Nadara Limited

Millennium East Wind Farm

An extension to Millennium Wind Farm

Design and Access Statement

664052

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RSK GENERAL NOTES

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ABBREVIATIONS

AOD	Above Ordnance Datum
BESS	Battery Energy Storage System
CEMP	Construction Environment Management Plan
CTMP	Construction Traffic Management Plan
CROW	Catalogue of Rights of Way
DAS	Design and Access Statement
EIA	Environmental Impact Assessment
HwLDP	Highland-wide Local Development Plan
IMFLDP2	Inner Moray Firth Local Development Plan 2
Km	Kilometres
LVIA	Landscape and Visual Impact Assessment
MoD	Ministry of Defence
MW	Megawatts
NGR	National Grid Reference
NPF4	National Planning Framework 4
OBEMP	Outline Biodiversity Enhancement Management Plan
OCEMP	Outline Construction Environmental Management Plan
OWESG	Onshore Wind Energy: Supplementary Guidance
PAN	Planning Advice Note
s36	Section 36
SDG	Sustainable Development Goals
SDSG	Sustainable Design Supplementary Guidance
SNH	Scottish Natural Heritage
SPP	Scottish Planning Policy
SuDs	Sustainable Drainage System
UN	United Nations
ZTV	Zone of Theoretical Visibility

1 INTRODUCTION

1.1.1 Nadara Limited (formerly Renantis and hereafter referred to as "the Applicant") is proposing to submit an application for consent to construct the Millennium East Wind Farm (hereafter referred to as "the Proposed Development"), as an extension to the existing Millennium Wind Farm.

1.1.2 The total installed capacity of the Proposed Development is expected to be approximately 50 MW. If consented, the Proposed Development would constitute an extension to an operational wind farm with an installed capacity in excess of 50 MW. Therefore, the Applicant is seeking to secure consent for the Proposed Development under Section 36 (s36) of the Electricity Act 1989 (as amended) and deemed planning permission. The application is informed by an Environmental Impact Assessment (EIA) Report prepared in accordance with the Electricity Works (Environmental Impact Assessment) Scotland Regulations 2017 (hereafter referred to as "the EIA Regulations").

1.1.3 There is a requirement for many types of planning applications to be accompanied by a Design and Access Statement, in accordance with Regulation 13 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations (2013) and the Scottish Planning Series Circular 3/2022 (2022a), under the provisions of the Planning etc. (Scotland) Act (2006). Whilst this is not a requirement for s36 applications[1], the Applicant has opted to produce a DAS to demonstrate that the proposals have been developed on the basis of a considered design process, while also considering how the Proposed Development would impact public access to the Site.

1.1.4 This DAS has been produced by RSK Environment Ltd (RSK) in accordance with guidelines set out in planning advice note (PAN) 68 'Design Statements' (2003a) and accompanies the s36 application submitted on behalf of the Applicant.

1.1.5 In addition to the DAS, the s36 application is comprised of four other key documents:

- Environmental Impact Assessment (EIA) Report;
- Planning Statement;
- Socio-economic Statement; and
- Pre-Application Consultation Report.

1.1.6 This DAS outlines the design policies, sustainable design principles, and any other considerations and constraints that have led to the final design layout of the Proposed Development. It has played an important role in contributing to the design process through the clear documentation of design evolution. This DAS also describes and illustrates the different design responses of the iterative design process to technical and environmental considerations, and the inclusion of the Proposed Development within the landscape and visual context.

[1] Section 36 of the Electricity Act 1989

1.2 The Proposed Development

Description

1.2.1 The Proposed Development would involve the construction and operation of eight wind turbines (three with tip heights of up to 200 m, and five with tip heights of up to 180 m) and associated infrastructure. Each turbine is likely to generate approximately 6.2 Megawatts (MW) of electricity. Additional information is outlined in **Section 4** of this DAS and **Chapter 2** of the EIA Report.

Site Location and Plan

1.2.2 The Proposed Development is located entirely within the administrative area of the Highland Council (hereafter referred to as 'the Council') local authority. The Site[2] is located to the east of the existing Millennium Wind Farm, approximately 7.5 km west of Fort Augustus, 8 km north of Invergarry and 14 km south-west of Invermoriston, as shown in **Figure 1**.

1.3 Key Terminology

1.3.1 To ensure clarity, the terms and descriptions presented in **Table 1.1** are used throughout this report.

Table 1.1: Design and Access Statement Terminology

Terminology	Definition / Explanation
The Applicant	Nadara Limited (formerly Renantis)
The Proposed Development	Millennium East Wind Farm Refers to the Proposed Development comprising new access tracks, wind turbines, and other ancillary infrastructure
The Site Boundary	The Section 36 (s36) boundary, defined by the red line shown in **Figure 2**.
The Site	Refers to everything within the Site Boundary, as shown in **Figure 2**.
"Wind Farm" and "wind farm"	Wind Farm – refers to a specific Wind Farm wind farm – is a general term
"will" and "would"	"Will" is used when writing about what is planned to be undertaken through the EIA Report. "Would" is used when assessing effects, as the Proposed Development does not have consent yet.

[2] Refers to everything within the Site Boundary, which describes the red-line boundary.

1.4 Structure of the Design and Access Statement

1.4.1 This DAS is divided into the following sections:

- **Section 2** lists the national and local policy and guidance relating to the siting, design and access of the Proposed Development.
- **Section 3** discusses the key environmental and design principles relevant to the Proposed Development and outlines the considerations which arose throughout the design process.
- **Section 4** provides a description the Proposed Development. This section also summarises the Outline Biodiversity Enhancement Management Plan (OBEMP).
- **Section 5** outlines the design process and evolution of the preferred design option.
- **Section 6** describes the access routes to, and track networks across the Proposed Development, as well as the access permissions provided to the public at various stages of the Proposed Development's lifetime.
- **Section 7** provides a conclusion describing the approach and outcome of the iterative design process that has been undertaken.

2 DESIGN POLICY CONTEXT

2.1.1 The design of the Proposed Development was carefully considered in the context of national policy and advice in respect of design, local development plans, and applicable supplementary guidance. The most relevant national and local policy and guidance relating to the siting, design and access of the Proposed Development are outlined below.

2.1.2 Additional information with regards to these documents and other policies are provided in the supporting **Planning Statement** submitted with the s36 Application for consent.

2.2 Legislation

Schedule 9 of the Electricity Act 1989

2.2.1 The Applicant has given regard to Schedule 9 paragraph 3 (1) (b), which states applicants should "*do what he reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or any such flora, fauna, features, sites, buildings or objects*". In relation to design, an iterative process has been undertaken to balance the development needs with environmental impacts.

2.3 Development Plan

2.3.1 Section 13 of the Planning (Scotland) Act (2019) amends Section 24 of the Town and Country Planning (Scotland) Act (1997) regarding the meaning of the statutory Development Plans, such that for the purposes of the Town and Country Planning (Scotland) Act, the Development Plan for an area is taken to consist of the provisions of:

- The National Planning Framework; and
- Any Local Development Plan

2.3.2 The LDP for the Proposed Development is the Highland-wide Local Development Plan (HwLDP) (2012), and associated Supplementary Guidance. The Highland Council Area LDP covering the Site comprises both the Inner Moray Firth Local Development Plan 2 (IMFLDP2) and the West Highlands and Island LDP. However, both LDP's focus on regional and settlement strategies for the respective areas and as such, there are no policies within this document which apply to the Proposed Development.

National Planning Framework 4 (NPF4)

2.3.3 The most important national policy framework relating to the siting and design of the Proposed Development is National Planning Framework (NPF4). It is supplemented by the associated PANs, and the Onshore Wind Turbines: Planning Advice (2014).

2.3.4 NPF4 therefore forms part of the statutory Development Plan and should be afforded substantial weight. A key provision of the 2019 Act is that in the event of any incompatibility between the provisions of NPF4 and a provision of a LDP, then whichever was produced

more recently will prevail. That will include where a LDP is silent on an issue that is now provided for in NPF4.

2.3.5 Part 1 of NPF4 sets out the national spatial strategy key to delivering on the United Nations (UN) Sustainable Development Goals (SDG) and Scotland's national outcomes. The national spatial strategy (as outlined in Part 1 of NPF4) will support the planning and delivery of:

- *sustainable places, where we reduce emissions, restore and better connect biodiversity;*
- *liveable places, where we can all live better, healthier lives; and*
- *productive places, where we have a greener, fairer and more inclusive wellbeing economy.*

2.3.6 Part 2 of NPF4 details the planning policies aimed at supporting the delivery of the national spatial strategy. The relevant policy for renewable energy development applications is Policy 11 (Energy).

Policy 11: Energy

(e) …project design and mitigation will demonstrate how the following impacts are addressed:

- *impacts on communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker;*
- *significant landscape and visual impacts, recognising that such impacts are to be expected for some forms of renewable energy. Where impacts are localised and/ or appropriate design mitigation has been applied, they will generally be considered to be acceptable;*
- *public access, including impact on long distance walking and cycling routes and scenic routes;*
- *impacts on aviation and defence interests including seismological recording;*
- *impacts on telecommunications and broadcasting installations, particularly ensuring that transmission links are not compromised;*
- *impacts on road traffic and on adjacent trunk roads, including during construction;*
- *impacts on historic environment;*
- *effects on hydrology, the water environment and flood risk;*
- *biodiversity including impacts on birds;*
- *impacts on trees, woods and forests;*
- *proposals for the decommissioning of developments, including ancillary infrastructure, and site restoration;*
- *the quality of site restoration plans including the measures in place to safeguard or guarantee availability of finances to effectively implement those plans; and*
- *cumulative impacts.*

2.3.7 NPF4 (Policy 11e, ii), makes it clear that where landscape and visual impacts are localised and/or appropriate design mitigation has been applied, developments will generally be considered to be acceptable.

2.3.8 Other relevant policies in relation to design and access, include the following policies.

Policy 3: Biodiversity

d) Any potential adverse impacts, including cumulative impacts, of development proposals on biodiversity, nature networks and the natural environment will be minimised through careful planning and design. This will take into account the need to reverse biodiversity loss, safeguard the ecosystem services that the natural environment provides, and build resilience by enhancing nature networks and maximising the potential for restoration.

Policy 4: Natural Places

f) Development proposals that are likely to have an adverse effect on species protected by legislation will only be supported where the proposal meets the relevant statutory tests. If there is reasonable evidence to suggest that a protected species is present on a site or may be affected by a proposed development, steps must be taken to establish its presence. The level of protection required by legislation must be factored into the planning and design of development, and potential impacts must be fully considered prior to the determination of any application.

Policy 5: Soils

a) Development proposals will only be supported if they are designed and constructed:

- *I. In accordance with the mitigation hierarchy by first avoiding and then minimising the amount of disturbance to soils on undeveloped land; and*
- *II. In a manner that protects soil from damage including from compaction and erosion that minimises soil sealing.*

d) Where development on peatland, carbon-rich soils or priority peatland habitat is proposed, a detailed site specific assessment will be required… This assessment should inform careful project design.

Policy 7: Historic Assets and Places

h) Development proposals affecting scheduled monuments will only be supported where:

- *I. direct impacts on the scheduled monument are avoided;*
- *II. significant adverse impacts on the integrity of the setting of a scheduled monument are avoided; or*
- *III. exceptional circumstances have been demonstrated to justify the impact on a scheduled monument and its setting and impacts on the monument or its setting have been minimised.*

l) Development proposals affecting a World Heritage Site or its setting will only be supported where their Outstanding Universal Value is protected and preserved.

o) Non-designated historic environment assets, places and their setting should be protected and preserved in situ wherever feasible. Where there is potential for non-designated buried archaeological remains to exist below a site, developers will provide an evaluation of the archaeological resource at an early stage so that planning authorities can assess impacts. Historic buildings may also have archaeological significance which is not understood and may require assessment.

Onshore Wind Policy Statement

2.3.9 The Onshore Wind Policy Statement (2022b) states that statutory and environmental consultees will continue to play a crucial role in assessing the balance between environmental impacts, local support, benefit, and – where possible – economic benefits for communities for all renewable energy development planning applications. Applicants are encouraged to engage with the statutory bodies as early in their considerations as possible, and to take a collaborative approach through the design and development of sites.

2.3.10 In relation to environmental impacts, the design and development of the Proposed Development should consider the following:

- Peatland and Carbon-rich Soils:

  "We consider the identification of the condition of existing peatland to be a vital part of the wind farm design process. It is crucial that all developers engage in an open dialogue with land management as early as possible, ensuring that appropriate, site-specific solutions can be deployed through habitat and land management plans. Bespoke management plans should incorporate industry-wide advances in thinking as well as site specific knowledge to ensure the optimum outcome; where pristine peat is protected, and degraded peat is restored and/or enhanced."

  "Peatland restoration and enhancement, developed in tandem with improving habitats for important and protected species, allows projects to deliver multiple positive benefits to biodiversity and the natural environment. These measures should be further enhanced through ongoing monitoring to ensure the efficacy of the actions undertaken, and iterative improvements should therefore be expected''.

- Noise:

  "The Institute of Acoustics Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise was published in May 2013 to support the use of ETSUR-97 when designing potential windfarm schemes."

- Biodiversity:

  "SEPA and NatureScot have published detailed guidance on the design and management of renewable energy sites so that they can be properly sited in the landscape and make a positive contribution to delivering the ambitions of the Biodiversity Strategy. The overarching aim is to enable the protection and restoration of local biodiversity, ensuring that wind energy can be deployed in harmony with, rather than at detriment to, the essential protection and regeneration of our natural environment''.

Onshore Wind Turbines: Planning Advice

2.3.11 The Onshore Wind Turbines: Planning Advice (2014), published by the Scottish Government in 2014 provides an overview of common issues which need to be considered and some guidance on how to assess these in order to inform onshore wind design. The advice relating to onshore wind design, such as landscape assessment, shadow flicker analysis, noise, potential impacts on wildlife and more, have been incorporated into the design of the Proposed Development.

2.4 Local Policy and Guidance

2.4.1 The design of the Proposed Development and preparation of the DAS have had regard for the HwLDP, and it's associated Supplementary Guidance.

Highland-wide Local Development Plan

2.4.2 The Council adopted the HwLDP on 4 April 2012 and was constituted as the LDP in law. It sets out the overarching spatial planning policy for the whole of the Highland Council area, except the area covered by the Cairngorms National Park Local Plan.

2.4.3 The key HwLDP policy for the Proposed Development is Policy 67: Renewable Energy Developments, which states: *"Renewable energy development proposals should be well related to the source of the primary renewable resources that are needed for their operation."* The Council will also consider:

- *'The contribution of the Proposed Development towards meeting renewable energy generation targets; and*
- *Any positive or negative effects it is likely to have on the local and national economy.'*

2.4.4 Subject to balancing these considerations and taking into account any mitigation measures to be included, '*the Council will support proposals where it is satisfied that they are located, sited and designed such that they will not be significantly detrimental overall, either individually or cumulatively with other developments, having regard in particular to any significant effects on the following:*

- *Natural, built and cultural heritage features;*
- *Species and habitats;*
- *Visual impact and impact on the landscape character of the surrounding area (the design and location of the proposal should reflect the scale and character of the landscape and seek to minimise landscape and visual impact, subject to any other considerations);*
- *Amenity at sensitive locations, including residential properties, workplaces and recognised visitor sites (in or outwith a settlement boundary);*
- *The safety and amenity of any regularly occupied buildings and the grounds that they occupy – having regard to visual intrusion or the likely effect of noise generation and, in the case of wind energy proposals, ice throw in winter conditions, shadow flicker, or ice throw;*
- *Ground water surface (including water supply), aquatic ecosystems and fisheries;*

- *The safe use of airport, defence or emergency service operations, including flight activity, navigation and surveillance systems and associated infrastructure, or on aircraft flight paths or Ministry of Defence (MoD) low-flying areas;*
- *Other communications installations or the quality of radio or TV reception;*
- *The amenity of users of any Core Path or other established public access for walking, cycling or horse riding;*
- *Tourism and recreation interests; and*
- *Land and water-based traffic and transport interests.'*

2.4.5 Other relevant policies in relation to design and access include:

- Policy 28 - Sustainable Design: *The Council will support developments which promote and enhance the social, economic and environmental wellbeing of the people of Highland.*
- Policy 30 - Physical Constraints: *Developers must consider whether their proposals would be located within areas of constraints as set out in Physical Constraints: Supplementary Guidance. The main principles of the guidance are:*
    - *to provide developers with up-to-date information regarding physical constraints to development in Highland; and*
    - *to ensure proposed developments do not adversely affect human health and safety or pose risk to safeguarded sites.*
- Policy 51 - Trees and Development: '*The Council will support development which promotes significant protection to existing hedges, trees and woodlands on and around development sites. The acceptable developable area of a site is influenced by tree impact, and adequate separation distances will be required between established trees and any new development. Where appropriate a woodland management plan will be required to secure management of an existing resource. the Council will secure additional tree/hedge planting within a tree planting or landscape plan to compensate removal and to enhance the setting of any new development.'*
- Policy 52 - Principle of Development in Woodland: '*The applicant is expected to demonstrate the need to develop a wooded site and to show that the site has capacity to accommodate the development. The Council will maintain a strong presumption in favour of protecting woodland resources. Development proposals will only be supported where they offer clear and significant public benefit. Where this involves woodland removal, compensatory planting will usually be required.'*
- Policy 55 - Peat and Soils: '*Development proposals should demonstrate how they have avoided unnecessary disturbance, degradation or erosion of peat and soils. Unacceptable disturbance of peat will not be permitted unless it is shown that the adverse effects of such disturbance are clearly outweighed by social, environmental or economic benefits arising from the development proposal. Where development on peat is clearly demonstrated to be unavoidable then The Council may ask for a peatland management plan to be submitted which clearly demonstrates how impacts have been minimised and mitigated. New areas of commercial peat extraction will not be supported unless it can be shown that it is an area of degraded peatland which is clearly demonstrated to have been significantly damaged by human activity and has low conservation value and as a result restoration is not possible. Proposals must also demonstrate to the Council's satisfaction that extraction would not adversely affect the integrity of nearby Natura sites containing areas of peatland.*'
- Policy 57 - Natural, Built and Cultural Heritage: '*All development proposals will be assessed taking into account the level of importance and type of heritage features,*

the form and scale of the development, and any impact on the feature and its setting, in the context of the policy framework detailed in Appendix 2.'

- Policy 58 - Protected Species: *'Where there is good reason to believe that a protected species may be present on site or may be affected by a proposed development, we will require a survey to be carried out to establish any such presence and if necessary a mitigation plan to avoid or minimise any impacts on the species, before determining the application.'*
- Policy 59 - Other Important Species: *'The Council will have regard to the presence of and any adverse effects of development proposals, either individually and/or cumulatively, on the Other Important Species which are included in the lists below, if these are not already protected by other legislation or by nature conservation site designations.'*
- Policy 61 - Landscape: *'New developments should be designed to reflect the landscape characteristics and special qualities identified in the Landscape Character Assessment of the area in which they are proposed. This will include consideration of the appropriate scale, form, pattern and construction materials, as well as the potential cumulative effect of developments where this may be an issue. The Council would wish to encourage those undertaking development to include measures to enhance the landscape characteristics of the area. This will apply particularly where the condition of the landscape characteristics has deteriorated to such an extent that there has been a loss of landscape quality or distinctive sense of place. In the assessment of new developments, the Council will take account of Landscape Character Assessments, Landscape Capacity Studies and its supplementary guidance on Siting and Design and Sustainable Design, together with any other relevant design guidance.'*
- Policy 64 - Flood Risk: '*Development proposals should avoid areas susceptible to flooding and promote sustainable flood management. Development proposals within or bordering medium to high flood risk areas, will need to demonstrate compliance with Scottish Planning Policy (SPP) through the submission of suitable information which may take the form of a Flood Risk Assessment.'*
- Policy 66 - Surface Water Drainage: *'All proposed development must be drained by Sustainable Drainage Systems (SuDS) designed in accordance with The SuDS Manual (CIRIA C697) and, where appropriate, the Sewers for Scotland Manual 2nd Edition. Planning applications should be submitted with information in accordance with Planning Advice Note 69: Planning and Building Standards Advice on Flooding paragraphs 23 and 24. Each drainage scheme design must be accompanied by particulars of proposals for ensuring long-term maintenance of the scheme.'*
- Policy 69 - Electricity Transmission: *'Proposals for overground, underground or sub-sea electricity transmission infrastructure (including lines and cables, pylons/ poles and vaults, transformers, switches and other plant) will be considered having regard to their level of strategic significance in transmitting electricity from areas of generation to areas of consumption. Subject to balancing with this consideration, and taking into account any proposed mitigation measures, the Council will support proposals which are assessed as not having an unacceptable significant impact on the environment, including natural, built and cultural heritage features. In locations that are sensitive, mitigation may help to address concerns and should be considered as part of the preparation of proposals. This may include, where appropriate, underground or sub-sea alternatives to overground route proposals. Where new infrastructure provision will result in existing infrastructure becoming redundant, the Council will seek the removal of the redundant infrastructure as a requirement of the development.'*

- Policy 72 - Pollution: *'Proposals that may result in significant pollution such as noise (including aircraft noise), air, water and light will only be approved where a detailed assessment report on the levels, character and transmission and receiving environment of the potential pollution is provided by the applicant to show how the pollution can be appropriately avoided and if necessary mitigated.'*
- Policy 77 - Public Access: *'Where a proposal affects a route included in a Core Paths Plan or an access point to water, or significantly affects wider access rights, then The Council will require it to either:*
    - *retain the existing path or water access point while maintaining or enhancing its amenity value;*
    - *or ensure alternative access provision that is no less attractive, is safe and convenient for public use, and does not damage or disturb species or habitats.'*

Onshore Wind Energy: Supplementary Guidance

2.4.6 The Council adopted the Onshore Wind Energy: Supplementary Guidance (OWESG)(2017) on wind energy in November 2016 which forms part of the statutory Development Plan. Section 1 'Introduction' states:

"The advice that follows provides a fuller interpretation of HwLDP policies as they relate to onshore wind energy development. The Council will balance these considerations with wider strategic and environmental and economic objectives including sustainable economic growth in the Highlands, and our contribution to renewable energy targets and tacking climate change…."

2.4.7 Section 2 of the OWESG includes a Spatial Framework, however this follows the approach of Table 1 in the former Scottish Planning Policy (SPP) which has now been superseded by NPF4.

2.4.8 Section 4 of the OWESG sets out *"key development plan considerations"* and the topic headings broadly follow those as set out within Policy 67 of the HwLDP. The topic headings, to which additional guidance is provided, broadly follow those as set out within HwLDP Policy 67 and are summarized as follows:

- Landscape and Visual Effects;
- Safety and Amenity at Sensitive Locations;
- Safety of Airport, Defence and Emergency Service Operations;
- Operational Efficiency of Other Communications;
- Operational Efficiency of Wind Energy Developments;
- The Natural and Historic Environment;
- The Water Environment;
- Peat;
- Trees and Woodland;
- Tourism and Recreation;
- Public Access;
- Traffic and Transport Interests;
- Electricity and Gas Infrastructure;

- Noise Assessment;
- Borrow Pits;
- Mitigation;
- Construction Environmental Management Plans;
- Restoration Bonds; and
- Repowering.

2.4.9 At paragraph 4.16, the OWESG sets out that *"the following criteria set out key landscape and visual aspects that the Council will use as a framework and focus for assessing proposals, including discussions with applicants".* The criteria together with the 'measures' for development are shown in **Technical Appendix 5.5** of the EIA Report.

2.4.10 Paragraph 4.17 adds that the criteria do not set absolute requirements but rather seek to ensure developers are aware of key potential constraints to development. Following paragraph 4.17 is a list of 10 criteria, together with associated thresholds and measures for development. An appraisal of how the Proposed Development relates to the criteria in the OWESG is contained within **Technical Appendix 5.5** of the EIA Report. The criteria include:

- Relationship between Settlements/Key locations and wider landscape respected.
- Key Gateway locations and routes are respected.
- Valued natural and cultural landmarks are respected.
- The amenity of key recreational routes and ways is respected.
- The amenity of transport routes is respected.
- The existing pattern of Wind Energy Development is respected.
- The need for separation between developments and/or clusters is respected.
- The perception of landscape scale and distance is respected.
- Landscape setting and nearby wind energy developments is respected.
- Distinctiveness of Landscape character is respected.

Sustainable Design Supplementary Guidance (SDSG) (2013)

2.4.11 The Highland Council adopted its Sustainable Design Supplementary Guidance (SDSG) (2013) in January 2013, and this forms part of the statutory Development Plan. It has been developed to accompany and support the approach to sustainability and design contained within the LDP, specifically relating to Policy 28 Sustainable Design and Policy 29 Design Quality & Place-Making. Section 1.1 of policy 28 states:

''The importance of taking a sustainable approach to the built environment was reinforced by the Scottish Government's adoption of the Climate Change (Scotland) Act 2009 and its delivery plan. Thus, it is imperative that a sustainable approach to new development within the Highland Council area is adopted and implemented now.''

2.4.12 The SDSG states that applicants will need to demonstrate in that they have:

- Carefully considered the issues detailed in the Checklist of the SDSG (Section 6 of the Supplementary Guidance document);
- Identified how these issues apply to their specific development proposal;

- Arrived at an appropriate sustainable design solution for the proposed location, and one which meets or exceeds the minimum standards detailed in the Checklist.

2.4.13 Applicants will always be encouraged to go beyond the minimum standards, as working towards best practice provides a differentiating and competitive business advantage now, and in the future will allow developers to meet the increased Building Standards requirements, for example in terms of resource efficiency.

2.5 Statutory Consultee Guidance

Scottish Environment Protection Agency

2.5.1 SEPA Planning Guidance on Onshore Windfarms Developments (2017), provides the following advice on siting and design of developments as:

- *"The Applicant will be encouraged to include a section within the ES which demonstrates how layout and mitigation measures have been designed to minimise the payback period".*
- *In relation to wetlands or peatlands, the Applicant "should demonstrate how the layout and design of the proposal, including any associated borrow pits, hard standing and roads, avoid impact on such areas".*
- *In relation to engineering activities within the water environment, "developments should be designed to avoid engineering activities, such as culverts, in the water environment… Where there is likely to be significant detrimental impact we should object seeking either improvements to the proposed mitigation measures or modifications to the design or layout of the development".*

NatureScot

2.5.2 NatureScot, formerly Scottish Natural Heritage (SNH), in its Pre-application Guidance for Onshore Wind Farms document (2024) provides the following advice:

- *''Habitat surveys covering the entire development site will help inform potential redesign or micro-siting and will help identify potential areas for habitat restoration and enhancement''.*
- *''Proposals should be designed and constructed in accordance with the mitigation hierarchy. EIA reports should demonstrate how the information from the peat and habitat surveys has been used to avoid and minimise impacts''.*
- *''The assessment should describe how the wind farm design has appropriately taken account of any slope stability issues, and how potentially significant risks would be mitigated''.*
- *''The presence (or potential presence) of other legally protected species must be factored into the planning and design of wind farm proposals. If there is evidence to suggest that a protected species is present on site, or may be affected by the proposed development, steps must be taken to establish this, and any impacts on protected species must be fully considered prior to the determination of the application''.*
- *''Consideration should be given to the design of any new infrastructure such as tracks and signs to improve access provision and experience. When operational, the design should also ensure as much continued recreational use of the site as possible and minimise the visual impact from new and existing paths and tracks''.*

- *''Access should be managed actively during the construction phase, with restrictions kept to the minimum area and a duration that is practical and reasonable, and adapted as the site develops to focus on where actual risks are present. This approach is likely to encourage greater compliance by the public and will therefore be more effective in meeting safety needs, including obligations under the Construction (Design & Management) Regulations''.*

2.5.3 In addition, NatureScot published 'Siting and Designing Wind Farms in the Landscape - Version 3a' (2017). This guidance provides advice on the siting and design of wind farms in Scotland's landscapes.

3 ENVIRONMENTAL AND SUSTAINABLE DESIGN CONSIDERATIONS

3.1.1 This section of the DAS discusses the key issues and constraints relevant to the Proposed Development and the way they have been addressed in the layout and design.

3.1.2 The overarching principles influencing the design of the Proposed Development included maximising the amount of renewable energy generation whilst:

- Minimising land take to construct infrastructure as far as possible;
- Minimising potential impacts on the natural and cultural environment through careful siting and design;
- Siting and designing to avoid or minimise significant landscape and visual impacts;
- Minimising the number of watercourse crossings required, as far as practicable; and
- Identifying potential opportunities for environmental enhancement.

3.1.3 This section of the DAS also covers the relevant Sustainability Design Principles, as required by the Council's Sustainable Design Supplementary Guidance (SDSG).

3.2 Design Considerations

Re-use of Existing Infrastructure

3.2.1 During the iterative design process through the EIA, a key design consideration was to adopt an approach that minimises land-take and maximises the use of existing infrastructure wherever possible. This design principle, which aligns with the mitigation hierarchy set out in NPF4, underpins the overall layout and design methodology, helping to reduce environmental impacts and ensure that the footprint of the Proposed Development is efficiently contained.

3.2.2 In addition to utilising the existing wind farm track as far as practicable, careful consideration was given to the co-location of infrastructure components. Proposed infrastructure components were designed within existing borrow pits and on existing hardstands, thereby minimising land-take and reducing potential environmental and landscape and visual impacts. Further details in relation to these measures are provided in **Section 5** of this DAS.

3.2.3 These design considerations reflect the Applicant's commitment to sustainable development and responsible land use, aiming to maximise the renewable energy potential of an existing site while limiting the need for new infrastructure.

Maximising Yield and Renewable Energy Output of the Site

Wind Analysis

3.2.4 For turbines to work most effectively, they must be suitably spaced relative to the predominant wind direction. If they are too close together, wake effects from the wind turbines located on the upwind edge of the array would create turbulent air for the next row and so on

throughout the array, reducing the overall energy output. Conversely, when turbines are located too far apart the opportunity to optimise capacity is reduced.

3.2.5 There is no industry standard for spacing, only manufacturer recommendations and general principles within the industry. Separation distances equivalent to 5 times rotor diameter on the predominant wind direction against 3 times rotor diameter on the crosswind (775 m x 465 m) was used for the Proposed Development. This is intended to provide a reasonable compromise between turbine proximity and Site capacity without unduly compromising turbine operation. An additional 400 m separation distance was maintained as a minimum on the existing wind turbines on Site.

Candidate Turbine Scale

3.2.6 Taller turbines produce more electricity, as with height both wind speed and yield increase. Bigger rotors also capture wind more efficiently and produce more electricity per turbine.

3.2.7 The wind turbines selected for the Proposed Development would each have a rating of 6.2 megawatts (MW) based on the wind turbine technology which is currently available and would have a maximum height of up to 200 m. This would maximise the contribution the contribution that the Proposed Development could make towards the Scottish Government's net zero and associated renewable energy targets.

3.2.8 The necessity for taller turbines is recognised in the Scottish Government's Onshore Wind Policy Statement (2022b).

3.2.9 In addition to maximising the overall yield of the Proposed Development, the use of taller turbines translates into a lower number of turbines, as fewer turbines are required to achieve the same power output. This also helps minimising land-take for proposed infrastructure, therefore reducing the impact on site habitats, undisturbed soils and peat.

3.2.10 Furthermore, the supply of smaller wind turbines in Europe is already reducing, due to the lack of demand as the world market shifts to larger turbines to secure higher yields. Therefore, it is unlikely that a range of smaller turbines (e.g. 150 m) would be commercially available by the time the Proposed Development would be constructed.

3.2.11 The final selection of the maximum turbine tip height of up to 200 m was considered to represent the best balance in terms of energy yield, landscape fit and infrastructure footprint.

3.3 Environmental Considerations

Landscape and Visual Amenity

3.3.1 The NatureScot Guidance 'Siting and Designing Wind farms' in the Landscape Version 3 (2017) provides a framework for the consideration of key design issues including wind turbine size, layout composition, landscape character, forestry, and cumulative developments. There are further criteria for consideration within the Council's OWESG which are considered specifically in the **Technical Appendix 5.5** of the EIA Report.

3.3.2 As stated in **Chapter 5** of the EIA Report and summarised below, landscape and visual considerations were key to the design principles of the Proposed Development from the outset. These considerations included:

- Set turbines back from the edge of the plateau area to reduce impacts on the Great Glen, Fort Augustus and views from the south.
- Position turbines to avoid overlapping with each other in sensitive views.
- Position turbines to avoid the perception of overextending development at the Site.
- Use a mix of tip heights to respond to underlying topographic variations and create a more even arrangement of turbines.

3.3.3 These design principles have influenced design alongside other factors such as hydrology and hydrogeology, peat and ecology.

Ecology

3.3.4 Habitats and protected species surveys were undertaken on the Site and within suitable buffers, depending on the species, between 2022 and 2024. Survey methods and results are summarised in **Chapter 6**, with further details contained in **Technical Appendices 6.1 – 6.8**. The survey findings were then used to inform design considerations and mitigation measures for important, or sensitive ecological receptors.

3.3.5 In accordance with the mitigation hierarchy, NPF4, and best practice guidance[3], the following design considerations have been incorporated to avoid and minimise adverse effects upon ecological features:

- The design has been sensitive to the River Moriston SAC which runs parallel along the north-eastern boundary of the Site. Infrastructure have been offset from the SAC boundary as far as practicable (the nearest potential construction activity to the SAC is resurfacing works along the A887 and at the existing junction, which is situated approximately 150 m south of the SAC).
- Infrastructure has been designed to minimise the requirement for land-take, impacts on areas of deeper peat and the number of water crossings, as far as practicable.
- It has not been possible to entirely avoid areas of peatland habitats, due to the distribution of these habitat types within the Site. The design of infrastructure (e.g. wind turbines, tracks and substation), however, has sought to avoid areas of deeper peat, minimising the potential for impacts to habitat types with greater future restoration potential.
- The design largely avoids direct impacts on watercourses, with one minor new watercourse crossing required for gaining access to T7. No upgraded watercourse crossings would be required along existing track.
- The length of new track construction has been minimised with existing infrastructure and track/disturbed ground used as much as possible to minimise land-take.
- A minimum 50 m buffer has been included around all mapped watercourses for the Proposed Development infrastructure.
- A minimum 50 m buffer (from blade tip) from all woodland has been maintained, to avoid the most potentially suitable bat foraging habitat.

[3] CIEEM. (2018). Guidelines for Ecological Impact Assessment (EcIA)

- Where practicable a 50 m buffer (from blade tip) from watercourses has been established. This has been maintained for all turbines, except for turbines 1 and 2 (refer to **Chapter 6** for details).

Ornithology

3.3.6 Existing ornithological information obtained through desk study and detailing the presence, distribution, and flight activity of ornithological species within the Site and surrounding area is extensive and is reviewed in **Technical Appendix 7.1** of the EIA Report.

3.3.7 Additional ornithological field surveys have been completed to update the existing baseline data and inform the design and assessment of the Proposed Development, in accordance with NatureScot guidance NatureScot (2017). The survey findings were then used to inform design considerations and mitigation measures for important, or sensitive ornithological receptors.

3.3.8 In accordance with the mitigation hierarchy, the following design considerations have been incorporated to avoid and minimise adverse effects upon ornithological features:

- Proposed turbines have been appropriately offset from habitat features including woodland edge and lochs (adjacent to the Site Boundary) as these have potential to be a focal point for some ornithological species (including waterfowl and raptors).
- Proposed turbines have also avoided as much as practically possible the most suitable golden eagle habitat (GET 6+ habitat) as shown in**, Confidential Appendix 7.4** of the EIA Report.
- All identified black grouse lek sites and nest sites of Schedule 1 raptors are spatially separated from the proposed turbines at least to the upper limit of documented disturbance distances as reported Goodship and Furness (2022).
- The length of new track required has been minimised with existing tracks used as much as practicable to minimise land take of potentially suitable habitat for ornithological species.

Geology, Hydrology, Hydrogeology and Peat

3.3.9 In accordance with SEPA and NatureScot guidelines, and good industry practice, a 50 m buffer zone has been applied around all watercourses on the Site for the Proposed Development infrastructure and avoided as much as practicable through the design process. This reduces the risk of runoff, loose sediment and potential pollutants entering watercourses.

3.3.10 Phase 1 peat depth survey data (1,212 probing locations) were collected in April 2024 on behalf of the Applicant at a 100 m grid across the Site. The survey was conducted to identify areas of peat and natural variation in the peat substrate across the Site, to inform a preliminary layout as the basis for the iterative design process.

3.3.11 Phase 2 peat surveys (1,440 additional probing locations) were undertaken in July and August 2024 to gather peat depth and condition data in areas where infrastructure was designed. Phase 2 peat survey data was collected at 10, 20 and 50 m intervals in locations where infrastructure was sited. Further details on the surveys methodology and approach are available in **Technical Appendix 8.2**.

3.3.12 An overview map of the peat depth distribution within the Site Boundary, along with more detailed Site mapping, are provided in **Figures 8.9** and **8.10** of the EIA Report.

3.4 Sustainable Design Considerations

3.4.1 As required by SDSG principles, it is appreciated the design of infrastructure is as much about selecting the right site and appropriate architectural style as it as about utilising appropriate materials and construction techniques. It is also understood that development proposals must contribute to sustainable development, by according to relevant sustainable design principles.

3.4.2 In addition to design considerations aimed at maximising the renewable energy potential of the Site with the least environmental effects, the Proposed Development has also been designed and sited in accordance with the following SDSG key principles:

- Conserving and enhancing the character of the area;
- Using resource efficiently; and
- Minimising the environmental impact of development.

3.4.3 SDSG requirements and associated sustainable design principles primarily relate to the design and development of buildings and housing infrastructure, rather than commercial-scale renewable energy technology. However, relevant Proposed Development components, in accordance with SDSG key principles, have been subject to careful siting and design to; align with the character of the wider area, facilitate the use of resources efficiently, and minimise the environmental impact associated with the Proposed Development.

3.4.4 Further details relating to SDSG principles and associated mitigation are available in **Technical Appendix 2.1** and **Technical Appendix 2.2** of the EIA Report.

4 PROPOSED DEVELOPMENT

4.1 Infrastructure

4.1.1 The Proposed Development is described in detail in **Chapter 2** of the EIA Report. An Outline Construction and Environmental Management Plan (OCEMP) is also contained in **Technical Appendix 2.1** of the EIA Report. The layout of the Proposed Development is illustrated in **Figure 3** of this DAS. In summary, the Proposed Development would comprise of the following:

- Eight wind turbines of approximately 6.2 MW each, five with a maximum tip height of up to 180 m and three with a maximum tip height of up to 200 m;
- Foundations supporting each wind turbine;
- Onsite distribution sub-station and control building;
- Temporary mobilisation and construction compounds;
- A network of new on-site access tracks and associated watercourse crossings;
- A network of underground cables to connect turbines to a distribution substation;
- Borrow pit extension; and
- Habitat and biodiversity enhancement measures.

4.1.2 Grid references, maximum heights to tip, and ground-level above ordnance datum (AOD) values for the proposed wind turbine locations are identified in **Table 4.1**.

Table 4.1: Proposed Turbine Locations

Turbine	Easting	Northing	Height to tip (m)	Ground Level AOD (m)
T1	227255	808475	180	645
T2	227860	808387	180	590
T3	228080	808985	180	592
T4	228643	808991	200	557
T5	229184	808831	200	538
T6	229866	808652	200	511
T7	230180	808302	180	510
T8	228619	809443	180	533

4.1.3 The proposed turbine locations and ancillary infrastructure would be subject to a maximum micrositing tolerance of 50 m in any direction. In those places where environmental features may be potentially affected by micrositing, tolerance would be constrained to less than 50 m, and such changes would be managed in consultation with an appropriately qualified and experienced Environmental Clerk of Works during the construction phase of the Proposed Development. The micrositing constraints relevant to the Proposed Development are set out within each of the technical sections of the EIA Report. Any movement of the turbines from the Proposed Development layout outwith the micrositing tolerance would be agreed with the Council and would be in accordance with the mitigation set out in the EIA Report.

4.2 Habitat Management and Biodiversity Enhancement

4.2.1 An Outline Biodiversity Enhancement Management Plan (OBEMP) forms part of the Proposed Development (**Technical Appendix 6.7**) including measures within the Site and Site Ownership boundary. The overall strategy for the OBEMP is to enhance local biodiversity, increase habitat resilience within the wider landscape, and improve connections between nature networks, in accordance with NPF4. Specifically, the OBEMP has four main aims:

- Aim 1: Restoration of degraded peatland and heath habitats;
- Aim 2: Enhancement of riparian habitats;
- Aim 3: Native woodland planting; and
- Aim 4: Bracken control.

4.2.2 As detailed in the OBEMP, a monitoring schedule to include compliance checking of the implementation of prescriptive measures along with the monitoring of the effectiveness of such measures would be established and agreed in consultation with NatureScot, the Council and additional relevant stakeholders. This would be incorporated in the BEMP and enable the success of measures to be determined, and any requirement for remedial measures to be adopted.

4.2.3 The BEMP is intended to remain a live document which would be updated and amended, as necessary on result of site investigation works and monitoring.

5 DESIGN EVOLUTION AND FINAL DESIGN

5.1 Layout and Consideration of Alternatives

Wind Turbine Scale

5.1.1 The selected candidate turbine for the EIA of the Proposed Development is the Siemens-Gamesa SGRE 155. The final turbine selection would be made post-consent. Each turbine would have the potential capacity to generate approximately 6.2 MW based on current wind turbine technology and would have a maximum height of 200 m to blade tip.

5.1.2 The final selection of a mixture of 200 m and 180 m was considered to represent the best balance in terms of energy yield, landscape fit, and the scale which is currently capable of being transported to the Site. This would maximise the contribution that the Proposed Development could make towards the Scottish Government's net zero targets and associated renewable energy objectives, as well as additional stakeholder interests.

5.1.3 Since then, the design and layout of the Proposed Development has been adapted and altered in response to environmental constraints and consultation feedback. The key stages in the evolution of the Proposed Development are shown on **Figure 4** and described below.

5.2 Design Evolution

5.2.1 As part of an iterative design process, the Proposed Development has undergone several iterations in response to emerging environmental and engineering considerations, including:

- Environmental constraints information based on desktop studies, followed by ongoing detailed surveys;
- Feedback received through the Council's pre-application service, the pre-application consultation pack and EIA scoping responses from statutory and non-statutory consultees;
- Detailed Zone of Theoretical Visibility (ZTV) analysis from key viewpoints;
- Detailed feedback received from technical specialists assessing the anticipated effects of the Proposed Development;
- Feedback received through the first round of public consultations undertaken in February 2024; and
- Technical design constraints relating to the infrastructure requirements for the Proposed Development.

5.2.2 The final layout design iteration of the Proposed Development, as shown in **Figure 3** has been developed through five principal iterations of the layout (Design Layouts A-D as shown in **Figure 4**, while **Figure 5**: Site-specific Environmental and Design Constraints provides more detailed environmental constraints information such as the Phase 1 and Phase 2 peat depth survey results, watercourses and watercourse buffers, and demonstrates how the infrastructure placement has avoided these constraints.

Design Iterations

Design Iteration A: Pre-application Consultation and Scoping Layout

5.2.3 This pre-application consultation and scoping layout was developed prior to any detailed site-specific surveys being completed. The layout was based on site information available at the time, including buffer distances from existing wind turbines on Site, and known technical and design constraints. The layout comprised eight turbines of 200 m to tip height, which represented the maximum physical capacity of the turbine area from a wind resource perspective prior to the confirmation of detailed on-site constraints. Design Layout A was submitted as the 'Scoping Layout' with the Scoping Report for the Proposed Development in January 2024. It was also used for the formal pre-application consultation with the Council, SEPA and NatureScot in February 2024.

Design Iteration B: Preliminary Layout

5.2.4 Following the formal pre-application consultation meeting with statutory consultees and receipt of a Scoping Opinion from the Energy Consents Unit, feedback and advice received on Design Layout A was taken into consideration by the Applicant and design team. Supplemented by a landscape and visual appraisal and informed by early results of on-site surveys, Design Layout B evolved to mitigate design considerations of concern and associated potential effects where practicable.

5.2.5 Proposed turbine locations were moved closer to the operational Millennium Wind Farm turbines and its existing access track, presenting a more compact scheme, and minimising the length of new tracks required to gain access to proposed new turbines.

5.2.6 An alternative position for T7 (T07A as shown in, **Figure 4: B**) was considered at that stage and assessed towards potential impacts on views from key viewpoints, and other key environmental and design considerations, including presence of peat, priority habitats, hydrological features, and other constraints.

Design Iteration C: Chilled Layout

5.2.7 This layout was informed by a detailed engineering appraisal, further results of additional on-site surveys (including phase 2 peat and habitat condition surveys), as well as further landscape and visual appraisal. Preliminary locations for temporary and permanent ancillary infrastructure, including access tracks, crane hardstandings, substation, and a Battery Energy Storage System (BESS) compound, were incorporated in Design Layout C.

5.2.8 Based on Design Layout B, the Chilled Layout adjusted turbine positions to avoid key environmental and design constraints, including areas containing pockets of peat of greater than 1.0 m deep (based on Phase 1 and Phase 2 peat probing survey data), waterbody and watercourse buffers, steep slope gradients, and areas requiring excessive cut and fill.

5.2.9 The Phase 2 peat surveys established that the alternative position of T7 (T07A as shown in **Figure 4: B**) would result in significant volumes of excavated peat. Therefore, the position of T7, as shown in **Figure 4: C**, was preferred.

5.2.10 The turbine layout remained at eight turbines; however, following a revised landscape and visual appraisal and wind resource assessment, the tip heights of five turbines were reduced to 180 m. Changes to tip heights were made following landscape and visual impact advice, focusing on the topography of the Site, and anticipated effects on key viewpoints in the vicinity of the Proposed Development.

5.2.11 A location suitable for the deployment of substation and BESS compounds was identified east of T2 (as shown in **Figure 4: C**), on an existing hardstand to minimise ground disturbance. However given this would ultimately be permanent infrastructure and more widely visible to the surrounding area, this location was discounted in favour of a location that would be less visually prominent.

Design Iteration D: Final Layout

5.2.12 Design Layout D, as shown in **Figure 4: D** and **Figure 3**, represents the final stage of the design layout iterations, which includes the final placement of turbine locations, substation compound, siting and design of ancillary infrastructure, and biodiversity enhancement areas.

5.2.13 Based on Design Layout C, and following additional survey work, including Phase 2 peat probing (gap-fill exercise) and detailed habitat condition survey, turbine positions, crane hardstandings, connecting access tracks and ancillary infrastructure, were amended and/or re-positioned to ensure that Proposed Development components are avoiding key environmental and design constraints as far as practicable.

5.2.14 Following a site visit and subsequent consultations with the estate's manager and foresters, the following biodiversity enhancement measures were identified to form part of the Proposed Development:

- Native woodland planting;
- Peatland restoration;
- Riparian woodland planting; and
- Treatment of bracken.

5.2.15 The identified biodiversity enhancement measures would benefit both, the estate and wider local environment. Additional details, in relation to the identified areas and measures are included in the outline Biodiversity Enhancement Management Plan that is submitted with the s36 Application for consent, as **Technical Appendix 6.7**.

5.2.16 Individual assessment chapters of the EIA Report provide more detailed commentary on design inputs and respond to specific matters relating to each technical topic, in particular pertaining to the scale of the proposed turbines and the landscape fit of the scheme.

Turbines

5.2.17 The turbine locations on Design Layout D (Final Layout) remain the same as in Design Layout C, albeit with minor adjustments to the turbine positioning and crane pad orientations which were introduced following the additional Phase 2 peat probing surveys, to ensure that proposed infrastructure avoids deep peat as much as possible. Despite the minor adjustments, the revised and final positioning of proposed turbines has remained in line with the design objectives as detailed in **Section 3**.

Battery and Substation Compounds

The Battery and Substation Compounds were moved to the southern existing borrow pit, co-located with the borrow pit and required borrow pit extension, as shown in **Figure 3**. The new location was preferred, as the borrow pit edges would screen the substation and BESS from key viewpoints. This location would also ensure the use of existing infrastructure is maximised, while minimising ground disturbance. Further, the BESS identified in Layout C was removed from the Proposed Development, and a temporary construction compound was placed on the existing hardstanding by the proposed substation compound.

Access Tracks, Turning Points, and Junctions

5.2.18 The Final Layout facilitates the use of existing Millennium Wind Farm access track as far as practicable. New access track sections, turning points and junctions were re-designed to ensure that pockets of deep peat are avoided. Track sections that could not avoid areas of peat deeper than 1 m, due to design or other environmental constraints, would be floated. The sections proposed for floating track are shown in **Figure 3**.

Temporary Mobilisation Compound

5.2.19 A temporary mobilisation compound is proposed by the existing Millennium Wind Farm access junction, south of A887, as shown in **Figure 3**.

Temporary Construction Compounds

5.2.20 The main temporary construction compound was placed adjacent to the existing wind farm track, on an existing hardstanding east of T2, as shown in **Figure 3**. The western section of the compound encroaches a 50 m watercourse buffer, as shown in **Figure 3**. Nevertheless, no earthworks would be required at this section of the hardstanding to deploy the construction compound. In addition, no other construction activities that could impact the hydrological features of the Site would take place at this section of the compound (e.g., refuelling, storage of fuels and oils, etc.). Appropriate commitments are included in the Schedule of Environmental Commitments of the EIA Report, submitted as **Technical Appendix 2.2**, so that the hydrological features of the Site are safeguarded during the construction stage of the Proposed Development.

5.2.21 Two additional smaller temporary construction compounds are proposed on existing infrastructure on Site; one within the first and northern existing borrow pit at National Grid Reference (NGR) E336476, N810467, and the second on the existing turbine hardstanding of an operational Millennium Wind Farm turbine, located at NGR E228635, N808348.

5.3 Landscape and Visual Context of Preferred Option

5.3.1 The preferred option was established through consideration in part from the comparative wireline visualisations, an example of which is provided in **Annex 1** of this DAS. This provides a comparative view between Layout A (Pre-application Consultation and Scoping Layout) and the final Layout D (‘the Proposed Development), from the following key LVIA viewpoints:

- **Viewpoint 5**: Caledonian Canal/Great Glen Way;
- **Viewpoint 7**: A82 near Newton, Aberchalder;
- **Viewpoint 11**: Caledonian Canal Boat Lift; and
- **Viewpoint 13**: Core Path Meall Ruigh Uisdein.

5.3.2 These demonstrate how the design objectives, as set out in **Section 3** of the DAS, have helped to reduce and mitigate effects through the design process. This includes the creation of a more compact design, as the design has evolved.

5.3.3 In addition, the substation compound would not be visible from any key viewpoints, as it is sited within the existing and proposed extension of a borrow pit, whose edges would provide effective screening of the compounds.

6 ACCESS

6.1 Abnormal Indivisible Load Route

6.1.1 For the delivery of abnormal indivisible loads (AIL) components on Site, alternative ports of entry and delivery routes were considered by preliminary routing assessments.

6.1.2 The port of entry for turbine blades has been confirmed as the Port of Kyle of Lochalsh, while Corpach Harbour would be used for tower sections and other large project components. The routing of these components to the site would include sections of the A87, A887, A830, and A82.

6.2 Site Access

6.2.1 Access on Site, for both AIL deliveries and construction vehicles, would be from the A887, turning right on the existing Millennium Wind Farm access junction and stone surface track. To accommodate AIL truck and oversail requirements (based on the candidate turbine and swept path analysis), resurfacing works might be required along the A887 and at the existing junction, as shown on the indicative Site Access Arrangement **Figure 6**.

6.2.2 A Construction and Traffic Management Plan (CTMP) would also be in place to control and monitor the safe delivery of construction material on Site, and to organise Site activities so that vehicle traffic and pedestrian traffic can be segregated to minimise the risk from vehicles, and so that traffic routes can be used safely. An outline CTMP has been developed and submitted with the s36 application for consent, as **Technical Appendix 10.1** of the EIA Report.

6.2.3 Post-consent, the Applicant would establish a Community Liaison Forum, in collaboration with the Council and local Community Councils. The forum would allow the community to be kept up to date with project progress and allow communication on the provision of transport-related mitigation and publicise the timings of turbine component deliveries. The Community Liaison Forum would be maintained until construction is complete and the Proposed Development is operational.

6.2.4 The final versions of the CEMP and CTMP would be subject to approval from the Council, and relevant consultees, including local community councils and Transport Scotland.

6.3 Onsite Access Tracks

6.3.1 Access to the wind turbines, substation and BESS compounds, as well as construction compounds, would be provided via the existing wind farm access track (measuring approximately 19 km in length) and an additional 2.27 km of new track, comprising both conventional and floating sections, as part of the Proposed Development.

6.3.2 Tracks would have a 5.5 m running width, which would be increased to comply with the turbine's suppliers access requirements on bends and at junctions, if required. Where it is not possible to avoid areas of deep peat, floating track construction would be used. It is

anticipated that there would be approximately 239 m of floating track, where consistent peat depths of between 1.2 m or greater are identified along with shallow topography in the area. As shown in **Figure 3**, the section of floating track is being proposed between the existing wind farm track and proposed crane hardstand of T5.

6.4 Public Access

6.4.1 Parts of the Site are not easily accessible; however, most of the Site is well connected via the existing wind farm access tracks which are open to the public for recreational use.

6.4.2 Recorded rights of way which cross or are close to the Proposed Development include namely HI19, HI102, HI103, HL30 and HL31 as recorded in the National Catalogue of Rights of Way (CROW).

6.4.3 Ceann a'Mhaim Coffin Road (Heritage Path reference: HP165) is a 12.2 km route, which starts from the A87, 1 km West of Invergarry (NH 297 012) and runs in a generally norther direction to Loch Lundie before carrying onwards towards Glenmoriston, where it connects to forest tracks near the A887, Achlain (NH 280 123). A section of the path (overlapping with some of the identified rights of way paths) crosses the Proposed Development's Site Boundary. However, as noted by Scotways[4] the route is not easy to access and there is no track on the open hillside or following the emergence of the forest block onto the shallow peatland near Allt a Criche.

6.4.4 As existing wind farm infrastructure (including borrow pits, access tracks, and wind turbines) overlaps with the identified paths, and since there is no clear indication from satellite imagery, site visits, or the consultation process that the paths are in suitable condition or in public use, they have not been considered in the design of the Proposed Development.

Construction

6.4.5 The RenewableUK Onshore Wind Health and Safety Guidelines (2015) note that wind turbine development and operation can give rise to a range of risks to public safety including:

- traffic (especially lorries during construction, and AILs for the transport of wind turbine components; including beyond the Site Boundary);
- construction site hazards (particularly to any people entering the Site without the knowledge or consent of the Site management);
- effects of catastrophic wind turbine failures, which may on rare occasions result in blade throw, tower topple or fire; and
- ice throw, if the wind turbine is operated with ice build-up on the blades.

6.4.6 The RenewableUK guidance (2015) states that:

"Developers should ensure that risks to public safety are considered and managed effectively over the project lifecycle and should be prepared to share their plans for managing these

[4] Scottish Rights of Way & Access Society (Scotways) Heritage Paths – Ceann a'Mhaim Coffin Road. Available at: https://scotways.com/heritage-path/?id=199#zoom=15&lat=57.1668&lon=-4.8508 [Accessed 12/03/2025].

risks with stakeholders and regulators; effective engagement can both build trust, and help to reduce the level of public safety risk by taking account of local knowledge."

6.4.7 Site security and access during the construction period would be governed under Health and Safety at Work Act (1974) and associated legislation. The existing wind farm access track and any rights of way and heritage paths that overlap with the Proposed Development would be closed to the public during the construction phase for health and safety reasons.

Mitigation

6.4.8 To balance public access rights with construction and health and safety requirements, appropriate mitigation measures would be implemented during construction. Detailed mitigation measures and plans would be confirmed post consent and prior to the commencement of construction activities, following consultation with local community councils. As a minimum, the following measures would be adopted during construction:

- Signage, clearly marking alternative recreational routes in the vicinity of the Site would be provided; and
- Informative signage at key access points would be provided, notifying users of the reasons and duration of the closure, as well as directions to alternative recreational routes.

6.4.9 Upon completion of construction and commissioning of the Proposed Development, the paths would be re-opened for public use.

6.4.10 With respect to the existing and proposed to be constructed access tracks, during the operational phase of the Proposed Development, vehicular access would be restricted to personnel directly involved in its maintenance. However, public access on foot, by cycle or horse would still be permitted.

6.4.11 Appropriate warning signs would be installed concerning restricted areas such as the substation compound, transformers, switchgear and metering systems, and in the vicinity of the turbines to highlight the potential risks of ice throw in winter conditions. All onsite electrical cables for the Proposed Development would be buried underground with relevant safety signage.

7 CONCLUSION

7.1.1 The iterative design process for the Proposed Development has taken technical, environmental, and sustainability considerations, as well as access requirements, into account. As demonstrated above, changes have created a design appropriate for its location, that has avoided or minimised potential adverse impacts where possible.

7.1.2 An EIA Report also accompanies the s36 application, which assesses the likely residual environmental effects of the Proposed Development both on Site, and on identified receptors beyond the Site Boundary.

7.1.3 The final design is considered to balance the potential environmental effects with buildability while maximising wind yield to produce a commercially viable project that would deliver significant carbon emission reductions, with limited significant impacts on the receiving environment. Consideration of the planning balance which weighs up all material factors associated with the Proposed Development is contained within the accompanying Planning Statement.

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9 FIGURES

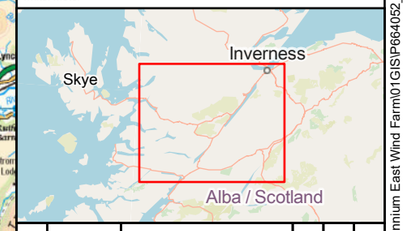
190000 200000 210000 220000 230000 240000 250000 260000 270000

840000 830000 820000 810000 800000 790000 780000

Legend:

Application Boundary

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
01	03/02/2025	Revised Inset Map	DL	SA	JS
00	18/09/2024	Location	DL	SA	JS

Millennium East Wind Farm

RSK nadara

TITLE: Figure 1:
Site Location

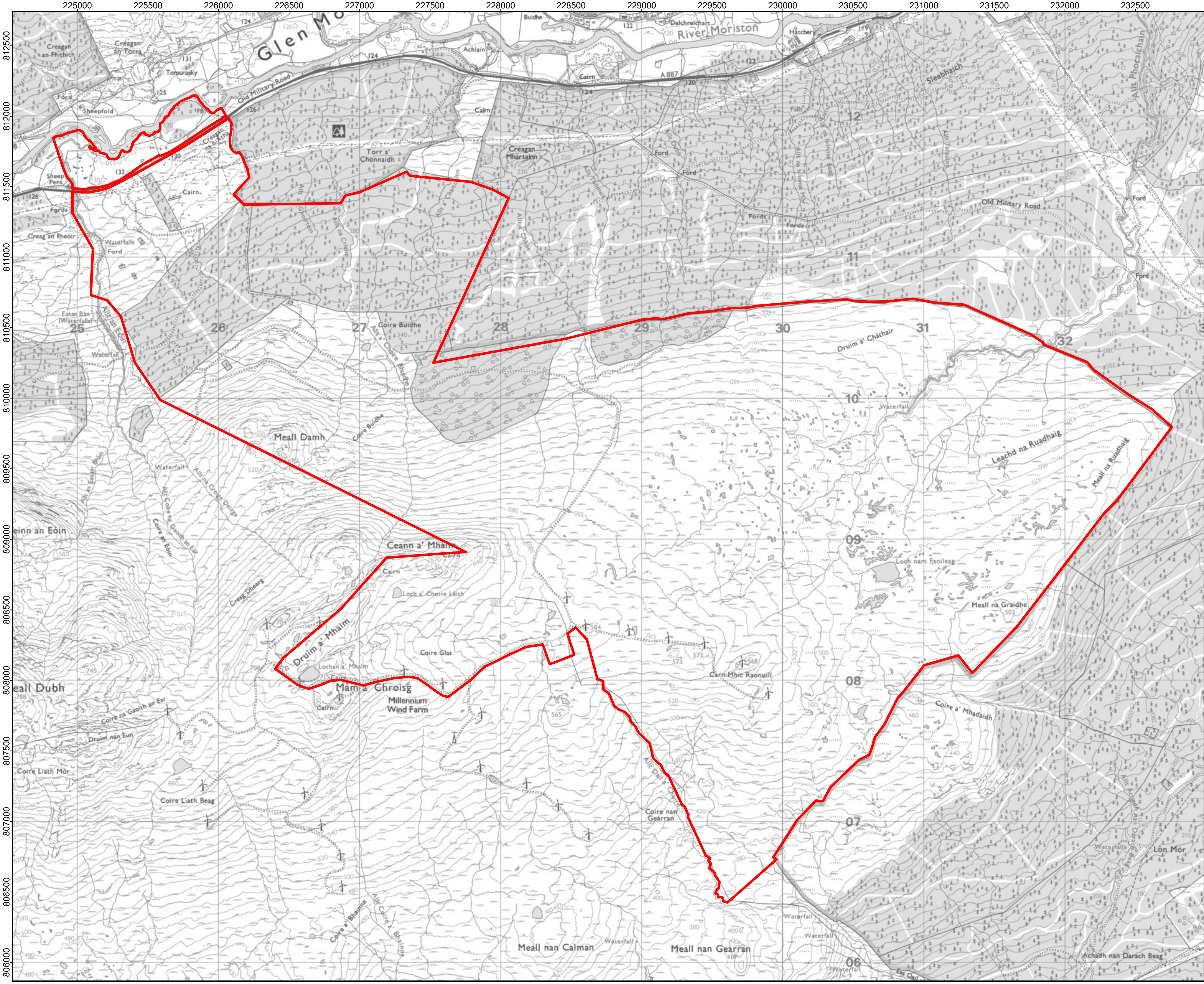
ID:Site_Location

0 5.5 11
Kilometres

Scale: 1:280,000 @ A3

REV 01

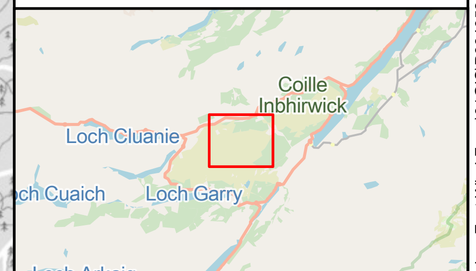
Path: C:\Users\DLewis\RSK Group\RSK Environment GIS Projects - 664052 - Millennium East Wind Farm\01GIS\P664052_EIA.aprx\Site_Location



Legend:

Application Boundary

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
00	18/09/2024	RLB	DL	SA	JS

Millennium East Wind Farm

TITLE: Figure 2:
Site Boundary

ID:Site_Boundary

0 0.5 1
Kilometres
Scale: 1:25,000 @ A3

N S E W

REV 00

Path: C:\Users\DLewis\RSK Group\RSK Environment GIS Projects - 664052 - Millennium East Wind Farm\01GIS\P664052_EIA.aprx\Site_Boundary

225000 226000 227000 228000 229000 230000 231000 232000

812000 811000 810000 809000 808000 807000 806000

T01 T02 T03 T04 T05 T06 T07 T08

Millennium Wind Farm

Legend:

- Site Boundary

Proposed Millennium East Wind Farm components:

- Proposed Turbine Locations
- Turbine Hardstanding
- Junctions or Turning Head
- Borrow Pit Extension
- Floating Track
- New Track
- Temporary Mobilisation and Construction Compounds
- Substation

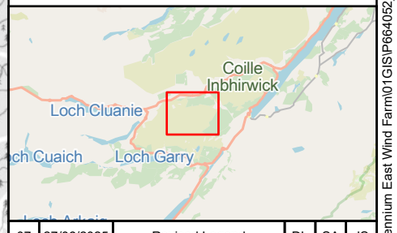
Outline Biodiversity Enhancement Management Plan (OBEMP) Areas:

- Native Woodland Planting Search Areas (0.9 ha)
- Peatland Restoration Search Areas (143.2 ha)
- Riparian Woodland Planting Search Areas (6.49 ha)
- Bracken Treatment Areas (3.8ha)

Existing Millennium Wind Farm components:

- Existing Wind Turbines
- Existing Wind Farm Track
- Existing Borrow Pit
- Existing Substation

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
07	27/06/2025	Revised Legend	DL	SA	JS
06	12/06/2025	Compound added	DL	SA	JS
05	30/05/2025	BESS removed	DL	SA	JS

Millennium East Wind Farm

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TITLE: Figure 3:
Proposed Site Layout

ID:Site_Layout

0 0.5 1
Kilometres

Scale: 1:25,000 @ A3

REV 07

Path: C:\Users\DLewis\RSK Group\RSK Environment GIS Projects - 664052 - Millennium East Wind Farm\01GIS\P664052_EIA.aprx\Site_Layout

Layout A: Pre-application Consultation and Scoping Layout

Layout B: Preliminary Layout

Layout C: Chilled Layout

Layout D: Final Layout

Legend:

- Site Boundary

Proposed Millennium East Wind Farm components:

- Proposed Turbine Locations
- Turbine Hardstanding
- Junctions or Turning Head
- Borrow Pit Extension
- Floating Track
- New Track
- Temporary Mobilisation and Construction Compounds
- Substation

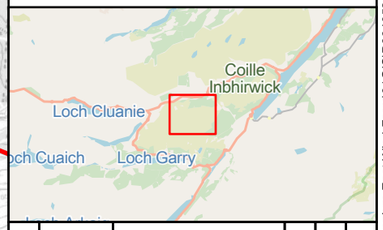
Biodiversity Enhancement Areas:

- Native Woodland Planting Search Areas (0.9 ha)
- Peatland Restoration Search Areas (143.2 ha)
- Bracken Treatment Areas (3.8ha)
- Riparian Woodland Planting Search Areas (6.49 ha)

Existing Millennium Wind Farm components:

- Existing Wind Turbines
- Existing Wind Farm Track
- Existing Borrow Pit
- Existing Substation

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drn	Chk	App
04	12/06/2025	Revised Layout D	DL	SA	JS
03	30/05/2025	Revised Title	DL	SA	JS
02	03/02/2025	Revised RLB	DL	SA	JS

Millennium East Wind Farm

RSK nadara

TITLE: Figure 4:
Design Iterations

ID:Design Iterations A-D

0 0.5 1
Kilometres
Scale: 1:45,000 @ A3

REV 04

Path: C:\Users\DLewis\RSK Group\RSK Environment GIS Projects - 664052 - Millennium East Wind Farm\01GIS\P664052_EIA.aprx\Design Iterations_Layout D

225000 226000 227000 228000 229000 230000 231000 232000 233000

812000 811000 810000 809000 808000 807000 806000

Legend:

Cultural Heritage:
- Scheduled Monuments
- Category C Listed Building

Ecological Constraints:
- Ancient Woodland
- Special Area of Conservation (SAC)

Residential and local amenity:
- Residential Property
- Core Path

Slope:
- Slope greater than 15%

Hydrological Constraints:
- Surface Water
- Surface Water Area
- Surface Water 50m Buffer
- Private Water Supplies

Peat Depth Interpolation:
- > 0.5 - 1.0 m
- > 1.0 - 1.5 m
- > 1.5 - 2.0 m
- > 2.0 - 3.0 m
- > 3.0 m

Bog Pool Mapping:
- Bog Pool Groups
- Isolated Bog Pools
- Bog Pools 10m Buffer

T01 T02 T03 T04 T05 T06 T07 T08

Millennium Wind Farm

Legend:
- Site Boundary

Proposed Millennium East Wind Farm components:
- Proposed Turbine Locations
- Turbine Hardstanding
- Junctions or Turning Head
- Borrow Pit Extension
- Floating Track
- New Track
- Temporary Mobilisation and Construction Compounds
- Substation

Existing Millennium Wind Farm components:
- Existing Wind Turbines
- Existing Wind Farm Track
- Existing Borrow Pit
- Existing Substation

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Rev	Date	Description	Drn	Chk	App
06	12/06/2025	Compound added	DL	SA	JS
05	30/05/2025	BESS removed	DL	SA	JS
04	03/02/2025	Revised Legend	DL	SA	JS

Millennium East Wind Farm

RSK nadara

TITLE: Figure 5:
Site-specific Environmental and Design Constraints

ID:Site Constraints

0 0.5 1
Kilometres
Scale: 1:25,000 @ A3

N W E S

REV 06

Path: C:\Users\DLewis\RSK Group\RSK Environment GIS Projects - 664052 - Millennium East Wind Farm\01GIS\P664052_EIA.aprx\Site Constraints