RWE

Enoch Hill 2 Wind Farm Planning Application Design & Access Statement August 2023

Report for

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Document revisions

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V1	Draft	03/07/2023
V2	Draft	18/07/2023

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1. Introduction

1.1 Overview

1.1.1 This Design and Access Statement ('DAS') has been prepared by WSP UK Ltd on behalf of RWE Renewables UK Onshore Wind Limited ('the Applicant') in support of a planning application submitted to East Ayrshire Council ('EAC') - under the Town and Country Planning (Scotland) Act 1997 (as amended) - to construct and operate the Enoch Hill 2 Wind Farm ('Proposed Development'). The Proposed Development will consist of up to two wind turbines, a battery storage facility and associated infrastructure, providing a combined installed capacity of up to 21MW. The Proposed Development is located at a land approximately 6km south-west of New Cumnock, East Ayrshire ('Development Site').

1.1.2 The application is supported by the Environmental Impact Assessment Report ('EIA Report') which provides an assessment of the likely significant effects associated with the Proposed Development. The DAS should be read in conjunction with the EIA Report.

1.1.3 This document has been prepared in accordance with Regulations 13(4) and 13(5) of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013 (as amended). These set out the minimum required content of design and access statements submitted on a statutory basis to support planning applications. These regulations state:

"(4) A design statement is a written statement about the design principles and concepts that have been applied to the development and which—

(a) explains the policy or approach adopted as to design and how any policies relating to design in the development plan have been taken into account;

(b) describes the steps taken to appraise the context of the development and demonstrates how the design of the development takes that context into account in relation to its proposed use; and

(c) states what, if any, consultation has been undertaken on issues relating to the design principles and concepts that have been applied to the development and what account has been taken of the outcome of any such consultation.

(5) A design and access statement is a document containing both a design statement and written statement about how issues relating to access to the development for disabled people have been dealt with and which—

(a) explains the policy or approach adopted as to such access and, in particular, how—

(i) policies relating to such access in the development plan have been taken into account; and

(ii) any specific issues which might affect access to the development for disabled people have been addressed;

(b) describes how features which ensure access to the development for disabled people will be maintained; and

(c) states what, if any, consultation has been undertaken on issues relating to access to the development for disabled people and what account has been taken of the outcome of any such consultation".

1.1.4 Following on from these statutory requirements, the purpose of this DAS is to provide information on the principles and approach that have guided the design process and to demonstrate observance of equal opportunity requirements for access. This DAS also demonstrates how the Proposed Development has been fully appraised to ensure that the final design is suitable for the Development Site.

1.1.5 The EIA formed a key element of the appraisal process, in accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 'EIA Regulations'). Therefore, the DAS describes the starting point for the design of the Proposed Development and its subsequent evolution in response to potential constraints that were identified through the EIA process. Details are also provided on the access arrangements during all phases of the Proposed Development, both for construction traffic and for public access.

1.2 Environmental Topics Addressed in the EIA Report

1.2.1 Column 1 of **Table 1.1** lists the topics that need to be considered when preparing an EIA Report, as detailed in Schedule 4 of the EIA Regulations. Column 2 lists where these are addressed in this EIA Report, with reference to the relevant chapter numbers.

Table 1.1 Environmental Topics Addressed in the EIA Report

Topics[1] that need to be assessed under the EIA Regulations	Chapter titles in this EIA Report
Population and Human Health	Chapter 9 - Landscape and Visual Impact Assessment, Chapter 14 – Traffic and Transport, Chapter 7 - Noise, Chapter 13 – Hydrology and Hydrogeology, Chapter 15 -Socio-economics, Tourism and Recreation.
Biodiversity	Chapters 11 – Ecology and 12 – Ornithology
Land	Chapter 13 - Geology, Hydrology and Hydrogeology
Soil	Chapter 13 - Geology, Hydrology and Hydrogeology
Water	Chapter 13 - Geology, Hydrology and Hydrogeology
Air	Scoped out as significant effects unlikely. Dust suppression and other standard mitigation measures aimed at reducing air quality impacts are considered in Chapter 3 (Project Description).
Climate	Chapter 6- Renewable Energy Policy, Carbon Balance, Climate Resilience and Peat Management
Material assets	N/A - scoped out
Cultural heritage	Chapter 10 – Historic Environment
Landscape	Chapter 9 - Landscape and Visual Impact Assessment

[1] In this EIA Report, the word 'topic' is used when referring to elements that could be affected by the Proposed Development. Other words with the same general meaning are used in the EIA Regulations, notably 'factor' and 'aspect', but these are not used in the same context within this EIA Report.

Topics[1] that need to be assessed under the EIA Regulations	Chapter titles in this EIA Report
The inter-relationship between the above factors	These are assessed within each Chapter as relevant
Vulnerability to major accidents or disasters	Chapter 16 – Infrastructure and Other Issues

1.3 The Proposed Development

1.3.1 The Proposed Development will have an operational life of 35 years and will comprise the following infrastructure:

- Up to two wind turbines, each of up to 5MW capacity and up to 149.9m to blade tip height;
- Wind turbine foundations;
- Access tracks connecting infrastructure elements;
- Upgraded vehicular access track from the public highway;
- Crane hard standings;
- Temporary working areas e.g., construction compound;
- Control building and substation compound;
- Electrical cabling between the control building and turbines;
- Infrastructure required to provide a point for a connection (to be constructed by Scottish Power Energy Networks ('SPEN')) to the 132/33kV substation to be located at the consented Enoch Hill Wind Farm; and
- Battery storage facility up to 11MW capacity.

1.3.2 **Table 1.2** provides a summary of the key features of the Proposed Development, with the infrastructure layout. **Table 1.3** details the temporary and permanent land take associated with the Proposed Development.

1.3.3 As the Proposed Development nears the end of its operational life, a decision will be taken as to whether or not a life extension, repowering or decommissioning will be required. However, for impact assessment purposes, the EIA Report assumes that the project will be decommissioned at the end of its operational life.

Table 1.2 Key Features of the Proposed Development

Component	Description
Wind Turbines	Number: up to 2. Turbine Heights up to 149.9m to blade tip. Installed capacity: up to 5MW (per turbine)
Turbine Foundations	Number: up to 2
Turbine Crane Pads	Number: up to 2
Auxiliary Turbine Crane Pads	Number: up to 4
Blade Laydown Areas	Number: up to 2
Control Building and Substation Compound[2]	Location: Approximately centred on coordinates E 259191, N 606917
Battery Storage Compound	Installed capacity: up to 11MW (1 hour) Location: Approximately centred on E 259155, N 606890 (Re-use of area vacated by temporary construction compound)
Access Tracks (including turning heads and junctions)	Length: approximately 8km (i.e. approximately 2km of new tracks & 6km of upgraded existing tracks). Running Width: up to 6m (wider on bends).
Passing Places	Number: estimated 16 Indicative dimensions: 30m in length, up to 3m wide
Watercourse Crossings (shown on Figure 13.6)	Number: Up to 6 culverts (comprising one new culvert and five upgrades).
Temporary Construction Compound	Location: Approximately centred on coordinates E 259138, N 606872.
Cable Trenches	Cables will be installed alongside access tracks. (Indicative dimensions are: 1m depth and up to 1.2m width).
Micrositing Allowance	50 m for wind turbines, battery storage facility and all new associated infrastructure.

[2] This will include infrastructure required to provide a point for a connection to be constructed by Scottish Power Energy Networks (SPEN) to the 132/33kV substation to be located at the consented Enoch Hill Wind Farm. The connection between the control building of the Proposed Development and the consented Enoch Hill Wind Farm SPEN substation would be by overhead line. Permission for this would be sought through a separate application submitted under Section 37 of the Electricity Act 1989. The onsite substation compound will accommodate an auxiliary transformer.

Table 1.3: Indicative Temporary and Permanent Land Take

Component	Indicative Temporary Land Take Areas (ha)	Indicative Permanent Land Take Areas (ha)
Turbine Foundations	0.36	0.18
Turbine Crane Pads (inc auxiliary pads)	1.05	0.35
Blade Laydown Areas	0.25	N/A
Temporary Construction Compound	0.5	N/A (0.25ha will be used to locate the battery storage compound, so captured in the corresponding row below)
Control Building and Substation Compound	0.14	0.14
Battery Storage Compound	N/A	0.25
Access Tracks (including turning heads and junctions)	8.5	4.73
Passing Places	(accounted for in the access track temporary land take area)	0.24
Cable Trenches	(accounted for in the access track temporary land take area)	N/A
Staging Area (beside track)	0.11	N/A
Total	**10.9**	**5.9**

1.4 The Applicant

1.4.1 RWE is the global number two in development and operation of offshore wind and has a goal to become climate-neutral by 2040 (this involves reduction of greenhouse gas (GHG) emissions beyond just carbon and also involves some contribution /compensation for emissions caused). To achieve this goal, RWE is reducing its carbon dioxide (CO_2) emissions as quickly and drastically as possible, by phasing out or converting conventional power plants. RWE has already cut its greenhouse gas emissions by 60 million tonnes of CO_2 between 2012 and 2018, resulting in a 33% reduction. No other company in Germany has achieved more in the last few years and RWE is determined to continue this.

2. Site Context

2.1 Location

2.1.1 The Development Site is located approximately 6km southwest of the settlement of New Cumnock and approximately 9km to the east of Dalmellington in East Ayrshire (see **Figure 1.1**). It is centred at NGR NS 58250 06680. The Development Site encompasses an area of approximately 128 hectares (ha).

2.1.2 The derelict Monquhill Farmhouse is located within the Development Site. The nearest residential property to the Development Site is Brockloch, which is located at Rough Hill adjacent to the B741 road. Brockloch is located approximately 3.2km to the north of the main part of the Development Site and approximately 4.2km from the nearest turbine.

2.1.3 A detailed description of the Development Site is set out within **Chapter 3** of the EIA Report with a summary provided here.

2.2 Access and Land Use

2.2.1 Access to the Development Site is via an existing track off Afton Road to the east of the Development Site and then an existing access track through Pencloe Forest. The main land use within the Development Site is commercial forestry.

2.2.2 Open moorland used for grazing lies to the north of the Development Site, where the site of the consented Enoch Hill Wind Farm is situated. The consented Pencloe Wind Farm is located to the east, and the operational Brockloch Rig Wind Farm (formerly Windy Standard and Windy Standard Extension Wind Farms) is approximately 1.3km to the south. The Carsphairn and Pencloe forests surround the west, south and east of the Development Site.

3. Policy Context

3.1 Overview

3.1.1 The design of the Proposed Development has taken account of relevant design policies and guidance. Full details of the applicable planning policy framework are provided in the Planning Statement which accompanies the planning application submitted to EAC regarding the Proposed Development. Key points from national and development plan policies related to design matters are outlined below.

3.2 National Policy

3.2.1 National planning policy is contained within the National Planning Framework 4 ('NPF4') which was published on 13th February 2023, replacing both the National Planning Framework 3 and the Scottish Planning Policy ('SPP'). In addition, national policy advice relating to design matters and the preparation of design and access statements is set out within Planning Advice Note ('PAN') 68: Design and Access Statements and Planning Circular 3/2022.

National Planning Framework 4 (NPF4)

3.2.2 NPF4 influences planning decisions across Scotland and sets out the long-term plan for the country, guides spatial development, sets out national planning policies, designates national developments and highlights regional spatial priorities. NPF4 provides the spatial strategy for Scotland to 2045 and takes account of the target of net zero emissions by 2045 set by the Scottish Government. It provides a strong framework for the deployment of renewable energy developments and identifies the need for strategic scale renewable energy developments, including onshore wind farms.

3.2.3 The NPF4 sets out numerous policies which are relevant to the Proposed Development, and these cover a range of topics including:

- Tackling the Climate and Nature Crisis (Policy 1);
- Climate Mitigation and Adaption (Policy 2);
- Biodiversity (Policy 3);
- Natural Places (Policy 4);
- Soils (Policy 5);
- Forestry, Woodlands and Trees (Policy 6);
- Historic Assets and Places (Policy 7);
- Brownfield, Vacant and Derelict Land and Empty Buildings (Policy 9);
- Energy (Policy 11);
- Zero Waste (Policy 12);
- Sustainable Transport (Policy 13);
- Design, Quality and Place (Policy 14);

- Infrastructure including Blue and Green Infrastructure (Policies 18 and 20);
- Flood Risk and Water Management (Policy 22);
- Health and Safety (Policy 23);
- Rural Development (Policy 29); and
- Tourism (Policy 30).

3.2.4 These policies are explored in more detail within **Section 4 – The Development Plan** of the Planning Statement.

Planning Circular 3/2022

The Planning Circular 3/2022 sets out the requirement, or otherwise, for a DAS and details for its contents. Under Regulation 13, Paragraph 3.27 it is stated:

"A design statement is a written statement about the design principles and concepts that have been applied to the development and which:

(i) Explains the policy or approach adopted as to design and how any policies relating to design in the development plan have been taken into account.

(ii) Describes the steps taken to appraise the context of the development and demonstrates how the design of the development takes that context into account in relation to its proposed use.

(iii) States what, if any, consultation has been undertaken on issues relating to the design principles and concepts that have been applied to the development; and what account has been taken of the outcome of any such consultation."

The Circular states that the advice set out in the Planning Advice Note ('PAN') 68: Design Statements (as described below) should be taken into account as appropriate.

PAN68: Design Statements

3.2.5 This document sets out the purpose of a design statement, which is to explain the design of a development proposal in a structured way and to demonstrate how spatial context has been considered throughout the design process. The document makes clear that a prescriptive approach to preparing design statements is not appropriate; rather, it is more useful for the content and structure of design statements to be informed by the nature of the development proposal and its spatial situation.

3.3 Development Plan Policy and Supplementary Guidance

East Ayrshire Local Development Plan 2017

3.3.1 Together with NPF4, the statutory Development Plan applicable to the Development Site comprises the adopted East Ayrshire Local Development Plan 2017 ('East Ayrshire LDP'), the East Ayrshire Minerals Local Development Plan (2020) ('MLDP') and adopted statutory Supplementary Guidance. This Development Plan is also supported by approved non-statutory Supplementary Guidance and Technical Papers, although none are of relevance to this DAS.

3.3.2 Relevant design and access related planning policies within the statutory Development Plan applicable to the Development Site are outlined in **Table 3.1** below. Full details

regarding these policies are provided within **Section 4 – The Development Plan** of the Planning Statement and within **Chapter 5 – Planning Policy Context** of the EIA Report, so for reasons of brevity, relevant design and access related policies are only listed below.

Table 3.1 Relevant Design and Access Related Policies within the Adopted East Ayrshire Local Development Plan (2017)

Policy Reference	Title
Policy OP1	Overarching Policy 1
Policy RE1	Renewable Energy Developments
Policy RE3	Wind Energy Proposals over 50 metres in Height
Policy ENV8	Protecting and Enhancing the Landscape
Policy T1	Transportation Requirements for New Development
Policy T4	Development and Protection of Core Paths and Natural Routes
Schedule 1	Renewable Energy Assessment Criteria

Planning for Wind Energy Supplementary Guidance (2017)

3.3.3 This supplementary guidance is statutory and forms part of the East Ayrshire LDP. It supports the implementation of Policy RE3 of the East Ayrshire LDP by clarifying the criteria against which proposed medium and large-scale wind energy development will be assessed.

3.3.4 Full details of the Planning for Wind Energy Supplementary Guidance are provided within **Section 4 – The Development Plan** of the Planning Statement.

3.4 Other Relevant Local Policy Guidance

East Ayrshire Local Development Plan 2

3.4.1 On 05 December 2022, EAC submitted Local Development Plan 2 ('East Ayrshire LDP2') to the Scottish Ministers for Examination. The plan and all necessary paperwork were submitted on 24th February 2023. The submission is now being processed, and once adopted, it will supersede the East Ayrshire LDP and the MLDP, and together with NPF4 will form the Development Plan for East Ayrshire.

3.4.2 **Table 3.2** below lists the relevant design and access related policies from the East Ayrshire LDP2. Full details regarding these policies are provided within **Section 4 – The Development Plan** of the Planning Statement and within **Chapter 5 – Planning Policy Context** of the EIA Report.

Table 3.2 Relevant Design and Access Related Policies within East Ayrshire Local Development Plan 2

Policy Reference	Title
Policy RE1	Renewable Energy
Policy SS2	Overarching Policy
Policy SS12	Making Space in Settlements for Green Energy
Policy OS1	Green and Blue Infrastructure
Policy NE1	Protecting and Enhancing Landscape and features
Policy NE2	Development Impacts on Areas of Wild Land
Policy NE3	Local Landscape Area
Policy INF1	Infrastructure First
Policy RE3	Low and Zero Carbon Buildings

3.5 Non-Statutory Landscape Guidance

East Ayrshire Landscape Wind Capacity Study (2018)

3.5.1 This advisory, non-statutory planning guidance revises and updates the 2013 East Ayrshire Landscape Wind Capacity Study was informed by the SPP which was the relevance guidance at the time (now replaced by NPF4). Whilst this document was prepared under policy which has now been replaced, its findings remain relevant. It is a strategic study that aims to inform strategic planning for wind energy development in line with the former SPP.

3.5.2 Key findings from the 2018 East Ayrshire Landscape Wind Capacity Study ('EALWCS') include:

- There is some scope to site additional wind farm development with turbines above 70m in height within upland areas of East Ayrshire although this will be limited by potential cumulative and other landscape and visual constraints including effects on adjacent smaller scale settled valleys and lowland landscapes.

3.5.3 The Proposed Development lies mainly within the 'Southern Uplands with Forestry' landscape character type (20c), with just the northern most area (although no turbines here) within the East Ayrshire 'Southern Uplands' landscape character type (20a).

3.5.4 The study notes at paragraph 15.2 that capacity for additional new development is considered to be close to being reached in landscape character type 20c, with sensitivity concluded to be 'High' for the 'Very Large' and 'Large' typologies (turbines >70m).

4. Design Statement

4.1 Site Selection

4.1.1 The process which led to identification of the Development Site started in 2015 when E.ON Climate and Renewables, acquired by the Applicant, carried out a high-level appraisal of the south west Scotland area to identify potentially suitable sites for wind energy development. The initial assessment concluded that the Development Site was potentially suitable for wind farm development as no significant constraints were identified.

4.1.2 The Development Site was subject to a feasibility study and was evaluated against the basic assessment criteria. The basic assessment criteria included (but were not limited to):

- Land Availability;
- Land Use and Context;
- Wind Resource;
- Electricity Grid;
- Transport Infrastructure;
- Residential Amenity;
- Landscape and Visual Capacity; and
- Nature Conservation Sites.

4.1.3 The feasibility study concluded that the Development Site met the basic assessment criteria and therefore warranted further detailed environmental and technical assessment.

4.1.4 The findings the feasibility study were subsequently built on by undertaking design and EIA work for the Proposed Development. This included undertaking consultations with relevant stakeholders such as NatureScot (formerly Scottish Natural Heritage ('SNH')), Royal Society for the Protection of Birds ('RSPB') and the Scottish Environment Protection Agency ('SEPA'), in order to understand their views on a potential wind farm at the Development Site and to ultimately assist in the evolution of an appropriate, responsibly designed wind farm that is sensitive to the surrounding area.

4.1.5 Furthermore, the wind energy spatial framework included within the East Ayrshire LDP 2017 indicates that the Development Site is within Group 3 – Areas with potential for wind energy development and would therefore be supportive of an appropriately designed wind energy development on the Development Site.

4.2 Site Design

4.2.1 The Proposed Development is the result of an iterative design process, which has aimed to reduce potential environmental effects whilst taking account of site constraints and commercial requirements.

4.2.2 Environmental studies were undertaken for the EIA, which were then utilised to inform the design strategy of the Proposed Development. Where potentially significant effects were identified, efforts were made to avoid these by including embedded mitigation into the design. The following sections outline the influence of the topics on the design process.

Peat

4.2.3 Available data regarding deep peat deposits was considered throughout the design process and the Proposed Development was designed to avoid the deepest areas of peat. Based on the findings of peat depth surveys described within **Chapter 6 – Renewable Energy Policy, Carbon Balance, Climate Resilience and Peat Management** of the EIA Report, the turbines were located in areas of either no peat, or peat less than 0.5m deep. This approach has assisted in the reduction of disturbance to peat and the volume of excavation required. The Peat Slide Risk Assessment (**Appendix 13A** of the EIA Report) indicates that the Development Site is largely at a Negligible to Low risk of peat landslide failure and while there is an area of Moderate risk, this is located to the east of the track between WTG-01 and WTG-02 where no development is proposed.

Noise

4.2.4 Noise modelling was undertaken at an early stage to inform the design of the Proposed Development. The result of this modelling, as descripted in **Chapter 7 – Noise** of the EIA Report, states that given the separation distance between the proposed turbines and habitable non-involved residential receptors, operational noise at sensitive receptors would not exceed limits defined under the 'Assessment and Rating of Noise from Wind Farms' (ETSU–R-97) guidance. Therefore, noise considerations did not have a major influence on the design strategy for the Proposed Development.

Shadow Flicker

4.2.5 The Proposed Development's turbines have been situated well beyond the limit in which potential effects from shadow flicker can occur and so no effects have been predicted on receptors. Therefore, shadow flicker considerations did not have a major influence on the design strategy for the Proposed Development.

Landscape & Visual Impact Assessment

4.2.6 The Proposed Development has been designed to balance technical and project requirements with a need to safeguard the environment and satisfactorily accommodate the Proposed Development within its landscape setting. The design evolution has aimed to reduce landscape, visual and cumulative effects and to respect the landscape characteristics identified in the EALWCS and the Dumfries and Galloway Wind Farm Landscape Capacity Study Supplementary Guidance ('DGWLCS').

4.2.7 The design of the Proposed Development is set to appear similar to the scale and appearance of the consented and existing wind developments in the area (South Kyle, Pencloe, and Enoch Hill) in relation to turbine scale, size, proportion, and colour. Furthermore, the turbines have been set back from the 'front' north facing hill slopes overlooking settlements, roads and residential receptors within the Upland Basin to maintain a sense of separation between the lower lying areas and the more elevated Southern Uplands / Southern Uplands with Forestry, which are most capable of accommodating wind farm development.

4.2.8 In this way, the Proposed Development has been designed to be compatible with surrounding existing and consented developments and would therefore be perceived as a minor element of the overall composition of wind energy development in the area. Overall, the Proposed Development has been designed to limit the individual and cumulative landscape and visual impacts on sensitive receptors such as the Afton SLCA and walking routes located within the 'Southern Upland' area.

4.2.9 A detailed description of the landscape and visual impacts of the Proposed Development is included within **Chapter 9 – Landscape and Visual Impact Assessment** of the EIA Report.

Historic Environment

4.2.10 During the design process, data for both designated and non-designated heritage assets was made available to the design team to allow consideration for the avoidance of direct impacts upon heritage assets and to identify areas of higher sensitivity to change to setting.

4.2.11 **Chapter 10 – Historic Environment** of the EIA Report provides a summary of predicted effect on heritage receptors within **Table 10.6** and concludes that the Proposed Development is unlikely to have any significant effects on the historic environment. In this case, historic environment considerations did not have a major influence on the design strategy for the Proposed Development.

4.2.12 To account for any undiscovered heritage assets, a written scheme of archaeological works has been included in the Proposed Development as an embedded environmental measure.

Ecology

4.2.13 As the design of the Proposed Development has evolved iteratively, the study area, and its constituent parts including the Development Site, was regularly reviewed to ensure that its extent was adequate to enable the assessment of all potentially significant effects of the ecological features identified. Changes to the area initially identified as being 'developable', or the precise nature of the development, were reviewed in light of the ecological features present (this being informed by the data gathering exercise) and the potential effects that could occur if the Proposed Development were to proceed.

4.2.14 Site infrastructure has been designed as far as reasonably practicable to use the minimum land take. For instance, all access track has been designed to be linear, without loops, to avoid creating islands of habitat fragmentation.

4.2.15 The layout of the Proposed Development within Connel Burn/Benty Cowan provisional Local Nature Conservation Site has avoided vegetation communities for which the Development Site has been notified, including acid and marshy grassland, blanket bog, species rich flushes. The layout of the Proposed Development across the rest of the Development Site has also, wherever possible, avoided peatland habitat, and where avoidance has not been possible, has been designed to avoid habitats of highest ecological importance and highest sensitivity to effects. This process has been informed by the National Vegetation Classification survey data (Technical Appendix 11.B), with preference for development in lower quality habitats (such as those heavily modified/drained), while avoiding as far as reasonably practicable higher quality areas (such as blanket bog).

4.2.16 The Proposed Development has been designed to minimise watercourse crossings and also has a buffer of 50m around watercourses and waterbodies (excluding watercourse crossings).

4.2.17 As far as reasonably practicable, turbines were positioned at least 50m (measured from blade-tip) from any features (i.e., key watercourses and woodland edge) within the

Development Site likely to be used by commuting and foraging bats to reduce collision risk[3].

Ornithology

4.2.18 Throughout the design process, the study area was regularly reviewed to ensure that its extent was adequate to enable the assessment of all potentially significant effects on the ornithological features identified. Changes to the initial developable area, or the precise nature of the Proposed Development, were reviewed in light of the ornithological features present (which was in turn informed by the data gathering exercise) and the potential effects that could occur. Given the bird species present and their use of the Development Site and surrounding areas, ornithological considerations did not have a major influence on the design evolution for the Proposed Development[4].

Geology, Hydrology and Geohydrology

4.2.19 A qualitative, preliminary feasibility assessment for the potential location of the Proposed Development's wind turbines and infrastructure was undertaken as part of a desk-based study. The purpose of this study was to identify potential significant constraints that may be posed by the baseline conditions of the study area, so that the construction plan and layout of the Proposed Development could be refined in order to minimise the potential risks and impacts to receptors during construction and operation.

4.2.20 Potential constraints were then identified following a review of baseline information, leading to some areas being discounted for the siting of wind farm infrastructure, and other areas being further considered for development provided appropriate mitigation could be provided.

4.2.21 An indicative wind farm layout was then generated by placing buffer zones around sensitive receptors within the Development Site (primarily watercourses). The number of new watercourse crossings by the access track was also minimised as far as was reasonably practicable (6 no. being required). The Proposed Development was also designed with a buffer of 50m around watercourses (excluding where crossings of these were required).

Traffic

4.2.22 The Proposed Development has been situated close to a route which has previously been approved for transport of abnormal loads. A traffic assessment was carried out which determined that construction traffic associated with the Proposed Development would not result in any significant effects in terms of severance, driver delay, pedestrian delay and amenity, fear and intimidation, or accidents and safety. In this case, traffic and transport considerations did not have a major influence on the design strategy for the Proposed Development.

[3] A short section of coniferous plantation (approximately 160m in length) on neighbouring land is located ~80m from the turbine base (T2), which is 5m less than required to achieve a 50m buffer between blade tip and forestry edge. However, given the steep contour between the turbine location and the woodland (there is a 10m decrease in height), and the generally low number of bats recorded in this area, this reduced buffer is considered acceptable in this instance.

[4] Goshawk was the only species recorded of sufficient importance that a significant effect may occur as a result of the Proposed Development. A full assessment, including collision risk modelling of goshawk, was undertaken and this concluded that there would be no significant effects.

Socio-economic

4.2.23 In this case, socio-economic considerations did not have a major influence on the design strategy for the Proposed Development.

Infrastructure

4.2.24 No existing infrastructure with the potential to have a major influence on the design strategy for the Proposed Development was identified during the desk study set out in **Chapter 16 – Infrastructure and Other Issues** of the EIA Report. Chapter 16 concludes that no significant effects relating to infrastructure and other issues are expected to be caused by the Proposed Development.

Aviation

4.2.25 After an iterative design process, a series of embedded environmental measures have been included in the design of the Proposed Development. These are detailed within **Section 8.8** and **Table 8.4** of **Chapter 8 – Aviation** of the EIA Report. With regards to site specific design considerations, the Applicant confirms that the Proposed Development turbines will be fitted with Ministry of Defence accredited aviation safety lighting to safeguard general use of the area by military aircraft during operation.

4.3 Design Evolution

4.3.1 The Applicant and its consultants have undertaken discussions with statutory and non-statutory consultees, the local community and the landowners with the accumulated findings all having an influence over the evolution of the design and the scope of the EIA. The design of the Proposed Development has evolved in response to the comments provided through these various consultation discussions, as well desk studies and site work/technical appraisals undertaken by the project team.

4.3.2 In 2017, E.ON's wind yield team provided a three turbine layout, based on wind yield, minimum separation distances between turbines, site topography and a desktop-based constraints mapping exercise. In 2019, a further constraints mapping exercise was undertaken, resulting in a two-turbine layout that was subject to initial impact assessment in 2020, before the project was paused. In March 2023, the design of the Proposed Development was revisited with minor changes to the access tracks but did not result in changes in the location of turbines or most other infrastructure.

4.3.3 **Table 4.1** summarises the main design alterations to demonstrate the responsiveness to information and consultation in seeking to reduce potential environmental effects.

Table 4.1 Design Iterations

Design Iteration	Constraints Influencing Layout	Summary of Change
Layout 1 (3 turbines)	A three -turbine layout was identified in February 2017, based on an initial technical and environmental review. This was informed by wind yield, minimum separation distances between turbines and topography, and by a review of 'hard constraints'	A map illustrating the three-turbine layout is shown on **Figure 2.2**.

Design Iteration	Constraints Influencing Layout	Summary of Change
	(such as existing infrastructure, residential properties, watercourses, roads, public rights of way, etc) which were buffered as appropriate.	
Layout 2 (2 turbines)	Increased turbine size and generating capacity led to a two-turbine layout in December 2019. It took account of initial assessment, specifically relating to Landscape and Visual hydrology and ecology (incorporating buffers as set out in the technical chapters) and was designed to balance environmental constraints with optimising energy yield.	One turbine removed owing to the LVIA beneficial effects as well as limited disturbance to peatland. The remaining two turbines were moved slightly, resulting in the two-turbine design freeze shown on **Figure 2.2**.
Layout 3 (2 turbines and battery storage)	Further environmental surveys were undertaken to appropriately locate a battery storage facility within the Development Site. Further topography review.	In March 2023 a minor change was made to the newly proposed access tracks between the turbines to further account for topography. Battery storage was also added to the Proposed Development. Its location was identified to reduce cabling requirements and at the same time limit environmental impacts. The temporary construction compound was also relocated to the north of access track. Minor changes were required to the northernmost section of the exiting access track (off Afton Road) to reflect the recent realignment works completed by the landowner[5]. Refer to **Figure 3-1A**

4.4 Proposed Access

Vehicular Access

4.4.1 Access to the Development Site is off Afton Road to the east of the Proposed Development and then onto an existing access track through Pencloe Forest. This track will be upgraded as necessary, in line with the specifications agreed with the landowner and in accordance with relevant planning and building regulations.

4.4.2 The upgraded Development Site access will be used for all phases of the Proposed Development (construction, operation and decommissioning). A typical general

[5] Realignment works shown on the aerial photography of Bing Maps.

arrangement for the upgraded junction is shown on **Figure 3.12** in **Chapter 3** of the EIA Report.

4.4.3 The route proposed for Abnormal Indivisible Load (AIL) vehicles, is as follows:

- Glasgow Port → Kings Inch Drive → M8 → M77 → A77 →A76 → B741 → Afton Road → Existing access track through Pencloe Forest.

4.4.4 The proposed quarry route, is as follows:

- B743 westbound → B713 → A76 → B741 → Afton Road → Existing access track through Pencloe Forest.

4.4.5 Once operational, vehicular access will be required for the occasional maintenance checks visits. During decommissioning (if implemented), the access tracks are unlikely to be removed as the disturbance associated with their removal and disposal of the material would have a greater environmental impact than leaving tracks in place. Upon decommissioning the tracks would therefore likely be left in situ for future use by the landowner and other stakeholders.

4.4.6 Access to the Development Site by the general public will be restricted during construction for health and safety purposes. During operation, unless otherwise agreed with the landowner, there will be no formal access arrangements provided; however, the general public will be able to access the Development Site under the general 'right to roam', in accordance with the Land Reform (Scotland) Act 2003.

5. Summary

5.1.1 Onshore wind plays a significant role in Scotland's decarbonised energy sector. The principal use of the Proposed Development is to produce electricity by harnessing energy from the wind, a renewable resource, which will feed into the UKs grid network.

5.1.2 The layout of the Proposed Development consists of two turbines and a battery storage facility with a combined installed capacity of 21MW, along with ancillary infrastructure including an upgraded site access from Afton Road and new access track. The vehicular access to the Development Site will use existing tracks through Pencloe Forest, which will be upgraded as necessary to accommodate construction traffic, and new access tracks will be created thereafter to connect the wind farm infrastructure.

5.1.3 This DAS has summarised the key design and access considerations that influenced the design process for the Proposed Development. In particular, the access tracks will be upgraded as necessary, in line with specifications agreed with the landowners and in accordance with relevant planning and building regulations.

5.1.4 The design of the Proposed Development has been carefully developed considering the technical and environmental constraints identified throughout an iterative EIA and design process. Overall, constraints have been avoided where possible and the layout amended accordingly.

5.1.5 Access to the Development Site by the general public will be restricted during construction for health and safety purposes. During operation, there will be no formal access arrangements provided; however, the general public will be able to access the Development Site under the general 'right to roam', in accordance with the Land Reform (Scotland) Act 2003.