



Earraghail Renewable Energy Development

Design and Access Statement

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Design and Access Statement

1 Introduction

1. The UK and Scottish Governments have both declared a 'climate emergency' and set ambitious climate change targets with a net zero CO₂ target for 2045 in Scotland and an interim target of 75 % reduction in emissions by 2030. ScottishPower Renewables (SPR) is helping to lead the fight against climate change by developing renewable energy projects such as this fully integrated renewable scheme known as Earraghail Renewable Energy Development (the proposed Development).
2. SPR is part of the ScottishPower group of companies operating in the UK under the Iberdrola Group, one of the world's largest integrated utility companies and a world leader in wind energy. ScottishPower, the first integrated energy utility in the UK to generate 100 % green energy, is already investing a total of £10 billion over five years - £6 million every working day, to power a greener future for everyone living and working in the UK.
3. SPR is at the forefront of the development of the renewables industry through pioneering ideas, forward thinking and outstanding innovation. Its ambitious growth plans include expansion of its existing onshore wind portfolio, investment in new large-scale solar deployment and innovative grid storage systems including batteries. The company is also delivering the Iberdrola Group's offshore windfarms in the Southern North Sea off East Anglia. Securing our position at the forefront of the renewable energy industry, ScottishPower Renewables now has over 40 operational windfarm sites producing over 2,800 MW, including Whitelee, the largest onshore windfarm in the UK and our offshore windfarm East Anglia ONE.
4. The proposed Development intends to make the use of available renewable energy technologies to maximise and optimise the renewable energy potential of the Site. SPR intend to construct a blend of renewable energy technologies, including 13 three-blade horizontal axis wind turbines, up to 180 m to the tip of the blade with a combined rated output of around 78 megawatts (MW), and certainly in excess of 50 MW. The proposed Development also includes ground mounted solar arrays, generating around 5 MW, producing a total generating capacity for the proposed Development of around 83 MW or 230 to 280 GWh of electricity annually. This equates to the annual power consumed by approximately 45,307 average households in Scotland per year¹.
5. A Battery Energy Storage System (BESS) would also be installed, the final capacity of which will be dependent upon storage technology and economics at the time of procurement. However, it is anticipated that the BESS will have a capacity of around 25 MW of energy, providing a flexible balance of energy and the delivery of the full potential of renewable energy to meet the demands of the national grid. The proposed Development would, therefore, have a total installed capacity of 114 MW.
6. SPR is submitting an application for the proposed Development under Section 36 of the 1989 Electricity Act. In support of the application, SPR has undertaken an Environmental Impact Assessment (EIA) and produced its findings in the EIA Report. The EIA Report informs readers of the nature of the proposed Development, potential significant environmental effects and measures proposed to protect the environment during site preparation, construction and operation.
7. The Design and Access Statement (DAS) is submitted in support of the application for consent which has been submitted for the proposed Development. The DAS should be reviewed in the context of the EIA Report and in particular **Chapters 2 and 3** which provides a detailed description of the final layout of the proposed Development.

¹ Calculations from the Scottish Government Renewable electricity output and energy conversion calculators website: <https://www.gov.scot/publications/renewable-and-conversion-calculators/> [accessed 29 October 2021]

2 Site Location

8. In order to understand the design of the proposed Development it is considered important to understand the Site and its context. The proposed Development is located in the Argyll and Bute Council (A&BC) administrative area and comprises of 13 wind turbines, ground mounted solar arrays, a BESS and associated site infrastructure such as substation and access tracks. The application boundary is centred on National Grid Reference (NGR) NR 88732 63637 within commercial forestry managed by Forestry and Land Scotland (FLS), located between the village of Tarbert, to the north east, and the village of Skipness, to the south. A site location plan is shown in **Figure 2** and a plan showing the application boundary is shown in **Figure 3**.

2.1 Site Description

9. A detailed description of the Site can be found in the EIA Report. The following paragraphs provide a general description of the Site.
10. The selected Site is located within the forestry areas of Skipness and Corranbuie in the northern end of the Kintyre Peninsula, within the administrative area of A&BC, near the villages of Tarbert and Skipness.
11. The Site is dominated by the Corranbuie Forest (1065ha) and the Skipness Forest (1165 ha), and the land consists predominantly of commercial forestry. The topography of the Site is variable and undulating and is dictated by five small hills within the forested areas: Cnoc nan Caorach (254 m AOD), Cruach Bhreac (351 m), Cruach na Machrach (346 m), Guallan Mhor (303 m) and Meall Donn (276 m).
12. The main transport routes within the immediate area include the A83 trunk road which serves the Kintyre peninsula between Tarbert and Campbeltown. The A83 passes the north western end of the Site. The B8001 runs along the western end of the Site. There are no roads on the eastern or western sides of the Site. The Kintyre Way walking route traverses parts of the Site. There is an additional walking route, Corranbuie Walking Trail, a circular route from Tarbert that is also part of the Kintyre Way, that passes along part of the northern boundary of the Site.

2.2 Surrounding Area

13. The immediate area surrounding the Site is characterised by land used for commercial forestry surrounded by more open moorland at the northern end of the Kintyre peninsula. The two closest settlements are Skipness (approximately 3 km south) and Tarbert (approximately 5.7 km north) of the nearest turbine. There is a relatively low population density within the immediate vicinity with few properties located within 1 km of the Site.
14. There are several Landscape designations outwith the Site, the North Arran National Scenic Area (NSA) and Special Landscape Area (SLA), and the Argyll and Bute Council Areas of Panoramic Quality (APQ). Tarbert Woods is the closest natural heritage designation and is a Special Area of Conservation (SAC). The Local Nature Conservation Site West Loch Tarbert adjacent and to the west of the Site, while 0.8 km north west and 0.5 km to the west is the Glen Ralloch to Baravalla Woods Site of Special Scientific Interest (SSSI). The nearest Special Protection Areas (SPAs) are Knapdale Lochs SPA & Kintyre Goose Roosts SPA, respectively 8.3 km and 14.9 km away. The Sound of Gigha proposed SPA (pSPA) is 0.2 km away (see **Figure 4**). Skipness Castle and Kilbrannan Chapel schedule monument (SM13225), a medieval chapel and castle, are located 1.5 km south east of the southernmost point of the ISA.

3 Design Policies

15. The preparation of the DAS has had regard to planning advice Note 68: Design Statements, The Argyll and Bute Landscape Wind Energy Capacity Study 2017 (ABLWECS), Scottish Planning Policy (SPP) (June 2014) and the Argyll and Bute Local Development Plan 2015 (ABLDP) and its associated Supplementary Guidance.

16. The design of the proposed Development was carefully considered in the context of national advice in respect of design, the development plan and supplementary guidance which is relevant to the proposed Development.

3.1 National Guidance

17. The most important national policy relating to the siting and design of the proposed Development are the National Planning Framework 3 (NPF3) and Scottish Planning Policy (SPP) along with the associated Planning Advice Notes (PANs), and the Onshore Wind Turbines: Planning Advice. See **Chapter 4** of the EIA Report.

18. In relation to the design and layout of windfarms, Table 1 in the SPP sets out the basis for a spatial framework in which a hierarchy of protection is defined:

- Group 1 areas such as National Parks and National Scenic Areas are defined as “Areas where wind farms will not be acceptable”;
- Group 2 areas are based on a range of national designations, other nationally important environmental interests (such as wild land or carbon rich soils, deep peat and priority peatland habitats), and community separation (2 km from cities, town and villages identified in the local development plan). Areas in this group are defined as “Areas of Significant Protection”; and
- Group 3 areas are defined as “Areas with potential for windfarm development” depending on detailed consideration against the specified policy criteria.

19. Having assessed the Site against these criteria and the Spatial Framework detailed in the ABLDP Supplementary Guidance; Wind Energy, it is considered that the proposed Development lies within both Group 2 (due to the presence of peat) and Group 3.

20. The Onshore Wind Turbines: Planning Advice, 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 has been incorporated into the design of the proposed Development.

3.2 Locational Guidance

21. SPP 2014 provides support for wind development in principle and encourages local authorities to guide developments towards appropriate locations. Paragraph 154 states that planning authorities “should support the development of a diverse range of electricity generation from renewable energy technologies – including the expansion of renewable energy generation capacity”. Paragraph 155 also states that “development plans should seek to ensure an area’s full potential for electricity and heat from renewable sources is achieved, in line with national climate change targets”.

22. In response to these policy requirements A&BC has undertaken a landscape capacity study (2017) to identify those landscapes which have the capacity to accommodate wind turbines. The Argyll and Bute Landscape Wind Energy Capacity Study 2017 (ABLWECS) updated the previous study published in 2012. The proposed Development site is within LCT6: Upland Forest Moor Mosaic. The key features of this area are described as “broad areas of undulating upland plateau lying within the interior of the Kintyre Peninsula”. The ABLWECS states the following in relation to this LCT:

“There is very limited scope for the Very Large typology (turbines >130m) to be accommodated. The narrow extent of this peninsula and its relatively low relief (especially in the northern part of this LCT) inhibits opportunities for turbine >150m high. Very large turbines in many in many locations would be likely to significantly intrude on views from both Gigha and Arran, considerably extending effects and potentially affecting the ‘space and cluster’ spatial patterns of existing wind farm development evident in the northern part of the peninsula in views from Arran. Turbines <150m may be able to be accommodated provided they are set well into the centre of the peninsula and occupy more contained sites which would minimise the effects of turbines of this size on the coastal fringes of Kintyre and on views from Arran and Gigha.”

23. The ABLWECS describes the character of the Upland Forest Moor as:

“This land has a simple land cover of extensive coniferous forestry and moorland. It is sparsely settled and already accommodates operational and consented wind farm developments. Some of these key characteristics reduce sensitivity to large wind turbines although there are some more sensitive features. These include the more complex smaller scale hills and occasional narrow settled glens lying on the outer fringes of this upland plateau. More pronounced and rugged higher hills which lie within the core area of this landscape and the remote and little modified coast between Skipness and Tarbert would also be highly sensitive to wind energy developments”.

24. In terms of the applicability of the 2017 ABLWECS’s findings to individual sites, the study states *“the purpose of assessing sensitivity in the wider arena of landscape planning is different to that undertaken as landscape and visual impact assessment which is specific to a particular project or development and its location”*. Therefore, it should be reinforced that while the findings of the ABLWECS have been considered in the design of the proposed Development, it gives a general view on the acceptability of windfarm development in the area, which is not a substitute for an individual and detailed landscape and visual assessment. A&BC is guiding, through its policies, the development of renewable energy. Therefore, the Site, as not designated from a landscape perspective, has met the site selection criteria and was considered to represent a commercially viable option that warranted further investigation as a renewable energy development.

3.3 Development Plan

25. The Development Plan is defined by the Town and Country Planning (Scotland) Act 1997, as amended, as being the local development plan, the planning’s authority’s resolution of adoption and any supplementary guidance issued in connection with the local development plan. The Development Plan for the Site is the Argyll and Bute local Development Plan 2015 (ABLDP) and its associated Supplementary Guidance. The LDP is currently being reviewed and a new LDP is being prepared and once adopted will replace the extant LDP. The proposed Argyll and Bute Local Development Plan was drafted in 2019 (PLDP2) and was published for consultation which ended in January 2020.

26. **Chapter 4** of the EIA Report sets the proposed Development in the context of the relevant Development Plan policies. The **Planning Statement** provides an assessment of the proposed Development against the Development Plan and material considerations relevant to the decision-making process.

3.3.1 Argyll and Bute Local Development Plan 2015

27. Argyll and Bute Council adopted the ABLDP in March 2015, the LDP is accompanied by Supplementary Guidance adopted in March 2016. This provides further detail and guidance on the policies within the LDP, and where necessary supplements these with additional policy requirements. The key ABLDP policy for the proposed Development is policy LPD6 Supporting the Sustainable Growth of Renewables, which states that:

“The Council will support renewable energy developments where these are consistent with the principals of sustainable development and it can be adequately demonstrated that there is no unacceptable significant adverse effect, whether individual or cumulative, including on local communities, natural and historic environments, landscape character, visual amenity and that proposals would be compatible with adjacent land uses”.

28. The policy states that the Council will prepare a spatial framework for wind turbine developments over 50 m high as supplementary guidance, in accordance with SPP. This guidance was adopted in December 2016 in the form of Supplementary Guidance 2: Renewable Energy. The spatial framework identifies areas which have potential for onshore wind development, and those which do not, it also includes areas which require significant protection in accordance with the criteria set out in Table 1 of SPP. According to the spatial framework map, the proposed Development lies partly in a Group 3 Area.

4 Design Principles

29. This DAS discusses the key design issues and constraints relevant to the proposed Development (including BESS and solar opportunity area) and the way they have been addressed in the layout and design. **Figure 5** shows a heatmap of the Site Constraints.

4.1 Turbine Scale

30. 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.

31. The wind turbines selected for the proposed Development would each have a rating of around 6 MW based on wind turbine technology which is currently available and would have a maximum height of 180 m to blade tip. This would maximise the contribution that the proposed Development could make towards the Scottish Government 's net zero targets and associated renewable energy targets.

32. The necessity for taller turbines is recognised by paragraph 25 of the Scottish Government Onshore Wind Policy Statement (2017), which acknowledges that *“onshore wind technology and equipment manufacturers in the market are moving towards larger and more powerful (i.e., higher capacity) turbines and that these by necessity will mean taller towers and blade tip heights”*. The same paragraph states that the Scottish Government *“fully supports the delivery of large wind turbines in landscapes judged to be capable of accommodating them without significant adverse impacts”*.

33. As demonstrated in **Chapter 7** of the EIA Report, it is considered that the landscape character of the Site can accommodate taller turbines. In addition to maximising the overall yield of the proposed Development, the use of taller turbines translates in fewer numbers of turbines. This also helps minimising felling by increasing the rotor clearance above the tree canopy, therefore reducing the impacts on existing forestry operations.

34. Furthermore, the supply of smaller wind turbines across Europe is already reducing, due to lack of demand as manufacturers are recognising the world market is shifting to larger machines and development work is focussing on larger turbines to secure higher yields. The onshore wind industry is experiencing a significant reduction in supply of smaller wind turbines and therefore it is unlikely that a range of smaller turbines (e.g. 150 m) would be available at competitive prices by the time the proposed Development would be constructed.

35. The final selection of the turbine tip height of up to 180 m was considered to represent the best balance in terms of energy yield, landscape fit and the scale of the turbine that is currently capable of being transported to the Site.

4.2 Wind Analysis

36. Wind analysis and efficiency modelling has been carried out by SPR to identify the areas of the Site most likely to produce the highest yields and therefore the best generational output.

37. For turbines to work as effectively as possible, they must be suitably spaced relative to the predominant wind direction. If they are too close together in this direction, the 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 though the array, reducing the overall energy output. Instead, when turbines are located too far apart the opportunity to optimise capacity is reduced.

38. There is no industry standard for spacing, only manufacturer recommendations and rules of thumb. Six times rotor diameter on the predominant wind direction against four times rotor diameter cross wind (6D x 4D) is a common starting point. This is understood to provide a reasonable compromise between turbine proximity and site capacity without unduly compromising turbine operation. The proposed Development may, however, employ turbines which are not yet on the market. Therefore, a more flexible methodology utilising wind yield modelling was used to find the right balance of turbine efficiency and productivity over a wide variety of potential rotor diameters.

4.3 Ground Mounted Solar Arrays and BESS

39. Areas have been set aside for ground mounted solar arrays and a BESS as identified on **Figure 7**. These locations have been informed by the environmental and engineering constraints particular to these technologies, as well as a consideration of the existing topography of the Site, the existing network of forestry tracks, and the physical interrelationship of the BESS

and solar arrays with the other elements of the proposed Development. For the BESS, the key design and siting considerations were: the proximity of the BESS to other proposed Development infrastructure, such as the access track to be upgraded, the control building and substation; a position outwith the topple distance of proposed turbines; and distance to environmental receptors (e.g. watercourses, areas of deep peat). For the area of search for solar arrays, the key design considerations factored in included: the south-facing aspect of the proposed area (important for solar PV efficiency); the lack of areas of deep peat and watercourses; and that the area had been clear-felled of forestry.

4.4 Landscape Character and Visual Amenity

40. The design of the wind turbine layout is a vital part of the landscape and visual effects of a renewable energy development. Its appearance considered on its own and, in the context of the surrounding landscape and cumulatively were important considerations. Landscape and visual input to the design was informed NatureScot's (then SNH) Siting and Designing Wind Farms in the Landscape Version 3a (2017), experience and drawing on fieldwork observations. In addition to those design principles established above, the following key landscape and visual sensitivities were identified as key factors for consideration in the design:

- potential for influence on designated landscapes including the North Arran NSA/Wild Land/SLA, Kyles of Bute NSA and Argyll & Bute Council Areas of Panoramic Quality;
- scale and context of the receiving landscape;
- potential cumulative effects with nearby developments;
- potential visibility from settlement and recreational receptors on the Kintyre peninsula (Skipness/Tarbert), South Cowal (including Portavadie and Ostel Bay), Isle of Bute; North Arran and South Knapdale;
- potential visibility from key land-based routes including the A83, B8001, B842, B8024, the Kintyre Way through the Site;
- potential visibility from recreational users of inland waterways including ferry routes, channelled views within Loch Fyne and Kilbrannan Sound; Kyles of Bute.

41. The final proposed Development layout has considered the following:

- reasonably consistent and balanced relationship with the scale and landform of the Site when seen from the surrounding area;
- reasonably balanced and logical layout minimising the increase in horizontal extent of wind turbines, particularly when seen in views from the south (Skipness and Arran), and east (e.g. Cowal Peninsula);
- minimises impacts upon key views from Skipness inland and key views from the surrounding area;
- sufficient separation from the smaller scale landscape of Coastal Crofts and Small Farms to avoid adverse scale comparisons;
- reasonable degree of setback from the sensitive receptors; and
- non-significant effects on visual amenity for nearby settlements, as well as the dispersed properties in proximity to the Site.

42. Where possible, proposed excavation for access tracks and other infrastructure has been minimised and the location of the substation and construction compound have been reviewed, and the selected option has been chosen in order to minimise visual effects.

43. The landscape and visual effects of the proposed Development are addressed further in **Chapter 7** of the EIAR.

4.5 Ecology and Ornithology

44. Ecological surveys have been carried out across the Site since 2019, including a Phase 1 habitat survey, a National Vegetation Classification (NVC) survey and protected species surveys (including bats, pine marten, badger, otter, water vole, red squirrel). Sensitive ecological features, including habitats present within the Site and species which use the Site and appropriate buffers, have been avoided. The proposed Development avoids ecological features of greatest sensitivity, such as Annex 1 peatlands. In addition, the recommended habitat standoff distances from blade swept path to key habitat features have been incorporated into the design to reduce collision risk to bats.

45. Ornithology surveys have been carried out across the Site and surrounding area since September 2019, including vantage point watches; scarce breeding birds (for raptors, divers and any other species listed in Schedule 1 of the Wildlife and

Countryside Act 1981); and winter walkovers for non-breeding birds. Suitable buffers were considered during the design evolution process and areas have been specifically avoided to minimise the impact on sensitive species.

46. Areas with potential to be Groundwater Dependent Terrestrial Ecosystems (GWDTE) were also examined. Several areas of GWDTE were identified within the application boundary. All potential GWDTE were considered to be sensitive and have been avoided as far as practicable by careful design.

47. The ecology and ornithology effects of the proposed Development are addressed further in **Chapter 8** and **Chapter 9** of the EIA Report.

4.6 Hydrology and Hydrogeology

48. In accordance with good industry practice, a 50 m buffer zone has been applied around all watercourses on the Site for wind turbines and a 20 m buffer zone around the solar development area. This reduces the risk of runoff, loose sediment and potential pollutants entering watercourses. In some cases, the use of existing tracks, already within 50 m of drainage ditches, have been identified as the best option for design, minimising the need for new tracks. In a few other locations, the balance of constraints has required use of a narrower buffer zone (See **Chapter 8** of the EIA Report). Watercourse crossings have been minimised as far as practicable; and where possible, existing crossings would be used. Existing crossings may be upgraded or replaced as appropriate.

49. Data on private water supplies (PWS) was obtained from A&BC and was not identified as a constraint to development.

50. The hydrology and hydrogeology effects of the proposed Development are addressed further in **Chapter 10** of the EIA Report.

4.7 Peat Depth

51. The majority of the Site is located within Class 5 soil (no peatland habitat recorded), with a small area of Class 3 soil (most soils are carbon-rich, some areas of deep peat) in the south western part. The central unforested section consists of Class 1 and Class 2 peatland, as shown on the SNH Carbon and Peatland Map 2016; both Classes 1 and 2 are described as nationally important carbon-rich soils, deep peat and priority peatland habitat.

52. Site visits have confirmed the presence of peat and peatland habitats (**Chapter 8** and **10** of the EIA Report). Peat probing and habitat surveys were undertaken in 2020 and 2021 and show that the peat is of variable condition and depth across the Site, with deeper peat occurring at Càrn Chaluim, Loch na Machrach Mòire, Eas a' Chromain and Cnoc na Mèine. Other areas of the Site are characterised by peaty soils and mineral soil. The peat probing data is discussed in **Technical Appendix 10.1** of **Chapter 10**.

53. A review of the peat depth data and habitat mapping, in conjunction with slope gradients, allowed areas of deep peat (typically greater than 2.0 m) and those areas of less modified peat to be avoided where possible through the evolution of the design. Where possible, proposed wind turbines, ground mounted solar arrays and site infrastructure would be located within areas with no peat or with peat less than 1.0 m deep. Where access tracks cannot avoid areas of deep peat, floating tracks have been incorporated into the design. Further details of peatland habitat loss and habitat management proposals for restoring modified peatland habitat can be found in **Chapter 8** of the EIA Report.

54. The proposed Development has also been designed to avoid any areas which may be subject to peat slide risk. The ground condition constraints that were considered in the design of the proposed Development were:

- identification of peat depths in excess of 1.5 m – to minimise incursion, protect from physical damage, minimise excavation and transportation of peat, reduce potential for peat instability and minimise potential soil carbon loss;
- identification of slope angles greater than 5°- to minimise soil loss and potential instability; and
- avoidance of areas where initial peat stability concern was identified where possible – to avoid areas with possible instability issues and associated indirect effects on surface water.

4.8 Archaeology and Cultural Heritage

55. Archaeology and cultural heritage constraints were identified at an early stage of the design process, and hard and soft buffers were established around them based on their relative importance/sensitivity, so that they could be avoided during the design process.

56. The buffers and interpretation of heritage assets' importance/sensitivity were further assessed during the course of the design and EIA process, in particular informed by archaeological site visits undertaken to establish the quality of the preservation of the remains within the Site.

57. Through the EIA Scoping process and subsequently, the RSK EIA team engaged with key heritage consultees such as Historic Environment Scotland to agree a basis for the assessment. Key messages arising from the consultations undertaken were fed back to the design team so that amendments could be made to address the feedback where possible.

4.9 Noise

58. For the purposes of early constraints mapping, avoidance buffers of 1 km were applied to residential properties in the vicinity of the Site. These buffers were refined further during the design process based on expert noise advice in order to reduce the risk of impacts on residential receptors.

59. An initial review of the baseline data surveyed for other windfarm schemes, and which are publicly available in the assessments for those schemes, suggests that existing baseline levels have been sufficiently defined for the purposes of an assessment of operational noise in accordance with ETSU-R-97 and best practice. Noise modelling was undertaken using this data for the proposed turbine layout at various stages of the design process, to predict the likely sound level which would result from the proposed Development at nearby residential properties.

60. The difference between measured background noise levels and predicted noise levels needs to be compliant with ETSU-R-97: 'The Assessment and Rating of Noise from Wind Farms' (Department for Trade and Industry (DTI), 1996) to avoid a significant impact. Applying design criteria in accordance with ETSU guidance ensures that no exceedances of acceptable noise levels would occur for the proposed Development.

61. The noise effects of the proposed Development are addressed in **Chapter 13** of the EIA Report.

4.10 Forestry

62. The current land use of the Site is predominantly commercial forestry with areas open moorland habitat between the two FLS sites of Corranbuie to the north and Skipness to the south. Forestry forms an integral part of the proposed Development as some trees would need to be felled, before planned plantation felling, around infrastructure positions to allow for construction of the proposed Development. **Technical Appendix 15.1** has been developed to show which woodlands would be felled to facilitate the proposed Development, which of the felled areas can be restocked and the plans for compensatory planting.

63. This Site is largely stocked with middle aged conifers and the aim will be to carry out keyhole felling to accommodate the turbines wherever possible to avoid adverse environmental impacts; this will also minimise both the amount of felling and the area of Compensatory Planting that may be required. Further details on the proposed approach towards forestry management is provided in **Appendix 15.1** of **Chapter 15**.

4.11 Telecommunications

64. Consultation was undertaken with the relevant telecommunication link operators to inform the telecommunications links within the vicinity of the Site and to advise their position with respect to the proposed Development.

65. Consultation with Ericsson, O2 Telefonica, BT, Joint Radio Company Ltd (JRC) raised no issues which could have potentially affected the proposed Development.

66. The effects of telecommunications on the proposed Development are addressed further in **Chapter 15** of the EIA Report.

5 Consultation and Scoping

67. Consultation was undertaken as part of the EIA process to seek a comprehensive understanding of the requirements and views of the consultees. Consultation comprised public consultation in the form of online Public Information Events (PIEs) undertaken in November 2020 to January 2021, and consultation with a range of statutory and non-statutory bodies, community councils and FLS. SPR also intended to host an online PIE in June and July 2020; the event was cancelled under request of the local communities; however, important information was collected before and after the cancellation of the event. Further information on the consultation process and how this has helped shape the proposed Development can be found in the **Pre-Application Consultation Report**, submitted in support of this application.
68. An EIA Scoping Report was submitted to the Energy Consents Unit (ECU) in May 2020 to accompany a request for the Scottish Ministers to adopt a Scoping Opinion under Regulation 15 of the EIA Regulations 2017. The Scoping Opinion was received from the ECU in September 2020. A summary of the key issues raised in the Scoping Opinion is provided in **Technical Appendix 6.1**. The Scoping Opinion is detailed in the consultation tables within the EIA Report **Chapters 7 to 15**, with reference on how the comments have been addressed.
69. In order to inform the cumulative impact assessment, cumulative Zones of Theoretical Visibility (ZTVs) were produced for all windfarms within 45 km of the proposed Development to identify the windfarms to which the proposed Development could cause significant cumulative impacts. It was then decided which wind farms should be taken forward to the detailed cumulative assessment.

6 Design Evolution and Final Design

70. The proposed Development has gone through four principal iterations of the layout (the initial layout and three subsequent iterations), which have been developed at different stages in the project design process. Layouts A to D, shown on **Figure 6**, illustrate the four layouts and visually illustrates how the design has evolved through the design stages of the EIA process.

- **Layout A (Pre-EIA Studies)** – A 38-turbine layout of 198 m to tip turbines undertaken in May 2019, prior to detailed surveys necessary for the EIA commencing. This layout representing a view of maximum physical capacity based on landscape and visual implications only prior to the establishment of detailed constraints.
- **Layout B** – A 13-turbine layout, informed by environmental constraints data and wind turbine parameters instructed by SPR. This layout formed the basis of the EIA Scoping Report submitted on 1st May 2020.
- **Layout C** – A 14-turbine layout of turbines of up to 200 m to tip, responding to all relevant field data collated for the Site, scoping and public consultation responses, alongside further advanced onsite environmental surveys and visual analysis
- **Layout D (final layout)** – A 13-turbine layout of turbines of up to 180 m to tip, informed by detailed multidisciplinary assessment and further consultation with statutory consultees, and including locations of ancillary infrastructure, following consultation with statutory consultees and public consultation. The layout also shows the proposed areas for ground mounted solar arrays and a BESS.

6.1 Iterations of Design

6.1.1 Layout A

71. In May 2019, a preliminary environmental, engineering and planning appraisal of the Site was conducted, and which identified the potential for a development of up to 38 turbines of 198 m to tip. Additionally, the study also identified the Site had the potential for energy storage in the form of battery and hydrogen, and Electric Vehicle (EV) charging.

72. Between September and December 2019, Stephenson Halliday were commissioned by SPR to provide an updated landscape and visual feasibility study that factored in the known onsite constraints, including initial ornithology observations, slope, watercourses, footpath and residential offsets. They considered turbines of 150 m to blade tip and 180 m to blade tip. The feasibility study concluded that developing turbines within the northern part of the Site (Corranbuie forest area) should be avoided due to close proximity to Tarbert, and proposed layouts of between 11 and 13 turbines of between 150 m and 180 m to blade tip focussed on the southern part of the Site (Skipness forest area).

6.1.2 Layout B

73. Layout B represents the first subsequent iteration of design, comprising 13 turbines at 200 m to tip within the southern area of the Site. The layout included a solar opportunity area and BESS. As a direct consequence of the results taken from one year of ornithological surveying in the area and following discussion with NatureScot and Argyll and Bute Council, the layout excluded the areas to the north deemed unsuitable for turbine development due to the presence of a range of protected bird species.

74. The layout was based on further consideration of the initial layouts between SPR's wind resource team and RSK, and factored in the on-site environmental constraints identified by that stage and wind turbine parameters instructed by SPR.

6.1.3 Layout C

75. Following the establishment of Layout B, a series of internal design workshops were held whereby the layout was further scrutinised in light of site-specific field data relating to deep peat, watercourses, private water supplies, habitats, and protected species. Where relevant, any feedback received via scoping, consultation with stakeholders, and the outcome of a public consultation event held in the winter of 2020 were also considered. Useful information was also collected before and after the public information event planned for June and July 2020 was cancelled. This data was also considered in the revision of the site layout. The evolving design was then subject to an appraisal of potential visual effects and a number of variants of the design considered.

76. The design principles were defined as follows:

- accord with the current Argyll and Bute Council LDP and Landscape Wind Energy Capacity Study (LWECS) as far as possible;
- minimise landscape and visual impacts while maximising the production of renewable energy;

- minimise extent of development visible along the northern slope of the Kintyre peninsula;
- minimise potentially adverse cumulative effects of the proposed Development in combination with nearby windfarms in operation or construction, that have been approved, or that are awaiting determination;
- avoid significant impacts upon habitats and ecological features;
- aim to reduce or avoid impacts on the setting of designated heritage assets;
- avoid siting infrastructure on areas of deep peat;
- reduce the amount of felling and accommodate any Land Management Plan for the area;
- minimise and, where possible, avoid the loss of priority habitats and species, and create opportunity for habitat enhancement;
- protect watercourses from the potential impacts of constructing the proposed Development;
- ensure the proposed Development can be engineered and constructed safely; and
- improve public access to the general area.

77. The decision to add another turbine was made because the movement of other turbines to avoid environmental constraints created space for a turbine in an area that was not environmentally or technically constrained and would allow suitable separation between other turbines.

78. In formulating Layout C, as the turbine locations were becoming more 'definitive' in light of emerging constraints, potential locations for ground mounted solar arrays were identified that would be subject to further scrutiny prior to design freeze (Layout D below).

6.1.4 Layout D

79. Following the establishment of Layout C, an opportunities workshop was held to identify potential enhancement measures that could be incorporated into the design. This included:

- Borrow Pit locations;
- promoting onsite archaeological resources;
- habitat enhancement for impacted species/habitats;
- suitable areas where compensatory planting could be substituted for peat restoration or linked with the sessile oak woodland SSSI in the eastern part of the Site;
- improvements along the Kintyre Way (in consultation with the Kintyre Way SCIO); and
- extending the existing circular route from Tarbert into the Site.

80. With respect to solar infrastructure, the area identified was selected for potential development. This location was chosen as it:

- is located on relatively flat and south-facing terrain;
- allows for avoidance of peat deposits and need for plantation removal, as it is located in areas of clear-fell;
- is afforded significant screening from on-site vegetation/plantation;
- is a location that avoids and/or minimises potential impacts on known environmental resources;
- would be affected by minimal shadowing from both vegetation and proposed turbine locations; and
- is located close to proposed turbine locations so any felling requirement for the solar array would improve the wind resource for those turbines.

81. Several proposed locations were identified and discussed for the BESS, onsite construction compound and substation. The final location was selected as it was within the area of the proposed turbine array, met the required safety distances from the turbines, was not located close to existing borrow pits operated by FLS on the Site, did not impact on sensitive habitats, sites or watercourses, and was not visible from outwith the Site.

82. With respect to ancillary infrastructure, a key focus was access track design/layout, as well as the number and positioning of borrow pits, construction compounds, and substation. As part of the design process, these elements were designed in accordance with the following design principles:

- utilisation of existing forestry access tracks as far as practicable;
- minimisation and/or avoidance of deep deposits of peat;
- where deep peat cannot be avoided by access tracks, adoption of 'floating road' design;
- minimisation of water crossings;

- avoidance or minimisation of impacts on environmental resources;
- location of borrow pits where rock resource is most evident at surface and/or making use of existing ones;
- reduction of potential 'trafficking' across the Site with placement of borrow pits and construction compounds; and
- identification and selection of an optimal location for the onsite substation taking account of turbine and solar infrastructure.

83. A further stage of online public consultation was undertaken over the winter of 2020 – 2021 (November 2020 – January 2021) via an online Public Information Event (PIE). The results were used to inform the further refinement of the design resulting in Layout D, including a reduction in the height of turbines proposed, moving Turbine 10 further north to reduce visual impacts potentially experienced from the south (e.g. Skipness and the north of Arran) and to reduce impacts on the setting of the designated assets of Skipness Castle and Kilbrannan Chapel.
84. The resulting design was then subject to a targeted peat depth investigation, along with a joint site visit to all locations by a project engineer and principal hydrogeologist to take account of local ground conditions, peat depth, topography and the presence of bedrock at or near the surface.
85. Following the outcome of the further site investigation and consultation, the design was consolidated and finalised. Finally, once the location of all infrastructure and proposed elements of the proposed Development were confirmed, the application boundary comprising the Site was drawn in around the proposed Development to make it clear and obvious that no renewable technologies would be placed in the Corranbuie forest to take account of comments received from the local communities via the Nov20-Jan21 PIE.
86. At the final stages of the EIA process, following a thorough review of the proposed Development and its potential impacts on the setting of cultural heritage assets, SPR decided to remove turbine number 10 from the design and relocate turbine number 5 further north. The decisions were made on the basis that the proposed turbines, being proposed for the southern section of the site, could have adverse significant effects on Skipness Castle and setting of Kilbrannan Chapel. Therefore, instead of putting the visual setting of the Scheduled monument at risk, SPR decided to revise the final design of the scheme reduce the number of wind turbines being proposed, and change the design of the proposed Development.
87. This design constitutes the final 'Design Freeze' or proposed consent application layout that forms the basis of this application for consent.

7 Proposed Development

88. The proposed Development is described in detail in **Chapter 3** of the EIA Report. An outline Construction and Environmental Management Plan (CEMP) is also contained in the EIA Report as **Technical Appendix 3.1**. The layout of the proposed Development is illustrated in **Figure 7**. In summary the proposed Development would comprise of the following;

- 13 wind turbines, up to 180 m to blade tip, including foundations and aviation lighting;
- ground mounted solar arrays;
- BESS units;
- crane hardstandings for wind turbine installation;
- transformer/switchgear housings located adjacent to turbines & solar arrays;
- new (10.4 km) and upgraded (12.9 km) access tracks including watercourse crossings where necessary, passing places and turning heads;
- underground electrical cabling;
- compound containing substation, control building and BESS;
- one main site construction and maintenance compound and a security compound;
- A permanent lattice construction meteorological mast, up to 105 m high;
- health & safety and other directional site signage;
- search areas for up to three new borrow pit areas; and
- additional development components to improve the overall ecological, environmental and social benefits accruing from the proposed Development, as follows:
 - Ecological and environmental: peatland restoration; habitat improvement; native woodland planting
 - Social: proposed new walking bothy and stone seating on the Kintyre Way; circular walking route and viewpoint near Tarbert.

8 Access

8.1 Access Route

89. Access to the Site is via the A83 at Tarbert Holiday Park to the north of the Site. The A83 is fed by several public and private roads.

90. For the provision and delivery of construction materials, two different delivery scenarios have been assessed. First, a scenario whereby all construction materials (e.g., concrete for foundations and aggregate for access tracks) are delivered to the Site. The second scenario, and the one preferred by SPR, is for access track aggregate other than the running surface to be sourced from onsite borrow pits, thereby reducing the total number of heavy goods vehicle movements. Both scenarios result in increases in heavy goods vehicles (HGV) movements on the A83, but the more likely scenario at a lower rate compared with the unlikely worst case.

91. Should the proposed Development be granted consent, a detailed Construction Traffic Management Plan and Abnormal Load Assessment would be prepared which would identify the requirements for any road modifications, vegetation or tree trimming required along the access route.

92. The proposed Development also includes an upgraded site entrance which is designed to safely allow the delivery of wind turbines and construction materials.

8.2 Internal Access Tracks

93. Approximately 23.36 km of access tracks including approximately 12.9 km of upgraded track would be required to provide access to the wind turbines, control building compound, solar arrays and construction compound

94. Tracks would have a minimum 4.5 m running width, wider on bends and at junctions. Where it is not possible to avoid areas of deepest peat, floating track construction would be used. It is anticipated that there would be approximately 1.47 km of floating track, where consistent peat depths of between 1.2 m or greater are identified along with shallow topography in the area (below 5 %).

95. Construction passing places would be placed along the track in addition to passing opportunities at site junction and crane hardstandings. The exact locations of these would be determined prior to construction.

8.3 Public Access – Pedestrian

96. During the construction phase of the proposed Development, where possible recreational access to the Site will be maintained along publicly accessible paths such as the Kintyre Way. Where access along the existing route is not possible, a diversion will be agreed with FLS, in consultation with Argyll and Bute Council and relevant bodies such as the Kintyre Way SCIO, and implemented. There will likely be occasions when access to the Site for members of the public is not possible for short periods during the construction phase for health and safety reasons (e.g. during delivery of certain infrastructure components).

97. SPR is proposing to enhance several aspects of the Site by improving local access and recreational opportunities. The enhancements being proposed are as follows:

- a new proposed walking route would form an extension to the Corranbuie Walking Trail, a circular route from Tarbert that is also part of the Kintyre Way. The proposed new walking route would be in the form of a unmetalled footpath suitable for pedestrian use only. Its appearance would be consistent with the Corranbuie Walking Trail adjacent to it and the Kintyre Way within the Site. Materials for the footpath construction would be sourced from the proposed Development construction and/or from the Site itself. The exact route of the footpath would be confirmed prior to its construction, taking account of topographical features such as steep slopes and environmental constraints.
- a viewpoint on the new path at the summit of Cnoc nan Caorach would have good views to the north to Tarbert and to the south to the proposed Development. The viewpoint location is currently on an exposed area of bedrock. The viewpoint is anticipated to take the form of two all-weather interpretation boards: one showing key features of the view north across Tarbert, with a second showing key features of the view south towards the proposed Development.

- a walking bothy for recreational users of the Kintyre Way within the Site. The bothy would consist of a basic single room, single-storey building finished with local materials and in the vernacular architectural style of the local area.
- stone seating along the Kintyre Way would be installed at the end of the construction phase, if appropriate locations can be agreed with the landowner and Kintyre Way SCIO. These will take the form of undressed small boulders of varying size won through the construction phase of the proposed Development. Their purpose will be to help recreational users of the Site and the Kintyre Way to rest and recuperate.

98. Further details of these proposed enhancements are included in **Section 3.7 of Chapter 3**.

8.4 Public Access – Vehicular

99. Once the proposed Development is operational (if consent is granted) vehicular access will be limited to individuals directly involved in the maintenance of the proposed Development, the landowner and their agents, e.g. for ongoing forestry activities, and emergency vehicles.

8.5 Turbine Access

100. Members of the public would be able to walk up to the base of the wind turbines, but it is not proposed that there would be public access into the towers. Due to health and safety reasons access to the towers would be restricted to employees of, and contractors appointed by SPR. Changes to access arrangements within the Site will be detailed in an Access Management Plan prepared in advance of construction commencing. These will include an arrangement for communicating changes in access to relevant stakeholders.

9 References

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<https://www.gov.scot/publications/onshore-wind-policy-statement-9781788515283/>

FIGURES

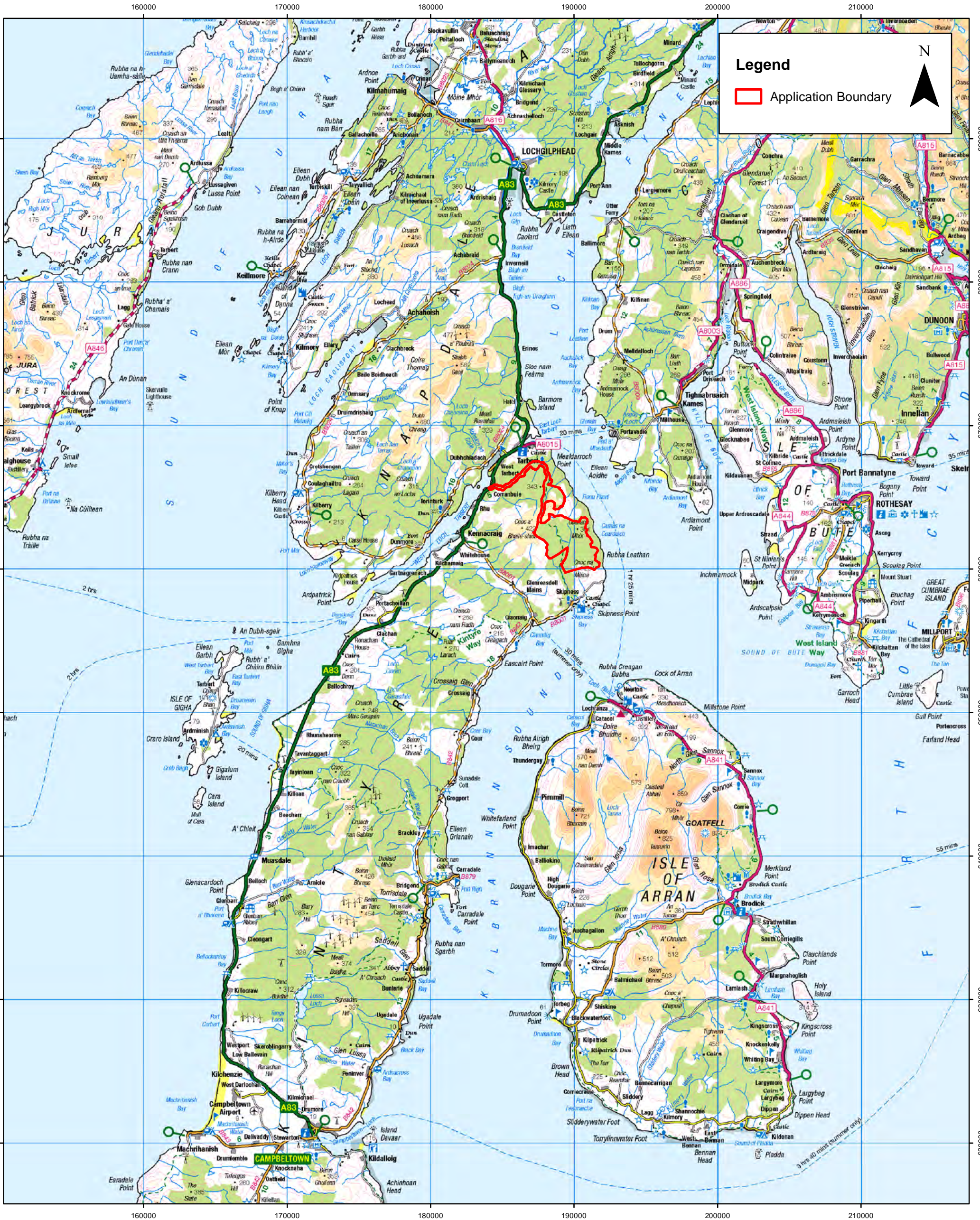


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Earraghail Renewable Energy Development Design and Access Statement Site Aerial Context

C	07/01/22	DL	Revised Site Boundary
B	26/11/21	DL	Revised Logo
A	02/11/21	DL	Site Location
Rev	Date	By	Comment

1:30,000 Scale @ A3				
Figure	Date	Rev	Dwg No.	Datum: OSGB36 Projection: TM
1	07/01/22	C	EHAIL-RSK-I-095	



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Earraghail Renewable Energy Development

Design and Access Statement

Site Context

C	07/01/22	DL	Revised Site Boundary
B	26/11/21	DL	Revised Logo
A	02/11/21	DL	Proposed Site Location
Rev	Date	By	Comment

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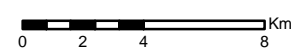
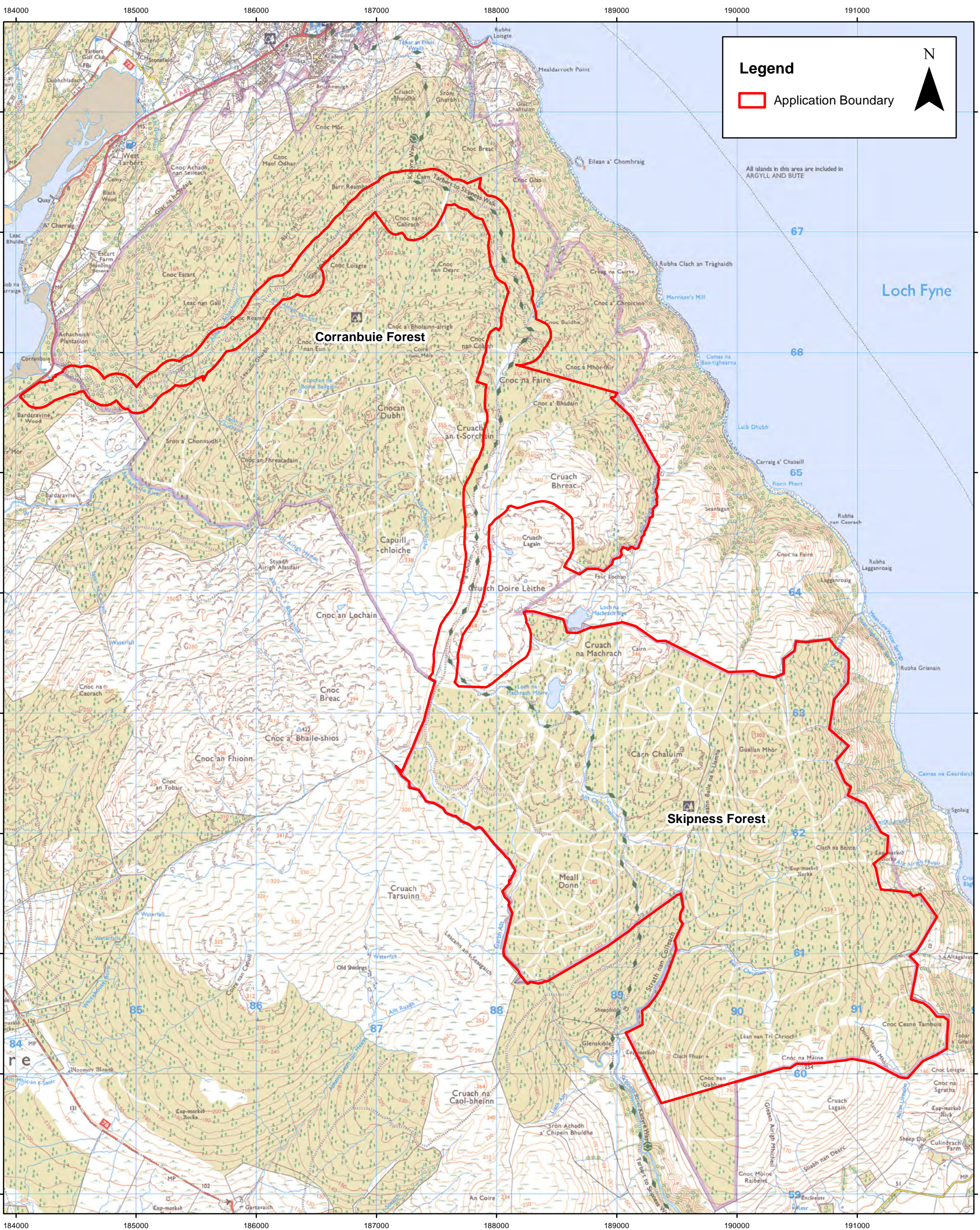


Figure	Date	Rev	Dwg No.	Datum: OSGB36
2	07/01/22	C	EHAIL-RSK-I-096	Projection: TM



Legend

Application Boundary

N

All islands in this area are included in ARGYLL AND BUTE

Loch Fyne

Corranbuie Forest

Skipness Forest



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Earraghail Renewable Energy Development
Design and Access Statement
Application Boundary

C	07/01/22	DL	Revised Site Boundary
B	26/11/21	DL	Revised Logo
A	02/11/21	DL	Application Boundary
Rev	Date	By	Comment

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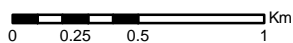
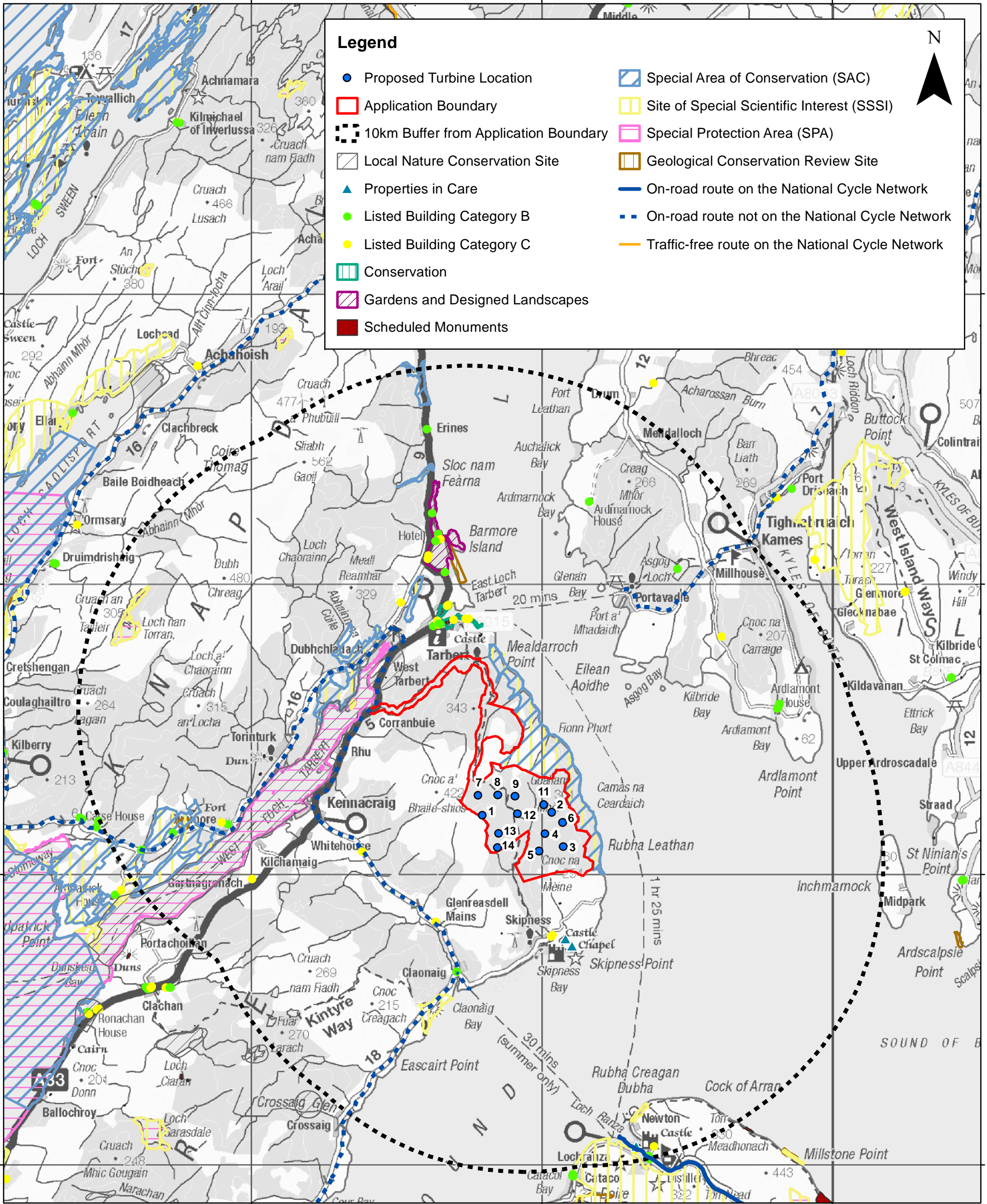


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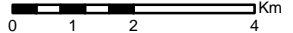


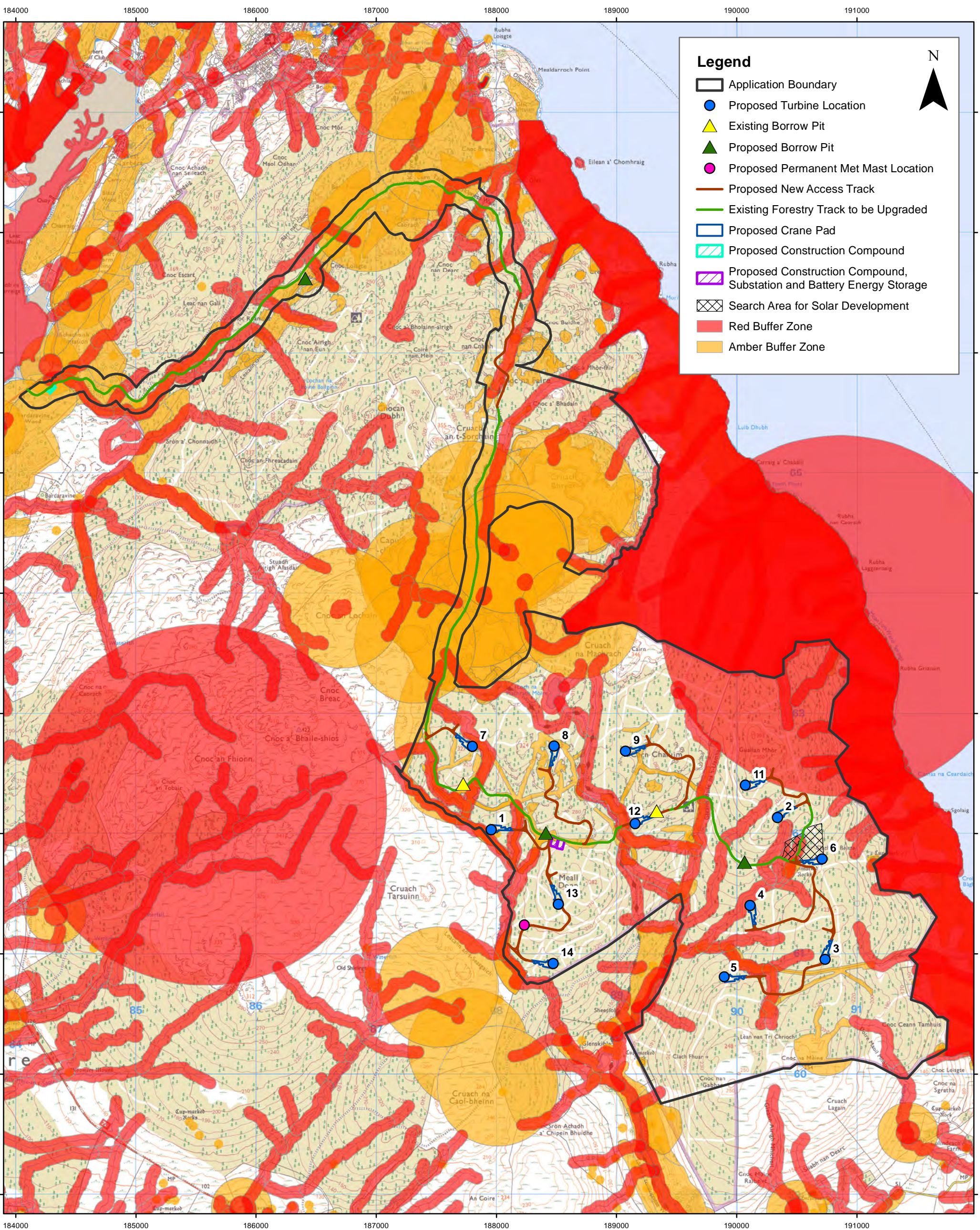
Legend

- Proposed Turbine Location
- Application Boundary
- 10km Buffer from Application Boundary
- Local Nature Conservation Site
- ▲ Properties in Care
- Listed Building Category B
- Listed Building Category C
- Conservation
- Gardens and Designed Landscapes
- Scheduled Monuments
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- Special Protection Area (SPA)
- Geological Conservation Review Site
- On-road route on the National Cycle Network
- On-road route not on the National Cycle Network
- Traffic-free route on the National Cycle Network



180000 190000 200000

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C	07/01/22	DL	Revised Turbine Locations			<p>1:125,000 Scale @ A3</p> 				
B	26/11/21	DL	Revised Logo			Figure 4	Date 07/01/22	Rev C	Dwg No. EHAIL-RSK-I-098	Datum: OSGB36 Projection: TM
A	02/11/21	DL	Environmental Designations							
Rev	Date	By	Comment							



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Earraghail Renewable Energy Development Design and Access Statement On-Site Constraints - Heat Map

Rev	Date	By	Comment
C	07/01/22	DL	Revised Turbine Locations
B	26/11/21	DL	Revised Logo
A	03/11/21	DL	Heat Map

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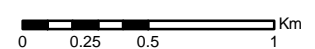
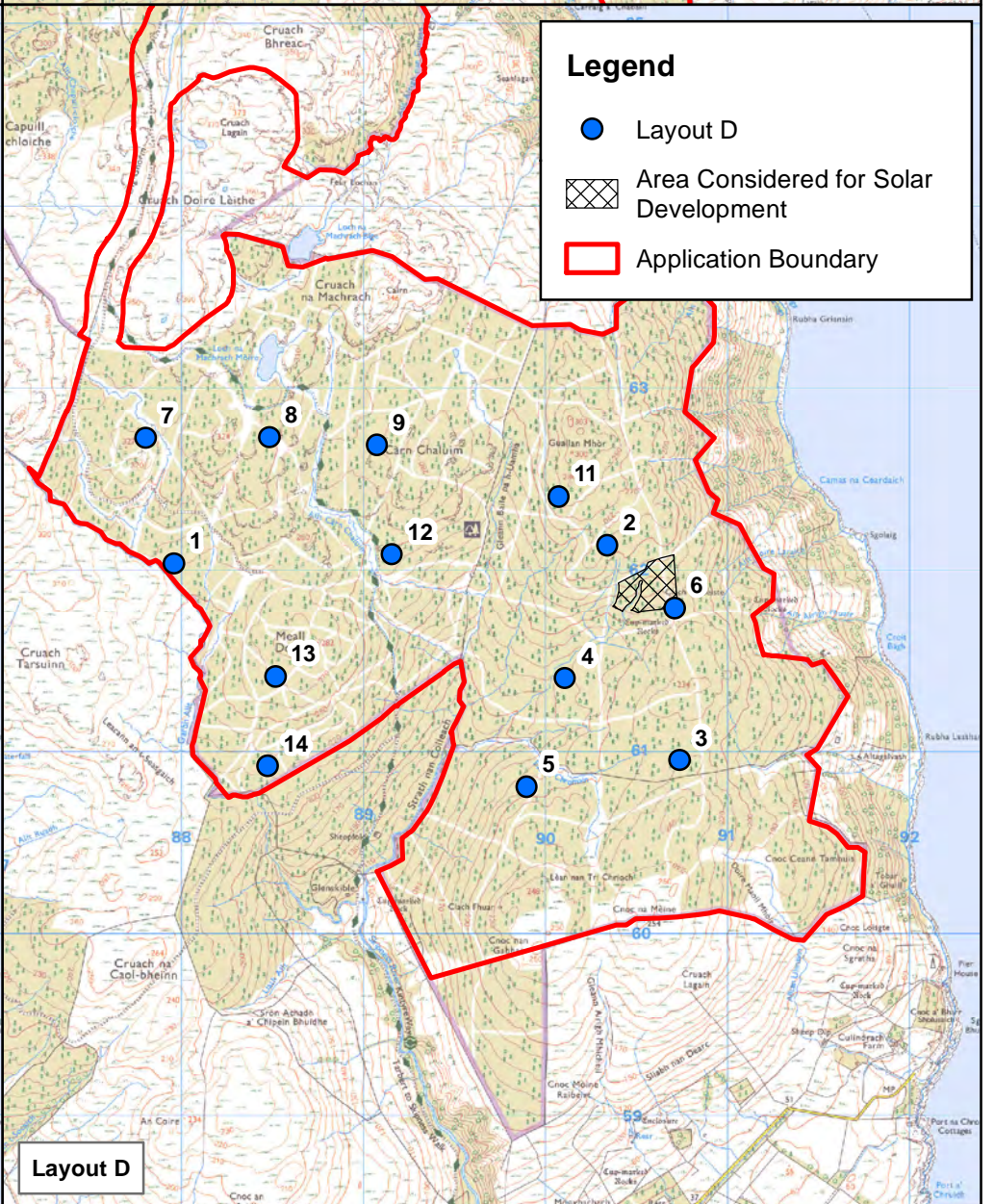
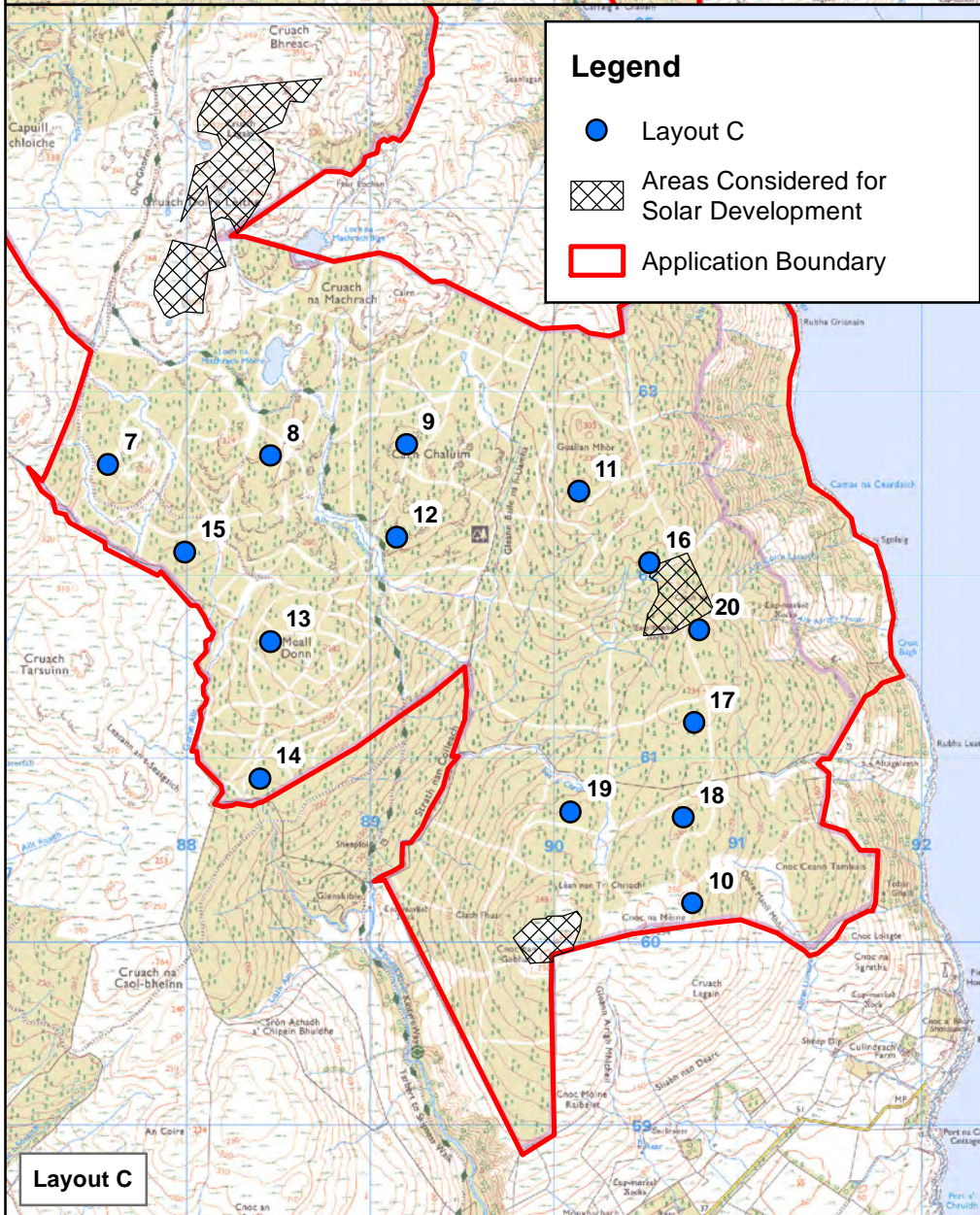
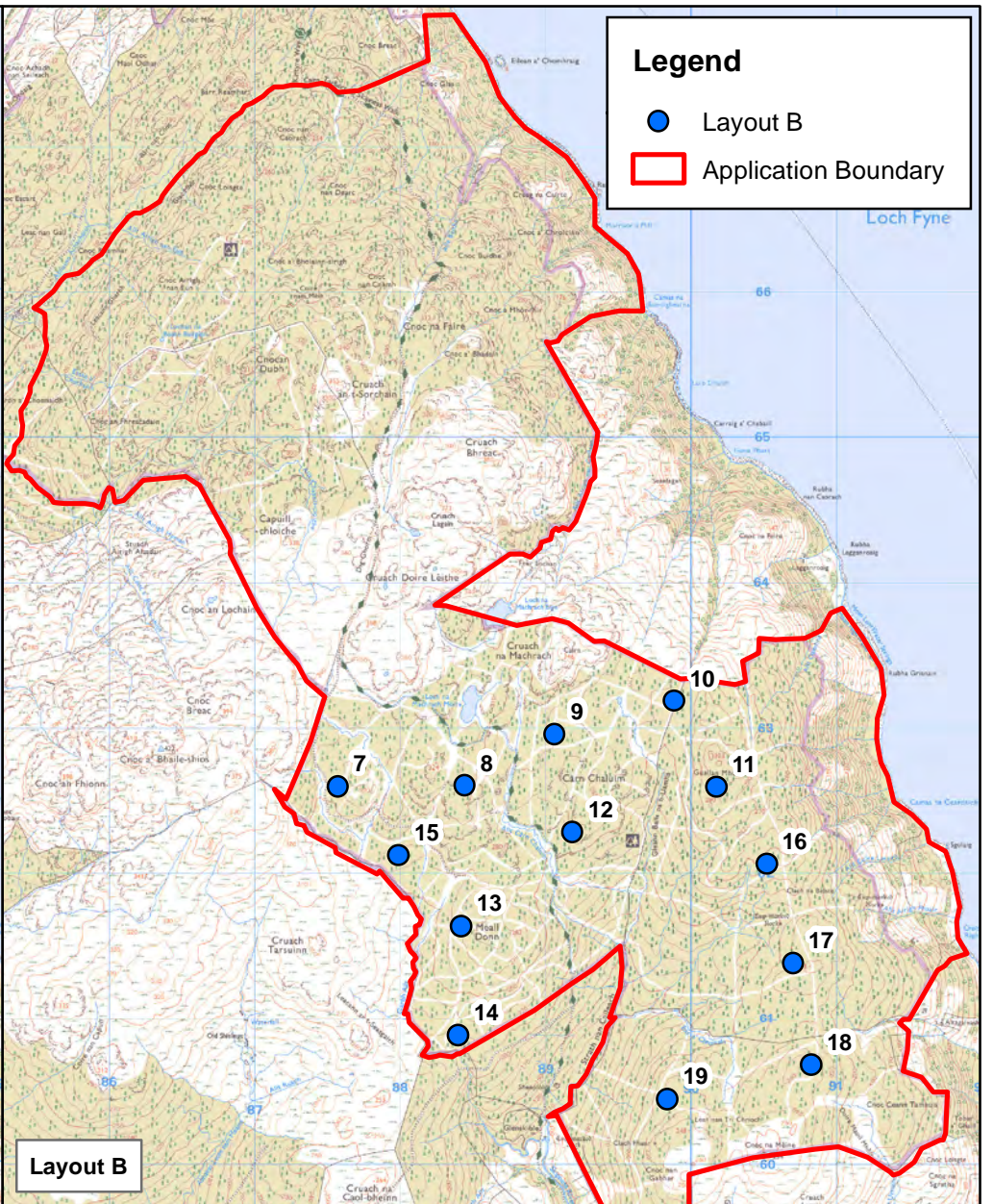
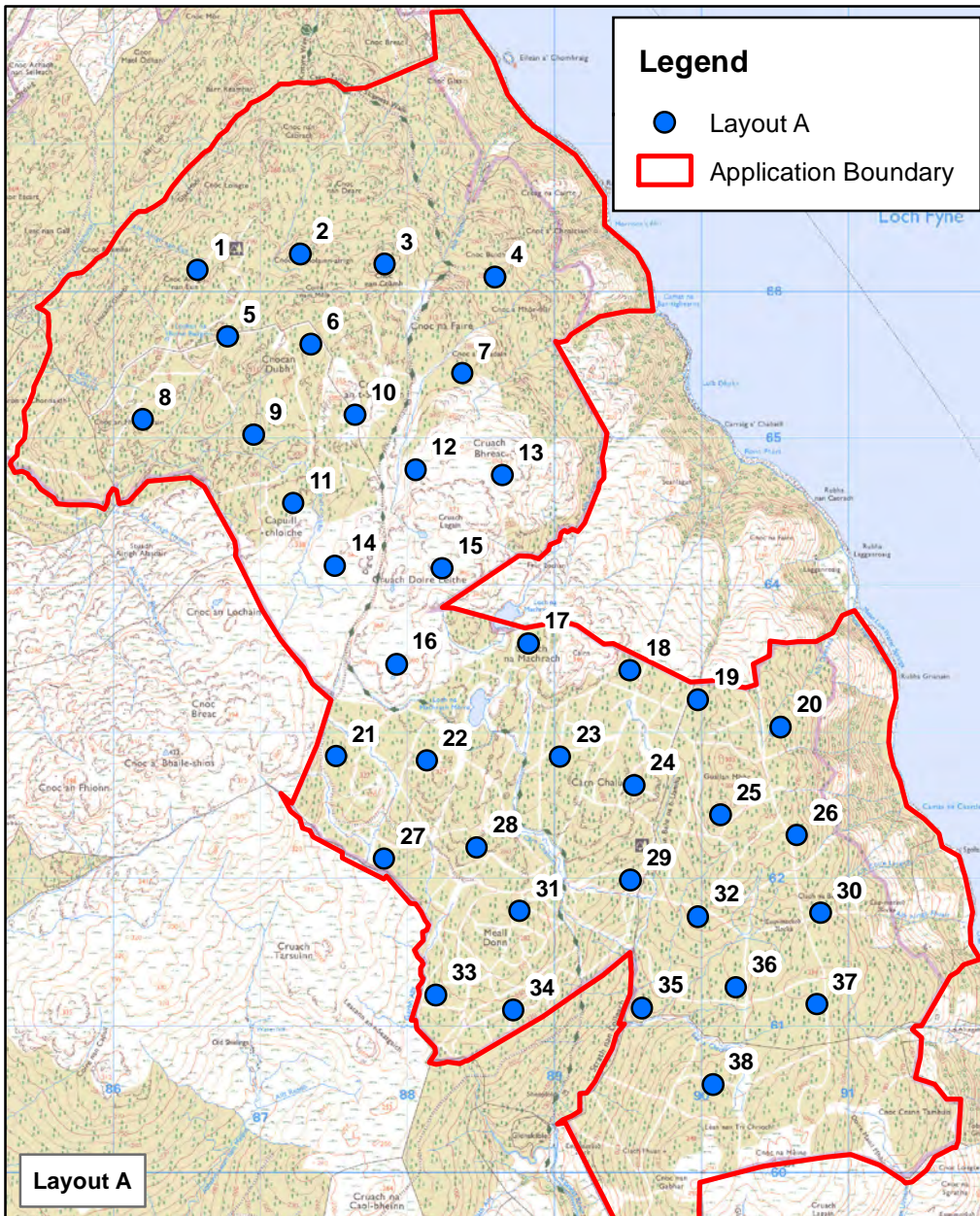


Figure	Date	Rev	Dwg No.	Datum: OSGB36 Projection: TM
5	07/01/22	C	EHAIL-RSK-I-099	



Rev	Date	By	Comment
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B	26/11/21	DL	Revised Logo
A	02/11/21	DL	Design Iterations

Various Scale @ A3

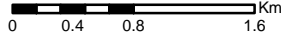
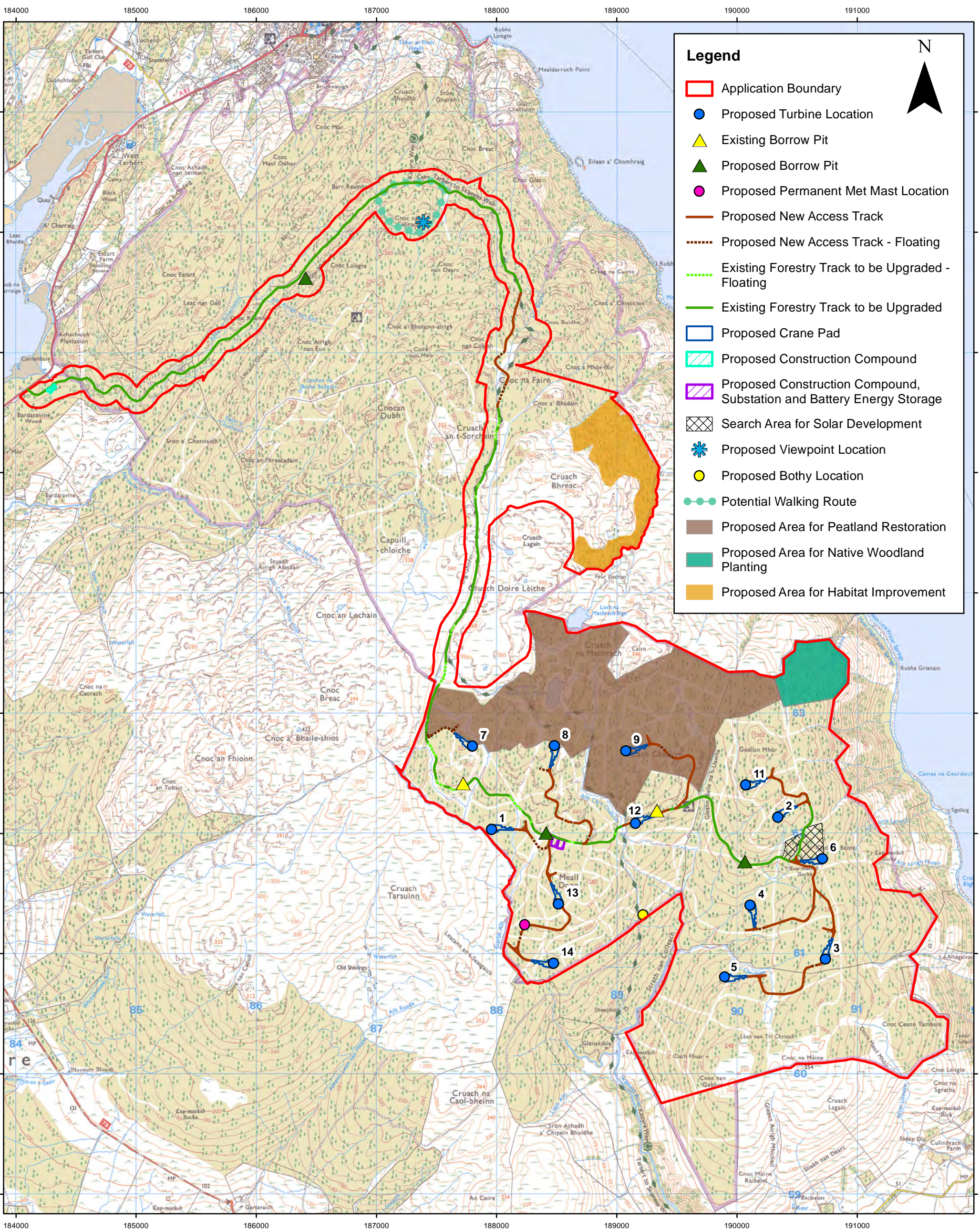


Figure	Date	Rev	Dwg No.	Datum: OSGB36 Projection: TM
6	07/01/22	C	EHAIL-RSK-I-100	



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Earraghail Renewable Energy Development

Design and Access Statement

Proposed Site Layout

C	07/01/22	DL	Revised Turbine Locations and Infrastructure
B	26/11/21	DL	Revised Logo
A	02/11/21	DL	Proposed Site Layout
Rev	Date	By	Comment

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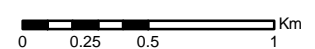


Figure 7	Date 07/01/22	Rev C	Dwg No. EHAIL-RSK-I-101	Datum: OSGB36 Projection: TM
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