an EIA is to identify any significant effects on landscape and visual amenity arising from the Proposed Development. In this LVIA the level of effect on any given landscape or visual receptor will firstly be assessed and then a professional judgement provided as to whether the effect is significant or not.

6.5.7. Neither EC Directive 2014/52/EU²⁴ nor the Town and Country Planning (Environmental Impact Assessment) Regulations 2017²⁵ define a threshold at which an effect may be determined to be significant. In certain other environmental disciplines, there are regulatory thresholds or quantitative standards which help to determine the threshold of what constitutes a significant effect. However, in LVIA, the consideration of what constitutes a significant effect is in effect a judgement expressed by a competent and appropriately qualified professional assessor.

6.5.8. The level (relative significance) of landscape and visual effects is determined by combining judgements regarding the sensitivity of the landscape or view, magnitude of change, duration of effect and the reversibility of the effect. In determining the level of residual effects, all mitigation measures are taken into account.

6.5.9. The relative level of effect is described as major, moderate/major, moderate, moderate/minor, minor or minor/no effect. No effect may also be recorded as appropriate where the effect is so negligible it is not even noteworthy. Those effects described as major, major/moderate

²⁴ EC Directive 2014/52/EU (Amending Directive 2011/92/EU on Environmental Impact Assessment). Available at: <https://eur-lex.europa.eu/eli/dir/2014/52/oj>

²⁵ Town and Country Planning (Environmental Impact Assessment) Regulations 2017, Statutory Instrument 2017 No. 571. Available at: <https://www.legislation.gov.uk/uksi/2017/571/contents/made>

and in some cases moderate, may be regarded as significant effects as required by the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, however the final conclusions are as a result of professional judgement. The LVIA chapter of the ES will set out the assessment criteria in detail to ensure that all judgements made in the assessment are transparent and justified.

Assessment of Cumulative Effects

- 6.5.10. If necessary, consideration shall also be given to the potential for any cumulative landscape and visual effects with other similar developments in the study area.

Assessment Viewpoints

- 6.5.11. The assessment of visual effects will be undertaken with reference to viewpoint analysis as recommended by best practice guidelines. It is however acknowledged that viewpoints are snap shots of the view from a small number of the potential locations where the proposals would be visible. The visual assessment will therefore provide a broader discussion of visual effects on a range of visual receptors throughout the study area with reference made to the selected representative viewpoints.
- 6.5.12. Based on initial site work, a provisional list of viewpoints has been developed which it is considered would be appropriate for the assessment. The proposed locations are set out in the table below and are illustrated on the SZTV at Figure 6.4 (**Appendix C**). The list of viewpoints has been selected to represent a range of views and viewer types and at varied distances from the Site to convey the nature of views towards the Site. The viewpoints cover a variety of different landscape character types and different visual receptor groups. As part of the LPAs Scoping Opinion, we welcome confirmation on the proposed viewpoint locations.

Table 6.1 Proposed Viewpoints

Viewpoint Number	Approximate Coordinates	Viewpoint Description
1	343491 , 394881	Longborough Road.
2	343277 , 394862	B5194, Knowsley Lane
3	343275 , 394703	Fuller's Brook Lane, PRoW KN/5/1 (Bridleway)
4	343295 , 394427	B5194, Knowsley Lane at Knowsley Cottage
5	343299 , 394298	B5194, Knowsley Lane at Littlewood Lodge
6	343815 , 394866	Home Farm Road (East)
7	343773 , 395109	Ross Close
8	343966 , 395140	Parklands
9	344178 , 395093	George Hale Avenue
10	343063 , 395587	PRoW KN/2/1 (Footpath)
11	342962 , 394669	Fuller's Brook Lane, PRoW KN/5/1 (Bridleway)

6.6. Preliminary Discussions of Potential Mitigation and Enhancement Measures

- 6.6.1. The primary mitigation adopted in relation to landscape and visual matters is likely to be embedded within the design of the Proposed Development and will comprise the consideration given to avoiding and minimising landscape and visual effects during the evolution of the Proposed Development layout.
- 6.6.2. It is often possible for landscape mitigation to comprise aspects which strengthen existing landscape characteristics, repair landscape elements which may have been eroded over time and to improve the habitat and ecological diversity of the landscape.
- 6.6.3. As part of the Proposed Development, areas of new planting would be introduced. Newly planted vegetation takes a number of years to mature and average growth rates shall be taken into consideration in the assessment. The effectiveness of vegetation would improve over time (both in terms of integrating the development into the surrounding landscape and in providing visual screening) and this shall be considered appropriately. Consideration to local landscape character and vernacular would be taken account of, to avoid creating landscape features which are not apparent in the locality.

7. Ecology & Biodiversity

7.1. Introduction

- 7.1.1. This chapter will assess the Proposed Development described in Chapter 2 in relation to Ecology.
- 7.1.2. The assessment will identify potential Important Ecological Features within specified zones of influence. The baseline situation is considered before the likely environmental effects of the Proposed Development are identified during its construction and operational phases. Mitigation measures to reduce any negative environmental effects are identified as appropriate, before the residual environmental effects are assessed.
- 7.1.3. This scoping text has been prepared by an experienced Principal Ecologist at FPCR who is an associate member of CIEEM.

7.2. Relevant Policy and Guidance

- 7.2.1. The national policy and legislation most relevant here are:
- The Environment Act 2021²⁶;
 - Conservation of Habitats and Species Regulations 2017 (as amended) and Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (The Habitat Regulations)²⁷;
 - The Wildlife and Countryside Act 1981 (WCA) (as amended) in relation to all wild birds (including Schedule 1 species), other animals (notably Schedule 5 species), flora (those listed in Schedules 8 and 9) and Sites of Special Scientific Interest (SSSI)²⁸;
 - Protection of Badgers Act 1992²⁹;
 - Natural Environment and Rural Communities (NERC) Act 2006 in relation to various priority species and habitats³⁰;
 - Hedgerow Regulations 1997 made under Section 97 of the Environment Act 1995³¹;

²⁶ The Environment Act 2021. (2021). *Environment Act 2021*. Available at:

<https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

²⁷ Conservation of Habitats and Species Regulations 2017 (as amended) and Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (The Habitat Regulations). (2017/2019). *Conservation of Habitats and Species Regulations*. Available at:

<https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

²⁸ The Wildlife and Countryside Act 1981 (WCA) (as amended). (1981). *Wildlife and Countryside Act 1981*.

²⁹ Protection of Badgers Act 1992. (1992). *Protection of Badgers Act 1992*. Available at:

<https://www.legislation.gov.uk/ukpga/1992/51/contents/enacted>

³⁰ Natural Environment and Rural Communities (NERC) Act 2006. (2006). *Natural Environment and Rural Communities Act 2006*.

Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents/enacted>

³¹ Hedgerow Regulations 1997. (1997). *Hedgerow Regulations 1997*. Available at:

<https://www.legislation.gov.uk/uksi/1997/1160/contents/made>

- National Planning Policy Framework (NPPF) (2024)³²;
- Local planning policy as included within the Knowsley Local Plan: Core strategy and supplementary planning documents³³.
- Local Nature Reserves (LNR) as designated most recently by the NERC Act 2006³⁴;
- Non-statutory protected local sites including County Wildlife Sites (CWS), Sites of Importance for Nature Conservation (SINC), Local Wildlife Sites (LWS) and Ancient Woodland Inventory (AWI) sites³⁵;
- Local Biodiversity Action Plans (LBAP)³⁶; and
- Birds of Conservation Concern (BoCC)³⁷.

National Planning Policy Framework (December 2024)³⁸

7.2.2. Of most relevance is Section 15, Conserving and enhancing the natural environment:

- Paragraph 187: *“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;*
 - d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs;*
 - 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,*

³² National Planning Policy Framework (NPPF) 2024. (2024). *National Planning Policy Framework*. Available at:

<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

³³ Knowsley Local Plan: Core Strategy and Supplementary Planning Documents. (2016). *Knowsley Local Plan: Core Strategy*.

Available at: <https://www.knowsley.gov.uk/>

³⁴ Local Nature Reserves (LNR) as designated by the NERC Act 2006. (2006). *Local Nature Reserves*. Available at:

<https://www.gov.uk/government/collections/local-nature-reserves>

³⁵ Non-statutory protected local sites including County Wildlife Sites (CWS), Sites of Importance for Nature Conservation (SINC), Local Wildlife Sites (LWS) and Ancient Woodland Inventory (AWI) sites. (n.d.). *Local Nature Sites Protection*. Available at:

<https://www.naturalengland.org.uk>

³⁶ Local Biodiversity Action Plans (LBAP). (n.d.). *Local Biodiversity Action Plans*. Available at: <https://www.ukbap.org.uk>

³⁷ Birds of Conservation Concern (BoCC). (2021). *Birds of Conservation Concern*. Available at: <https://www.rspb.org.uk>

³⁸ <https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment>

help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans.”

- Paragraph 192 *“To protect and enhance biodiversity and geodiversity, plans should:*

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

Knowsley Local Plan Core Strategy (Jan 2016)³⁹

7.2.3. Of most relevance are:

- Policy CS2 – Development Principles, Principle 4 states: development should maintain or enhance the quantity and quality of biodiversity and habitats, including potential impacts on nationally and internationally important sites for biodiversity;
- Policy CS8 – Green Infrastructure states: Knowsley's existing Green Infrastructure and its beneficial functions will be protected, managed and/or enhanced, to sustain and promote biodiversity ... in accordance with importance and contribution to ecological networks. New development will ... c) Seek to protect, maintain and where possible enhance biodiversity within and around new developments according to their designation and significance to provide space for nature; and d) Provide adequate mitigation and/or, as a last resort, compensation for Green Infrastructure or biodiversity loss, in circumstances where harm resulting from the development is otherwise unavoidable.
- Policy CS21 – Enhancement of Natural and Semi-Natural Greenspace and Tree Protection: The Council will encourage proposals for new development to incorporate: a) Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to ... biodiversity/wildlife interest; b) Appropriate planting of trees, other soft landscaping and installation of habitat features for the benefit of biodiversity; and c) Adequate replacement provision where tree loss is unavoidable, comprising two additional trees for every tree lost and taking account of species and size.

Supplementary Planning Documents (SPDs)

7.2.4. Of relevance is:

- **Trees and Development SPD (2016)⁴⁰** – The Trees and Development SPD explains the Council's approach in relation to Trees and Development setting out guidance relating to: promoting best practice for proposals incorporating trees and landscaping within new developments; development proposals affecting existing trees, woodlands and

³⁹ <https://www.knowsley.gov.uk/sites/default/files/2023-11/knowsley-local-plan-adopted-core-strategy.pdf> Accessed 04/02/2025.

⁴⁰ Knowsley Borough Council (2016). *Trees and Development Supplementary Planning Document (SPD)*.

other vegetation; requirements for detailed survey of all existing trees; and requirements for provision of replacement trees.

Knowsley Unitary Development Plan (2006) (June 2006)⁴¹

7.2.5. Saved policies of relevance are:

- Policy DQ4 – Trees and Development:
 - 4. Where the Council accepts that tree loss will be unavoidable the applicant will be required to make adequate provision for their replacement, normally including two new trees for each tree lost. Replacement planting will take into account the number; size and species of trees lost and should contribute to the extension of tree and woodland cover across the Borough.
 - 5. All new development should be consistent with the aims and objectives of the Mersey Forest Plan.⁴²
- Policy ENV3– Light Pollution – d) The scheme will not harm wildlife.

Guidance

7.2.6. The chapter will be prepared with reference to the Chartered Institute of Ecology and Environmental Management's (CIEEM) EcIA Guidelines⁴³. In line with this guidance, the ES chapter:

- Provides a summary of the methods and results of all survey work to establish an ecological baseline;
- Identifies and describes all potentially significant ecological effects associated with the proposed development on important ecological features;
- Sets out the mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects;
- Provides an assessment of the significance of residual effects;
- Identifies appropriate enhancement measures and considers biodiversity net gain; and
- Sets out any requirements for post-construction monitoring.

⁴¹ Knowsley Borough Council (2006). *Knowsley Replacement Unitary Development Plan: Saved Policies*.

⁴² <https://merseyforest.org.uk/our-plan/>

⁴³ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

7.3. Preliminary Assessment of Baseline Conditions

- 7.3.1. A UKHab Classification (UKHab) survey and desktop study were completed by FPCR in 2022. This will be updated in 2025, to inform the application.

Designated and Non-Designated Sites

- 7.3.2. Whilst no internationally designated sites are located within 10km of the Site boundary, several sites on the National Network are located close to the 10km buffer zone:

- 7.3.3. The following designated sites will be included within the assessment:

- Sefton Coast SAC;
- Ribble and Alt Estuaries SPA;
- Ribble and Alt Estuaries Ramsar site;
- Mersey Narrows and North Wirral Foreshore SPA;
- Mersey Narrows and North Wirral Foreshore Ramsar site;
- Martin Mere SPA;
- Martin Mere Ramsar site;
- Mersey Estuary SPA;
- Mersey Estuary Ramsar site;
- Liverpool Bay SPA

- 7.3.4. Five Local Wildlife Sites (LWS) and the M57 corridor Nature Improvement Area⁴⁴ were identified within 1km of the Site during the consultation exercise. Two LWS lie adjacent to the Site boundary (Knowsley Park and Aker's Pits).

Priority Habitats

- 7.3.5. Historical mapping and Merseyside Biobank ancient woodland indicator records suggest a number of the LWS and other woodlands within the Site or in close proximity to the Site may be ancient or long established. These woodlands are also identified as Priority woodland, these are:

- Howards Pits and Knowles's Pits (within the Site)
- River Alt and M57 corridor NIA (adjacent to the western border)

⁴⁴ [Liverpool City Region Ecological Network](https://lcreconet.uk/) – <https://lcreconet.uk/>

- Ash Plantation (adjacent to the Site within Knowsley LWS)
- Jacks Brow Plantation (within Knowsley Park LWS)
- Akers Pits (13m west)
- Little Wood LWS (290m west)
- The Roughs LWS (390m west)
- Meakins Pits LWS (649m north west)

Ecological Baseline

- 7.3.6. The main habitats present on Site include woodland, grassland, arable, scrub, native hedgerows and several ponds. Lowland mixed deciduous woodland – a North Merseyside BAP priority habitat – was identified on Site and native bluebell – a Schedule 8 and North Merseyside BAP species – was noted as a rare occurrence within the woodland on Site.
- 7.3.7. The invasive non-native species rhododendron was noted within woodland on Site
- 7.3.8. All hedges are species-poor hawthorn dominant hedges. None of the hedgerows are likely to be considered 'Important' under the ecology sections of Hedgerow Regulations 1997. However, all hedges support >80% native species (primarily hawthorn) and therefore qualify as a Habitat of Principal Importance under NERC Act 2006⁴⁵.
- 7.3.9. No species records were returned for the Site within the desktop study. The Site is considered to provide suitable habitat for a range of protected/notable species including breeding and wintering birds, great crested newt, bats, badger, red squirrel, brown hare and hedgehog. A suite of further surveys has and is being undertaken throughout 2024 and 2025 to inform the presence/likely absence of these species, and any required mitigation, should impacts be likely.
- 7.3.10. The Site is located within a Red Squirrel Protection zone.

7.4. Potential Effects (including identification of specific receptors)

- 7.4.1. A summary of the important ecological features (IEF) that have been determined as requiring a detailed assessment is provided in **Table 7.1**. The chapter will address potential effects of the Proposed Development upon these IEF receptors during the construction and operational phase of the Proposed Development.

⁴⁵ Natural Environment and Rural Communities (NERC) Act 2006. (2006). *Natural Environment and Rural Communities Act 2006*. Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents/enacted>

Table 7.1: Summary of Important Ecological Features and their Relative Geographical Importance

Ecological Feature	Geographical / Ecological Frame of Reference
Statutory Designated Sites	International
Non-Statutory Designated Sites	County
Priority habitat – Ancient Woodland	County
LD Woodland / native bluebell	County
Invasive species – Rhododendron	N/A
GCN and other amphibians	TBC
Breeding and overwintering birds	TBC
Roosting, commuting and foraging bats	TBC
Badger	TBC
Red squirrel	TBC
Water vole	TBC
Other mammals	Local

Designated and Non-Designated Sites

- 7.4.2. Given the nature of Proposed Development, it is likely that a Habitats Regulations Assessment will be required to assess potential impacts of increased recreational pressure on nearby internationally designated sites. Therefore, a shadow Habitat Regulations Assessment will be undertaken and will form part of the planning submission to assess these potential effects.
- 7.4.3. Potential impacts on local sites will need to be addressed within a Construction Environmental Management Plan (CEMP), which can be secured through an appropriately worded planning condition. Two of the LWS' are formally accessible to the public (Knowsley Park and Little Wood). An assessment will be needed to assess any impacts which may arise due to increased visitor use following development.

Habitats and Flora

- 7.4.4. Potential impacts to consider include habitat loss and/ or degradation during both the construction and operational phases.
- 7.4.5. A UKHab Classification survey update and Invasive non-native plant species survey will be undertaken in 2025 to inform any changes to baseline since the previous survey.
- 7.4.6. Additionally, detailed botanical surveys of the onsite woodland habitats will be undertaken in spring 2025 to inform the baseline condition assessments and assess whether any would meet criteria as Priority habitat or Ancient Semi Natural Woodland (ASNW). The ASNW survey will be extended to Ash Plantation, Akers Pits LWS, Little Wood LWS and The Roughs LWS

which are also identified as possible ASNW and are located either directly adjacent to the Site or within 500m.

- 7.4.7. A Biodiversity Impact Assessment using the Statutory Biodiversity Net Gain Metric will be completed to quantify any changes in biodiversity value of the Site's habitats and inform design proposals. Once outline layouts are clarified, an illustrative Biodiversity Net Gain calculation will be undertaken in order to demonstrate how a 10% net gain can be delivered for the project.

Fauna

- 7.4.8. Potential impacts to consider include killing, injury and disturbance of fauna, habitat loss, degradation, fragmentation and/or modification. Impacts may occur within both the construction and operational phases.
- 7.4.9. The following additional species surveys will be undertaken in 2025 to assess presence/likely absence within the zone of influence and inform any required mitigation and/or compensation:
- Great crested newt presence/likely absence survey of suitable ponds within 250m of the site.
 - Breeding and wintering bird surveys.
 - Bat activity survey of the Site and roost assessment of any trees to be impacted by works – both directly and indirectly.
 - Badger presence/likely absence survey.
 - Red squirrel presence/likely absence survey.
 - Water vole survey.
- 7.4.10. Some suitable reptile habitat was identified within scrub and woodland edges and tussocky grassland. However, there are no local records for reptiles and the Site does not have connectivity to any habitats within the locality which are likely to be of value for reptiles. Reptiles are scoped out of the assessment.

7.5. Scope and Methodology of Assessment (including significance criteria)

Assessment Approach

- 7.5.1. The impact assessment will be undertaken with reference to the Chartered Institute of Ecology and Environmental Management's (CIEEM) EcIA Guidelines⁴⁶. Baseline information and potential impacts will be quantified as far as practical to inform the assessment, supported by professional judgement and experience as appropriate. Where uncertainties

⁴⁶ Chartered Institute of Ecology and Environmental Management (CIEEM). (2018). *Ecological Impact Assessment (EcIA) Guidelines*. 2nd ed. Winchester: CIEEM. Available at: <https://cieem.net>

exist, a precautionary approach will be adopted, and a 'worse case' scenario approach assumed for the purposes of assessing impacts and recommending mitigation.

7.5.2. The significance of ecological impacts in relation to a proposal can be considered in relation to the importance of affected ecological features and the predicted magnitude of impact upon them.

7.5.3. The main source of information for this assessment are:

- Biological records (obtained from the relevant Local Biological Records centre and local interest groups);
- Online sources of Ecological Data;
- Review of legislation and land-use policies;
- Field surveys.

Zone of Influence

7.5.4. The CIEEM guidelines require the identification of a 'zone of influence' (Zoi) within which the ecological features that may be affected by the Proposed Development can be identified. This will identify the potential impact of the Proposed Development not just to the Site but beyond the boundaries of Proposed Development.

7.5.5. The Zoi is determined by the source / type of impact, a potential pathway for that impact and the location and sensitivity of the important ecological feature beyond the boundary. For the majority of impacts identified as part of the Proposed Development, the Zoi is generally considered as the Site and immediately surrounding areas.

7.5.6. However, the Zoi can also vary considerably depending upon the species potentially affected by the Proposed Development. For example, some species may be confined to a specific location whilst others, such as bats and birds are more mobile and can occupy much larger home ranges. The presence of dispersal barriers can also have an effect on the Zoi such as roads or rivers which may either reduce the potential of animals crossing it or could cause a potential means of killing or injury. As such, this could isolate areas of potentially suitable habitat within the Proposed Development due to fragmentation. In each case this is considered in association with the nature and scale of the Proposed Development and informed by best practice guidance and professional judgement.

7.5.7. Specific study areas were identified for the desk study and field surveys to inform the valuation of ecological features and the selection of 'key' ecological features material to the assessment.

Determining Importance

7.5.8. CIEEM have identified various characteristics that can be used to identify ecological features or features likely to be important in terms of biodiversity. These include:

- Animal or plant species that are rare or uncommon, either internationally, nationally or more locally;

- Ecosystems and their component parts, which provide the habitats required by the above species, populations and / or assemblages;
- Endemic species or locally distinct sub-populations of a species;
- Habitat diversity, connectivity and or / synergistic associations (e.g. networks of hedgerows and areas of species-rich pasture that may provide important feeding habitat for rare species);
- Notably large populations of animals or concentrations of animals considered uncommon or threatened in a wider context;
- Plant communities (and their associated animals) that are considered to be typical valued natural / semi-natural vegetation types – these will include examples of natural species-poor communities;
- Species on the edge on their range, particularly where their distribution is changing as a result of global trends and climate change;
- Species-rich assemblages of plants and animals; and
- Typical faunal assemblages that are characteristic of homogenous habitats.

7.5.9. Once an ecological feature has been identified as being important, guidelines promote the use of characterising this feature with the relevant geographic frame of reference. This allows the scale of significance of effects to be presented in a meaningful way and provides a focus of maintaining a feature at an appropriate scale. The known or potential value of an ecological feature within this assessment will be considered within the following geographical context:

- International;
- National;
- Regional;
- County (Merseyside); and
- Local (Knowsley District).

7.5.10. If an ecological feature is not considered to be important, the Proposed Development is not anticipated to have an effect that would be of relevance to the decision maker and these features are not considered further within the assessment. Exceptions to this would be if the species, population or habitat in question was identified as having a high social or economic value or if they are afforded legal protection (e.g. badgers). While the assessment does include protected species that receive statutory protection and are of material consideration at the local level, the presence of such a species does not necessarily infer value in relation to the Proposed Development but only to the level of protection it receives.

7.5.11. As such the value of the Proposed Development for protected species is considered by the specific ecological feature, taking into account the level of activity, the level of protection it receives and the overall value of habitat to that species within the Site.

- 7.5.12. Features with a value of local or above were considered to represent an 'Important Ecological Feature' (IEF). Those features not meeting the criteria for IEF's were classified as having either lower than local level (immediate zone of influence) or negligible ecological importance.
- 7.5.13. Evaluation of habitats which did not reach this scale of significance were otherwise recognised as being of negligible significance or as providing habitat diversity at a site level but not considered to appreciably enrich the habitat resource at a local level.

Determining Impacts and Effects

- 7.5.14. The CIEEM guidelines, define an impact as an influence on an ecological feature. The effect is the outcome of the influence on the ecological feature. As part of the EclA it is important to assess whether or not an impact is defined as an effect (negative or positive) on the integrity of a defined site or ecosystem and / or the conservation status of a habitat or species within a given geographical area (CIEEM, 2018).
- 7.5.15. Impacts should be identified and understood to be able to determine their likely effect (consequence) of that impact in relation to the ecological feature.
- 7.5.16. As part of the process of determining whether there is likely to be an effect on the status of an ecological feature, the following questions are considered:
- Will any site / ecosystem process be removed or changed?
 - What will be the effect on the nature, extent, structure and function of component habitats?
 - What will be the effect on the average population size and viability of the component species?
- 7.5.17. A description of parameters that are considered when assessing the degree and type of change are detailed in **Table 7.2** below.

Table 7.2: Parameters used to describe effects

Parameter for describing impacts on ecological structure and function	Definition of the parameter
Positive or Negative	Whether the impact has a positive or negative effect
Extent	The area of which the effect occurs
Magnitude	The size or amount of an effect
Duration	The time for which the effect is predicted to last prior to recovery or replacement of the resource or feature
Reversibility	Whether the effect is permanent (i.e. irreversible) or temporary (i.e. reversible)
Timing and Frequency	How often the effect occurs (e.g. repeated noise from piling work) and when it occurs (e.g. vegetation clearance undertaken outside of the bird breeding season).

- 7.5.18. With reference to the duration of an ecological impact, in addition to other uses, for the purposes of the assessment **Table 7.3** defines the timeframes used within the chapter:

Table 7.3: Definition of timeframes

Term	Definition within this assessment
Short term	1–5 years
Medium term	6–15 years
Long term	16–60 years

- 7.5.19. In addition to considering the effect on the ecological feature an assessment of significance of the residual effect (for the type / nature of change), is provided in **Table 7.4** below.

Table 7.4: Classification of the Significance of the Effects

Impact Classification	Explanation
Significant Negative Effect	Likely to create a significant negative effect, including loss, or long-term or irreversible damage on the status of the ecological feature.
Not Significant Negative Effect	Likely to create a negative effect without causing long-term or irreversible damage to the status of ecological feature.
Neutral	Effects are either absent or such that no overall net change to the ecological feature.
Not Significant Positive Effect	Likely to create a beneficial effect on an ecological feature, or providing a new lower value ecological feature without improving its conservation status.
Significant Positive Effect	The activity is likely to create a significant beneficial effect, including long-term enhancement and favourable conditions for an existing ecological feature.

- 7.5.20. Once an effect is considered to be significant then the scale of effect is assessed on a geographical scale (i.e. international, national, regional, district etc.). For example, the effect may not be significant at a district scale, but significant at a more local scale. It is important to note that effects on features may need to be considered at more than one geographical scale.

Mitigation, Compensation and Enhancement

- 7.5.21. For the purpose of the ES Chapter, impacts on ecological features are generally assessed without mitigation in place. Although in some situations it is impossible to separate the mitigation as this is embedded into the Proposed Development, in these situations it will be acknowledged and just the residual effects considered.
- 7.5.22. Baseline information and potential impacts have been quantified as far as practical to inform the assessment, supported by professional judgement and experience as appropriate. Where uncertainties exist, a precautionary approach has been adopted and a 'worse case' scenario approach assumed for the purposes of assessing impacts and recommending mitigation.

7.6. Preliminary Discussions of Potential Mitigation and Enhancement Measures

- 7.6.1. In line with current CIEEM guidelines, a sequential process, known as the 'mitigation hierarchy' should be adopted on negative ecological impacts and effects. This involves:
- Avoid negative ecological effects;
 - Reduce negative effects that cannot be avoided (mitigate); and
 - Compensate for any remaining significant ecological effects.
- 7.6.2. Updated desk study, habitat and species surveys will inform any required mitigation and/or compensation and any opportunities for enhancements.
- 7.6.3. Possible measures may include:
- Informative leaflets, for example the MEAS informative leaflet⁴⁷ distributed within sales packs to promote a responsible user code when using local sites and designated Sites.
 - Landscaping to consider enhancement, retention, protection and buffering of habitats of value, both existing and proposed within the Site and to include habitats adjacent to the Site.
 - Recommendations for sensitive landscaping and tree planting to minimise impacts on notable species within and adjacent to the Site, such as red squirrels.
 - Measures to prevent pollution and damage to retained habitats during construction including protective fencing, a sensitive lighting scheme and root protection will be outlined in a Construction and Environmental Management Plan for Ecology.
 - Lighting strategies should follow the best practice guidance in relation to bats. It is recommended that the lighting design strategy is reviewed (and if necessary updated)

⁴⁷ [lcr_leaflet_knowsley.pdf](#)

for any new development proposals as part of future Reserved Matters applications, to ensure there are no negative impacts to wildlife from lighting.

- Where relevant, additional updated species surveys, and provision of a detailed method statement and/or species licensing prior to works.
- A method statement to control and prevent the spread of rhododendron should be included with a planning application
- Woodland areas and adjacent habitats provide an opportunity to provide nature conservation improvements through management in association with the Proposed Development.
- Provision of a Biodiversity Net Gain Strategy to illustrate how a 10% BNG can be provided within the scheme.

8. Cultural Heritage

8.1. Introduction

- 8.1.1. This Scoping Chapter outlines the approach to be taken to the assessment of potentially significant effects to cultural heritage assets arising from the Proposed Development and provides an initial understanding of the baseline position.
- 8.1.2. The Cultural Heritage chapter in the ES will consider all aspects of the historic environment, comprising archaeology, built heritage and the historic landscape, both designated and non-designated. The ES chapter will identify heritage assets with the potential to experience effects from the Proposed Development and will assess their heritage significance (including their sensitivity to change), the magnitude of the impact and conclude with the resultant residual effect. Mitigation will also be proposed where appropriate.

8.2. Relevant Policy and Guidance

- 8.3. Legislation relevant to the Cultural Heritage assessment for the Proposed Development is primarily the Planning (Listed Buildings and Conservation Areas) Act 1990.
- 8.3.1. Relevant heritage planning policies are as follows:
- NPPF (December 2024) – Section 16⁴⁸;
 - Knowsley Borough Council – Local Plan Core Strategy (Adopted January 2016);
 - Policy CS20 – Managing the Borough’s Historic Environment⁴⁹.
- 8.3.2. Guidance documents to be utilised for this assessment will be:
- Planning practice guidance – Historic environment. July 2019 (and later amends)⁵⁰;
 - Historic England, 2019., Historic England Advice Note 12: Statements of Heritage Significance: Analyzing Significance in Heritage Assets⁵¹;
 - Historic England, 2017., Historic England Good Practice Advice in Planning – 3: The Setting of Heritage Assets 2nd Ed⁵²;

⁴⁸ National Planning Policy Framework (NPPF), December 2024, Section 16.

⁴⁹ Knowsley Borough Council, Local Plan Core Strategy (Adopted January 2016), Policy CS20: Managing the Borough’s Historic Environment.

⁵⁰ Department for Levelling Up, Housing and Communities, Planning Practice Guidance – Historic Environment, July 2019. Available at: <https://www.gov.uk/guidance/historic-environment>

⁵¹ Historic England, Historic England Advice Note 12: Statements of Heritage Significance: Analyzing Significance in Heritage Assets, 2019.

⁵² Historic England, Good Practice Advice in Planning – 3: The Setting of Heritage Assets (2nd ed.), 2017. Available at: <https://historicengland.org.uk/advice/technical-advice/buildings/setting-of-heritage-assets>

- Historic England, 2015., Historic England Good Practice Advice in Planning – 2: Managing Significance in Decision-Taking in the Historic Environment⁵³; and
- ClfA, 2022., Code of Conduct: professional ethics in archaeology⁵⁴.

8.4. Preliminary Assessment of Baseline Conditions

- 8.4.1. There are no designated assets within the Application Site boundary. A 1km radius area search for designated heritage assets from the Site boundary, selected based on professional judgement, has identified (shown in **Appendix D: Designated Heritage Assets**):
- 2 Grade II* Listed Buildings;
 - 3 Grade II Listed Buildings;
 - 2 Registered Park and Gardens; and
 - 1 Conservation Area.
- 8.4.2. There are no entries on the Historic Environment Record within the Site.
- 8.4.3. No instances of prehistoric activity have been recorded within the Site or its study area. Whilst no Romano-British activity has been identified within the Site, a single Roman coin (HER MME5606) was found c.200m north of the Site. The coin, recorded in 1976, featured an (unverified) depiction of Constantine the Great dating to the early 4th century AD.
- 8.4.4. The Site abuts Knowsley Park (NHLE 1000997), a Registered Park and Garden, to the south and east. The park originated as a medieval deer park and was first documented in 1292, after which it was landscaped initially between the late 17th century and early 18th century, and again in the later 18th century.
- 8.4.5. The easternmost extent of Croxteth Hall Park Registered Park and Garden (NHLE 1001045), which comprises an avenue which terminates at Knowsley Lane, lies c.100m south of the Site. Whilst much of this designated heritage asset is part of the 19th century pleasure grounds and park, it originated as a 12th century park which was once afforested and put into the royal forest of Toxteth.
- 8.4.6. No instances of post-medieval or modern activity have been recorded within the Site. The Site can be tracked through historic mapping, detailed versions of which are available from the early 19th century onwards. The 1847 Knowsley Tithe Map shows the Site is comprising 18 parcels of land, split between 3 areas of woodland and 15 areas of agricultural land. All areas of agricultural land were recorded as owned by the Earl of Derby, and split between various tenant farmers used for meadow.

⁵³ Historic England, Good Practice Advice in Planning – 2: Managing Significance in Decision-Taking in the Historic Environment, 2015. Available at: <https://historicengland.org.uk/advice/technical-advice/buildings/managing-significance-in-decision-taking>

⁵⁴ Chartered Institute for Archaeologists (ClfA), Code of Conduct: Professional Ethics in Archaeology, 2022. Available at: <https://www.archaeologists.net/sites/default/files/ClfA%20Code%20of%20Conduct%202022.pdf>

- 8.4.7. The 1850 Ordnance survey map shows the extent of Knowsley Park at this time, with the shaded area of map illustrating the extent of the parkland. As shown, the Site was not included within the parkland boundary.
- 8.4.8. The 1936 Ordnance Survey Map shows more widespread change within the Site, including the reduction of internal land divisions, with 7 fields and 2 parcels of woodland shown. This map also depicts the precursor to Home Farm Road, initially established as an access road to Home Farm to the east of the Site. Within the wider study area, further development spreading east and south from Knowsley is visible. Later developments within the Site comprise the further reduction of the Site's internal boundaries to form 6 parcels of land, with a series of informal footpaths established within the Site in the early 21st century.

8.5. Potential Effects (including identification of specific receptors)

Croxteth Hall Park Registered Park and Garden & Grade II Listed Little Wood Lodge

- 8.5.1. The Grade II Registered Park and Garden Croxteth Hall Park and Little Wood Lodge, a Grade II Listed Building (contained within the Registered Park and Garden), are located c.100m to the south of the Development Site. It is considered that there would be limited intervisibility between the very edge of the Registered Park and Garden towards the Site, which already has views to modern development along Home Farm Road. Beyond this, no connection between the Site and either heritage asset has been identified that could be considered to contribute towards the heritage significance of these assets. Whilst no significant effects are currently anticipated, the significance and setting of these designated heritage assets will be considered within the ES chapter, following the methodology outlined below.

Knowsley Park Registered Park and Garden

- 8.5.2. The Grade II Registered Park and Garden Knowsley Park (NHLE 1000997) directly bounds the Site to the south and east, and covers a total area of c.950ha. The parkland includes the Grade II* Listed Knowsley Hall (NHLE 1253241), as well as its gardens and pleasure grounds, which are encircled by the estate's parkland. The park at Knowsley is first referenced in 1292 under the ownership of Robert de Lathom, eventually passing to the Stanley family (later to become the Earl of Derby) in the 14th century.
- 8.5.3. The NHLE description for Knowsley Park describes the setting of the asset as urban and suburban on its south and west sides (comprising Knowsley, Huyton and Prescott) with the setting elsewhere described as agricultural. One key view/vista from the top of Stand Hill, (within the Registered Park and Garden) to areas of countryside beyond the park boundary to the north and east has been identified. Designed views from the Knowsley Hall overlook the hall's pleasure gardens or align with tree-lined avenues. The urban and suburban and surrounds of the Knowsley Hall Registered Park and Garden are not considered to contribute towards the asset's significance through setting.
- 8.5.4. Historically, the parkland was separated from the village of Knowsley (as well as Huyton and Prescott) to the south by agricultural land. This separation is an intentional physical manifestation, representing the division between the landed gentry and commoners. Residential development during the 20th century has encroached upon this historic separation most obviously to the south of the asset – although also notably to the north of the Site within Knowsley.

- 8.5.5. The Site does not appear to have ever been incorporated into the parkland associated with Knowsley Hall. The Knowsley Tithe Map and Apportionment does indicate ownership of all portions of the Site was entirely in common with Knowsley Hall during the earlier 19th century, a relationship which is considered likely to have been established for some time prior to this. The Proposed Development would effectively reduce the separation of the Registered Park and Garden from the built form of Knowsley to a greater degree than at present. Whilst no significant effects are currently anticipated, the significance and setting of the Knowsley Park Registered Park and Garden will be considered within the ES chapter, following the methodology outlined below.

Knowsley Conservation Area

- 8.5.6. Knowsley Conservation Area is located c.110m to the north-west of the Application Site. No known historic association has been identified between the Application Site and Conservation Area. A limited intervisibility is possible, with the potential for the Site to be visible from the southernmost point of the Conservation Area. However, this would be part of the backdrop against closer, modern development. Overall, it is unlikely that the significance of this designated heritage asset would be affected by the Proposed Development. Whilst no significant effects are currently anticipated, the heritage significance and setting of the asset will be considered within the ES Chapter, following the methodology outlined below.

Other Listed Buildings

- 8.5.7. The remaining Listed Buildings are all located at an extended distance from the Site. A cluster of Listed Buildings are located c.800m to the north of the Site, comprising the Grade II* Listed Church of St Mary (NHLE 1253329), the Grade II Listed Knowsley Old Vicarage (NHLE 1261765), and the Grade II Listed Knowsley War Memorial (NHLE 1463967). The central and southern extents of the village of Knowsley and its built form lies between these Listed Buildings and the Application Site. The Grade II* Listed Knowsley Hall is also located c.770m to the east of the Site, with an extensive range of vegetation located between the Listed Building and the Site. When considering the intervening distances, built form, and vegetation it is unlikely that there would be any intervisibility between the Proposed Development and these designated heritage assets, nor would there be any co-visibility. Overall, it is unlikely that the heritage significance of these assets would be affected by the Proposed Development. As such, it is proposed that these assets will be scoped out of further assessment.

Heritage assets with a potential association with the Grade II* Listed Knowsley Hall and its wider estate

- 8.5.8. There are a range of buildings and structures located within the vicinity of the Application Site, which may be historically associated with the Knowsley estate. These include the Home Farm complex (MME5876) and its associated buildings, Ormskirk Lodge (MME5891), Croxteth Lodge (MME5600), a Park Wall, Orchard Lodge, Home Farm Lodge, and The Kennels (MME5895). The Environmental Statement will include a walkover survey and historic background research on these buildings and structures, to determine whether these would be considered as Curtilage Listed to the Grade II* Knowsley Hall. Whilst no significant effects are currently anticipated, the significance and setting of these building and structures will be individually assessed within the ES chapter, following the methodology outlined below.

Archaeological Potential

- 8.5.9. No records of archaeological features have been identified within the Site. A pre-application response from MEAS indicated that prehistoric and medieval finds have been recorded within the wider surrounding area and as such, they have concluded that *'the proposed site lies in an area considered to have the potential to contain archaeological remains associated with the prehistoric and medieval periods.'* Consideration of below-ground archaeological potential will be set out within the baseline and ES chapter.

8.6. Scope and Methodology of Assessment (including significance criteria)

Scope

- 8.6.1. Best practice guidance does not suggest a specific radius for assessing the effects resulting from a Proposed Development on the historic environment, and therefore professional judgement has been used. For designated heritage assets (e.g. scheduled monuments, listed buildings, conservation areas, registered parks and gardens, registered battlefields and World Heritage Sites), a study area of 1km from the Application Site will be used
- 8.6.2. For non-designated heritage assets (e.g. archaeological sites and findspots, locally listed buildings, locally important parks and gardens or other historic landscapes), a study area of 1km from the Application Site boundary will also be used. It is considered, based on professional judgement, that this is an appropriate and proportionate scale of study area to establish the below-ground archaeological context of the Application Site in its surroundings.

Assessment Methodology

- 8.6.3. There is no specific heritage guidance or proscribed heritage methodology for undertaking a heritage assessment within an ES. Therefore, the proposed methodology has been developed using Historic England guidance and advice notes (listed above) and professional opinion.

Baseline

- 8.6.4. A baseline will be prepared which will identify the heritage resource within the study area identified above. Data will be gathered from a number of sources. The sources of data include:
- National Heritage List for England;
 - Merseyside Historic Environmental Records (HER);
 - National Mapping Programme Data;
 - Knowsley Archives for documentary and cartographic resources;
 - Historic England Archive, Swindon for aerial photographs;
 - Archaeological fieldwork undertaken to support the application;
 - LiDAR; and
 - Other sources identified during the preparation of the baseline assessment.

- 8.6.5. The baseline will consider the archaeology, built heritage and historic landscape resource within the relevant study area. The baseline will identify and describe assets and their heritage significance, including the contribution to heritage significance made by their setting. This will help to identify which assets have the potential to experience likely significant effects resulting from the Proposed Development. There will be heritage assets which will clearly not experience any effect from the Proposed Development, either due to their function or location in an area with no visibility of the site and with no historic association. These assets will be discussed in broader terms, grouped where appropriate and dismissed from further assessment within the baseline.
- 8.6.6. The baseline will be supplemented by an Application Site and study area walkover. The walkover will focus on visiting surrounding heritage assets identified in the initial baseline to assess their setting and relationships with surrounding assets.
- 8.6.7. Throughout the preparation of the baseline, consultation will be undertaken with relevant stakeholders including Historic England, the Merseyside Archaeology Advisory Service, and the relevant Conservation Officer.

Environmental Statement Chapter

- 8.6.8. The ES chapter will assess the potential for the Proposed Development to cause significant effects upon the heritage significance of the heritage resource. Should potentially significant adverse effects be identified, mitigation will be proposed seeking to reduce the significance of identified adverse effects.
- 8.6.9. When discussing heritage assets, the term 'significance' is used in the NPPF to describe the sum of the heritage interests that a heritage asset holds also adding that significance derives not only from a heritage asset's physical presence, but also from its setting and that some assets have a level of heritage significance that justifies official designation. The term 'significance' has a specific meaning within EIA and therefore to avoid confusion, when discussing heritage significance, this will be made clear and distinct from discussion of significance in EIA terms.

Value / Sensitivity

- 8.6.10. The value / sensitivity of a heritage asset for the purposes of Environmental Impact Assessments is determined by professional judgement guided by statutory and non-statutory designations, national and local policies.

Table 8.1: Criteria for Establishing Value / Sensitivity

Value/sensitivity	Criteria
High	Remains of inscribed international importance, such as World Heritage Sites Grade I and II* Listed Buildings Grade I and II* Registered Parks and Gardens Scheduled Monuments Registered Battlefields

	Non-designated archaeological assets of demonstrable equivalence of scheduled monuments Non-designated buildings, monuments, Sites or landscape that can be shown to have a very important quality in their fabric or historical association
Moderate	Grade II Listed Buildings Conservation Areas Grade II Registered Parks and Gardens Assets of high archaeological resource value identified through consultation
Low	Non-designated buildings, monuments or sites or landscapes of local importance and of modest quality Locally important historic or archaeological assets, assets with a local value for education or cultural appreciation and of medium archaeological value Locally Listed buildings identified on a local list Non-designated buildings, monuments, Sites or landscape that can be shown to have important qualities in their fabric or historical association Historic townscapes with historic integrity Parks and gardens of local interest
Not Significant	Assets identified as being of no historic, artistic, archaeological or architectural value Assets that are so badly damaged that too little remains to justify inclusion into a higher Grade Assets whose values are compromised by poor preservation or survival to justify inclusion in a higher category

Magnitude of Impact

- 8.6.11. Once a level of value / sensitivity has been assigned, the magnitude of impact as a result of the Proposed Development is assessed. Potential impacts are defined as a change resulting from the Proposed Development which affects the heritage significance of a heritage asset. These impacts are considered in terms of being either direct, indirect or cumulative, from construction or operation and temporary, long-term or permanent. The assessment will include consideration of an asset's setting in terms of its contribution to the assets' significance.
- 8.6.12. The magnitude of an impact can be judged in a five-point scale. The impact score is arrived at without reference to the value / sensitivity of the asset and the impact is assessed without taking into account any subsequent mitigation proposals but does take into account embedded mitigation derived throughout the design process.

Table 8.2: Criteria for Establishing Level of Impact

Level of Impact	Description of Impact
High	Change such that the heritage significance of the asset is totally altered or destroyed. Comprehensive change to setting affecting heritage significance, resulting in substantial changes in our ability to understand and appreciate the resource and its historical setting
Medium	Change such that the heritage significance of the asset is affected. Changes such that the setting is noticeable different, affecting heritage significance resulting in moderate changes to heritage significance and in our ability to understand and appreciate the resource
Low	Change such that the heritage significance of the asset is slightly affected. Changes to the setting that have a slight impact on heritage significance resulting in changes in our ability to understand and appreciate the resource
Minimal	Changes to the asset that hardly affect heritage significance. Changes to the setting of an asset that have little effect on heritage significance and no real change in our ability to understand and appreciate the resource
No change	The development results in no change or such a negligible level of change that it does not affect the significance of the asset. Changes to the setting do not affect the significance of the asset or our appreciation of it.

Residual Effect

- 8.6.13. The assessment of effects will be undertaken in two stages. The magnitude of impact is cross-referenced with the value of the asset to categorise the effect that is likely to result from the Proposed Development prior to additional mitigation measures.
- 8.6.14. Following this stage, further consideration of additional mitigation is carried out, and the mitigation is assessed as to whether this would reduce the significance of the effect. Once additional mitigation is applied, the asset is re-assessed, allowing the residual significance of effect to be determined.

Table 8.3: Levels of Effect

Value/sensitivity of asset	Magnitude of Impact				
	No Change	Minimal	Low	Medium	High
High	Neutral	Minor	Moderate	Major	Major
Moderate	Neutral	Minor	Minor/Moderate*	Moderate	Major
Low	Neutral	Neutral	Minor	Minor/Moderate*	Moderate
Not significant	Neutral	Neutral	Neutral	Neutral	Neutral

*professional judgement to be applied when assigning a level of effect.

- 8.6.15. A level of professional judgement will be used throughout the EIA process to ensure that where a matrix-based system is employed, this accounts for professional judgement to ensure that a robust assessment of the level of effect to the significance (in EIA terms) of the

heritage asset is reported within the ES chapter. In addition, a narrative conclusion will be set out which will discuss the level of harm (if any) the Proposed Development will have upon the heritage significance of the heritage assets. The Proposed Development will be judged against the policies contained within the NPPF and relevant Local Plan policies and this requires an assessment of harm and a judgement of whether the Proposed Development results in no harm, less than substantial harm (and where within that scale of Less Than Significant Harm (LTSH) the harm would be), or substantial harm. For non-designated heritage assets, a level of harm will be given as appropriate to the assessment. Therefore, along with the EIA conclusions of level of residual effect, the level of harm, if any, will also be set out.

8.7. Preliminary Discussions of Potential Mitigation and Enhancement Measures

- 8.7.1. Additional mitigation measures may include archaeological fieldwork to record archaeological deposits within the Site which could be affected by the Proposed Development. The scope of any required archaeological works would be determined in discussion with the LPA.

9. Transport and Access

9.1. Introduction

- 9.1.1. This Scoping Chapter outlines the proposed approach to be taken in the assessment of potentially significant effects to transport and access arising from the Proposed Development.
- 9.1.2. The Transport and Access chapter of the ES will consider the baseline situation before the likely environmental effects of the Proposed Development are identified during its construction and operational phases. Mitigation measures to reduce any negative environmental effects will be identified as appropriate, before the residual environmental effects are assessed.
- 9.1.3. The chapter will be supported by a Transport Assessment and Framework Travel Plan which will be included as appendices to the ES.

9.2. Relevant Policy and Guidance

- 9.2.1. Relevant transport planning policies are as follows:
- NPPF
 - Section 9 – Promoting Sustainable Transport⁵⁵
 - KMBC – Local Plan Core Strategy (Adopted January 2016)⁵⁶
 - Policy SD1 – Sustainable Development
 - Policy CS2 – Development Principles
 - Policy CS7 – Transport Networks
- 9.2.2. Guidance documents to be utilised for this assessment will be:
- IEMA Guidelines, 2023., Environmental Assessment of Traffic and Movement⁵⁷
 - Ministry of Housing, Communities and Local Government, 2014., Planning practice guidance: Travel Plans, Transport Assessments and Statements in Decision Taking⁵⁸
 - National Highways, 2015., The Strategic Road Network: Planning for the Future⁵⁹

⁵⁵ National Planning Policy Framework (NPPF), December 2024, Section 9.

⁵⁶ Knowsley Metropolitan Borough Council, Local Plan Core Strategy, January 2016.

⁵⁷ Institute of Environmental Management and Assessment Guidelines: Environmental Assessment of Traffic and Movement, July 2023.

⁵⁸ Ministry of Housing, Communities and Local Government: Planning Practice Guidance: Travel Plans, Transport Assessments and Statements in Decision Taking, March 2014.

⁵⁹ National Highways: The Strategic Road Network: Planning for the Future, September 2015.

9.3. Preliminary Assessment of Baseline Conditions

- 9.3.1. The assessment will detail the baseline transport and access characteristics of the Site including the transport network in its immediate vicinity. This will include a review of the local highway network as well as a detailed analysis of injury accident records to assess existing highway safety.
- 9.3.2. The assessment will go on to consider the existing accessibility of the Site by sustainable modes of transport. This will include accessibility by active travel modes and public transport.
- 9.3.3. A preliminary review of the baseline conditions has been undertaken for the purposes of this Scoping Report and is presented below.

Highway Network

- 9.3.4. A study network has been identified for the assessment of the Proposed Development's impact on transport and access. In addition to the proposed accesses into the Site, the study network includes the following junctions:
- Knowsley Lane/ School Lane – priority-controlled junction
 - M57 Junction 4 – grade-separate gyratory
 - Knowsley Lane/ Stockbridge Lane – priority-controlled junction
 - Seth Powell Way/ Stockbridge Lane/ Waterpark Drive (M57 Junction 3) – priority-controlled roundabout
 - Knowsley Lane/ Primrose Drive/ George Hale Avenue – priority-controlled junction
 - Liverpool Road/ Knowsley Lane/ Kings Drive – M57 Junction 2 western roundabout
 - Liverpool Road/ A58/ Huyton Lane – M57 Junction 2 eastern roundabout
- 9.3.5. The assessment of the above study network will be informed by surveys which will establish existing levels of traffic demand.

Strategic Highway Network

- 9.3.6. Forming part of the Strategic Road Network, the M57 is located approximately 300m west of the Site. It is accessed to the south via Junctions 2 and 3, and to the north via Junction 4.
- 9.3.7. The M57 provides onward connection to other key parts of the Strategic Road Network, including the M62 and the M6 motorways.

Knowsley Lane

- 9.3.8. Knowsley Lane is a single carriageway road that runs in a north-south alignment along the western boundary the Site. It provides access north to Knowsley village, Knowsley Business Park and the A580 whilst to the south it provides access to the M57 Junctions 2 and 3. There is an existing farm access to the Site from Knowsley Lane.

- 9.3.9. In the vicinity of the Site the carriageway is approximately 7m wide and subject to a 40mph speed restriction which changes to 30mph approaching its junction with Home Farm Road.
- 9.3.10. Along the frontage of the Site there is an existing footway, and continuing south the road is rural in character with grass verges and hedgerows.

Home Farm Road

- 9.3.11. Home Farm Road runs along the northern boundary of the Site. The road provides direct access to residential properties along the northern boundary of the Site. Home Farm Road also provides access to other residential streets including Loughborough Road and Berry Hill Avenue.
- 9.3.12. Approximately 50m east of the junction with Berry Hill Avenue, Home Farm Road continues as a private road. The carriageway width is approximately 5m and subject to a 30mph speed restriction. Street lighting and footways are provided along the northern side of the carriageway only.

School Lane

- 9.3.13. School Lane is a single carriageway road to the north of Knowsley, providing a connection between Knowsley Lane and M57 Junction 4.
- 9.3.14. School Lane forms a priority-controlled junction with Knowsley Lane approximately 1.25km north of the Site. The road is subject to a 40mph speed restriction and footways are provided along the northern side of the carriageway.

Road Safety

- 9.3.15. For the purposes of this assessment, a preliminary review of personal injury accident data has been undertaken for the highway network in the immediate vicinity of the Site. This review has considered the most recently available five-year period (2019–2023) within the CrashMap database.
- 9.3.16. The data demonstrates that one accident was recorded through the period on Knowsley Lane along the western boundary of the Site. The accident was a collision between vehicles and resulted in slight injuries. No other injury accidents were recorded adjacent to the Site; specifically, no serious injuries or fatalities were recorded.
- 9.3.17. On this basis, there is no pattern of accidents on the highway network in the immediate vicinity of the Site which suggests a specific existing road safety issue, and which in turn could be exacerbated by changes in traffic flows associated with the Proposed Development. A further detailed review of the injury accident record will be undertaken as part of the supporting Transport Assessment and ES Chapter.

Accessibility by Sustainable Modes of Transport

Pedestrian Access

- 9.3.18. Although walking distances vary between individuals and circumstances, 2km represents a distance that would be typically appropriate for commuting and other journey purposes.⁶⁰
- 9.3.19. There are local amenities and destinations within Knowsley village that fall within this threshold and are likely to attract walking trips to and from the Site. These include:
- Knowsley Village primary school and a local village centre (including convenience retail, post office and pharmacy) on Sugar Lane within a walk of approximately 350m north of the Site.
 - A medical centre on Frederick Lunt Avenue approximately 500m north of the Site.
 - Saint John Fisher Catholic primary school, a community centre and adjoining recreation ground at Shop Road, approximately 950m north of the Site.
- 9.3.20. Within Knowsley, pedestrian footways are found on all local roads, street lighting is provided and informal crossing points with dropped kerbs are typically present at junctions and other locations on the local highway network where there is an adjacent footpath.
- 9.3.21. There are no Public Rights of Way (PRoW) located within the Site itself, Bridleway KN5/1 is located adjacent to the western boundary and travels in a westward direction on Fluker's Brook Lane and then northwards adjacent to the M57 motorway. National Cycle Network Route 862 follows a route approximately 360m west of the Site, adjacent to the western side of the M57.

Cycle Access

- 9.3.22. A 5km cycling distance from the Site has been considered, which is a distance typically accepted as suitable for cycling.⁶¹ This demonstrates:
- The village of Knowsley can be reached within convenient cycling distance of the Site, including a number of key amenities such as Knowsley Business Park.
 - The catchment also covers a number of local towns including: Prescot (including rail stations served by trains to Liverpool, Wigan and Preston), Whiston, Huyton, Kirkby and Liverpool suburbs.
- 9.3.23. Given the surroundings, off-carriageway cycle infrastructure is limited and generally cyclists would therefore share the carriageway with other road users.

Public Transport – Bus

- 9.3.24. The nearest bus stops to the Site are located on Knowsley Lane, adjacent to the Site.

⁶⁰ Chartered Institution of Highways and Transportation: Planning for Walking, April 2015.

⁶¹ The Department for Transport: Local Transport Note 2/08.

- 9.3.25. Bus service 217 serves these stops, running between Kirkby and Huyton with options for onwards interchange to a wide range of local, regional and national destinations by bus or rail. The service operates Monday to Saturday with a service approximately every 30 minutes. On Sundays an hourly service is provided.

Public Transport – Rail

- 9.3.26. Huyton is the nearest major railway station to the Site, located approximately 4km to the south of the Site.
- 9.3.27. The station is on the Liverpool to Wigan Line and Stephenson's Liverpool to Manchester Line. The station has regular services of approximately 20–30 minutes to Liverpool, Manchester and Wigan. The 217 bus services provide a direction connection from the Site to Huyton station, taking approximately 15 minutes.

9.4. Potential Effects (including identification of specific receptors)

Receptors

- 9.4.1. Following a review of the surrounding area within the context of the highway network and transport infrastructure, the receptors that are to be considered for assessment include:
- Residents of properties adjacent to the assessment study area;
 - Pedestrians using local roads;
 - Cyclists using local roads;
 - Staff and pupils of Knowsley Village Primary School and Saint John Fisher Catholic Primary School;
 - Drivers using the local road network; and
 - Drivers using the strategic road network.

Construction Phase

- 9.4.2. During the construction phase of the Proposed Development, the primary factors that generate potential environmental traffic impacts will be:
- Transportation of construction materials to and from the Site;
 - Travel to and from the Site by the construction workforce;
 - Movement of construction materials and the construction workforce within the Site;
 - Disruption and disturbance caused by construction traffic including heavy goods vehicles (HGVs) during the construction phase; and
 - Increase in proportion of HGVs causing detrimental impact on residential amenity.

- 9.4.3. The environmental implications of construction traffic mainly relate to dust and dirt, hazardous loads, and pedestrian amenity, although there are also potential effects to driver delay and highway safety particularly if construction involves works to the road network.
- 9.4.4. It is standard practice that prior to construction a Construction Environment Management Plan ('CEMP') will need to be agreed with the Local Planning Authority, which will include measures to minimise the environmental impact during this phase. This is anticipated to be conditioned to any planning permission, albeit potential measures will be set out within the ES as part of the Proposed Development and as such will be taken into account as embedded mitigation for transport purposes.

Operational Phase

- 9.4.5. The potential environmental implications associated with the operation of the Proposed Development on identified receptors are set out in **Table 9.1**.

Table 9.1 Environmental Implications for Receptors

Receptor	Impact	Potential Effect
Residents	Driver Delay Pedestrian Delay Pedestrian Amenity Fear and Intimidation Severance Accidents and Safety	Increased delay on the local highway network Increased delay crossing roads and junctions Poorer environment for pedestrians Traffic conditions at levels to cause impact Impact on key desire lines Increased risk of accidents
Pedestrians	Pedestrian Delay Pedestrian Amenity Fear and Intimidation Severance Accidents and Safety	Increased delay crossing roads and junctions Poorer environment for pedestrians Traffic conditions at levels to cause impact Impact on key desire lines Increased risk of accidents
Cyclists	Fear and Intimidation Accidents and Safety	Increased Intimidation Increased risk to cycle users

School Staff and Pupils	Driver Delay Pedestrian Delay Pedestrian Amenity Fear and Intimidation Severance Accidents and Safety	Increased delay on the local highway network Increased delay crossing roads and junctions Poorer environment for pedestrians Traffic conditions at levels to cause impact Impact on key desire lines Increased risk of accidents
Local Road Network	Driver Delay Accidents and Safety	Increased delay on the local highway network Increased risk of accidents
Strategic Road Network	Driver Delay Accidents and Safety	Increased delay on the strategic highway network Increased risk of accidents

9.4.6. In undertaking the judgements of the environmental impacts from traffic effects, the Pedestrian Amenity impact category Pedestrians will encompass Pedestrian Delay and Fear and Intimidation.

9.5. Scope and Methodology of Assessment (including significance criteria)

Assessment Methodology

9.5.1. The assessment methodology will be based on the IEMA guidelines which states that in scoping out the extent of the assessment 'two broad rules of thumb' can be used to delimit the scale and extent of the assessment. Those Rules are:

- Rule 1 – Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
- Rule 2 – Include any other specifically sensitive areas where traffic flows will increase by 10% or more.

9.5.2. The guidance makes it clear that *"a critical feature of environmental assessment is determining whether a given impact is significant"*. Further, *"for many effects there are no simple rules or formulae which define thresholds of significance and there is, therefore, a need for interpretation and judgement on the part of the assessor backed up by data or quantified information whenever possible. Such judgements will include the assessment of the number of people experiencing a change in environmental impact..."*.

Significance Criteria

- 9.5.3. An environmental impact can arise through the extra vehicle trips that might be generated by as a result of new development and from new transport infrastructure. The potential implications that may arise from additional traffic have been described in the IEMA guidelines and include:
- Driver Delay;
 - Pedestrian Delay;
 - Pedestrian Amenity;
 - Fear and Intimidation;
 - Severance; and
 - Accidents and Road Safety.
- 9.5.4. The assessment of the above factors will be undertaken for both the construction and operational phases of the Proposed Development.
- 9.5.5. The IEMA guidelines set out the broad principles of how to assess the magnitude of the effect for each category, which is summarised below:
- Driver Delay – such delays “... are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system”.
 - Pedestrian Delay – “Changes in the volume, composition or speed of the traffic may affect the ability of people to cross the roads”. The guidance suggests that assessors “... use their judgement to determine whether pedestrian delay is a significant impact”.
 - Pedestrian Amenity – broadly defined as the relative pleasantness of a journey, it is affected by traffic flow, traffic composition and pavement width/separation from traffic. The guidance suggests a tentative threshold for judging the significance of changes in pedestrian amenity of where traffic flow (or its lorry component) is halved or doubled.
 - Fear and Intimidation – the impact of this is dependent upon the volume of traffic, its HGV composition, its proximity to people or the lack of protection caused by such factors a narrow pavement width. The guidance states that there are no commonly agreed thresholds for estimating this from known traffic and physical conditions, but it does nevertheless suggest some threshold which could be used, based on previous research, and are shown in **Table 9.2**.

Table 9.2 Fear and Intimidation Thresholds

Degree of Hazard	Average traffic flow over 18 hr day – (Vehs/hour 2-Way)	Total 18 hour HGV flow	Average Vehicle Speed over 18 hour day (mph)
Extreme	+1,800	+3,000	+20
Great	1,200–1,800	2,000–3,000	15–20
Moderate	600–1,200	1,000–2,000	10–15
Small	<600	<1,000	<10

- Severance – The guidance states that “severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery”. Further “Changes in traffic flow of 30%, 60% and 90% are regarded as producing ‘slight’, ‘moderate’ and ‘substantial’ changes in severance respectively”. However, the guidance acknowledges that the measurement and prediction of severance is extremely difficult. The assessment of severance pays full regards to specific locations, in particular the location of pedestrian routes to key local facilities and whether or not crossing facilities are provided.
- Accidents and Safety – the guidance suggests that “Professional judgement will be needed to assess the implications of local circumstances, or factors, which may elevate or lessen risks of accidents, e.g. junction conflicts”.

9.5.6. The significance of potential traffic and transport effects has been determined using criteria developed from best practice techniques. The effect of significance is derived from measures of the magnitude (or scale) of the change and the sensitivity (or importance) of the receptors affected. Categories of sensitivity and magnitude are defined and assessed to determine the significance of the effect.

Magnitude of Impacts

9.5.7. The magnitude of potential impact (both positive and negative) on environmental baseline conditions will be identified taking the following into account:

- Relevant legislation, policy or guidelines;
- The degree to which the environment is potentially affected for example, whether the quality is enhanced or impaired;
- The scale or degree of change from baseline conditions as a result of the Proposed Development;
- The duration of the effect for example, whether it is temporary or permanent; and
- The reversibility of the effect.

9.5.8. The magnitude of impact has been assessed based on the following scale:

- Substantial – Considerable effects (by extent, duration or magnitude) of more than local significance or breaching identified standards of policy;
- Moderate – Limited impact (by extent, duration or magnitude) which may nonetheless be considered significant in the context of the site and / or surrounding area which may be considered significant;
- Minor – Slight, very short term or highly localised impact of no significant consequence; and
- Negligible – An impact on a resource / receptor of insufficient magnitude to affect the use / integrity.

Sensitivity of Receptors

9.5.9. The sensitivity of a particular receptor can be defined by the degree to which it responds to a change in its environment. For this Chapter of the ES this will predominantly relate to the effects of an increase in road traffic on a particular receptor. The IEMA Guidelines discuss sensitive areas to changes in traffic conditions. **Table 9.3** summarises the receptor sensitivity criteria that is proposed to be used for this assessment.

Table 9.3 Receptor Sensitivity

Receptor Sensitivity	Receptor Type
Substantial	Receptors of greatest sensitivity to traffic flows: schools, colleges, playgrounds, accident black spots, retirement homes, roads without footways that are used by pedestrians.
Moderate	Traffic flow sensitivity receptors: congested junctions, doctors' surgeries, hospitals, shopping area with roadside frontage, roads with narrow footways, recreation facilities.
Minor	Receptors with some sensitivity to traffic flow: places of worship, public open space, listed buildings, tourist attractions and residential areas with adequate footway provision.
Negligible	Receptors with low sensitivity to traffic flows.

9.5.10. The significance of the effect is judged on the relationship of the magnitude of impact to the assessed sensitivity of receptor. **Table 9.4** provides a matrix of significance.

Table 9.4 Significance of Effects

Sensitivity of Receptor	Magnitude of Impact			
	Negligible	Minor	Moderate	Substantial
Negligible	Negligible	Negligible	Negligible	Minor
Minor	Negligible	Negligible	Minor	Moderate
Moderate	Negligible	Minor	Moderate	Major
Substantial	Minor	Moderate	Major	Major

9.5.11. Potential effects are therefore concluded to be of Negligible, Minor, Moderate or Major significance.

9.5.12. The effects will be also assessed as to whether they are direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development'

Cumulative Assessment

9.5.13. The assessment of likely impacts will be largely informed by the evidence presented within the supporting Transport Assessment. The assessment presented within this document will include committed development within a future baseline scenario. Background traffic growth factors may also be applied if this is considered appropriate based on local trends in traffic volumes. This forecast future baseline will then be tested both without and with traffic from the Proposed Development.

9.5.14. As a result of the above, the assessment of likely impacts within the Transport and Access chapter will inherently consider the cumulative effects of both the Proposed Development and committed developments within the vicinity of the Site.

9.5.15. The potential cumulative schemes presented previously within this Scoping Report have been reviewed and it is proposed that the following be adopted as committed developments:

- 22/00348/FUL – Land bounded by East Lancashire Road, Ormskirk Road and Knowsley Lane
- 18/00062/HYB – Land at Knowsley Lane, Huyton
- 22/00099/FUL – Former Contract Chemicals Site Penrhyn Road
- 19/00243/OUT & 21/00929/REM – Vacant Land at Junction Of Moorgate Road/ M57 Slip Road And School Lane
- 23/00456/FUL – Vacant Land at Alchemy Way, Knowsley Industrial Park
- 19/00684/FUL – Whitakers Garden Centre, Liverpool Road, Prescot

9.5.16. Of the potential cumulative schemes, the following are not proposed to be included:

- 22/00163/FUL – Land bounded by Villiers Road & Penrhyn Road: the supporting transport evidence submitted as part of the planning application for this scheme concluded that there would be no material impact as a result of the proposals on the local highway network. The trip forecasts presented did not exceed 30 two-way trips within an hour and as a result no further detailed traffic impact assessment was undertaken.
- 24/00142/SO – Land north of Cut Lane Kirkby: no formal planning application has been submitted for this scheme. However, given the nature, scale and location of this potential development, it is considered that it will not result in any material increase in vehicle trips within the identified study network.
- 22/00766/SO – Land at Larkins Farm, Gellings Lane: similarly, no planning application has been submitted for this scheme and it is not considered that there would be any material change in traffic flows within the study network proposed to be adopted for this assessment.
- 23/02008/FUL – Land at Coopers Lane, Knowsley: this scheme is a battery storage facility and as a result will only generate a nominal level of traffic, primarily associated with maintenance activity. Furthermore, no Transport Assessment or Statement was submitted in support of the application confirming its minimal vehicle trip generation potential.
- 23/01197/FUL – Land to the North East of the Junction of Gale Road and Admin Road, Knowsley Industrial Park: the supporting transport evidence submitted as part of the planning application concluded that this scheme would only generate limited vehicle trips on the surrounding highway network. The trip forecasts presented did not exceed 30 two-way trips within either of the peak hours assessed. As a result, with the exception of a capacity test of the proposed site access junction, no further detailed traffic impact assessment was undertaken.
- 20/00379/FUL – The Web Complex, Admin Road, Knowsley Industrial Park: the supporting transport evidence concluded that this scheme would generate fewer vehicle trips when compared with the previous extant consent at the site. As a result of this, the scheme has a reduced impact on the local highway network when compared with the previous use at the site and no detailed traffic impact assessment was undertaken to support the application.

9.6. Preliminary Discussions of Potential Mitigation and Enhancement Measures

9.6.1. A wide range of potential mitigation and enhancement measures will be considered as part of the assessment to minimise the transport and access effects of the Proposed Development. Any potential measures will prioritise active travel improvements over those focused-on highway capacity to ensure compliance with national and local policy.

10. Air Quality

10.1. Introduction

- 10.1.1. An assessment of the potential effects of the Proposed Development on air quality will be included within the ES. The assessment will consider the potential effects during both the construction and operational phases of the Proposed Development. The main pollutants of concern related to construction activities are dust and particulate matter (PM₁₀); in relation to operational road traffic emissions, they are nitrogen dioxide (NO₂) and fine particulate matter (PM₁₀ and PM_{2.5}). The assessment will also consider the suitability of the Site for its proposed uses.

10.2. Relevant Policy and Guidance

- 10.2.1. The following policy and guidance documents will be considered within the air quality assessment:

- The Air Quality Strategy 2007⁶² and 2023⁶³;
- The Clean Air Strategy 2019⁶⁴;
- Reducing Emissions from Road Transport: Road to Zero Strategy⁶⁵;
- Environment Act 2021;
- Environmental Improvement Plan 2023⁶⁶;
- National Planning Policy Framework⁶⁷, notably Paragraphs 8c, 187, 198 and 199;
- Planning Practice Guidance⁶⁸;
- Defra's National Air Quality Plan⁶⁹ and Supplement to the Plan⁷⁰;
- Liverpool City Region Combined Authority Draft Local Transport Plan⁷¹;

⁶² Department for Environment, Food & Rural Affairs, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, 2007

⁶³ Department for Environment, Food & Rural Affairs, Air Quality Strategy: framework for local authority delivery, 2023

⁶⁴ Department for Environment, Food & Rural Affairs, Clean Air Strategy, 2019

⁶⁵ Office for Low Emission Vehicles and Office for Zero Emission Vehicles, Reducing emissions from road transport: Road to Zero Strategy, 2018

⁶⁶ Department for Environment, Food & Rural Affairs, Environmental Improvement Plan 2023

⁶⁷ Ministry of Housing, Communities & Local Government, National Planning Policy Framework, 2024

⁶⁸ Ministry of Housing, Communities & Local Government, Planning Practice Guidance: Air Quality, 2019

⁶⁹ Department for Environment, Food & Rural Affairs, Air quality plan for nitrogen dioxide (NO₂) in the UK, 2017

⁷⁰ Department for Environment, Food & Rural Affairs, Supplement to the UK plan for tackling roadside nitrogen dioxide concentrations, 2018

⁷¹ Liverpool City Region Combined Authority, Draft Local Transport Plan People, Places, Movement Doing Things Differently: 2025 – 2040, 2024

- Knowsley Local Plan Core Strategy⁷²; and
- Knowsley Air Quality Strategy 2024 – 2027⁷³.
- The following guidance will also be considered as part of the assessment:
- Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction (v2.2)⁷⁴;
- DEFRA’s Review & Assessment: Technical Guidance LAQM.TG(22)⁷⁵; and
- Environmental Protection UK (EPUK) and IAQM Land-Use Planning & Development⁷⁶.

10.3. Preliminary Assessment of Baseline Conditions

- 10.3.1. The closest Air Quality Management Area (AQMA) was declared by Liverpool City Council in 2009 for exceedances of the annual mean nitrogen dioxide objective and is approximately 850m to the west of the nearest point of the Proposed Development (shown in **Plate 10.1**).
- 10.3.2. KMBC monitors air quality across its administrative area using a network of diffusion tubes. The locations of the closest and most representative monitoring sites are shown in **Plate 10.1**. Measured annual mean concentrations for the years 2019 – 2023 are presented in **Table 10.1**.
- 10.3.3. Measured annual mean nitrogen dioxide concentrations at all monitoring sites were well below the objectives between 2019 and 2023. Concentrations were also well below 60 µg/m³, indicating that the 1-hour mean objective was unlikely to have been exceeded in any year. Measured concentrations have reduced at all sites between 2019 and 2023.
- 10.3.4. While 2020 and 2021 results have been presented in this Section for completeness, they are not relied upon in any way as they will not be representative of ‘typical’ air quality conditions due to the impact of the Covid-19 pandemic on traffic volumes and thus pollutant concentrations.

⁷² KMBC, Knowsley Local Plan Core Strategy, 2016

⁷³ KMBC, Knowsley Air Quality Strategy 2024 – 2027, 2024

⁷⁴ IAQM, Guidance on the Assessment of Dust from Demolition and Construction, v2.2, 2024

⁷⁵ Department for Environment, Food & Rural Affairs, Review & Assessment: Technical Guidance LAQM.TG22 August 2022 Version, 2022

⁷⁶ Moorcroft and Barrowcliffe et al., Land-use Planning and Development Control: Planning for Air Quality, 2017

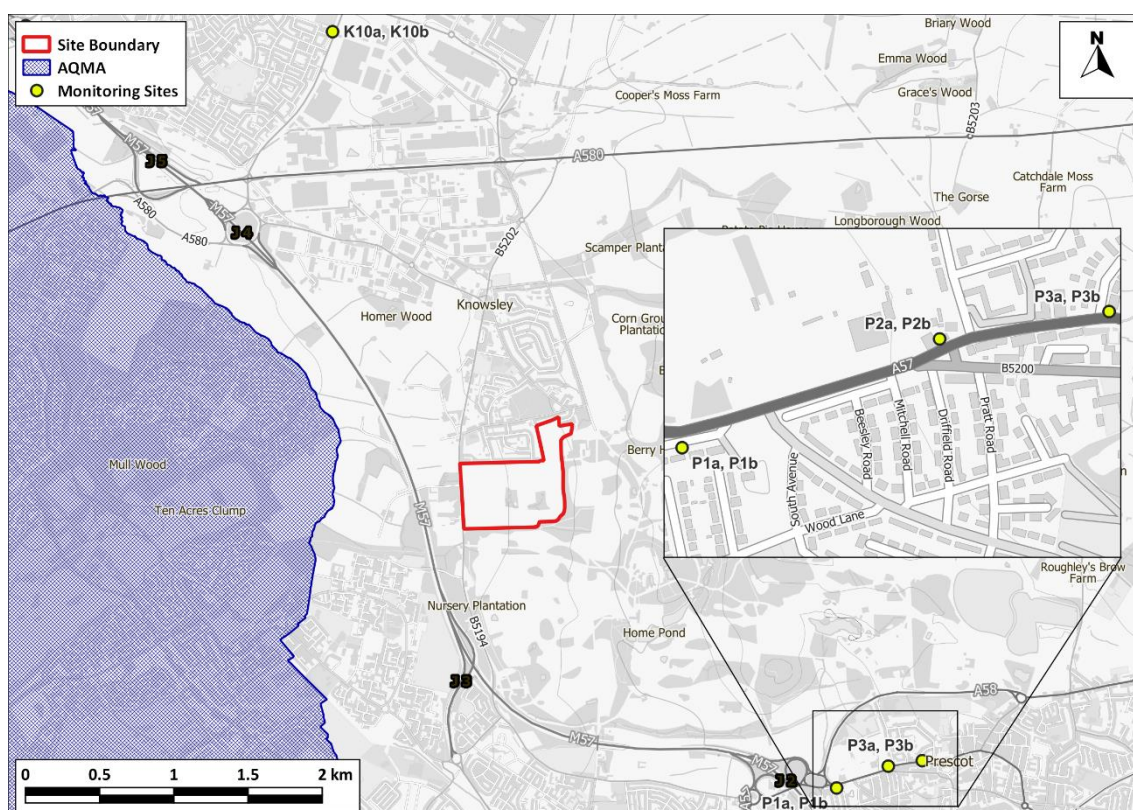


Plate 10.1: AQMA and Monitoring Sites Relative to the Proposed Development

Additional data sourced from third parties, including public sector information licensed under the Open Government Licence v3.0.

Table 10.1 Measured Annual Mean Nitrogen Dioxide Concentrations ($\mu\text{g}/\text{m}^3$)^a

Site	Site Type	Location	2019	2020	2021	2022	2023
K10a, K10b	Roadside	19 Moorgate Road	29.4	24.1	22.9	20.6	19.8
P1a, P1b	Roadside	Liverpool Road	26.8	22.6	25.1	21.9	21.5
P2a, P2b	Roadside	50 Derby Street	26.9	22.4	25.6	22.4	20.3
P3a, P3b	Roadside	2 Stanley Crescent	29.6	26.4	25.7	24.9	25.1
Objective			40				

^a Data taken from KMBC's 2024 Air Quality Annual Status Report⁷⁷.

- 10.3.5. Monitoring of PM_{10} or $\text{PM}_{2.5}$ is no longer undertaken by KMBC, with the last automatic monitor being decommissioned at the end of 2021. Historically concentrations of both PM_{10} and $\text{PM}_{2.5}$ have been below the objectives.

⁷⁷ KMBC, 2024 Air Quality Annual Status Report (ASR), 2024

10.4. Potential Effects (including identification of specific receptors)

- 10.4.1. During the construction period, the following potential significant effects on local air quality will be addressed within the ES:
- The effects of construction of the Proposed Development on dust soiling and concentrations of PM₁₀; and
 - The effects of construction traffic on concentrations of nitrogen dioxide, PM₁₀ and PM_{2.5}.
- 10.4.2. Once operational, the following are considered to be potentially significant effects on local air quality to be addressed within the ES:
- The effects of operation of the Proposed Development on concentrations of nitrogen dioxide, PM₁₀ and PM_{2.5} from road traffic in the proposed year of opening; and
 - The effects of existing emission sources on future users of the Proposed Development.
- 10.4.3. The chapter will describe existing air quality conditions, and the predicted air quality in the future assuming that the Proposed Development does, or does not, proceed. The assessment of traffic-related effects will focus on the anticipated year of opening of the Proposed Development. The assessment of construction dust impacts will focus on the anticipated duration of works.

Receptors

- 10.4.4. Receptor locations will be identified based on detailed maps, satellite imagery and plans of the Proposed Development.
- 10.4.5. For the construction dust assessment, relevant receptors in the area include residential dwellings, particularly to the north of the Site in Knowsley (classed as high sensitivity receptors). The IAQM guidance uses a receptor count method whereby all receptors within set distance bandings are counted to determine the potential for impacts.
- 10.4.6. For the operational phase assessment, concentrations will be predicted at a number of locations both within, and close to, the Proposed Development. Relevant receptors where the air quality objectives apply include residential properties, schools and hospitals. All receptors where the objectives apply are considered to be of high sensitivity; there are no medium or low sensitivity receptors for the operational stage.
- 10.4.7. For existing properties, receptors will be located at the roadside façade closest to the affected local road network, where the impact of development-generated traffic will be greatest. Particular attention will be paid to assessing impacts close to junctions, where traffic may become congested and where there is a combined effect of several road links, and close to those roads where the traffic increases as a result of the Proposed Development will be greatest.
- 10.4.8. For receptors within the Proposed Development, the exact locations will depend on the layout and the proximity to the local road network and site access roads.

10.5. Scope and Methodology of Assessment (including significance criteria)

Construction

- 10.5.1. The study area for the construction dust risk assessment will consider the potential for impacts within 250m of the Site, and within 50m of the routes to be used by construction vehicles up to 250m from the Site entrance(s). In addition, ecological habitats sensitive to fugitive dust will be considered within 50m of the Site. These distances are defined in the IAQM guidance for assessing effects from demolition and construction activities.
- 10.5.2. The potential effects from dust generated during the earthworks and construction of the Proposed Development will be considered using the approach presented in the IAQM guidance for assessing effects from demolition and construction activities. The Site is mostly undeveloped grassland/woodland and agricultural land; it is therefore anticipated that there will be little to no demolition required as part of the proposals.
- 10.5.3. The number of Heavy Duty Vehicles (HDVs) that will be used during the earthworks and construction of the Proposed Development will be considered in the context of the guidance from the IAQM and EPUK. Where the number of HDVs is greater than the relevant screening criterion (Annual Average Daily Traffic (AADT) flows of 100 HDVs outside of an AQMA (or 25 HDVs inside the Liverpool AQMA) on roads with relevant exposure, the potential for impacts on concentrations of nitrogen dioxide, PM₁₀ and PM_{2.5} at existing sensitive receptor locations will be modelled explicitly, following the approach described below. This will be determined once construction traffic volumes are known.
- 10.5.4. The IAQM's guidance advises that, with appropriate mitigation in place, the effects of construction dust will be 'not significant'. The assessment will, therefore, focus on determining the appropriate level of mitigation to be applied so as to ensure that effects would normally be 'not significant'.

Operation

- 10.5.5. The study area for the operational assessment will be determined by the traffic data available, focusing on areas where the Proposed Development will lead to changes in AADT flows of more than 25 HDVs or 100 Light Duty Vehicles (LDVs) inside the nearby Liverpool AQMA, or changes of more than 100 HDVs or 500 LDVs outside of the AQMA. The potential for significant effects will be screened out of the assessment for any roads where the traffic flows do not exceed these criteria.
- 10.5.6. The impacts of road traffic emissions will be predicted using the ADMS-Roads dispersion model. The model requires a variety of inputs, including road traffic data (flows, speeds and vehicle fleet composition) and meteorological data.
- 10.5.7. The model will be used to predict pollutant concentrations for the following three scenarios:
- Baseline year (2023, or 2024 if data become available);
 - Opening year without the Proposed Development, but including traffic generated by relevant committed developments; and

- Opening year with the Proposed Development, including traffic generated by relevant committed developments and the Proposed Development itself.

- 10.5.8. An important element of the modelling study will be to verify the model output against measured results. This will be undertaken by identifying suitable roadside air quality monitoring locations.
- 10.5.9. Meteorological data will be taken from a representative measurement site near to the Proposed Development. The year of meteorological data will be selected to match the baseline assessment year and the latest available monitoring data.
- 10.5.10. Background pollutant concentrations will be determined using data derived from the most recent background maps published by Defra.
- 10.5.11. The predicted concentrations at the identified sensitive receptors will be compared with the relevant air quality objectives and the magnitude of impacts at existing receptors evaluated using the approach recommended by the IAQM and EPUK. The overall significance of the air quality effects will then be determined following this guidance. Where necessary, mitigation measures will be proposed for the operation of the Proposed Development in order to ensure that residual effects are 'not significant'.

Cumulative

- 10.5.12. The potential for cumulative effects associated with the Proposed Development and other committed development during both construction and operation phases will be addressed within the ES.
- 10.5.13. The cumulative construction dust effects of the Proposed Development and identified committed developments will be considered based on the location and proximity of each scheme, based on the IAQM guidance for assessing effects from demolition and construction activities.
- 10.5.14. The traffic data provided for the future year scenarios will include vehicle trips associated with general growth and identified committed developments likely to affect the study area. The inclusion of identified committed developments in the traffic data utilised in the assessment will allow a cumulative assessment of the Proposed Development to be undertaken.

Achieving Compliance with the PM_{2.5} Targets

- 10.5.15. Interim guidance was released by Defra in 2024 setting out two new PM_{2.5} concentration targets to be met by 2040 in England. The first, referred to as the annual mean concentration target (AMCT), is a long-term target to achieve an annual mean PM_{2.5} concentration of 10 µg/m³ by the end of 2040. The second set of targets, referred to as the population exposure reduction target (PERT), relate to reducing overall population exposure to PM_{2.5}.
- 10.5.16. An assessment will be undertaken in line with the Interim Guidance to determine whether the proposed development complies with the requirement to deliver achievement of the AMCT and PERT by 2040.

10.6. Preliminary Discussions of Potential Mitigation and Enhancement Measures

10.6.1. The air quality chapter will set out specific recommended mitigation measures to apply during earthworks and construction works, based on the level of risk identified in the construction dust risk assessment.

10.6.2. Where necessary, appropriate mitigation measures will be identified for the operation of the Proposed Development in order to ensure that residual effects are 'not significant'. Nonetheless, the EPUK/IAQM guidance⁷⁶ advises that good design and best practice measures should be considered, whether or not more specific mitigation is required, and measures will be required to be compliant with Defra's guidance on achieving its new air quality targets. Example measures that may be incorporated into the design of the Proposed Development include:

- Scheme design setting the proposed properties back from the neighbouring road network as far as possible;
- Provision of a Travel Plan, setting out measures to encourage sustainable modes of transport;
- Limited parking provision, to encourage the use of sustainable transport modes, alongside the provision of pedestrian and cycle access and storage;
- Electric vehicle charging points and/or car club parking spaces; and
- All-electric energy provision to avoid the need for on-site combustion.

11. Noise and Vibration

11.1. Introduction

- 11.1.1. This scoping text has been prepared by Al Plail, Associate Acoustic Engineer, at Hoare Lea. Al Plail is a suitably qualified engineer with 11 years' experience in acoustic consultancy, full membership of the Institute of Acoustics (MIOA), and has more than 5 years of experience in preparing Noise and Vibration ES Chapters.
- 11.1.2. This chapter of the ES will assess the potential noise and vibration effects associated with the Proposed Development. Consideration will be given to effects during both the construction phase and operational phase of the Proposed Development.

11.2. Relevant Policy and Guidance

Legislative context

- 11.2.1. The noise and vibration assessment is to be undertaken with the ultimate aim of using quantitative criteria derived based on published guidance and best practice, to satisfy the qualitative requirements in National Planning Policy Framework (NPPF, 2024⁷⁸), Planning Practice Guidance – Noise (PPG-N, 2021⁷⁹) and Noise Policy Statement for England (NPSE, 2010⁸⁰).
- 11.2.2. Quantitative criteria are also to be used for satisfying the relevant requirements of Principle 4, Policy CS2 (Development Principles) of the Knowsley Local Plan Core Strategy adopted in January 2016⁸¹.
- 11.2.3. Where appropriate, the noise and vibration assessment will reference and facilitate compliance with legislation relating to noise and vibration: The Control of Pollution Act (1974)⁸²; The Environmental Protection Act (1990)⁸³; The Control of Noise (Code of Practice for Construction and Open Sites) Order (2015)⁸⁴; and Noise Insulation Regulations (1975)⁸⁵.

⁷⁸ Ministry of Housing, Communities & Local Government (MHCLG), 2024. *National Planning Policy Framework (NPPF)*. [online] Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

⁷⁹ Department for Levelling Up, Housing & Communities (DLUHC), 2021. *Planning Practice Guidance – Noise (PPG-N)*. [online] Available at: <https://www.gov.uk/government/collections/planning-practice-guidance>

⁸⁰ Department for Environment, Food & Rural Affairs (DEFRA), 2010. *Noise Policy Statement for England (NPSE)*. [online] Available at: <https://www.gov.uk/government/publications/noise-policy-statement-for-england>

⁸¹ Knowsley Borough Council, 2016. *Knowsley Local Plan Core Strategy (January 2016)*. [online] Available at: <https://www.knowsley.gov.uk/knowsley-local-plan>

⁸² Control of Pollution Act 1974. [online] Available at: <https://www.legislation.gov.uk/ukpga/1974/40/enacted>

⁸³ Environmental Protection Act 1990. [online] Available at: <https://www.legislation.gov.uk/ukpga/1990/43/contents/enacted>

⁸⁴ Control of Noise (Code of Practice for Construction and Open Sites) Order 2015. [online] Available at: <https://www.legislation.gov.uk/uksi/2015/1643/contents/made>

⁸⁵ Noise Insulation Regulations 1975. [online] Available at: <https://www.legislation.gov.uk/uksi/1975/1391/contents/made>

Guidance and Best Practice

- 11.2.4. The noise and vibration assessment methodology is informed by the IEMA Guidelines for Environmental Noise Impact Assessment⁸⁶.
- 11.2.5. Construction noise and vibration are to be assessed in accordance with British Standards BS 5228-1⁸⁷ and BS 5228-2⁸⁸.
- 11.2.6. Noise from external building services plant is to be assessed based on the guidance contained in British Standard BS 4142⁸⁹.
- 11.2.7. Road noise levels during construction and occupation of the Proposed Development will be assessed based on the relative traffic changes as described in Design Manual for Roads and Bridges (DMRB)⁹⁰.
- 11.2.8. When deriving noise assessment criteria for on-site and off-site sensitive receptors, reference will be made to British Standard BS 8233⁹¹ which provides desirable internal noise level guidelines for residential uses.
- 11.2.9. Likely noise levels in the area from transportation sources will be modelled in the software CadnaA, based on the calculation procedures contained in Calculation of Road Traffic Noise⁹² (for road traffic). Source noise levels for on-site vehicle movements will be predicted based on the guidance contained in Common Noise Assessment Methods in Europe (CNOSSOS-EU)⁹³.
- 11.2.10. Current noise policy and guidance advises that no specific measures are required if noise is below the threshold of Lowest Observed Adverse Effect Level (LOAEL) and development exposed to noise above a threshold considered to be the Significant Observed Adverse Effect (SOAEL) level should be avoided. Where the noise levels across the Site fall between LOAEL and SOAEL it is appropriate to mitigate and reduce to a minimum. Where no effect on health and/or quality of life can be detected, noise and/or vibration levels are below No Observed Effect Level (NOEL).

⁸⁶ Institute of Environmental Management and Assessment (IEMA), 2014. *Guidelines for Environmental Noise Impact Assessment*.

⁸⁷ British Standards Institution (BSI), 2009. *BS 5228-1:2009 – Code of practice for noise and vibration control on construction and open sites – Part 1: Noise*.

⁸⁸ British Standards Institution (BSI), 2009. *BS 5228-2:2009 – Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration*.

⁸⁹ British Standards Institution (BSI), 2014. *BS 4142:2014 – Methods for rating and assessing industrial and commercial sound*.

⁹⁰ Highways England, *Design Manual for Roads and Bridges* (latest version available at the time of the assessment).

⁹¹ British Standards Institution (BSI), 2014. *BS 8233:2014 – Guidance on sound insulation and noise reduction for buildings*.

⁹² Department for Transport (DfT), 1988. *Calculation of Road Traffic Noise*. HMSO.

⁹³ European Commission, 2015. *Common Noise Assessment Methods in Europe (CNOSSOS-EU)*.

11.3. Preliminary Assessment of Baseline Conditions

- 11.3.1. Baseline environmental sound surveys will be undertaken by Hoare Lea. This will include a combination of unattended noise monitoring and attended sample noise measurements to determine the prevalent ambient and background noise levels across the Site and surrounding area.
- 11.3.2. Measurements will be undertaken in line with the principles set out within British Standard BS 7445 Descriptions and measurement of Environmental Noise.

11.4. Potential Effects (including identification of specific receptors)

Potentially Sensitive Receptors

- 11.4.1. The geographic scope of the noise and vibration assessment will be the Site and all of the nearest noise sensitive receptors to the Site in every direction. Further away receptors will normally be subject to lower noise levels and lesser impacts as a result.
- 11.4.2. The following potentially sensitive receptors have been identified, presented in **Plate 11.1** and listed below in **Table 11.1**.

Plate 11.1 – Nearest potentially sensitive receptors



Source: Google Earth; Hoare Lea annotations.

Table 11.1 – List of nearest identified receptors around the Proposed Development

Receptor Reference	Receptor Type	Receptor description	Assumed sensitivity
1	Residential	Knowsley Lane / Home Farm Road / Whitestone Close residences	High
2	Residential	Berry Hill Avenue residences	High
3	Residential	Sugar Lane / Parklands residences	High
4	Commercial	Stanley Grange Business Village	Low
5	Residential	Fluker's Brook Lane residences	High
6	Residential	Shannons Lane residences	High

- 11.4.3. Nearby receptors with low sensitivity will not be assessed for Noise and Vibration impacts.

Construction Phase Effects

- 11.4.4. An indicative construction noise and vibration assessment will be carried out that follows the guidance provided in BS 5228. At this stage, the full details of the construction programme, methodology and plant to be utilised are not known; therefore, reasonable assumptions of the likely plant used during the construction phase based on the type and scale of the Proposed Development will be made.
- 11.4.5. Construction noise and vibration levels generated on Site will be predicted for each of the identified construction stages. The range of noise levels predicted at all identified nearby noise and vibration sensitive receptors will be provided based on minimum and maximum realistic separation distances, as well as realistic durations of activities and source noise levels.
- 11.4.6. The magnitude of impact of construction noise will be quantified against thresholds derived relative to existing ambient sound levels as described in the ABC method contained in BS 5228. Criteria for the magnitude of impact of construction vibration levels will be derived based on absolute values corresponding to human perception using guidance in BS 5228. The predicted changes in noise levels generated by roads because of the additional traffic serving construction of the Proposed Development will be assessed, for all of the relevant roads, against magnitude of impact criteria derived based on the construction traffic relative change criteria in DMRB.

Occupation Phase Effects

- 11.4.7. Building services plant noise will be assessed against magnitude of impact criteria derived based on BS 4142 guidance relative to existing background sound levels. Noise limits for any plant associated with the operation of the Proposed Development will be set based on typical daytime and night-time background sound levels.
- 11.4.8. The magnitude of impact from road traffic serving occupation of the Proposed Development will be calculated using the methods described in Calculation of Road Traffic Noise and assessed using criteria derived from DMRB. To quantify the magnitude of impact based on the change in road traffic noise the following scenarios will be compared against the short-term change criteria contained in DMRB:
- Future traffic flow without Proposed Development at proposed year of completion.
 - Future traffic flow with Proposed Development at proposed year of completion.
- 11.4.9. Noise from vehicle movements on the Site will be, where appropriate, predicted and included within the assessment.
- 11.4.10. The predicted noise levels at all likely façade positions of the Proposed Development are to be reviewed against magnitude of impact criteria derived based on the desirable internal noise levels in BS 8233. Indicative façade acoustic performance requirements to facilitate compliance with the desirable internal noise level criteria will contextualise Site suitability in terms of noise. The predicted noise levels in external areas will be reviewed against BS 8233 guidance and the sound climates will be contextualised to assess suitability in terms of noise.

11.5. Scope and Methodology of Assessment (including significance criteria)

- 11.5.1. Noise sensitive receptors have been classified into different categories of sensitivity, which are summarised in **Table 11.2**. Categories have been determined through professional judgement based upon the likely activities taking place within the type of building, and the likely noise tolerance of the end user.

Table 11.2 – Description of receptor sensitivity

Sensitivity	Typical receptors
High	Concert halls, recording studios, residential dwellings, schools, healthcare buildings with sleeping facilities, hotels
Medium	Healthcare buildings without sleeping facilities (e.g. GP's office), museums, libraries, places of worship
Low	Commercial buildings (e.g. retail or office), industrial buildings
Negligible	Unoccupied buildings

- 11.5.2. While the specific thresholds and assessment parameters will vary depending on the nature of the impact being assessed, magnitudes of impact can be classified into four categories

based on professional assessment experience and guidance provided by Noise Policy Statement for England. These are presented in **Table 11.3**.

Table 11.3 – Description of impact magnitude

Sensitivity	Typical receptors
High (H)	Above SOAEL thresholds. Effect significantly above appropriate guidance thresholds, clearly perceptible change, adverse impact expected requiring extensive mitigation measures
Medium (M)	At SOAEL thresholds. Effect above appropriate guidance thresholds, may be perceptible under normal circumstances, adverse impact likely without mitigation measures.
Low (L)	Between LOAEL and SOAEL. Effect at or just above appropriate guidance thresholds, could be perceptible in certain scenarios only but still considered unlikely to draw adverse impact.
Negligible (N)	At LOAEL threshold or below. Effect at or below appropriate guidance thresholds, likely to be imperceptible and unlikely to draw adverse impact.

- 11.5.3. To determine significance of effect, all the predicted magnitudes of impact will be reviewed in relation to receptor sensitivity based on the matrix shown in **Table 11.4**.
- 11.5.4. Effects that are 'moderate', or 'major' will be considered as significant in the context of the noise impact assessment. As noted in **Table 11.4**, the magnitude of impacts thresholds will generally be determined such that the SOAEL threshold corresponds to significant effects for highly sensitive residential receptors. 'Neutral' or 'minor' effects will not be considered significant.

Table 11.4 – List of nearest identified receptors around the proposed development

Magnitude of impact	Receptor sensitivity		
	High	Medium	Low
High (H)	Major	Moderate	Minor
Medium (M)	Moderate	Minor	Neutral
Low (L)	Minor	Neutral	Neutral
Negligible (N)	Neutral	Neutral	Neutral

- 11.5.5. In addition to the sensitivity and magnitude of change, consideration is also given to other factors that may affect the significance of effect. For example, a 'high' impact may be considered to have a lower effect if it is highly localised. Conversely, a 'medium' impact may have a greater effect if the resultant change in noise is experienced over a prolonged period.

11.6. Preliminary Discussions of Potential Mitigation and Enhancement Measures

Construction Impacts, Effects and Mitigation

- 11.6.1. Noise from construction works will result in short-term temporary adverse effects that may be significant. Therefore, assessment is warranted. Construction vibration levels may result in short-term temporary adverse effects that could also be significant. Relevant measures contained in the Construction Environmental Management Plan (CEMP), secured through planning condition, which will help manage and reduce the effects. Assessment may be warranted to identify the need for specific management measures in certain cases. If there is no piling proposed, it is not expected that there would be any significant effects, so assessment would not be necessary if this is the case.
- 11.6.2. Construction traffic will temporarily increase traffic flows. Where the relative changes in road traffic are considerable, short-term temporary adverse effects that could also be significant could occur. Therefore, the potential noise effects associated with construction traffic flows, based on estimated construction traffic, will be assessed against current baseline traffic levels to represent a worst case.

Occupation Impacts, Effects and Mitigation

- 11.6.3. Building services plant noise has the potential to result in adverse effects that are significant if not managed. Therefore, building services plant noise is to be assessed for the purpose of deriving plant noise limits that protect against significant adverse noise effects.
- 11.6.4. Potential noise introduced by the Proposed Development could occur from altered road traffic flows. If the relative changes in noise levels on any road are large, this could result in adverse effects that are significant. Therefore, the potential changes in road traffic noise levels are to be assessed for all relevant roads.
- 11.6.5. Noise from road traffic movements on the Site are only anticipated to have any risk of significant adverse noise effects for on-site receptors. Therefore, assessment of noise from road traffic movements on the Site adversely impacting off-site receptors is excluded.
- 11.6.6. No sources of potentially significant vibration are likely to be introduced as part of the Proposed Development and therefore no assessment of operational vibration is required.
- 11.6.7. Considerate layout design and suitable acoustic performances for façades will be required to protect against adverse noise effects for on-site receptors. Therefore, a site suitability assessment in terms of noise is warranted and scoped into the assessment.

12. Flood Risk and Drainage

12.1. Introduction

12.1.1. The ES chapter will assess the effects of the Proposed Development on surface water, flood risk, land drainage, and wastewater treatment and sewerage.

12.1.2. The ES chapter will be completed by Weetwood Services Limited.

12.1.3. The ES chapter will:

- Define the surface water, flood risk, land drainage and wastewater baseline conditions;
- Identify the relevant surface water, flood risk, land drainage and wastewater development receptors;
- Follow relevant guidelines and legislation to assess:
 - The potential for surface water, flood risk, land drainage and wastewater impacts throughout the construction works and as a result of the completed development;
 - The likely significant surface water, flood risk, land drainage and wastewater effects;
 - Any required mitigation or monitoring to address any likely significant adverse surface water, flood risk, land drainage and wastewater effects;
 - Residual risks after implementation of any necessary mitigation measure, allowing for the future impact of climate change; and
 - The potential for cumulative surface water, flood risk, land drainage and wastewater effects.

12.2. Relevant Policy and Guidance

12.2.1. Relevant national and local planning policy and guidance will be reviewed, including:

- The Water Environment (Water Framework Directive) (England and Wales Regulations 2017⁹⁴
- National Planning Policy Framework, Ministry of Housing, Communities and Local Government, updated December 2024⁹⁵

⁹⁴ The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. SI 2017/407.

Available at: <https://www.legislation.gov.uk/uksi/2017/407/contents/made>

⁹⁵ Ministry of Housing, Communities and Local Government. (2024). *National Planning Policy Framework* (Updated December 2024). Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

- Planning Policy Guidance Section 7 – Flood Risk and Coastal Change, Ministry of Housing, Communities and Local Government, updated August 2022⁹⁶
- Knowsley Local Plan Core Strategy, Knowsley Council, adopted January 2016⁹⁷

National Planning Policy and Policy Guidance

- 12.2.2. The Water Framework Directive (WFD) provides a legal framework for the protection, improvement and sustainable use of inland surface waters, groundwater, transitional waters, and coastal waters across England. The WFD seeks to achieve at least 'good' status for all waterbodies.
- 12.2.3. Under the WFD, development must not result in any deterioration in the status of a waterbody nor compromise the aims of the WFD as set out in the River Basin Management Plans (RBMP), for which the Environment Agency (EA) is the 'competent authority'.
- 12.2.4. The National Planning Policy Framework (NPPF) sets out the government's planning policies for England and how these are expected to be applied.
- 12.2.5. The NPPF guides local planning authorities and decision-takers both in drawing up plans and as a material consideration in determining applications. It includes policies to ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk (para. 170 of the NPPF). Where development is necessary in areas at risk of flooding, the policy aims to make it safe for its lifetime, without increasing flood risk elsewhere, and, where possible, reducing flood risk overall (para. 177–181 of the NPPF).
- 12.2.6. The NPPF advocates the use of the risk-based Sequential Test to steer new development to areas at lowest probability of flooding. It also matches the flood risk vulnerability of a development proposal to appropriate flood zones and provides details on how to include the potential effects of climate change on development.
- 12.2.7. The NPPF states that applications which could affect drainage on or around the site should incorporate sustainable drainage systems (SuDS) to control flow rates and reduce volumes of runoff, and which are proportionate to the nature and scale of the proposal. These should provide multifunctional benefits wherever possible, through facilitating improvements in water quality and biodiversity, as well as benefits for amenity (NPPF para. 182).
- 12.2.8. The NPPF is accompanied by the Planning Policy Guidance (PPG), which provides additional guidance to ensure the effective implementation of the policy set out in the NPPF.

⁹⁶ Ministry of Housing, Communities and Local Government. (2022). *Planning Policy Guidance: Flood Risk and Coastal Change* (Updated August 2022). Available at: <https://www.gov.uk/government/collections/planning-practice-guidance>

⁹⁷ Knowsley Borough Council. (2016). *Knowsley Local Plan Core Strategy* (Adopted January 2016). Available at: <https://www.knowsley.gov.uk/knowsley-local-plan-core-strategy>

Local Planning Policy and Guidance

- 12.2.9. The following policies within the Knowsley Local Plan Core Strategy (January 2016) are relevant in respect of flood risk and drainage:
- Policy CS2: Development Principles states that new development in Knowsley will be expected to support a number of principles, which include (Principle 4) the protection and enhancement of environmental assets by minimising the negative impact upon various elements including flood risk and water quality, ensuring any negative impacts are appropriately mitigated.
 - Policy CS22: Sustainable and Low Carbon Development states that new development will be required to meet high standards of sustainable design and construction, which should be achieved by various methods including the management of flood risk, incorporating the use of [SuDS] and flood resilient design for infrastructure and property.
 - Policy CS24: Managing Flood Risk states that *“New development should preferably be located in areas of low probability of flooding. New development in areas of medium or high flood risk will only be permitted if evidence has been submitted demonstrating that the development could not be practicably located in an area of lower flood risk and if applicable the ‘exception test’ has been complied with, in accordance with national guidance”*. Policy CS24 sets out the Councils aspirations for assessing flood risk to new development and the measures required to mitigate this, where necessary including the requirements for managing surface water runoff.
- 12.2.10. A Level 2 Strategic Flood Risk Assessment (SFRA) was published by Knowsley Council in October 2012 and builds on the findings of the Level 1 SFRA published in June 2009. The purpose of the SFRA is to clarify and refine available flood risk information and to inform the planning decision making processes.

Drainage Technical Standards

- 12.2.11. Non-Statutory Technical Standards for Sustainable Drainage was published by DEFRA in March 2015⁹⁸. This sets out how surface water runoff generated during the 3.3% and 1.0% annual exceedance probability (AEP) rainfall events and for events exceeding the 1.0% AEP event should be managed, how peak runoff rates should be restricted and how runoff volumes should be controlled.

12.3. Preliminary Assessment of Baseline Conditions

Surface Water

- 12.3.1. Croxteth Brook flows north/north-west approximately 850m to the west of the Site (Figure 12.1).

⁹⁸ Department for Environment, Food & Rural Affairs (DEFRA). (2015). *Non-Statutory Technical Standards for Sustainable Drainage Systems*. Available at: <https://www.gov.uk/government/publications/non-statutory-technical-standards-for-sustainable-drainage-systems>

- 12.3.2. OS mapping indicates that the head of Fluker's Brook is located approximately 90m to the south-west of the Site. Fluker's Brook is subsequently culverted under the M57 before continuing west/north-west and ultimately outfalling to Croxteth Brook. The 2012 SFRA mapping indicates that two drainage ditches flow west approximately 20m and 110m to the south of the Site (at their nearest points) and outfall into the head of Fluker's Brook in the vicinity of Knowsley Lane (B5194).
- 12.3.3. A watercourse referred to as Ormskirk Road flows west in open channel and culvert approximately 190m (at its nearest point) to the north of the Site and outfalls to Croxteth Brook.
- 12.3.4. Existing ponds and drainage ditches are present within the two wooded areas, known as Spookies Wood, in the centre of the Site. OS mapping also indicates the presence of a number of drainage ditches and ponds within the locality of the Site.
- 12.3.5. White Man's Dam is located approximately 800m to the east of the Site.
- 12.3.6. The Site is located within the catchment of the "Croxteth/Knowsley Brook" water body (Water Body ID: GB112069060610). The water body has been assessed under the WFD. The current ecological status is 'Moderate', whilst the chemical status is 'Fail'.
- 12.3.7. There are no other WFD defined surface waterbodies within the vicinity of the Site or upon which the Proposed Development would impact.

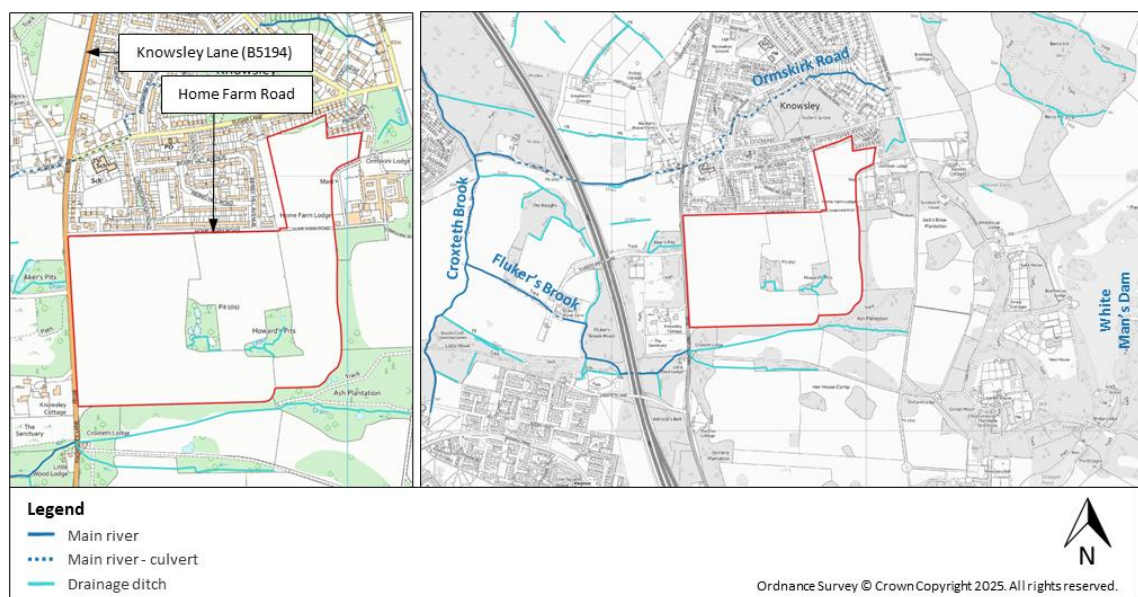


Plate 12.1 – Location of Surface Waterbodies

Flood Risk

- 12.3.8. The EA Historic Flood Map indicates that there are no records of flooding at or within the immediate vicinity of the Site.
- 12.3.9. The EA Flood Map for Planning (Rivers and Sea) (**Plate 12.2**) indicates the Site to be located in flood zone 1 (defined as land having a "low probability" of flooding, i.e. a less than 0.1% annual

probability). This is reiterated on Figure B2-1 of the 2012 SFRA (“Environment Agency Flood Zones”) and Figure F1-4 of the 2009 SFRA (“PPS25 Updated Flood Zones – Knowsley 3”).

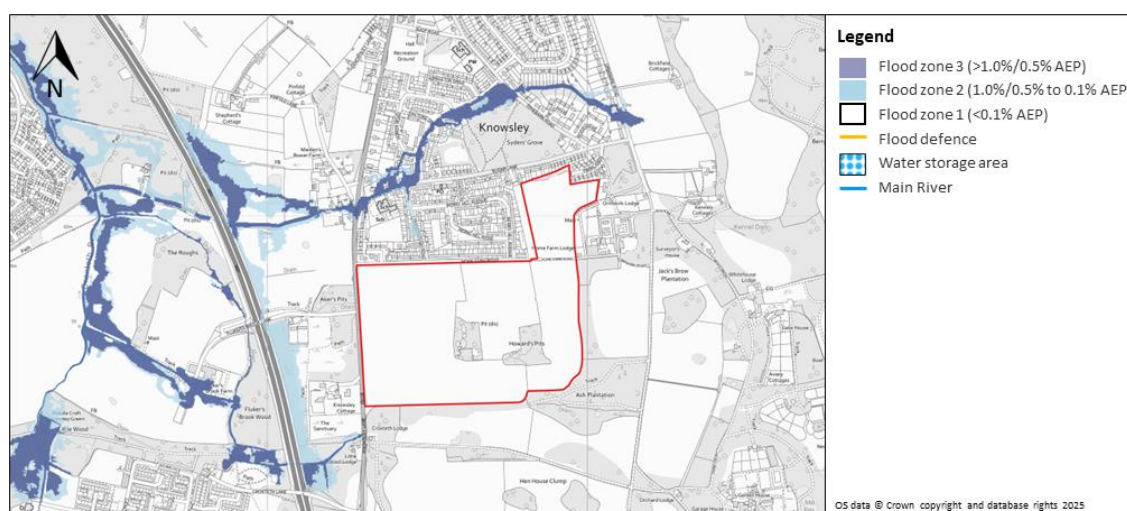


Plate 12.2 – Flood Map for Planning

- 12.3.10. The flood zones do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. However, given the distance between the flood zone extents and the Site, along with the intervening topography and infrastructure, this is not considered to pose a risk to the Proposed Development. This is reiterated on the Risk of Flooding from Rivers and Sea map and Figure G1-4 of the 2009 SFRA (“PPS25 Flood Zone 3a with Climate Change – Knowsley 3”), which indicate that the Site is not at risk when accounting for climate change.
- 12.3.11. The Risk of Flooding from Surface Water map (**Plate 12.3**) indicates that the Site is not at risk of flooding from the drainage ditches and ponds within the locality and is typically at a Very Low risk (i.e. a less than 0.1% annual probability) of flooding from pluvial surface water.
- 12.3.12. Ponding of surface water is indicated in several areas across the Site, which represents local depressions in the existing topography.
- 12.3.13. The mapping indicates that several overland flow routes develop in an extreme (1.0% to 0.1% annual probability) storm event. However, the areas of identified risk are relatively confined and form where the natural contours of the land forms a shallow valley where overland flow would be directed to. Furthermore, the maximum flood depth band of up to 0.2 m within these areas is typically only expected for storm events in excess of a 0.1% AEP, even when accounting for climate change.

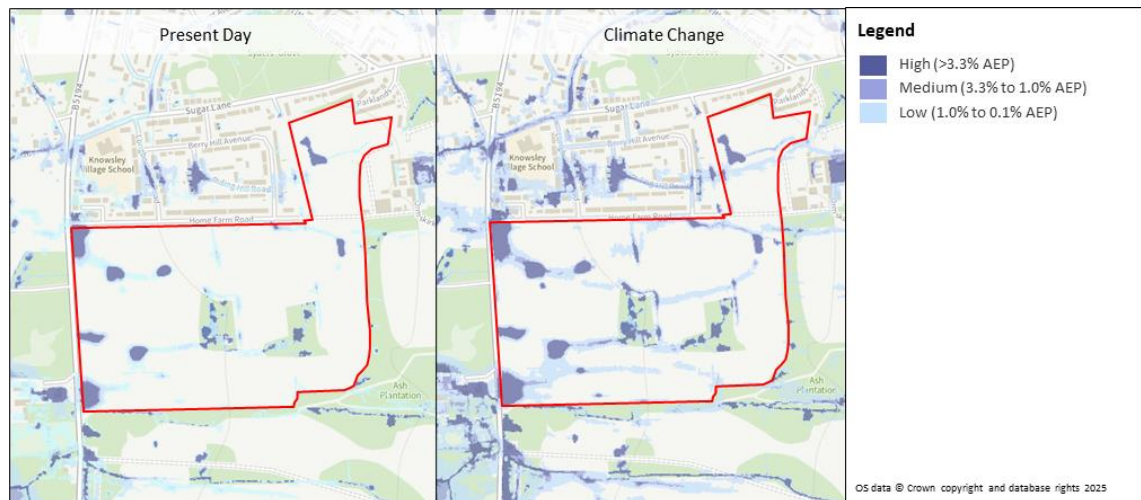


Plate 12.3 – Risk of Flooding from Surface Water

- 12.3.14. The Risk of Flooding from Reservoirs map (**Plate 12.4**) indicates that the Site is not at risk of flooding from this source, except for a small area in the south-west. However, all large reservoirs are regularly inspected by reservoir panel engineers with essential safety work carried out as required. As detailed on the gov.uk website, reservoir flooding is therefore extremely unlikely to occur.
- 12.3.15. There are no canals located within the immediate vicinity of the Site.
- 12.3.16. LiDAR data indicates that ground levels around the perimeter of White Man's Dam are in the region of 64.5 – 64.7 m AOD. Levels subsequently rise to circa. 66.5 – 67.0 m AOD before falling to the west. As such, this is not considered to pose a risk of flooding to the Site.
- 12.3.17. The JBA Groundwater Flood Risk Indicator map (**Plate 12.5**) indicates that groundwater levels at the Site may be <0.025 m below ground level (bgl) (defined as High risk) during a 1.0% AEP groundwater flood event.



Plate 12.4 – Risk of Flooding from Reservoirs

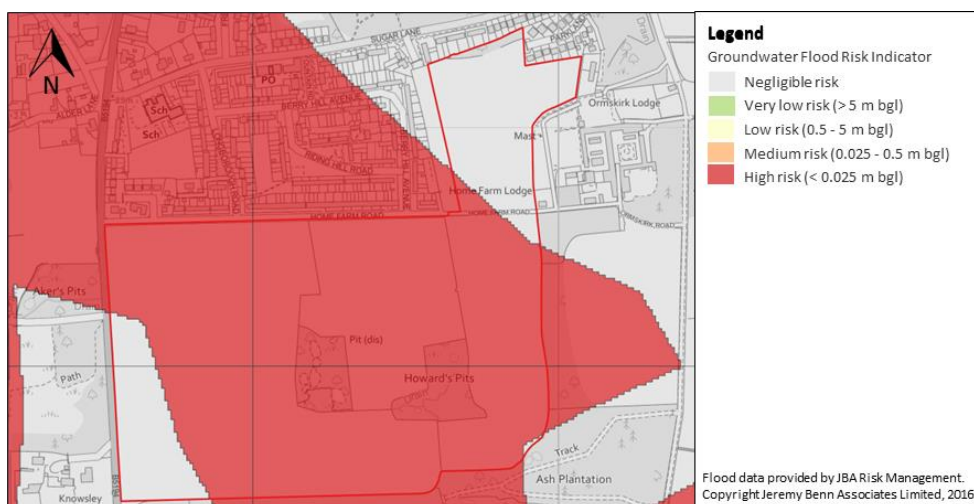


Plate 12.5 – JBA Groundwater Flood Risk Indicator Map

Land Drainage

- 12.3.18. The Site currently comprises greenfield land. As such, no formal drainage is expected to be present.
- 12.3.19. According to the Soilscape soils dataset produced by the Cranfield Soil and AgriFood Institute⁹⁹, soil conditions at the Site and within the surrounding area are described as slowly permeable seasonally wet loamy and clayey soils. Given the topography and ground conditions at the Site, surface water runoff would currently be expected to slowly infiltrate where conditions allow and flow overland towards Knowsley Lane.
- 12.3.20. Figure B10-1 of the 2012 SFRA ("Critical Drainage Areas") indicates that the northern extent of the Site is located within a critical drainage area.

Wastewater Treatment and Sewerage

- 12.3.21. United Utilities public sewer records indicate that a 225mm public foul sewer and 150mm private surface water sewer cross the Site in the north-east, between Parklands and Berry Hill Avenue. Public foul, surface water and combined sewers of varying sizes are also indicated within the existing developed area to the north of the Site.

12.4. Potential Effects (including identification of specific receptors)

Sensitive Receptors

- 12.4.1. The Proposed Development has the potential to impact on the following receptors:
- The quality of surface waterbodies, including Fluker's Brook and Croxteth Brook;

⁹⁹ Cranfield University, "LANDIS," <https://www.cranfield.ac.uk/themes/environment-and-agrifood/landis>.

- Flood risk to the Site and surrounding area including buildings and infrastructure;
- Surface water runoff rates and volumes from the Site and the quality of surface water runoff discharging from the Site;
- Site workers and local residents (during construction);
- New residents and existing local residents (completed development); and
- Wastewater infrastructure.

Potential Effects

12.4.2. The following potential unmitigated effects will be considered:

Construction Phase

- A reduction in surface water quality due to contamination of runoff and/or changes to surface water drainage patterns and pathways;
- Increased risk of flooding to people, plant, adjacent roads and properties due to an increase in runoff due to soil compaction and increase in impermeable areas during construction; and
- Impact on the public sewerage system during construction of new foul sewer connections from the Site.

Completed Development

- Increased risk of flooding to people, adjacent roads and properties due to development or raising of ground levels within areas considered to be at risk of flooding and the subsequent displacement of floodwaters and flood storage;
- An increase in surface water runoff (volume and rate) due to an increase in impermeable areas; leading to:
 - An increase in the volume of water in Fluker's Brook; and
 - A reduction in surface water runoff quality due to an increase in impermeable areas and in traffic volumes. Contaminated surface runoff could enter local watercourses.
- The large number of people living/visiting/working at the Site will increase the risk of existing surface waterbodies becoming blocked due to a build-up of debris, tipping of rubbish etc, leading to a change in flood flow dynamics and an increase in flood risk; and
- Foul water from the developed site could pollute receptor watercourses.

12.5. Scope and Methodology of Assessment (including significance criteria)

12.5.1. To fully assess the effects of the Proposed Development the following will be undertaken:

- Review currently available data and information, including information on surface water quality and flood risk, at and within the vicinity of the Site;
- Review national legislation and regulations relevant to the assessment of potential impacts on surface water, flood risk and land drainage. In addition, review guidance and policy documents including, yet not exclusively, those published by the Ministry of Housing, Communities and Local Government, DEFRA, the EA, CIRIA and by relevant regional and local authorities including SFRA and Catchment Management Plans (CFMP);
- Consultation with the Environment Agency, Knowsley Council (lead local flood authority) and United Utilities (sewerage undertaker);
- An assessment of the impact of the Proposed Development on the relevant surface waterbodies in relation to the quality elements of the WFD;
- Preparation of a Flood Risk Assessment (FRA). This will assess the potential risk of flooding to the Site from all known/identified sources, and the impact of the proposals on flood risk elsewhere; and
- Preparation of a Drainage Assessment (DA). This will assess the existing land drainage arrangements at the Site and identify the potential for any existing surface water regime(s) to be disturbed as a result of the proposals. The report would provide a strategy for the disposal and treatment of surface water flows from the developed site including the provision of SuDS. The report will also include a foul water drainage strategy for the Site developed in consultation with United Utilities.

12.5.2. The significance of any identified effect during the construction phase and as a result of the completed Proposed Development would be determined with regard to the status, extent or spatial scale, duration, probability/likelihood and magnitude of the impact and the sensitivity of the receptor.

12.5.3. The significance of the impact would be established through the evaluation of the above elements as informed by the baseline conditions and would ultimately be determined through professional judgement.

12.5.4. To define the significance of effects of the Proposed Development on water resources, flood risk and drainage, both the sensitivity of the receptor and the magnitude of change will be assessed.

12.5.5. The proposed sensitivity definitions for the assessment of the effect significance are detailed in **Table 12.1** below.

Table 12.1: Receptor Sensitivity

Susceptibility	Assessment Criteria
High	Receptor with a high quality and rarity, regional or national scale importance and limited potential for substitution/replacement: • Areas located within Flood Zone 3b. • Active flood plain area with importance in relation to flood defences. • Conveyance of flow and material, such as a Main River >10m wide. • Excellent water quality
Medium	Receptor with a medium quality and rarity, local scale importance and limited potential for substitution/replacement. • Areas located within Flood Zones 2 and 3 • Watercourses < 10m • Active flood plain area with importance in relation to flood defences • Conveyance of flow and material, such as a Main River >10m wide • Good water quality • Highly productive aquifer
Low	Receptor with a low quality and rarity, limited local scale importance and reasonable potential for substitution/replacement: • Areas located within Flood Zone 1 • Watercourses < 10m wide • Watercourse not widely used for recreation, or recreation user not directly related to watercourse quality. • Moderately productive aquifer.
Negligible	Receptor with a negligible quality and rarity, local scale and good potential for substitution/ replacement: • Areas located within Flood Zone 1 • Watercourses <5m wide • Polluted/poor water quality • Low productivity aquifer/rocks with essentially no groundwater.

12.5.6. The magnitude of change of impact on an identified receptor is detailed in **Table 12.2**. The magnitude of change is independent of its sensitivity and will be determined by professional judgement with supporting evidence provided in the Flood Risk Assessment and Drainage Strategy report.

Table 12.2: Magnitude of Change Criteria to Water Resources

Magnitude	Definition
High	Significant change in baseline flood risk (spatial extent, temporal duration, flow, water level). Result in major changes to the aquatic environment (e.g. permanent deterioration in flow regime, water quality or habitat) that would result in a permanent change. Permanent loss of water resources or reduced water resource availability. Pollution of potable sources of abstraction. Significant change in baseline flood risk (spatial extent, temporal duration, flow, water level).
Medium	Moderate change in baseline flood risk (spatial extent, temporal duration, flow, water level). Marginal change to the aquatic environment (e.g. in relation to flow regime, water quality or habitat) that would result in a temporary (but reversible) change. Reduction in water resource availability and/or quality.
Low	Nominal change in flood risk (spatial extent, temporal duration, flow water level). Marginal change to the aquatic environment (e.g., in relation to flow regime, water quality or habitat) that would result in a temporary (but reversible) change. Minor reduction in water resource availability and/or quality, which would not affect water users.
Negligible	No measurable change in flood risk (spatial extent, temporal duration, flow, water level). No measurable change to the aquatic environment (e.g. in relation to flow regime, water quality or habitat). No measurable change to the resource availability or quality.

- 12.5.7. The significance of effects is determined by considering the sensitivity of the identified receptor (**Table 12.1**) and the magnitude of change (**Table 12.2**). The effect is defined in accordance with the matrix presented in **Table 12.3**.

Table 12.3: Significance Criteria

Magnitude of Change	Sensitivity of Receptor				
		High	Medium	Low	Negligible
	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor to Moderate	Negligible
	Low	Moderate	Minor to Moderate	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

- 12.5.8. Based on **Table 12.3** above, the effects of the Proposed Development on water resources will be defined as either major, moderate, minor or negligible. Only major and moderate effects are considered to be significant in terms of the EIA regulations, these have been highlighted in green in **Table 12.3**.

12.6. Preliminary Discussions of Potential Mitigation and Enhancement Measures

- 12.6.1. The need for any mitigation measures to address adverse effects or enhance positive effects would be considered as appropriate for both the construction phase and the completed development.
- 12.6.2. It is envisaged that the potential impacts on surface water, flood risk and drainage from the Proposed Development will be mitigated through a series of measures during the construction phase and for the completed Proposed Development.
- 12.6.3. The proposed measures to mitigate flood risk and the strategy for the management of surface water runoff will be developed in accordance with national and local planning policy, guidance and technical standards, the requirements of the WFD and based upon professional experience and judgement. This will ensure that the Proposed Development will be safe from flood risk and will not increase flood risk elsewhere for its lifetime, taking climate change and the vulnerability of its users into account, with betterment provided where possible.
- 12.6.4. A foul water drainage strategy will also be developed through consultation with United Utilities to ensure that this is appropriately managed.

13. Topics to be 'Scoped Out'

- 13.1.1. The below topics are not proposed to be considered as separate chapters, however relevant information to support other disciplines will be provided where necessary as set out below.

13.2. Ground Conditions

- 14.2.1. A Preliminary Geoenvironmental Investigation has been undertaken by Lithos¹⁰⁰ (included at **Appendix E**) which found the Site has remained as un-development farmland since pre-1850, with the exception of a pond in the west of the Site being infilled in 1909. The report concluded that there is likely to be localised contamination in the made ground used to infill the former pond and beneath the track of Home Farm Road as it passes through the Site. The topsoil is anticipated to be relatively clean and suitable for reuse.
- 14.2.2. No other potentially contaminative industrial land uses were identified as having been present on the site. However, arable farming has historically been carried out. The farming activities and made ground associated with possible land infilling and levelling in other areas of the Site may have given rise to some limited contamination.
- 14.2.3. Consequently, a ground investigation is required in order to assess the degree and extent of any ground contamination with further intrusive investigation recommended. Due to the limited extent of any potential contamination it is not considered to result in significant effects in EIA terms and can be dealt with through standalone assessment outside of the ES.
- 14.2.4. In this context, it is considered that Ground Conditions and Land Contamination can be assessed outside of the EIA process and can therefore be scoped out of the EIA and resultant ES.

13.3. Climate

- 13.3.1. Regulation 4(2)(c) of the 2017 EIA Regulations requires significant effects on climate to be considered, as appropriate, within the EIA process. In addition, Schedule 4 to the 2017 EIA Regulations requires likely significant effects resulting from *"the impact of the project on climate...and the vulnerability of the project to climate change"* to be addressed within an ES where relevant.
- 13.3.2. Given the nature of the Proposed Development, it is not considered that there will be a significant impact in relation to 'climate change' in EIA terms relating to greenhouse gas emissions or any future significant impacts arising from climate change that would require significant adaptation within the Proposed Development. It is therefore not proposed that 'climate change' will be assessed as an individual topic, however, will be addressed within relevant chapters, as appropriate, such as Water Resources, Air Quality and Ecology & Biodiversity.
- 13.3.3. With regards to the impact on the Proposed Development on climate change, as with the majority of construction projects, it is acknowledged that the construction phase will result in the use of energy-intensive materials (e.g., concrete and metals) as well as fossil fuels for

¹⁰⁰ Lithos, 2022, Preliminary Geoenvironmental Investigation, Land at Home Farm Road, Knowsley.

construction plant and vehicles. Once occupied, the Proposed Development would also import electricity from the national grid for consumption. However, the scale and nature of the development is limited in the context of the residential sector and the local administrative area and (drawing upon the Institute of Environmental Management and Assessment's Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2022) such activities, during construction and operation, will not have a significant effect on the climate.

- 13.3.4. With regard to the vulnerability of the Proposed Development to climate change, potential climate-related flood risks will be considered within the Flood Risk Assessment (FRA) as part of the Water resources chapter of the ES. Suitable mitigation will be embedded into the Proposed Development to ensure that there are no significant risks of flooding on the Site, and to not exacerbate any flood risk off the Sites.
- 13.3.5. The impacts of the Proposed Development on climate change and resilience of the Proposed Development to the changing climate have formed an integral part of the masterplanning process. Considerations have included future-proofing and resilience measures such as the implementation of Electric Vehicle charging to minimise the use of fossil fuel combustion engines, the careful orientation of buildings to avoid overheating in hotter temperatures, and water saving measures.
- 13.3.6. Given the nature of the Proposed Development, it is not considered that there will be a significant impact in relation to 'climate change' in EIA terms relating to greenhouse gas emissions or any future significant impacts arising from climate change that would require significant adaptation within the Proposed Development. It is therefore not proposed that 'climate change' will be assessed as an individual topic, however, will be addressed within relevant chapters such as Water Resources, Air Quality and Ecology & Biodiversity, as appropriate.

13.4. Agricultural Land & Soils

- 13.4.1. According to Natural England's Provisional Land Classification (ALC) Map, the western section of the Site is located on Grade 2 agricultural land, the central and eastern sections, and the north eastern and southern boundaries are classed as non-agricultural land and the northern section is considered urban land. Grade 2 agricultural land is considered Best and Most Versatile (BMV), however it is acknowledged that this forms a small portion of the Site with the majority of the Site classed as either urban or non-agricultural land. An ALC survey will be undertaken to confirm the extent of the Grade 2 land within the Site and will support the planning application.
- 13.4.2. Whilst it is acknowledged the Site includes Best and Most Versatile (BMV) agricultural land, the Site forms part of an area of safeguarded land under Policy SUE1 in the Knowsley Local Plan Core Strategy (adopted January 2016). In this regard, its inclusion in the Local Plan therefore indicates that the loss of agricultural land would be considered acceptable.
- 13.4.3. Notwithstanding this, it is also acknowledged that the Proposed Development will not result in a significant loss of BMV soil resource, as the BMV land comprises less than 20 ha, in

accordance with Natural England guidance¹⁰¹. If deemed applicable, topsoil resources could be preserved for reuse; this measure could be secured by condition where required.

13.5. Lighting

- 13.5.1. Given the nature of the Proposed Development and the location of the Site, it is not considered that the construction and operation of the Proposed Development is likely to cause significant lighting effects in its own right. A separate ES chapter on lighting is therefore not proposed to be included as part of the forthcoming ES.
- 13.5.2. The Site is located adjacent to Knowsley Road (B5202) to the west and Home Farm Road to the north, both of which currently provide an ambient light source through street lighting columns. The residential properties located adjacent to the north of the Site also provide an existing ambient light source. To the south and east of the Site lies land associated with Knowsley Park and Hall which is not currently lit.
- 13.5.3. With regard to the potential effects on biodiversity, there are no statutory designated sites for nature conservation located in proximity to the Site. Knowsley Park LWS is located adjacent to the eastern and southern boundaries, a buffer is proposed along the southern and eastern boundaries of the Site to provide an offset from the Proposed Development and reduce any potential effects on ecology. It is considered sufficient that direct lighting influences are not predicted on the basis that a suitable considered lighting strategy is proposed. This specific matter will be considered within the Ecology & Biodiversity Chapter. The introduction of lighting into new and undeveloped land has the potential to adversely affect hedgerows, trees and habitats within the Site; however, the Proposed Development will be sensitively designed to minimise the potential for significant effects.
- 13.5.4. It is however acknowledged that where light has the potential to cause a statutory nuisance, as outlined in the Environmental Protection Act 1990¹⁰² and the Clean Neighbourhoods and Environment Act 2005¹⁰³, lighting proposals will be fully assessed and reviewed in accordance with industry guidance¹⁰⁴ to ensure that it does not impact the surrounding environment.

13.6. Material Assets

- 13.6.1. Material assets in EIA is a very broad term which considers both physical and non-physical sectors that could be said to have material value. On review of the Site's location and context, it is not considered there are any further 'material assets' to those already addressed within other EIA topics, and therefore no further consideration of material assets is proposed within the EIA and resultant ES.

¹⁰¹ Natural England (2012) Agricultural Land Classification: protecting the best and most versatile agricultural land (TIN049) [online] available at: <https://publications.naturalengland.org.uk/publication/35012> [last accessed 28th June 2024].

¹⁰² UK Public General Acts (1990) Environmental Protection Act 1990 [online] available at: <https://www.legislation.gov.uk/ukpga/1990/43/contents> [last accessed 9th July 2024].

¹⁰³ UK Public General Acts (2005) Clean Neighbourhoods and Environment Act 2005 [online] available at: <https://www.legislation.gov.uk/ukpga/2005/16/contents> [last accessed 9th July 2024].

¹⁰⁴ Institute of Lighting Professionals (2021) Guidance Note 1 for the Reduction of Obtrusive Light [online] available at: <https://theilp.org.uk/publication/guidance-note-1-for-the-reduction-of-obtrusive-light-2021/> [last accessed 9th July 2024].

13.7. Wind Microclimate

- 13.7.1. It is not considered the Proposed Development would result in significant effects on human receptors in relation to wind microclimate. The Site is located in a predominantly undeveloped area, and there are therefore no existing or proposed tall buildings which may create trapped vortices/wind tunnelling, nor are there many existing human receptors that could be adversely affected by the proposed built form and any potential changes in microclimate. The Lawson Criteria is the most common set of guidelines used when considering the potential effect of wind microclimate, and considers different pedestrian activities, with the principal being that the quieter activities such as 'sitting', require lighter winds to be 'acceptable' than other activities such as 'business walking'. The design of the buildings will seek to reduce any potential impacts as a result of wind.
- 13.7.2. Given the location of the Site, and the design of the buildings, it is considered appropriate that wind microclimate is scoped out of the EIA and resultant ES.

13.8. Daylight, Sunlight and Overshadowing

- 13.8.1. The Site is located in a predominantly undeveloped area, and there are no residential buildings or other sensitive uses close enough such that the proposed built form on the Site could cause significant changes to daylight, sunlight or cause overshadowing. The design of the Proposed Development will also seek to reduce any excessive shadowing, by the consideration of roof treatments. The materials used for the buildings will also seek to reduce unnecessary glare.
- 13.8.2. Given the location of the Site, and the likely design of the buildings, it is considered appropriate that impacts on daylight, sunlight, overshadowing and glare are scoped out of the EIA and resultant ES.

13.9. Electronic Interference

- 13.9.1. It is not considered that the Proposed Development would cause electronic interference and therefore this is proposed to be scoped out of the EIA and resultant ES.

13.10. Waste

- 13.10.1. All waste from the Proposed Development will be managed in accordance with all applicable legislation and best practice during both the construction and operational phases and no significant effects are anticipated. Large quantities of waste are not anticipated. This topic is therefore proposed to be scoped out of the forthcoming ES.

13.11. Vulnerability to Major Accidents and Disasters

- 13.11.1. The Site is not in a location which is at risk of disasters, such as significant flooding, or earthquakes. Furthermore, the Proposed Development is of a nature which is unlikely to produce significantly increased risk of accidents or natural disasters during its construction or operation that would go beyond the existing local context. During the construction phase, the contractor(s) would implement measures in accordance with Health and Safety legislation, and best practice, to minimise the risks of accidents that would have effects on people or the environment. All such measures would form part of the CEMP, which would be secured through a planning condition to any planning permission.

- 13.11.2. Other disciplines of the ES, for example flood risk, will ensure that the Proposed Development is designed to withstand impacts of flooding, including consideration of climate change, and the Proposed Development will be designed in accordance with industry standards / relevant building regulations. No likely significant effects are anticipated and therefore it is proposed that the topic is scoped out of the ES.

14. Structure of the Environmental Statement

- 14.1.1. The ES will report the findings of the EIA and will address the requirements of Schedule 4 of the EIA Regulations, as set out in section 3.
- 14.1.2. The ES is anticipated to include 2 Volumes:
- Volume 1: Environmental Statement Main Text: sets out the findings to each of the environmental disciplines, including accompanying Figures (i.e., plans/drawings)
 - Volume 2: Accompanying Technical Appendices: supports the main assessments within Volume 1; and
 - Non-Technical Summary (NTS) would also be provided as a separate document.
- 14.1.3. The anticipated structure and content of Volume 1 (and Volume 2 where applicable) of the ES is likely to be as follows:
- Introduction;
 - EIA Scope and Methodology;
 - The Site
 - The Proposed Development and Alternatives;
 - Socio-Economics and Health;
 - Landscape and Visual Amenity;
 - Ecology & Biodiversity;
 - Cultural Heritage;
 - Transportation and Access;
 - Air Quality;
 - Noise;
 - Flood Risk and Drainage;
 - Summary;
 - Glossary; and
 - References.
- 14.1.4. Within each of the assessment chapters the main structure of the information presented, although not exclusively, will be as per the following headings:
- Introduction

- Assessment Approach (including methodology, assessment of significance, legislative and policy framework, scoping criteria, limitation)
- Baseline Conditions
- Assessment of Likely Significant Effects (Assessment of Impacts, including construction and operation)
- Mitigation, Enhancement and Residual Effects
- Cumulative and in-combination effects
- Summary

15. Environmental Statement Scoping Summary

- 15.1.1. This Environmental Impact Assessment (EIA) Scoping Report has been prepared on behalf of Hallam Land Management Ltd ('the Applicant') in respect of a forthcoming planning application of land at Home Farm Road, Knowsley, L34 OEB ('the Site').
- 15.1.2. This Scoping Report has been prepared to accompany a formal EIA Scoping Request to KMBC under Regulation 15 of *The Town and Country Planning (EIA) Regulations 2017* (as amended) and has set out the proposed scope of the EIA and resultant Environmental Statement (ES) which is anticipated to support an outline application for the erection of up to 730 residential dwellings (C3 use class), including details of access to but not within the Site, open space and any other necessary works' ('the Proposed Development').
- 15.1.3. As outlined and justified within this Scoping Report, it is proposed the ES will consider the topics listed in **Table 14.1** below.

Table 14.1 Summary of Proposed ES Scope

EIA Topic	Scoped In / Out	Where Addressed within ES
Population	Scoped in	To be assessed within the Socio Economics and Health chapter
Human Health	Scoped in	To be assessed within various chapters as follows: Socio Economics and Health, Air Quality, Noise, Drainage, Landscape and Visual and Transport. A separate chapter on human health is not considered necessary given the nature of the scheme and the location / environment of the Site is unlikely to result in significant impacts in relation to human health.
Biodiversity (e.g. flora and fauna)	Scoped in	To be assessed within the Ecology & Biodiversity Chapter
Land (e.g. land take)	Scoped in	To be assessed within the Landscape and Visual and Ecology & Biodiversity Chapters.
Soil	Scoped out	Given the Site is unlikely to include significant areas of contamination, and the loss of any BMV soils would likely be under 20ha, it is proposed soil, land contamination and agricultural resources is scoped out. Further detail has been provided in Section 13 of this report.

EIA Topic	Scoped In / Out	Where Addressed within ES
Water	Scoped in	To be assessed within the Water Resources and Ecology & Biodiversity Chapters
Air	Scoped in	To be assessed within the Air Quality Chapter
Climate	Scoped in	Climate to be assessed within various chapters as follows: Air Quality, Ecology & Biodiversity, and Flood Risk and Drainage. Given the nature of the proposals, it is not considered that there will be a significant impact in relation to 'climate change' in EIA terms relating to greenhouse gas emissions or any future significant impacts arising from climate change that would require adaptation within the Proposed Development. It is therefore not proposed to include a specific chapter regarding climate change mitigation and adaptation. See Section 13 for further details.
Material Assets ¹⁰⁵	Scoped out	It is not considered there are any further 'material assets' to those already addressed within other EIA topics that may result in further significant effects.
Cultural Heritage (Architectural & Archaeological aspects)	Scoped in	To be assessed in the Cultural Heritage Chapter
Landscape	Scoped in	To be assessed in the Landscape and Visual Chapter
Interrelationship between above factors	Scoped in	Within each topic chapter

- 15.1.4. The Applicant look forward to receiving the KMBC's formerly adopted EIA Scoping Opinion within 5 weeks, as set out within Regulation 15 of the EIA Regulations 2017 (as amended).

¹⁰⁵ Material Assets can be defined as follows: "The EIA Regulations refer to 'material assets', including architectural and archaeological heritage aspects. The phrase 'material assets' has a broad scope, which may include assets of human or natural origin, valued for socioeconomic or heritage reasons. Material assets are in practice considered across a range of topic areas within an ES, in particular historic environment and socioeconomics". Source: <https://digital-eia.rpsgroup.com/EnvironmentalAssessment.html>

Appendix A – Site Location Plan

Appendix B – Schedule 4 EIA Regulations

Appendix C – Landscape Figures

Appendix D – Designated Heritage Assets

Appendix E – Preliminary Geoenvironmental Investigation

Town & Country Planning (Environmental Impact Assessment) Regulations 2017

Lichfield

Central House Queen Street Lichfield WS13 6QD

T: 0121 308 9570

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