



Habitat Regulation Assessment

Kirkby, Proposed Battery Energy Storage System

Pivoted Power LLP

EDF Renewables
Cardinal Place
80 Victoria Street
London
SW1E 5JL

Prepared by:

SLR Consulting Limited

5th Floor, 35 Dale Street, Manchester, M1 2HF

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01	28 November 2025	Mark Nelson	Nicola Faulks	Nicola Faulks
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Basis of Report

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Acronyms and Abbreviations

BESS	Battery Energy Storage System
CEMP	Construction and Environmental Management Plan
EA	Environment Agency
EclA	Ecological Impact Assessment
eDNA	Environmental Deoxyribonucleic acid
GCN	Great crested newt
HDD	Hydraulic Directional Drilling
HRA	Habitats Regulations Assessment
LNR	Local Nature Reserve
LWS	Local Wildlife Sites
MBB	MerseySide BioBank
NGR	National Grid reference
PEA	Preliminary Ecological Appraisal
SLR	SLR consulting Ltd
SSSI	Site of Special Scientific Interest
UKHab	UK Habitat Classification Survey



1.0 Introduction

1.1 Background

SLR Consulting Ltd (SLR) was commissioned by Pivoted Power LLP to undertake an (shadow) Habitats Regulations Assessment (HRA) to support a planning application for its proposed construction of a new Battery Energy Storage System (BESS) at Kirkby, located at North of Cut Lane, Liverpool, L33 3AJ (centroid National Grid reference (NGR): SJ 44510 97577). The plan of the development footprint is provided in **Appendix A**. The Proposed Development consists of a BESS compound with an access track to the south and a cable route to connect the Site to Kirkby electricity substation.

This report is intended to provide sufficient information for the Competent Authority (in this case Knowsley Metropolitan Borough Council) to determine whether the proposed works could have a Likely Significant Effect (LSE) on European sites with regard to their conservation objectives and whether there will be an adverse effect on the integrity of any European site, with and without mitigation.

1.2 Site Description

The Site is located to the West of the Town of Kirkby, 640m North of the major roadway A580 'East Lancashire Road' (centroid National Grid reference (NGR): SJ 44510 97577), hereafter referred to as 'the Site'. The Red Line Boundary of the Site can be seen in **Appendix A**, Drawing KIR-EDFR-BESS-LAND-PLN-150.05 Site Location Plan, along with the proposed cable route. The Site is c3.34 Ha in size.

A large proportion of the land has been utilised for mineral extraction and cleared for the future establishment of a fishing pond where most of the Site's vegetation has been removed, and the topsoil has been stripped. Historical imagery on Google Earth suggests that the vegetation removal started in 2019. Also present adjacent to the Site is a large industrial building and several industrial containers. Lining the perimeters of the Site are hedgerows.

The surrounding landscapes supports a range of agricultural land utilised for crop production and livestock grazing intersected by hedgerows with small pockets of woodland present. Further west is a large commercial and industrial area.

1.3 Proposed Development

The Site will be utilised for the construction and operation of a new BESS.

The works will include the construction of:

- Battery compound comprising of energy blocks with associated cooling systems; transformers; inverters; spares container; switchgear kiosk; control room kiosk; National Grid incomer substation; earthing and auxiliary transformers; and LV board. All units set on concrete slab foundations.
- Security fencing and double leaf site security gate.
- Point of connection cable corridor.
- Private wire cable corridor.
- Landscape planting and perimeter hedge planting.
- CCTV cameras and masts.
- A water tank.



- Access tracks from service road and permeable stone site surfacing around site track and concrete slab foundations.
- Creation of an Attenuation Basin.
- A temporary compound in the field to the west of the access track.

A plan of the proposed BESS development can be seen in **Appendix B**, Drawing KIR-EDFR-BESS-CIV-PLN-300.13 - Site Layout Plan.

The cable route exits the BESS Site to the south, via the current access track, and then progresses west along Cut Lane to the junction of Molly's Lane and Hewitt's Lane. The route then progresses south down Hewitt's Lane before cutting west through woodland south of Knowsley Pumping Station, crossing under Knowsley Brook and progressing west along the outside of the southern edge of the substation. The route will terminate at an intermediate substation.

1.4 The requirement for a Habitat Regulations Assessment

The Site is located within:

- 13km of the Mersey Narrows & North Wirral Foreshore Ramsar and Special Protection Area (SPA);
- 14km of Ribble & Alt Estuaries Ramsar and SPA, Sefton Coast Special Area of Conservation (SAC);
- 14km of Dee Estuary SAC;
- 14km of the Mersey Estuary Ramsar and SPA; and
- 17km of Martin Mere Ramsar and SPA.

These are European sites which are protected by The Conservation of Habitats and Species Regulations 2017 (as amended). These are referred to as 'the Habitats Regulations'.

Plans or Projects which have the potential to affect a European site must be assessed in accordance with the Habitats Regulations. In England, this assessment is referred to as a Habitats Regulations Assessment (HRA). The formal HRA must be undertaken by the Competent Authority, which in this case is Knowsley Metropolitan Borough Council. This report provides sufficient information to inform the formal HRA and poses provisional conclusions for consideration by the competent authority.

1.5 Relevant Legislation and Policy

1.5.1 European Nature Directives (Habitats and Birds)

Previously the Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora), served as the basis for the designation of Special Area of Conservation (SAC). Similarly, SPAs were classified under the Birds Directive (Council Directive 2009/147/EEC on the Conservation of Wild Birds). The provisions for designation of these sites have now been incorporated into national legislation and collectively these are referred to as the UK National Site Network (previously referred to as the Natura 2000 network). In general terms, these sites are considered to be the minimum required for the conservation of certain habitats and species within the UK's territory (and previously within Europe). The sites, designated for nature conservation under the Habitats and Birds Directives, may be referred to as 'European sites'.

Following the UK's withdrawal from the EU on 31st of January 2020; the legislation underpinning the protection of European sites has been updated. The European Union (Withdrawal) Act 2018 effectively carries over and transposes EU law on this matter into UK



domestic law. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 made functional amendments to the Regulations to ensure their operation following the UK's exit from the EU.

The National Planning Policy Framework (NPPF) states that potential Special Protection Areas and possible Special Areas of Conservation, listed or proposed Ramsar sites and sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites, should be given the same protection as Habitat Sites (SPAs & SACs).

1.5.2 Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) transpose the requirements of Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law and under this legislation the assessment of the implications for European sites or Habitats Regulations assessment is required where plans or projects have the potential to effect European sites and where those projects are not connected with or necessary to the management of such sites.

In such cases, Regulation 63 of the Conservation of Habitats and Species Regulations 2017, requires that the competent authority makes an Appropriate Assessment of the implications for European site or sites in view of a site's conservation objectives, before deciding to undertake, or give consent, permission or other authorisation for, a plan or project which:

- is likely to have a significant effect on a European site, either alone or in combination with other plans and projects; and
- is not directly connected with or necessary to the management of that site.

A person applying for any such consent, permission or other authorisation must provide such information as the competent authority may reasonably require for the purposes of the assessment or to enable them to determine whether an appropriate assessment is required.

1.5.3 Knowsley Local Plan: Core Strategy January 2016

The Knowsley Local Plan Core Strategy¹ details one policy around the conservation of biodiversity regarding European designated sites. This is the Natural Assets and Biodiversity policy and is outlined below.

"Natural Assets and Biodiversity

The key priorities for natural assets and geology in the Liverpool City Region are:

- *To manage the natural assets better – to protect the integrity of nature sites of international importance, and to protect the city region's nature and geodiversity assets; and*
- *To make sure there is no net loss of these natural assets and to extend and enhance the city region's Ecological Network and natural assets.*

Many natural assets occur at a landscape scale and cross local authority boundaries. Neighbouring authorities in Lancashire, Greater Manchester and Cheshire are currently preparing Ecological Networks, which will allow a more integrated approach between Knowsley and adjacent areas. The Liverpool City Region authorities are currently preparing

¹ <https://localplanmaps.knowsley.gov.uk/documents/knowsley-local-plan-adopted-core-strategy.pdf>



evidence relating to their shared Ecological Network which once agreed will identify strategic and district priorities for habitat creation and enhancement at a landscape scale.

Knowsley's natural assets include the designated nature sites and priority habitats which will form part of the Liverpool City Region Ecological Network once agreed. The hierarchy of designated sites is:

- a) Sites of international nature importance;*
- b) Sites of national nature and geological importance; and*
- c) Sites of local nature and geological importance.*

The Council will not support schemes that will lead to adverse effects on nationally or internationally important wildlife sites, either alone or in combination with other projects and plans. This includes supporting habitat for species that are designation features of Internationally important sites. Any scheme which would be likely to significantly affect a European site, either alone or in combination with other plans and projects, will be subject to an assessment under Part 6 of the Habitat Regulations at project application stage. If it cannot be assured that there would be no adverse effects on site integrity, permission will be refused unless the proposal satisfies the 'no alternatives' and 'Imperative Reasons of Over-Riding Public Interest' tests of the Conservation of Habitats and Species Regulations 2010 (as amended), under which appropriate compensatory measures will need to be secured.

In some circumstances, adequate mitigation and/or compensation for biodiversity loss may be acceptable but incapable of being provided within the application site. In such cases where appropriate, priority will be given to equivalent off site opportunities for such mitigation or, as a last resort, compensation. Such opportunities shall be prioritised in the following order:

- Firstly sites in the immediate locality of and/or within any Core Biodiversity Area (to be defined as part of the Liverpool City Region Ecological Network) near to the application site;*
- Secondly, sites in a Nature Improvement Area identified within the borough (to be defined as part of the Liverpool City Region Ecological Network); and lastly*
- Sites in a Nature Improvement Area identified outside the borough (to be defined as part of the Liverpool City Region Ecological Network).*

Management plans which support the protection of internationally important sites for biodiversity within the wider Liverpool City Region are those which pertain to Mersey Estuary Special Protection Area (SPA)/Ramsar, Ribble & Alt Estuaries SPA/Ramsar, Liverpool Bay SPA, Mersey Narrows and North Wirral Foreshore SPA/Ramsar, Sefton Coast Special Area of Conservation (SAC), Dee Estuary SPA/SAC/Ramsar and Martin Mere SPA/Ramsar. Strategies and development proposals in Knowsley must mitigate any potential impacts such as:

- disturbance to qualifying bird species (from recreational pressure and other sources);*
- deterioration in water quality;*
- deterioration in air quality; and*
- loss of supporting habitat.*

The types of management plans which will need to be considered and supported by Knowsley (together with surrounding districts) are likely to include European Marine Site Management Schemes, the North West River Basin Management Plan and location specific management plans. These will include those relating to locally important water bodies such as the River Alt, Croxteth/Knowsley Brook and Simonswood Brook, Ditton Brook, Dog Clog Brook, Mill Brook and Prescott (Logwood) Brook."



1.6 Evidence of Technical Competence and Experience

The assessment was undertaken by Mark Nelson BA(Hons) MSc, mem.RES, MCIEEM, Associate Consultant with SLR. Mark has over eleven years of experience as a professional ecological consultant, which has included preparing and overseeing assessments under the Habitats Regulations/Directive for multiple projects, including small and large infrastructure projects, in the UK.

This report has been subject to Quality Assurance review as per SLRs policies by Nicola Faulks CEcol MCIEEM. Nicola has over 20 years' experience as an ecologist and has conducted numerous EclAs. Nicola works in the UK, Europe and beyond. She has participated in many HRA assessment processes for Natura 2000 sites and HRA like assessments for Emerald Sites, in countries such as UK, Ireland, Croatia, North Macedonia, Greece, Georgia, Armenia etc.

2.0 Methodology

2.1 General approach

The methodology used in this report is based on The Conservation of Habitats and Species Regulations 2017 (as amended), now The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, UK Government guidance² and European Commission Guidance^{3,4} on the application of the Habitats Directive. The 2021 EC guidance describes a series of stages and steps which should be completed when carrying out the assessment and these are followed here with minor modifications. The assessment applies only to European sites SPAs, SACs and by extension in the NPPF, Ramsar sites. More specifically, it only applies to the qualifying interest features of such sites i.e., the features which are the reason that the site was designated.

2.2 Stage one: Screening

Stage One is a screening assessment, the purpose of which is to determine whether a plan or project requires more detailed assessment. There are two principal tests:

- The first test considers whether the plan or project is needed for the management of a European site for the purpose of maintaining or restoring its conservation interest. Any such plans or projects can usually be screened out of further assessment.
- The second test considers whether the plan or project, without specific mitigation measures, would be likely to have a significant effect on any European Site. This requires consideration of the project on its own and in combination with other plans or projects.

A project can only be screened out of further assessment if it is certain (beyond reasonable scientific doubt) that there would be no significant effects on any European site without mitigation designed specifically to address potential impacts on the qualifying interest of such sites. The process is also used to determine which European Sites should be included in the later stages of the assessment.

² Habitats regulations assessments: protecting a European site - GOV.UK (www.gov.uk)

³ EC (2021) Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC

⁴EC (2018) Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC



2.3 Stage two: Appropriate Assessment

Stage Two is a more detailed assessment, known as an appropriate assessment due to the terminology in the legislation. This essentially repeats the second test of the screening assessment but in more detail and considering mitigation measures before reaching a conclusion. At this stage, the test is whether the project or plan will have an adverse effect on the integrity of any European site. This must be done in the light of the conservation objectives for the qualifying interest features. Any effect which is found to undermine the conservation objectives is considered an adverse effect on the integrity of the site, and vice versa.

2.4 Baseline data collection

Baseline information was gathered through a desk-based study. The reports reviewed are referenced and summarised as follows:

- Ecological Impact Assessment (EclA) for the site at Kirkby BESS, which provides baseline information on the habitats and species on or near the site and the recommended mitigation⁵;
- Mersey Narrows & North Wirral Foreshore Ramsar Information Sheet⁶, SPA Conservation Objectives⁷;
- Ribble & Alt Estuaries Ramsar Information Sheet⁸, SPA Conservation Objectives⁹;
- Sefton Coast SAC Conservation Objectives¹⁰;
- Dee Estuary SAC Conservation Objectives¹¹;
- Mersey Estuary Ramsar Information Sheet¹², SPA Conservation Objectives¹³; and
- Martin Mere Ramsar Information Sheet¹⁴, SPA Conservation Objectives¹⁵.

The source of information for the plans and projects for the 'in combination' assessment was the Knowsley Metropolitan Borough Council planning portal¹⁶, and the Knowsley Local Plan Core Strategy¹⁷.

2.5 Site surveys

On 29th June 2023, a site visit was undertaken by Mark Nelson, Associate Ecologist and Toby Bell, Assistant Ecologist. This site visit was to the originally proposed site boundary of the BESS, in addition to a 30 m buffer.

⁵ SLR Consulting Ltd (2025). Ecological Impact Assessment, Kirkby, Proposed Battery Energy Storage System.

⁶ Available at: <https://rsis.ramsar.org/ris/2202>

⁷ Available at: <https://publications.naturalengland.org.uk/publication/6521906232557568>

⁸ Available at: <https://rsis.ramsar.org/ris/325>

⁹ Available at: <https://publications.naturalengland.org.uk/publication/4868920422957056>

¹⁰ Available at: <https://publications.naturalengland.org.uk/publication/6588974160150528>

¹¹ Available at: <https://publications.naturalengland.org.uk/publication/6124489284780032>

¹² Available at: <https://rsis.ramsar.org/ris/785>

¹³ Available at: <https://publications.naturalengland.org.uk/publication/5790848037945344>

¹⁴ Available at: <https://rsis.ramsar.org/ris/324>

¹⁵ Available at: <https://publications.naturalengland.org.uk/publication/4833056372293632>

¹⁶ Available at: <https://planapp.knowsley.gov.uk/online-applications/>

¹⁷ <https://localplanmaps.knowsley.gov.uk/documents/knowsley-local-plan-adopted-core-strategy.pdf>



The survey focused on recording the habitats present and providing an overview of the Site and its potential to support protected species or other species or habitats of ecological significance.

Habitats directly within the Site and within 30 m of the boundary were recorded in the field to prepare a habitat map. The habitats were mapped using the information gathered from the ecological walkover and followed the UK Habitat Survey (UKHab) methodology¹⁸, the results are provided in **Appendix B**. The Site was mapped using the fine scale minimum mapping unit MMU (25 m², 5 m length), in accordance with the UK Habitat Classification User Manual¹⁹. Habitats that are smaller than the specified area and length are recorded as target notes but not physically mapped. Habitat condition for each habitat was also recorded using Defra Statutory Biodiversity Metric -Technical Annex 1: Condition Assessment Sheets and Methodology²⁰.

The survey scope was extended to include the recording of field evidence indicating the presence or potential presence of species that could constitute a material consideration in planning terms, such as protected or notable plant or fauna species. Notes of principle habitat types, supported by photographs, were recorded.

A great crested newt (GCN) Habitat Suitability Index (HSI) assessment was also undertaken on 29th June 2023 of all waterbodies within 0.5 km of the BESS Site, where access was granted.

The waterbodies were assessed using the HSI assessment which evaluates 10 different factors of the pond which increase/decrease the likelihood of GCN presence such as terrestrial habitat, permanence of the pond, water quality, location etc.

The factors are then allocated standardised scores, which are inputted into the following equation to calculate the suitability of the pond:

- $HSI = (SI1 \times SI2 \times SI3 \times SI4 \times SI5 \times SI6 \times SI7 \times SI8 \times SI9 \times SI10) ^ { (1/10)}$

In addition, an eDNA sampling survey of the waterbodies was undertaken where possible. This sampling was undertaken following the sampling protocol published by Dr Helen Rees²¹

The eDNA sampling survey and HSI assessments included two of the six waterbodies located within 0.5 km of the Site.

On the 3rd October 2023, a further site visit was undertaken by Mark Nelson, accompanied by Isla Nevett an Interning Ecologist at SLR, to survey proposed cable routes. This again followed UKHab Methodology and the survey scope was extended to include the recording of field evidence indicating the presence or potential presence of species that could constitute a material consideration in planning terms, such as protected or notable plant or fauna species.

A further visit was undertaken on 4th July 2024 by Mark Nelson to undertake a condition assessment of Knowsley Brook and survey amendments to the proposed cable routes. The River Condition Assessment (RCA) survey was used to assess the type and condition of

¹⁸ The UK Habitat Classification Working Group (May 2018) *The UK Habitat Classification User Manual Version 1.0*.

¹⁹ The UK Habitat Classification Working Group (September 2020) *The UK Habitat Classification User Manual Version 1.1*.

²⁰ <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

²¹ Rees, H (20221) eDNA Survey Protocol. ADAS [Accessed on 30/08/2022] Available at: <https://adas.co.uk/wp-content/uploads/2021/01/eDNA-Protocol-2019-1.pdf>



watercourses present on the site. The RCA surveys involved a field survey element and a desk study element²².

Ecological data searches were requested from the Mersey Biobank (MBB) in June 2023 and August 2024 to provide records of protected and otherwise notable species, and non-statutory protected sites for the Site, cable routes and land within a 2 km radius of these.

A further data request was sent to the Vicecounty Recorder for birds for Lancashire and North Merseyside for information pertaining to bird species known to use the Site and its environs.

An internet-based desk study was also undertaken, whereby the Multi-Agency Geographic Information for the Countryside (MAGIC) website²³ was searched for statutory and non-statutory designated ecological sites within 2 km and their citations, including:

- Ramsar sites;
- Special Areas of Conservation (SACs);
- Special Protection Areas (SPAs);

Full details of the surveys and results are found in the EclA.

3.0 Stage One: Screening Results

3.1 Step One: Management of the Site

The project is not directly connected with or necessary to the management, for the purposes of maintaining or restoring the conservation interest, of any European Site of the National Network. The project cannot therefore be screened out of further assessment on that basis.

3.2 Step Two: Project description

3.2.1 Development Site baseline

The Site is located to the West of the Town of Kirkby, 640m North of the major roadway A580 'East Lancashire Road' (centroid National Grid reference (NGR): SJ 44510 97577), hereafter referred to as 'the Site'. A large proportion of the land has been utilised for mineral extraction and cleared for the future establishment of a fishing pond where most of the Site vegetation has been removed and the topsoil has been stripped. Historical imagery on Google Earth suggests that the vegetation removal started in 2019. Also present adjacent to the Site is a large industrial building and several industrial containers. Lining the perimeters of the Site are hedgerows.

The surrounding landscapes supports a range of agricultural land utilised for crop production and livestock grazing intersected by further hedgerows with small pockets of woodland present. Further west is a large commercial and industrial area.

The Applicant is proposing to develop a BESS which stores excess energy for later use thereby helping to balance supply and demand and stabilise the grid network.

The following UK Habitat types and features were recorded within the EclA survey area, and a plan of these habitats is shown in **Appendix B**:

- Urban; Artificial unvegetated, unsealed surface

²² Modular River Survey (2022). *The MoRPH Survey: Technical Reference Manual 2022*. Available at: www.modularriversurvey.org/ [Accessed: 20/11/2024]

²³ <https://magic.defra.gov.uk/>



- Developed land; sealed surface
- Other neutral grassland
- Neutral grassland
- Other broadleaved woodland
- Other standing waters
- Sparsely vegetated land
- Hedgerow (Priority Habitat)
- Line of trees
- Other rivers and streams

No species which are qualifying features of any of the SPA's or SAC's were observed during the surveys.

3.2.2 Construction stage

The development consists of a BESS installation, a temporary compound in a currently grassed field, and a cable route to connect the site to the nearby National Grid substation. The cable route will largely pass through the hard standing of existing roads and tracks, apart from a section through woodland, and when passing underneath Knowsley Brook using Hydraulic Directional Drilling (HDD).

It is estimated that the Proposed Development will be constructed over a period of approximately **12 months**, with construction anticipated to commence in **Q1 2030**.

A detailed construction programme will be developed as part of the detailed design phase and would be provided to KMBC within a Construction Environmental Management Plan (CEMP) prior to commencement of construction. Significant changes to construction methods employed would require a review of this HRA before commencement of construction.

The construction phase will include the use of heavy machinery for site clearance, movement and transport of material to and around the site, to lift the battery units into place and excavate drainage channels. Heavy machinery is likely to include tracked diggers, excavators, cranes, forklifts and loaders (non-exhaustive). Exact specification of machinery is not available at this stage. Cowing of light sources during construction away from features such as the woodland and hedgerows, and implementation of quiet working methodology will reduce indirect disturbance to the surrounding area.

It is anticipated that decommissioning effects would be equal or less than those imposed by the construction phase and as such are considered together.

The cable will be installed by open cut for the majority of its length involving excavation of a narrow trench, laying of cable and back filling and restoration as it progresses. This will mostly be through hard standing but will require some vegetation clearance of woodland to a maximum width of 10 m, but less where practical, to allow working room. The woodland will be replanted following works with a Habitat Management and Monitoring Plan (HMMP) in place.

HDD operation will require installation of a drilling rig, and drilling one tunnel beneath Knowsley Brook with a standoff of approximately 8 m from the river banks. The depth of drilling will be in excess of 5 m depth for the majority of its length, with the depth being 5 m below the bed of Knowsley Brook. The siting of all machinery and equipment, including storage of bentonite, will be within the temporary compound.



All construction will follow standard best practice including pollution and dust control. The plan of the proposed development is shown in **Appendix C**.

3.2.3 Operational stage

The lifetime of the Proposed Development is envisaged to be 40 years from the final commissioning to commencement of decommissioning.

Once the BESS is fully operational, it will require minimal maintenance. Maintenance is expected to consist mostly of routine site inspections by technicians, as well as some unscheduled visits when required. Site traffic will be limited to maintenance vehicles and is unlikely to comprise of several cars at any one period. As there is no permanent staff or office facilities on Site it is anticipated that no waste will be generated; any waste generated by maintenance works will be removed and disposed of offsite.

Permanent security lighting will be installed throughout operation. Lighting elements proposed at operation phase are expected to be minimal with cowling to prevent overspill and motion triggered so impacts on surrounding habitats are likely to be minimal.

The Proposed Development will contain noise generating equipment, namely battery units, medium voltage stations (MVS) comprising inverters and transformers, and grid transformers. Noise will be steady and continuous in nature with no impulsivity. A 3.5m acoustic barrier is proposed around the entire site, and screening by hedgerows and retention of an existing bund will reduce noise spill outside of the compound. The noise impact assessment indicated that the Proposed Development will meet noise criteria outlined by KMBC.

Once operational, the temporary compound will be removed and the land enhanced to Other Neutral Grassland and an area of planted woodland. The cables will remain buried underground and the land this passes through will be restored to former use, including replanting of trees within the existing woodland area.

3.3 Step three: Designated sites which may be affected by the project

3.3.1 European sites of the national network

All European sites within 20 km have been detailed below.

There are six European sites which require consideration for screening (sites with overlapping designations are considered as single sites for this purpose), locations of the sites are in the figure presented in **Appendix D** and detailed below:

- Mersey Narrows & North Wirral Foreshore Ramsar and SPA (12.68km West of the Site)
- Ribble & Alt Estuaries Ramsar and SPA (13.29km West of the Site)
- Sefton Coast SAC (13.29km West of the Site)
- Dee Estuary SAC (13.75km West of the Site)
- Mersey Estuary Ramsar and SPA (14.00km South of the Site)
- Martin Mere Ramsar and SPA (16.49km North of the Site)

The Mersey Narrows & North Wirral Foreshore Ramsar and SPA lies along the Wirral Coast between the Dee Estuary and the mouth of the Mersey Estuary, with a small area on the opposite side of the Mersey Estuary at Seaforth in Crosby. It comprises large areas of saltmarsh, extensive intertidal sand, mud flats, and man-made lagoons at Seaforth, with limited areas of brackish marsh, rocky shoreline and boulder clay cliffs, along a rural and



industrial stretch of coast. Egremont is most important as a feeding habitat for waders at low tide whilst Seaforth is primarily a high tide roost site, as well as a nesting site for terns. North Wirral Foreshore supports large numbers of feeding waders at low tide and also includes important high tide roost sites.

Ribble & Alt Estuaries Ramsar and SPA covers two estuaries, of which the Ribble is by far the larger, together with an extensive area of sandy foreshore along the Sefton Coast, and forms part of the chain of west coast SPAs that fringe the Irish Sea. It consists of extensive areas of sand and mudflats and, particularly in the Ribble, large areas of saltmarsh. There are also areas of coastal grazing marsh. The intertidal flats are rich in invertebrates on which waders and some wildfowl feed. The highest densities of feeding birds are on the muddier substrates of the Ribble, though sandy shores throughout are also used. Saltmarshes and coastal grazing marshes support high densities of wildfowl and these, together with intertidal sand and mudflats throughout, are used as high tide roosts. The site supports internationally important populations of waterbirds in winter, including swans, geese, ducks and waders. It is also of major importance during migration periods, especially for wader populations moving along the west coast of Britain. The larger expanses of saltmarsh and areas of coastal grazing marsh support breeding birds, including large concentrations of gulls and terns. These seabirds feed both offshore and inland, outside the SPA. Several species of waterfowl (notably Pink-footed Goose *Anser brachyrhynchus*) utilise feeding areas on agricultural land outside the SPA boundary.

Sefton Coast SAC in north-west England displays both rapid erosion and active shifting dunes. A substantial stretch of the dune system is fronted by shifting dunes. The sequence of habitats from foredunes to dune grassland and dune slack is extensive, and substantial areas of open dune vegetation remain. There are large areas of semi-fixed and fixed dunes with herbaceous vegetation exhibiting considerable variation from calcareous to acidic. There are extensive dune slacks dominated by creeping willow *Salix repens* ssp. *Argentea*; it has been estimated that 99ha, or 43% of the total English resource of the main dune slack community dominated by creeping willow occurs at this site. The species also dominates areas of free-draining dune grassland to a much greater extent than at most other UK sites. Despite some urban and recreational development, both successional and geomorphological processes are still active and the structure and function of the site as a whole is still well-conserved. Pools in the hollows and slacks amongst the more fixed dunes are the habitat of a large population of great crested newts *Triturus cristatus*. A large population of petalwort *Petalophyllum ralfsii* occurs at this site.

Dee Estuary SAC includes the Dee Estuary itself and areas of intertidal flats on the north-west coast of the Wirral (North Wirral Foreshore) and on the northeast Wales coast, east of Prestatyn (Gronant Dunes and Talacre Warren). Gronant Dunes and Talacre Warren also includes the largest remaining area of a once extensive dune system along this section of Welsh coast. The SAC has been designated because of its size and biological interest including its saltmarshes, intertidal mudflats and sandflats, sand dunes, drift line vegetation and sea cliffs, the presence of petalwort *Petalophyllum ralfsii*, and sea lamprey *Petromyzon marinus* and river lamprey *Lampetra fluviatilis* that migrate through the area.

Mersey Estuary Ramsar and SPA is a large, sheltered estuary comprising large areas of saltmarsh and intertidal sand and mudflats. The site includes brackish marsh, rocky shoreline, and cliffs set in a rural and industrial environment. Internationally important numbers of various species of waterbirds feed and roost at the site in winter, or stage at the site in spring and fall, notably Common ringed plover *Charadrius hiaticula*. During the winter, the site is of major importance for duck and waders. The site is also important during spring and autumn migration periods, particularly for wader populations moving along the west coast of Britain.

Martin Mere Ramsar and SPA is a low-lying complex of open water, marsh and grassland habitats overlying deep peat. Numbers of wintering waterbirds regularly exceed 20,000



individuals and include internationally important numbers of swans, ducks and geese. Wintering and passage ruff *Calidris pugnax* and scarce or rare plant and invertebrate species, are also features of national importance. Peak counts of wintering water birds regularly exceed 20,000 individuals, including internationally important numbers of Bewick's swan *Cygnus columbianus bewickii*, Whooper swan *C. cygnus*, Pink-footed goose *Anser brachyrhynchus*, Wigeon *Mareca penelope* and Northern pintail *Anas acuta*.

Combined Qualifying Features of the SAC's are:

- Sea lamprey *Petromyzon marinus* occurs in estuaries and easily accessible rivers and is an anadromous species (i.e. spawning in freshwater but completing its life cycle in the sea). Features such as weirs and dams, as well as polluted sections of river, may impede migration to spawning grounds. This species is associated with the Dee Estuary SAC, which is not hydrologically connected to the Site and therefore is unlikely to be significantly affected by the proposed scheme.
- The river lamprey *Lampetra fluviatilis* is found in coastal waters, estuaries and accessible rivers. The species is normally anadromous, and pollution or artificial obstacles such as weirs or dams impede migration. This species is associated with the Dee Estuary SAC, which is not hydrologically connected to the Site and therefore is unlikely to be significantly affected by the proposed scheme.
- Great crested newt *Triturus cristatus* is relatively widespread in the northwest of England. Surveys of the ponds in and around the site found no evidence for this species in any of the ponds tested, however it is highly likely to be present in the wider area. It is a qualifying species of the Seton Coast SAC, and the site is hydrologically connected to this via Knowsley Brook and the River Alt however, this connection is over 25km and GCN do not use the River habitat itself and are relatively sedentary and therefore the population of GCN within the SAC is unlikely to be significantly affected by the proposed scheme.
- Petalwort *Petalophyllum ralfsii* grows in open, damp, calcareous dune slacks, often on low hummocks rather than on the very wet ground, on compacted sandy/muddy bryophyte-rich turf. This type of habitat is not present within the Site or being directly affected by the proposed scheme.

Bird species which are conservation objectives for the SPA's have a variety of habitat associations, but these are mainly found in coastal habitats:

- A037 *Cygnus columbianus bewickii*; Bewick's swan (Non-breeding); Bewick's swan overwinter in Britain on inland wetlands. This type of habitat is not present within the Site or being directly affected by the proposed scheme;
- A038 *Cygnus cygnus*; Whooper swan (Non-breeding); Whooper swan overwinter in Britain on estuaries and wetlands. This type of habitat is not present within the Site or being directly affected by the proposed scheme;
- A040 *Anser brachyrhynchus*; Pink-footed goose (Non-breeding); Each autumn the entire population of Pink-footed Geese breeding in Iceland and eastern Greenland migrates southeast to winter almost exclusively in Britain, where flocks favour estuaries, wetlands, and intensively farmed lowlands, and generally avoid upland areas. Flocks commute to and from their feeding and roosting grounds. Intensively farmed lowlands are present around the site but none of this habitat is being directly affected by the proposed scheme. Indirect effects from disturbance are possible through increased noise and lighting during construction and operation periods of the development.
- A048 *Tadorna tadorna*; Common shelduck (Non-breeding); In winter, Shelduck favour muddy estuaries and coastal marshes. Wetland Bird Survey data reveal the importance of north-west England for this species, with about ten thousand birds wintering on both the Dee and Mersey Estuaries. This type of habitat is not present within the Site or being directly affected by the proposed scheme;



- A050 *Anas penelope*; Eurasian wigeon (Non-breeding); Wigeon overwinter in Britain on the coast and inland wetlands. This type of habitat is not present within the Site or being directly affected by the proposed scheme;
- A052 *Anas crecca*; Eurasian teal (Non-breeding); In winter Teal are widespread throughout Britain & Ireland, being found in a variety of coastal and freshwater sites from small pools to large estuaries. This type of habitat is not present within the Site or being directly affected by the proposed scheme;
- A054 *Anas acuta*; Northern pintail (Non-breeding); In winter northern pintail have a preference for grazing marshes, river floodplains, sheltered coasts and estuaries. This type of habitat is not present within the Site or being directly affected by the proposed scheme;
- A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding); In winter, Oystercatchers are widely distributed on rocky and estuarine shores, with the largest concentrations forming on the major estuaries. This type of habitat is not present within the Site or being directly affected by the proposed scheme;
- A137 *Charadrius hiaticula*; Ringed plover (Non-breeding); Wintering Ringed Plovers are widely distributed round the coasts of the UK, with small numbers recorded inland. On the coast they forage on beaches while inland they favour disused gravel pits and river margins. This type of habitat is not present within the Site or being directly affected by the proposed scheme;
- A140 *Pluvialis apricaria*; European golden plover (Non-breeding); In winter, Golden Plovers can form large flocks anywhere in lowland Britain & Ireland, often mixing with Lapwings on farmland. Farmland is present around the site but none of this habitat is being directly affected by the proposed scheme. Indirect effects from disturbance are possible through increased noise and lighting during construction and operation periods of the development.
- A141 *Pluvialis squatarola*; Grey plover (Non-breeding); Grey Plovers are winter visitors and passage migrants to the UK and are widely distributed around the coasts, with a particular preference for areas with intertidal mud and sandflats. This type of habitat is not present within the Site or being directly affected by the proposed scheme;
- A143 *Calidris canutus*; Red knot (Non-breeding); Red knot winters on our larger estuaries, favouring muddy and sandy shores. This type of habitat is not present within the Site or being directly affected by the proposed scheme.
- A144 *Calidris alba*; Sanderling (Non-breeding); Sanderlings in winter are predominantly coastal and much scarcer inland than most other waders. They can be found along most stretches of coast but are most abundant away from estuaries, instead preferring areas where sandy beaches and sandbars prevail. This type of habitat is not present within the Site or being directly affected by the proposed scheme.
- A149 *Calidris alpina alpina*; Dunlin (Non-breeding) Wintering Dunlins are widely distributed around the coastlines of Britain and Ireland, with the exception of steep rocky shores. They also occur regularly in small numbers at inland sites. It feeds in flocks in winter, sometimes numbering thousands, roosting on nearby fields, saltmarshes and shorelines when the tide is high. Farmland is present around the site but none of this habitat is being directly affected by the proposed scheme. Indirect effects from disturbance are possible through increased noise and lighting during construction and operation periods of the development.
- A151 *Philomachus pugnax*; Ruff (Breeding); Ruff breeding habitat includes inland wet meadows, coastal grazing marsh, and upland saltmarsh. This type of habitat is not present within the Site or being directly affected by the proposed scheme.
- A151 *Calidris pugnax* Ruff (Wintering); In winter, Ruffs are found at inland and coastal locations, and are scarce elsewhere. Ruff use marshes and wet fields,



sometimes accompanying plovers on bare arable land. Farmland is present around the site but none of this habitat is being directly affected by the proposed scheme. Indirect effects from disturbance are possible through increased noise and lighting during construction and operation periods of the development.

- A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding); In winter Black-tailed godwit are found around coastlines with soft muddy shorelines and with nearby wet grasslands. A significant number also winter around inland wetland grassland systems such as the Ouse Washes. This type of habitat is not present within the Site or being directly affected by the proposed scheme.
- A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding); Bar-tailed Godwits winter around the coast of Britain & Ireland, on suitable low-lying shores. This type of habitat is not present within the Site or being directly affected by the proposed scheme.
- A162 *Tringa totanus*; Common redshank (Non-breeding); In winter, Redshanks are widely distributed around the coasts and in low-lying inland river valleys and callows, with highest densities associated with major estuaries. This type of habitat is not present within the Site or being directly affected by the proposed scheme.
- A177 *Hydrocoloeus minutus*; Little gull (non-breeding); Little Gulls winter south to the Mediterranean and the Atlantic Ocean off North Africa, though small numbers remain in the Irish Sea, English Channel and North Sea. Numbers seen in winter around the UK vary annually depending on the weather conditions; during onshore gales they may be reported from nearby coasts and occasionally inland. This type of habitat is not present within the Site or being directly affected by the proposed scheme.
- A183 *Larus fuscus*; Lesser black-backed gull (Breeding) Lesser Black-backed Gull breeds in colonies on windswept, low-lying coastal islands but it also breeds on the flat roofs of city-centre buildings and industrial units. This type of habitat is not present within the Site or being directly affected by the proposed scheme.
- A193 *Sterna hirundo*; Common tern (Breeding); Common Terns breed at lakes and reservoirs scattered across lowland Britain, especially in the major river valleys, and extensively at the coast. This type of habitat is not present within the Site or being directly affected by the proposed scheme.
- A193 *Sterna hirundo*; Common tern (non-breeding); Common terns winter on sheltered coastal waters, estuaries and along large rivers, occupying harbours, jetties, piers, beaches and coastal wetlands including lagoons, rivers, lakes, swamps and saltworks, mangroves and saltmarshes. This type of habitat is not present within the Site or being directly affected by the proposed scheme.
- Seabird assemblage; A variety of bird species but all associated with open water in a marine environment. This type of habitat is not present within the Site or being directly affected by the proposed scheme.
- Waterbird assemblage; A variety of bird species but all associated with wetlands and open water. This type of habitat is not present within the Site or being directly affected by the proposed scheme.

3.3.2 Conservation objectives

The conservation objectives of the European Sites discussed in the previous section are summarised in this section.

Sefton Coast and Dee Estuary SAC's:

“Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;



1. *The extent and distribution of qualifying natural habitats and habitats of the qualifying species*
2. *The structure and function (including typical species) of qualifying natural habitats*
3. *The structure and function of the habitats of qualifying species*
4. *The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely*
5. *The population of qualifying species, and,*
6. *The distribution of qualifying species within the site”.*

Mersey Narrows & North Wirral Foreshore, Ribble & Alt Estuaries, Mersey Estuary, and Martin Mere SPA's:

“Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

1. *The extent and distribution of the habitats of the qualifying features*
2. *The structure and function of the habitats of the qualifying features*
3. *The supporting processes on which the habitats of the qualifying features rely*
4. *The population of each of the qualifying features, and,*
5. *The distribution of the qualifying features within the site”.*

3.4 Step four: Assessment of “likely significant effects”

The primary purpose of this stage is to determine whether the project requires a Stage 2 Appropriate Assessment, and which designated sites should be considered at Stage 2. Stage 1 can also be used to screen out those aspects of the project that can be considered not likely to have an impact, as well as those qualifying features of European sites that are not likely to be affected from the exposure to a potential impact and/or pathway. This must be done in the view of the Conservation Objectives for the identified European Sites. If significant impacts cannot be excluded because further assessment is required or the impacts will require mitigation, the next stage of HRA will be required: Stage 2: Appropriate Assessment.

This section identifies the potential effect pathways through which the project could impact the qualifying features of the European sites. Specifically, the aim is to establish if a particular potential impact is likely to have a significant impact. For Habitats Regulations Assessments, ‘a likely impact’ is one which cannot be excluded (or ruled out) without further assessment or mitigation, and a ‘significant impact’ is one which could undermine the conservation objectives of one of the qualifying interest features.

The following pathways to effect area discussed in this section:

Habitat loss, hydrological connection, pollution (including drilling and fuel storage), air quality, noise generation, light spillage, and general disturbance.

3.4.1 Habitat Loss

Surveys undertaken in 2023 and 2024 have identified the following UK Habitats present within the Site:

- Urban; Artificial unvegetated, unsealed surface;
- Developed land; sealed surface;



- Other neutral grassland;
- Neutral grassland;
- Other broadleaved woodland;
- Other standing waters;
- Sparsely vegetated land;
- Hedgerow (Priority Habitat);
- Line of trees; and
- Other rivers and streams.

The compound Site comprise artificial unvegetated, unsealed surface, sparsely vegetated land, and some areas of various neutral grasslands. The temporary compound area currently comprises other neutral grassland. The cable route passes largely through developed land, sealed surface and other broad-leaved woodland. The works for the cable will pass beneath a stream, Knowsley Brook, by HDD. No additional habitat is being affected directly by the works. The site contains no habitats which are equivalent to the qualifying habitats of the Sefton Coast or Dee Estuary SAC's.

The Site contains no habitats suitable for use by populations of any of the Annex II species noted as qualifying features of the Sefton Coast or Dee Estuary SAC's, or the Mersey Narrows & North Wirral Foreshore, Ribble & Alt Estuaries, Mersey Estuary, or Martin Mere SPA's, nor do they contribute to supporting processes.

As none of the habitats within the Site are similar to those within the European sites, or likely to be used by the qualifying features of the European sites, that land conversion, as a result of the proposed BESS, will not have a likely significant impact on the designated features of the European Sites. The distance of the proposed BESS from the European sites (over 10 km) further reduces the likelihood of a significant impact on the qualifying features of the European sites.

3.4.2 Hydrological connectivity

The HDD operation will pass directly under Knowsley Brook, which flows into the River Alt and travels to the west for approximately 25km where it enters the Ribble & Alt Estuaries Ramsar and SPA and Sefton Coast SAC. The brook culverts for a length of approximately 1.2 km downstream of the crossing location. The Environment Agency Catchment Data Explorer classifies Knowsley Brook as Moderate for Ecological elements but Fail for Chemical elements²⁴; this stream passes through heavily urbanised and industrial areas prior to feeding into the River Alt. There is therefore a possibility that an impact on water quality could have a significant effect on Ribble & Alt Estuaries Ramsar and SPA and Sefton Coast SAC. During construction the Brook will be passed under by HDD so the brook and its hydrology will be unaffected. Therefore, there is no likely significant effect on hydrological connectivity to Ribble & Alt Estuaries Ramsar and SPA and Sefton Coast SAC from construction. The operational BESS will be 300 m from the brook with no direct hydrological connectivity and water leaving the site will be filtered through an attenuation basin so there will be no likely significant effect due to distance of hydrological connectivity, and lack of mechanism to create a negative effect.

There is no hydrological connection with any of the other European designated sites and therefore no likely significant effect on these sites through impacts to water quality.

²⁴ <https://environment.data.gov.uk/catchment-planning/WaterBody/GB112069060610>



3.4.3 Contamination via pollution.

3.4.3.1 Fuels, materials and dust

It is anticipated that there will be an increase of risk of pollution from the construction phase of the project through the storage of fuels and building materials on Site, and dust from construction activities. Pollution incidents on Site could lead to pollution of the Ribble & Alt Estuaries Ramsar and SPA, and Sefton Coast SAC through 'run off' of such fuels and materials and washing out of dust and debris. Should this occur, it can negatively impact the local environment through the release of oils and heavy metals or similar. This can cause mortality of local wildlife due to the toxicity of the pollutants, but can also alter ecosystems on a microbial level, causing further harm and changes to local environment and habitats present.

Physical containment measures will be in place at the Site and include the following:

- All materials are held in primary containment designed for intended purpose;
- Water for the drilling process will be monitored to ensure actual volumes match theoretical volumes and any waste drilling fluid remaining at the completion of all HDD operations will be removed from site by a licenced waste carrier to a suitable licenced waste or recycling facility; and
- Spill kits are strategically located throughout the site and all operations staff are trained in the use of them.

Industry Standard pollution control measures will be implemented during construction, and a Construction Management Plan will be produced detailing all measures to be taken and how this will be monitored.

Through implementation of the standard measures outlined above it is not considered likely that significant effects upon the Ribble & Alt Estuaries Ramsar and SPA, and Sefton Coast SAC will occur and as such, contamination and pollution impacts are screened out.

3.4.3.2 Bentonite Breakout During HDD

The Horizontally Directional Drilling process involves using bentonite as both a lubricant and as a seal on the inside surface of the drilled tunnel²⁵. There is therefore the potential for bentonite to break out of the drilling tunnel due to pressure or through possible fractures in the ground layers thereby potentially contaminating any habitat the HDD passes beneath including rivers. Bentonite itself is a naturally occurring clay (although not deposited in the UK) which is not considered dangerous, however it's release into a watercourse would have the potential to increase the sediment load significantly.

A Method Statement and Risk Assessment shall be prepared by the contractors following Construction (Design & Management) Regulations 2015 (CDM2015)²⁶ outlining the procedure to describe and determine the process and techniques to be implemented for the drilling of the required bore and installation of project infrastructure (As per the approved design). This follows industry standard practices for HDD operations. A Lost Fluid Procedure²⁷, hereafter referred to as the Breakout Plan, shall also be prepared by the contractors describing the process for managing a loss of breakout fluid on the HDD works

²⁵ Mishra. T., 2020. Mixing the Mud: The Science of Drilling Fluid in HDD. Available <https://trenchlesspedia.com/mixing-the-mud-the-science-of-drilling-fluid-in-hdd/2/4236#:~:text=%EE%80%80Drilling%20mud%EE%80%81%20is%20the%20fluid%20pumped%20into%20a n>

²⁶ OCU-HS-S1-FRM-035 Method Statement Risk Assessment - Hundred River

²⁷ OCU-HS-S1-FRM-025 Break out plan LP001- Hundred River



on the project during drilling operations. Similar plans have been used at other developments, for example; Norfolk Boreas Offshore Wind Farm Development²⁸, White Cross Offshore Windfarm²⁹, and Dunnett Outfall³⁰ and therefore can be considered as standard measures for this type of operation.

The suggested Method of Work for HDD Activities is as follows

General methods

- Prior to works commencing on the drill site, the supervisor will ensure that sufficient materials are on site to contain a drilling fluid break-out event.
- In some water ditch crossings, depending on the size of the ditch and the depth and flow of water, materials may be pre-installed into watercourses. This could include a ladder secured to the bank for access or proprietary stairs, silt fencing across the ditch or silt curtains. Materials that could impede the flow of water and cause localised flooding should not be deployed unless in an emergency.
- Materials to be deployed in an emergency, should, where possible, be pre-slung so they can be installed by mechanical means.
- During drilling operation, the drilling supervisor will monitor for pressure losses on the returns, and the tracker will monitor for break outs along the drilling corridor.
- If loss of pressure occurs during drills, the supervisor will inform an operative to walk the route and find out if there is a containment breach.
- If a Breakout occurs or is suspected the drill will stop and reported to the management team.

Boreholes

Boreholes have been identified as a pre-existing potential of a weak spot. Proactive measures will be implemented in case of break-out, these will include:

- Review drawings and identify bore holes on site where possible.
- Pre setup containment around the borehole with straw bales and other containment materials such as silt netting.
- Tanker or pump to be on site as required to clean up any fluid.

Water crossings

- Operatives will walk a guide rope across flume or bridge crossing to the opposite bank
- Silt curtain pulled across and secured on the downstream side of the Breakout.
- Tanker to start to remove the Break, or as required a track machine will install a pump.

²⁸ <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-001319-Clarification%20Note%20Trenchless%20Crossings%20and%20Potential%20Effects%20of%20Breakout%20on%20the%20River%20Wensum.pdf>

²⁹ <https://whitecrossoffshorewind.com/wp-content/uploads/2024/07/WHX001-FLO-CON-ENV-PLN-0012-Outline-Bentonite-Management-Plan.pdf>

³⁰ https://marine.gov.scot/sites/default/files/06955_-_scottish_water_-_construction_of_a_new_outfall_pipe_-_dunnet_caithnes_-_method_statement_rev_07_redacted_0.pdf



- Carry out assessment on the status of drill and level of breach (management of change)- Continue with drill if decided to be the best course of action.
- Care will be taken during removal to avoid silt entering the water course.
- Operatives not to encroach beyond exclusion rope at the top of riverbank.
- Once Break-out identified the drill will stop.
- Bore stabiliser to be deployed to stem the flow of the Break-out.
- Break-out incident to be reported immediately to management so that the relevant authority may be informed if required.

Through implementation of the standard measures for HDD outlined above it is not considered likely that significant effects upon the Ribble & Alt Estuaries Ramsar and SPA, and Sefton Coast SAC will occur and as such, impacts due to breakout of bentonite during HDD are screened out.

3.4.4 Air quality

Localised impacts to air quality are possible during the construction phase through increased vehicular traffic, dust from construction activities and exhaust fumes from operation of machinery. Operation of the BESS is unlikely to result in any significant changes to air quality. Given the distance between the Site and the closest European designated site (12.68 km), and with the intervening heavily urbanised and industrial landscape, it is considered there is no likely significant effect on any European designated site through impacts to air quality from either the construction or operational phase.

3.4.5 Noise

The nearest European site is over 10 km distant and therefore there will be no direct impact from noise on any European site during either the construction or operational phase. There is potential to impact qualifying features through noise disturbance during the construction and operational phase should they be using the surrounding farmland.

During the construction phase there will be additional traffic, but this will be restricted to Molly's Lane and a short stretch of Cut Lane. This limits the amount traffic noise which will be in proximity to the majority of habitat suitable for these qualifying features. Speed will be limited and traffic movement restricted to daylight hours. A 3.5m acoustic barrier is proposed around the entire site and implementation of quiet working methodology will reduce indirect disturbance to the surrounding area. The area and location of potential impact from disturbance is negligible compared to the available habitat used by the qualifying features that there is considered to be no likely significant effect on this species population from the construction phase.

During the operational phase noise will be steady and continuous in nature with no impulsivity. Screening by hedgerows and retention of an existing bund will reduce noise spill outside of the compound. A 3.5m acoustic barrier is proposed around the entire site, and screening by hedgerows and retention of an existing bund will reduce noise spill outside of the compound. The noise impact assessment indicated that the Proposed Development will meet noise criteria outlined by KMBC. The area and location of potential impact from disturbance is negligible compared to the available habitat used by the qualifying features that there is considered to be no likely significant effect on this species population from the operational phase.



3.4.6 Light spillage

The nearest European site is over 10 km distant and therefore there will be no direct impact from light pollution on any European site during either the construction or operational phase. There is potential to impact qualifying features through light disturbance during the construction and operational phase should they be using the surrounding farmland.

During the construction phase work will be restricted to daylight hours. Any security lighting proposed is expected to be minimal with cowling to prevent overspill and motion triggered so impacts on surrounding habitats are likely to be minimal. The area and location of potential impact from disturbance is negligible compared to the available habitat used by the qualifying features that there is considered to be no likely significant effect on this species population from the construction phase.

During the operational phase permanent security lighting will be installed throughout operation. Lighting elements proposed at operation phase are expected to be minimal with cowling to prevent overspill and motion triggered so impacts on surrounding habitats are likely to be minimal. The area and location of potential impact from disturbance is negligible compared to the available habitat used by the qualifying features that there is considered to be no likely significant effect on this species population from the operational phase.

3.4.7 Disturbance of non-breeding birds

There is potential for indirect impact on Pink-footed goose (Non-breeding), European golden plover (Non-breeding), Dunlin (Non-breeding) and Ruff (Wintering) from disturbance due to their presence in neighbouring fields.

Records obtained from the Vice County Recorder show no presence of European golden plover, Dunlin and Ruff in the vicinity of the site, and it is likely that this is outside the normal foraging range for these species from the European designated sites and therefore there will be no likely significant effects on these species.

Records from the Vice County Recorder show regular use by large numbers of pink footed geese using the areas around the Site, with a concentration to the east and south of the Site using the large agricultural fields. No habitat used by pink footed goose will be directly impacted by the development.

During the construction phase, there will be additional traffic, but this will be restricted to Molly's Lane and a short stretch of Cut Lane. This limits the amount traffic which will be in proximity to the majority of habitat suitable for these species of bird. Speed will be limited and traffic movement restricted to daylight hours. Cowling of light sources during construction away from features such as the woodland and hedgerows, and implementation of quiet working methodology will reduce indirect disturbance to the surrounding area. The area and location of potential impact from disturbance is negligible compared to the available habitat used by pink footed goose that there is considered to be no likely significant effect on this species population from the construction phase.

During the operational phase noise will be steady and continuous in nature with no impulsivity. Screening by hedgerows and retention of an existing bund will reduce noise spill outside of the compound. Permanent security lighting will be installed throughout operation. Lighting elements proposed at operation phase are expected to be minimal with cowling to prevent overspill and motion triggered so impacts on surrounding habitats are likely to be minimal. Maintenance will be occasional and limited to one or two vehicles. There are therefore expected to be no likely significant effects on non-breeding birds during the operational phase.



4.0 Potential effects

4.1 For the project alone

No potential pathway for a likely significant effect any European designated site or its qualifying species has been identified for either the construction or operational stage.

4.2 For the project in combination with other projects and plans

No Nationally Significant Infrastructure Projects were found on the Planning Inspectorate project search website³¹ within 2km of the Site.

The Knowsley Local Plan Core Strategy³² shows an area of Knowsley allocated as employment land 450m southwest of the site (East of Knowsley Industrial and Business Parks), and an area of Knowsley designated for residential development 1.6km south of the site (Knowsley Village).

The proposed development can be considered as an isolated project that is not part of any more substantial construction activity. Given the relatively small scale of the proposed development, no significant cumulative effects on the environment are expected.

Knowsley Council's online planning application portal³³ was also accessed to search for applications near to the approved project. Excluding small scale domestic applications and minor amendments, there are five recent application proposals within close proximity to the Site. These are:

- 24/00689/SO Screening opinion for proposed installation of solar farm (ground mounted photo voltaic (pv) panels to deliver c.20mw of renewable electricity);
- 23/02008/FUL Proposed development of a battery storage facility and associated infrastructure;
- 25/00123/FUL Variation of conditions 1 attached to planning permission 23/02667/FUL (proposed development of a grid connection route between a battery storage facility and national grid Kirkby Substation) to allow for change in the route of the grid connection;
- 22/00348/nma1 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 - non material amendment seeking an amendment to condition 2 to amend approved plans to alter the material of the parking areas from block paving to concrete and tarmac; and
- 25/00486/OUT Outline planning application (including details of access into the site but not within the site with all other matters reserved for future approval) for the erection of up to 700 dwellings (c3 use class) with vehicular access from Knowsley Lane together with public open space, landscaping, sustainable urban drainage systems and other associated works.

Application 24/00689/SO

³¹ https://national-infrastructure-consenting.planninginspectorate.gov.uk/project-search?region=north_west

³² <https://www.knowsley.gov.uk/sites/default/files/2023-11/knowsley-local-plan-adopted-core-strategy.pdf>

³³ <https://planapp.knowsley.gov.uk/online-applications/spatialDisplay.do?action=display&searchType=Application>
Checked on 19th March 2025 for planning applications within 2 years.



This planning application is a screening opinion for proposed installation of solar farm located immediately east of the Site. The Proposed Development comprises the installation of ground mounted Photo Voltaic (PV) panels to generate renewable electricity on land within the red line boundary of the site. It is anticipated that the development will involve arrays of ground mounted photo-voltaic (PV) panels, access tracks, a sub-station building and perimeter fencing. An indicative cable route proposed as part of the development extends from the west of the site access, travelling along Cut Lane and Molly's Lane towards the substation at L33 7TT.

The habitats impacted are largely arable fields with few boundary hedgerows with no likely potential to support protected species with the exception of use by wintering birds. As these are unlikely to use the habitats of the Kirkby BESS Site there is unlikely to be a significant cumulative effect on those species.

Application 23/02008/FUL

Granted planning consent in relation to the development of a proposed Battery Energy Storage System (BESS) and associated infrastructure (the 'Proposed Development') on land off Coopers Lane, east of the Knowsley Industrial Estate, Knowsley, Merseyside.

The habitat impacted is an arable field with few boundary hedgerows with no likely potential to support protected species with the exception of use by wintering birds. As these are unlikely to use the habitats of the Kirkby BESS Site there is unlikely to be a significant cumulative effect on those species.

Application 25/00123/FUL

This planning application is a variation request relating to Planning permission 23/02667/FUL which was approved on 30th April 2024. Relates to minor amendment of red line boundary of the cable route.

Application 22/00348/nma1

This is submission of a Non-Material Amendment to Condition 2 associated with application ref. 22/00348/FUL, relating to provision of plans for the development which has been consented.

This is located south of the A580 from Kirkby BESS Site and is therefore functionally separated from the Site so cumulative effects are unlikely.

Application 25/00486/OUT

No further details available. The development lies 2.4km south of the Site and separated from it by the A580 and is therefore functionally separated from the Site so cumulative effects are unlikely.

Overall, the impacts of these developments combined with the minor impacts of the Proposed Development are not considered likely to cause cumulative impacts upon European sites or qualifying species. This risk is reduced further through the industry standard measures proposed.

4.3 Assessment against the Conservation Objectives.

All designated sites were ruled out during the screening process due to the absence of suitable habitats on Site for the designated features, or due to the distance and lack of hydrological connectivity to the sites, and due to the standard industry measures to be implemented during construction and operation of the Site.

Error! Reference source not found. details likely impacts in relation to the conservation objectives of the SAC's, and **Table 4-2** details likely impacts in relation to the conservation objectives of the SPA's.



Table 4-1 Likely impacts on the conservation objectives of the SAC's

Ref	Objective	Alone	In Combination
1	The extent and distribution of qualifying natural habitats and habitats of the qualifying species.	No risk - the proposal will not directly impact the habitats associated with the SAC, and therefore will not impact extent or distribution of qualifying features.	As 'alone'
2	The structure and function (including typical species) of qualifying natural habitats.	No risk - the proposal will not directly impact the habitats associated with the SAC, and therefore will not impact structure and function of qualifying features.	As 'alone'.
3	The structure and function of the habitats of qualifying species	No risk - the proposal will not directly or indirectly impact the habitats associated with the qualifying species of the SAC, and therefore will not impact structure and function of the habitats of qualifying species.	As 'alone'.
4	The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely.	No risk - the proposal will not directly or indirectly impact the habitats associated with the SAC, and therefore will not impact supporting processes on which the qualifying features rely.	As 'alone'.
5	The population of qualifying species.	No significant risk - the proposal will not directly impact the habitats associated with the SAC, any habitats used by the qualifying features outside of the SAC, or affect the connectivity of the SAC, and therefore will not impact the population of each of the qualifying species.	As 'alone'.
6	The distribution of qualifying species within the site.	No risk – the proposal will not directly impact the distribution of qualifying features within the SAC.	As 'alone'.

Table 4-2 Likely impacts on the conservation objectives of the SPA's

Ref	Objective	Alone	In Combination
1	The extent and distribution of the habitats of the qualifying features.	No risk - the proposal will not directly impact the habitats associated with the SPA, and therefore will not impact extent or distribution of qualifying features.	As 'alone'
2	The structure and function of the	No risk - the proposal will not directly impact the habitats associated with	As 'alone'.

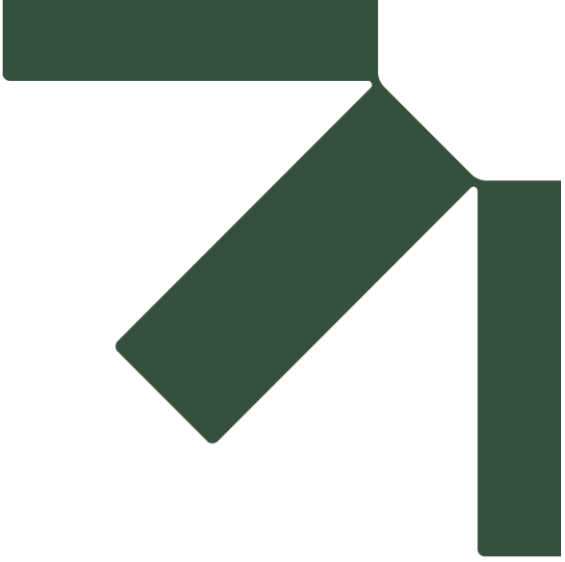


Ref	Objective	Alone	In Combination
	habitats of the qualifying features.	the SPA, and therefore will not impact structure and function of qualifying features.	
3	The supporting processes on which the habitats of the qualifying features rely.	No risk - the proposal will not directly or indirectly impact the habitats associated with the SPA, and therefore will not impact supporting processes on which the qualifying features rely.	As 'alone'.
4	The population of each of the qualifying features.	No significant risk - the proposal will not directly impact the habitats associated with the SPA, any habitats used by the qualifying features outside of the SPA, or affect the connectivity of the SPA, and therefore will not impact the population of each of the qualifying features.	As 'alone'.
5	The distribution of the qualifying features within the site.	No significant risk – the proposal will not directly impact the distribution of qualifying features within the SPA.	As 'alone'.

5.0 Stage one: Conclusions and recommendations

Stage 1 highlighted that the proposed works are not likely to have a significant effect on European sites with regard to their conservation objectives and there will not be an adverse effect on the integrity of any European site, without mitigation. Therefore, there is no requirement to progress to Stage 2, Appropriate Assessment.





Appendix A Location and existing site plan

Habitat Regulation Assessment

Kirkby, Proposed Battery Energy Storage System

Pivoted Power LLP

SLR Project No.: 402.V08525.00024

28 November 2025



NOTES

1. All details are indicative only.

LEGEND

- PLANNING APPLICATION BOUNDARY
3.34HA
- VEHICLE PASSING POINT
- 3RD PARTY OVER HEAD PYLONS

05.	RLB Updated	20.03.25	JL	SRY
04.	RLB Updated	19.03.25	JL	SRY
03.	Passing points updated	27.02.25	JL	SRY
02.	Passing points indicated	24.02.25	JL	
01.	Cable route updated	30.01.25	JL	
Rev	Description	Date	Checked	

Drawing No.
KIR-EDFR-BESS-LAND-PLN-150.05

Project
Kirkby BESS

Title
Site Location Plan

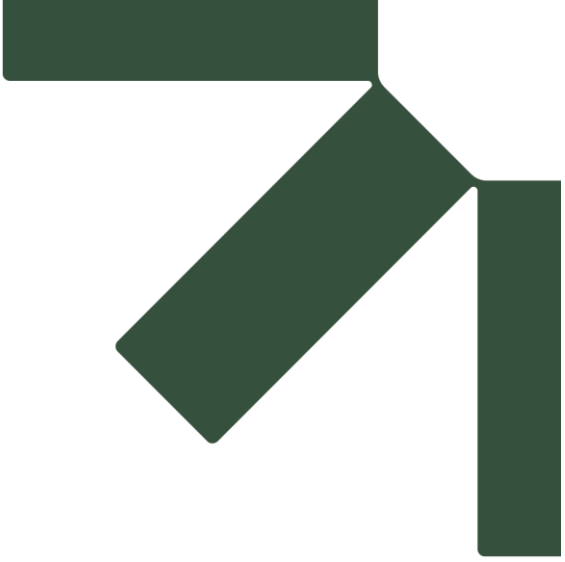
Scale
1:5000 @A3

Drawn by
JL

Checked
SRY

Date
16.01.25





Appendix B UK Habitats plan from results of Surveys

Habitat Regulation Assessment

Kirkby, Proposed Battery Energy Storage System

Pivoted Power LLP

SLR Project No.: 402.V08525.00024

28 November 2025





Secondary Codes:
16 - Tall Herbs
1171 - Mature Tree

- LEGEND
- Site Boundary
 - Primary Habitat Classification
 - Heathland and Shrub - Hedgerows
 - h2a - Hedgerow Priority Habitat
 - Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1g6 - Line of Trees
 - Cropland - Arable and Horticulture
 - c1c - Cereal Crops
 - Grassland - Neutral Grassland
 - g3 - Neutral Grassland
 - g3c - Other Neutral Grassland
 - g3c8 - Holcus-Juncus Neutral Grassland
 - Heathland and Shrub - Dense Scrub
 - h3h - Mixed Scrub
 - Sparsely Vegetated Land - Inland Rock
 - s - Sparsely Vegetated Land
 - Urban - Built-up Areas and Gardens
 - u1b - Developed Land; Sealed Surface
 - u1b5 - Building
 - u1c - Artificial Unvegetated, Unsealed Surface
 - u1d - Suburban / Mosaic of Developed / Natural Surface
 - Woodland and Forest - Broadleaved Mixed and Yew Woodland
 - w1g7 - Other Broadleaved Woodland Types

KIRKBY SUBSTATION BATTERY

BIODIVERSITY NET GAIN

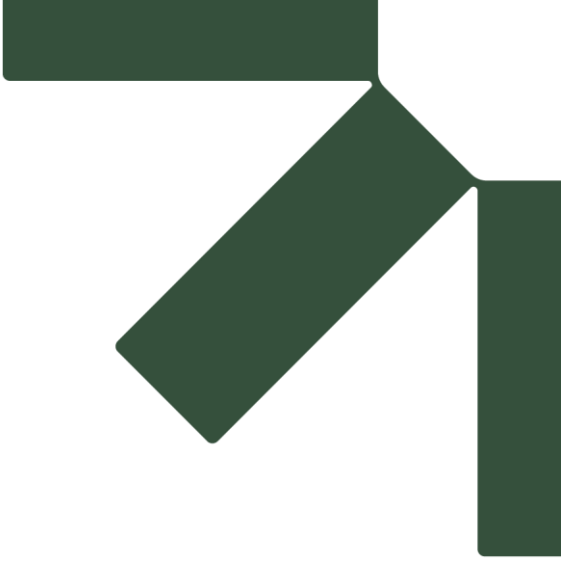
UK HABITAT SURVEY RESULTS

FIGURE 1.2

Scale1:2,000 @ A3

DateMARCH 2025





Appendix C Plan of proposed development

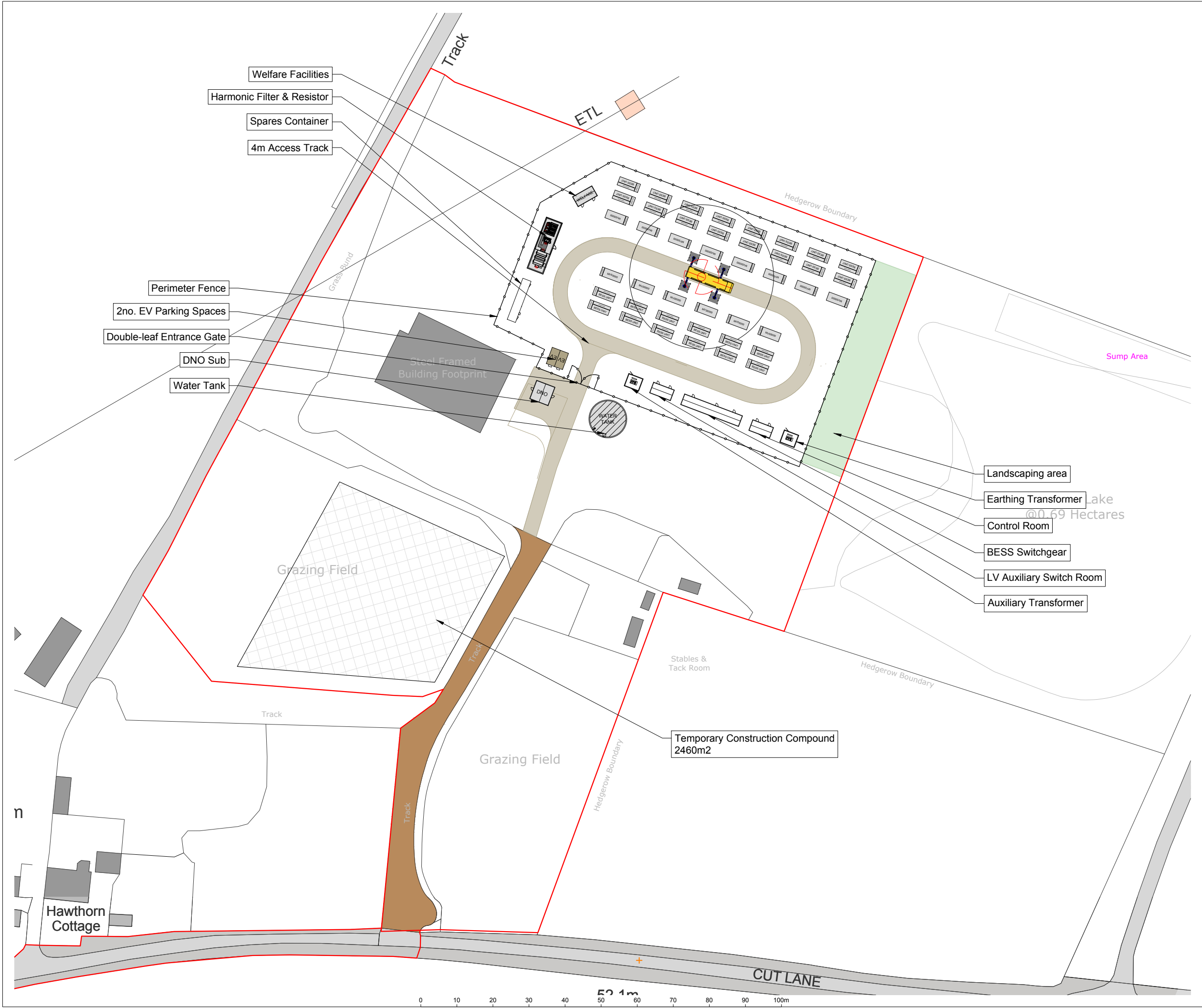
Habitat Regulation Assessment

Kirkby, Proposed Battery Energy Storage System

Pivoted Power LLP

SLR Project No.: 402.V08525.00024

28 November 2025



NOTES

1. All details are indicative only.

LEGEND

— PLANNING APPLICATION BOUNDARY

— PERIMETER FENCE

05.	Temp compound moved	11.02.25	JL	SRY
04.	Site moved 5m North	05.02.25	JL	
03.	Site moved 12m South	09.01.25	JL	
02.	12m Landscape gap to West	20.12.24	JL	
01.	Site layout updated for landscaping	12.12.24	JL	
Rev	Description	Date	Checked	

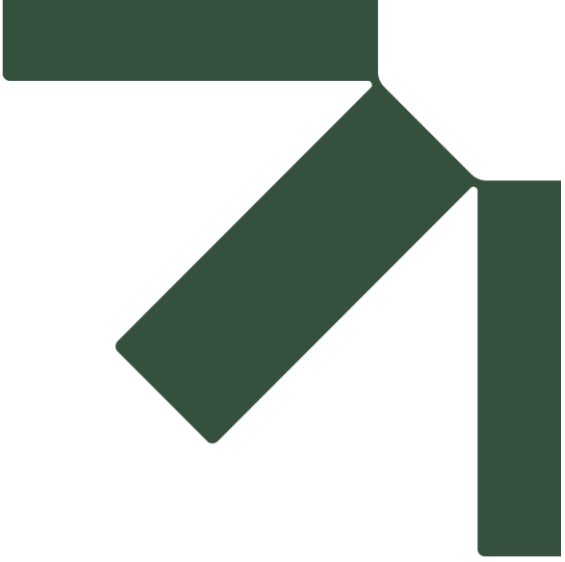
Drawing No. KIR-EDFR-BESS-CIV-PLN-300.05

Project **Kirkby BESS**

Title **Site Layout Plan**

Scale **1:1000 @A3** Drawn by **JL** Checked **SRY** Date **19.11.24**

W: www.edf-re.uk
A: Cardinal Place, 80 Victoria Street, London SW1E 5JL



Appendix D European Designated sites within 10km of the Site.

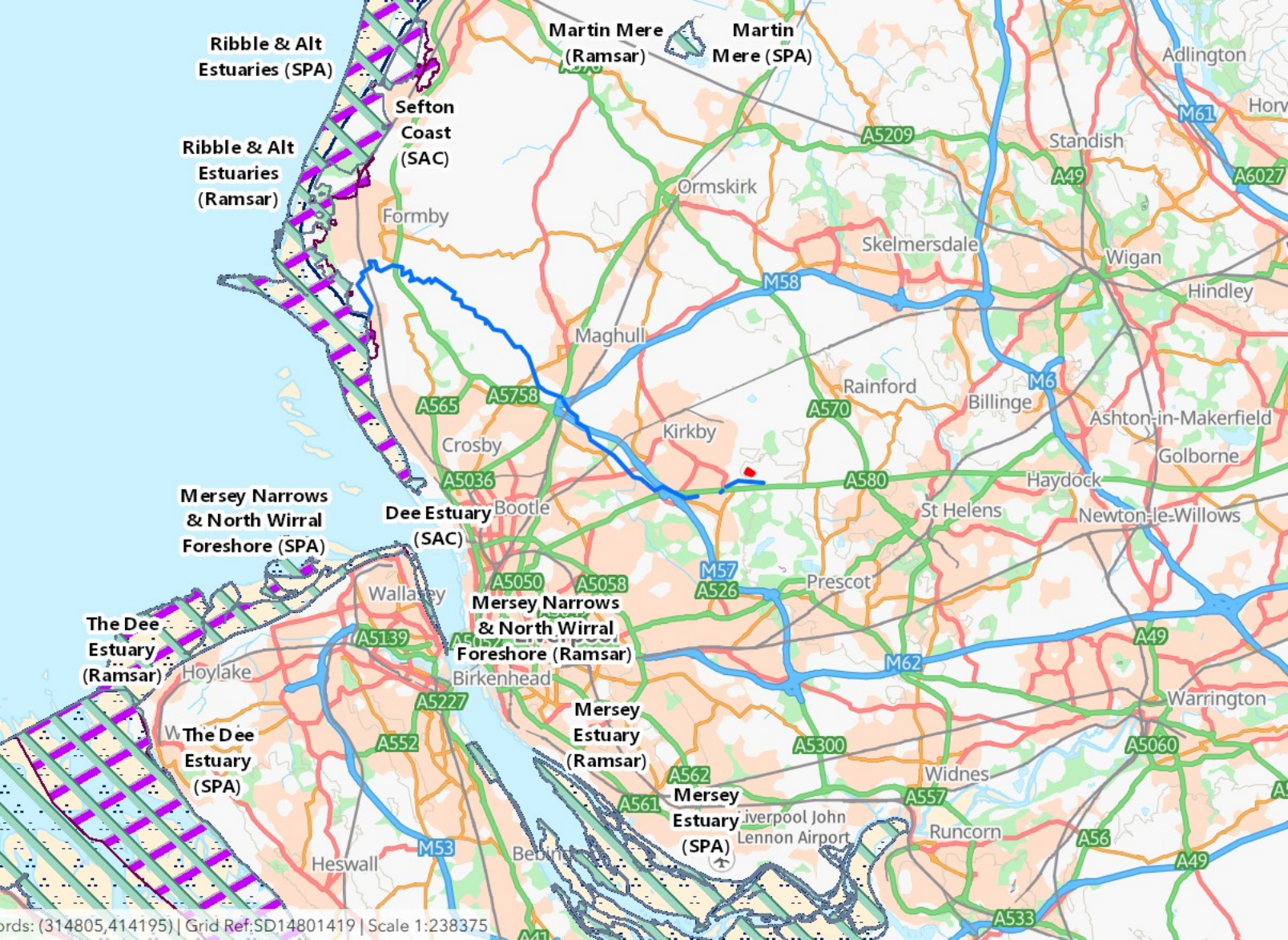
Habitat Regulation Assessment

Kirkby, Proposed Battery Energy Storage System

Pivoted Power LLP

SLR Project No.: 402.V08525.00024

28 November 2025





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