

Strath Tirry Wind Farm

REG Strath Tirry Limited

Environmental Impact Assessment Report

December 2020



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1 Introduction

1.1 Executive Summary

1.1.1 This chapter provides an overview of the legislative and policy context for the Proposed Development, the site context, application details, details of the Applicant and the project team, as well as a summary of the structure and content of the Environmental Impact Assessment Report (EIA Report).

1.2 Background

1.2.1 REG Strath Tirry Limited (hereafter referred to as the “Applicant”) intends to apply to The Highland Council (THC) for consent for the construction, operation and decommissioning of Strath Tirry Wind Farm (hereafter referred to as the “Proposed Development”), on a site approximately 8km north of Lairg (refer to Figure 1.1).

1.2.2 The Applicant has submitted an application for the Proposed Development to THC under The Town and Country Planning Act (Scotland) 1997 (as amended). This application is supported by an Environmental Impact Assessment (EIA) Report (this document) prepared in accordance with The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.

1.2.3 It should be noted that at the time of writing, Brexit negotiations are still ongoing. The European Union (Withdrawal) Act 2018 specifies that EU-derived domestic legislation will continue to take effect in domestic law after the UK formally exits the EU. Therefore, this EIA Report continues to reference EU-derived legislation as appropriate.

Site Description

1.2.4 The site is located within The Highland Council area, within Sutherland. The site lies approximately 8km north of Lairg and 4km east of Loch Shin. The site is located within a single landholding at Shinness, which is part of the wider Dalchork Wood and covers an area of approximately 79 hectares. The A836 runs along the western boundary of the site. The southern site boundary is bordered by a private forestry track which leads into the Dalnessie Estate.

1.2.5 The site comprises mainly plantation commercial forestry and scrub birch interspersed with areas of open moorland.

1.2.6 The site slopes gently down in a south-westerly direction with elevation across the site ranging from approximately 155m above ordnance datum (AOD) in the north-eastern site area to approximately 130m AOD in the south-west. The site is centred on British National Grid (BNG) Easting: 257880, Northing: 914516.

1.2.7 One watercourse, Feith Osdail, flows from north-east to south-west through the southern area of the site before joining the River Tirry, approximately 150m from the south-western site boundary.

1.2.8 The nearest properties to the site boundary are a single residence known as Dalmichy, located 891m to the south and a row of four dwellings known as Blairbuie, located 1.2 km to the west.

1.2.9 The access to the site would be directly from the A836.

1.2.10 The wider area around the site is a mixture of commercial forestry and agricultural land, with scattered residential properties and settlements. There are six operational and/or consented wind farms within 20km of the Proposed Development site, with the closest being over 10km from the Proposed Development.

The Proposed Development

- 1.2.11 The Proposed Development would consist of up to four wind turbines, associated transformers and switchgear at each turbine as well as an energy storage system. The overall capacity of the Proposed Development would be approximately 22.8 MW¹. A number of ancillary elements are also proposed:
- turbine foundations & crane hard-standings;
 - two new site entrances off the A836 (one permanent and one temporary);
 - temporary and permanent access tracks;
 - watercourse crossings;
 - a network of underground cables;
 - switching station and control building;
 - temporary construction compound, storage area and car park;
 - two temporary access compounds;
 - three temporary borrow pit search areas; and
 - a permanent 10m meteorological mast.
- 1.2.12 The word ‘permanent’ in the above description refers to the infrastructure being in situ for the lifetime of the Proposed Development and which will be decommissioned on cessation of operation.
- 1.2.13 The proposed site layout is shown in Figure 1.2.
- 1.2.14 The proposed locations of the turbines have been identified in order to enable the EIA to assess fully the Proposed Development for which permission is being sought. The British National Grid coordinates denoting where each of the turbines are proposed to be located are listed in Table 3.1 of Chapter 3 (Proposed Development).
- 1.2.15 Whilst the location of the infrastructure described above has been determined through an iterative environmental-based design process, there is the potential for these exact locations to be altered through micro-siting allowances prior to construction. A micro-siting allowance of up to 50m in all directions is being sought in respect of each turbine and its associated infrastructure in order to address any potential difficulties which may arise in the event that pre-construction surveys identify unsuitable ground conditions or environmental constraints that could be avoided by relocating the turbine. No micro-siting will be undertaken that results in an increase in the significance of adverse effects. It is proposed that the micro-siting of all infrastructure will be subject to an appropriately worded planning condition.
- 1.2.16 During its operation, the Proposed Development is likely to generate approximately 1,175,284MWh of electricity over its lifetime (30 years), saving 17,629 t CO_{2e} per year compared to fossil fuel mix electricity production.
- 1.2.17 The Scottish Government’s Carbon Calculator determines the volume of carbon released during the construction of a wind farm, through the manufacturing of the infrastructure, disturbance to peat and felling of woodland. This calculator has determined that the average “pay-back period” for the Proposed Development would be approximately 1.9 years (compared to fossil fuel mix electricity), following which the Proposed Development would be carbon saving. Refer to Appendix 3.3 for details of the inputs and outputs of the Carbon Calculator.

1 22.8MW is target capacity. Actual installed capacity may be greater or less dependent on turbine model and energy storage system selection but will not be greater than 50MW.

1.3 The Applicant

- 1.3.1 The Applicant is a joint venture between REG Windpower Limited (“REG”) and Falck Renewables Wind Limited (“Falck Renewables”).
- 1.3.2 Since 2005, the team at REG has been dedicated to developing a variety of renewable energy projects to help in the shift to a zero-carbon future. REG is based in the UK and has, to date, developed over 1 GW of wind, solar and bio-fuel projects primarily in the UK, but also in the past in Poland and Canada. Today, over 40 projects developed by REG are built and in operation.
- 1.3.3 Falck Renewables and its affiliated companies (“Falck Group”) are an experienced worldwide player in the development, construction, purchase and management of wind and solar power projects at all stages of their development. Falck Group has a proven track record of successfully developing, constructing and operating wind projects across Europe. Falck Group owns a wind and solar portfolio of 1,123 MW in operation with over 400 MW of onshore wind operational in the UK across 12 sites, ten of which are in Scotland and two of which are in THC area.
- 1.3.4 The Applicant has been fully committed to engaging with the community since the outset of the project in 2014, liaising with the community council and local residents, and ensuring that any changes to accommodate local concerns are incorporated where possible. All of REG’s projects are developed with a strong commitment to local communities to ensure that local amenities are protected where possible, adverse environmental effects are minimised and positive enhancement is provided where appropriate, and local employment opportunities and community benefit funds are provided to maximise local benefits.

1.4 Purpose of the EIA Report

- 1.4.1 ITP Energised (ITPE) was appointed by the Applicant to undertake an Environmental Impact Assessment (EIA) of the Proposed Development in accordance with The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (the “EIA Regulations”). The EIA process is the systematic process of identifying, predicting and evaluating the environmental impacts of a proposed development. The EIA process reported in this EIA Report identifies the methodologies used to assess the environmental effects predicted to result from the construction, operation and decommissioning of the Proposed Development. Where appropriate, it also sets out mitigation measures designed to avoid, prevent, reduce and, if at all possible, offset likely significant adverse environmental impacts. An assessment of residual effects, those expected to remain following implementation of mitigation measures, is also presented.
- 1.4.2 The main findings and conclusions of this EIA Report are summarised in a Non-Technical Summary (NTS), as required by the EIA Regulations. The NTS, provided as a stand-alone document, summarises the key findings of the EIA in an easily accessible, non-technical language format, ensuring everyone with an interest in the project, can understand and access information regarding the Proposed Development’s predicted environmental effects.
- 1.4.3 This EIA Report and NTS accompany the application for consent, being submitted to THC.

1.5 Structure of the EIA Report

- 1.5.1 The EIA Report is split into five volumes, with the NTS forming a separate document. Volume 1 of this EIA Report is structured as follows:
- Chapter 1 provides an introduction to the Applicant, the Proposed Development and the EIA;
 - Chapter 2 provides a description of the design iteration process, detailing how the Proposed Development evolved through the course of the assessment process, as well as detailing the process for eliminating alternative development options;

- Chapter 3 provides a description of the existing site, details of the Proposed Development, an explanation of the construction, operation, maintenance and decommissioning process, and the need for the development along with carbon considerations;
 - Chapter 4 sets out the EIA methodology and process, including the scope of the process, justification for topics scoped out of the EIA, and details of the Public Consultation process;
 - Chapter 5 sets out the planning and energy policy context;
 - Chapter 6 assesses the potential and residual effects on landscape and visual amenity;
 - Chapter 7 assesses the potential and residual effects on ornithology;
 - Chapter 8 assesses the potential and residual effects on ecology and nature conservation;
 - Chapter 9 assesses the potential and residual effects on peat, hydrology, hydrogeology and geology;
 - Chapter 10 assesses the potential and residual effects on noise;
 - Chapter 11 assesses the potential and residual effects on cultural heritage;
 - Chapter 12 assesses the potential and residual effects on traffic and transport;
 - Chapter 13 assesses the potential and residual effects on socio-economics, tourism and recreation;
 - Chapter 14 assesses the potential and residual effects on aviation and radar;
 - Chapter 15 assesses the potential and residual effects on telecommunications;
 - Chapter 16 assesses the potential and residual effects on forestry;
 - Chapter 17 is the Schedule of Environmental Commitments, which summarises all the mitigation measures presented in this EIA Report; and
 - Chapter 18 provides summary tables of all predicted residual effects.
- 1.5.2 Volume 2 contains the non-landscape and visual figures that inform the EIA Report.
- 1.5.3 Volume 3 contains the landscape and visual figures, and visualisations.
- 1.5.4 Volume 4 contains supporting information and appendices for each of the technical chapters, and additional studies that have been prepared to inform the relevant assessments as reported in the EIA Report.
- 1.5.5 Volume 5 contains confidential technical appendices.
- 1.5.6 Additional supporting documents which form part of the application submission include a Planning Statement, a Pre-Application Consultation (PAC) Report and a Design and Access Statement (DAS).

1.6 EIA Project Team

- 1.6.1 The Applicant can confirm that assessment work was undertaken by the ITPE Environmental Team supported by external consultants as shown in Table 1.1 below. The EIA project team has the appropriate level of experience, skills and expertise, and are therefore competent to carry out the assessment work.

Table 1.1 – EIA Team

Person	Role	Expertise
Rebecca Todd (ITPE)	EIA Project Manager Author of Chapters 1 (Introduction), 2 (Design Iteration), 3 (Proposed Development), 4 (Approach to EIA), 15 (Telecommunications), 17 (Draft Scheme of Mitigation) and 18. (Summary of Effects)	BSc (Hons), PIEMA Over 12 years’ experience leading and undertaking EIAs across a range of sectors, including Scottish wind farms.
Simon Herriot (Savills)	Town Planning consultant Author of Chapter 5 (Planning & Energy Policy) and the Planning Statement.	BSc (Hons), MRTPI Over 20 years’ experience of public and private sector planning, with a particular focus on the renewable energy sector. Simon has contributed to and managed a large number of EIAs for Scottish renewable energy projects and has given evidence at numerous wind farm public inquiries.
James Welch (OPEN)	LVIA Project Director Author of Chapter 6 (Landscape and Visual Impact Assessment)	BA Hons, Fellow of the Landscape Institute. 33 years’ experience as qualified landscape architect, specialising in L&V assessment. Involved in wind energy evaluation since 1995. Expert Witness at 90 Public Inquiries/ Appeals.
Adam Fitchet (Ramboll)	Ornithology and Ecology Lead. Author of Chapter 7 (Ornithology) and Chapter 8 (Ecology).	BSc (Hons), MCIEEM Sixteen years’ experience of professional ecological consultancy including approximately 35 wind farm projects in Scotland, Africa, the Middle East and Central America.
Jenny Hazzard (ITPE)	Geology and Hydrology Lead. Author of Chapter 9 (Geology, Peat, Hydrology and Hydrogeology).	BSc (Hons) Geological Engineering, MSc Engineering Geology, PIEMA 20 years’ experience in environmental consultancy with a focus on the geo-environment. Has completed numerous hydrology/geology/hydrogeology assessments for onshore wind projects located in Scotland, including peat

Person	Role	Expertise
		surveys, peat slide risk assessments and peat management plans.
Alasdair Baxter (ITPE)	Noise Lead. Author of Chapter 10 (Noise).	MSc, PGDip, BSc (Hons) Dunelm, MIOA Over 18 years' experience of providing noise and vibration assessments and EIA technical chapters for major infrastructure schemes, including onshore and offshore wind farms throughout the UK.
George Mudie (CFA)	Cultural Heritage Lead. Author of Chapter 11 (Cultural Heritage).	MA (Hons), MCIfA Over 18 years full-time experience of producing Cultural Heritage EIAs for renewable energy developments, and for other industrial and commercial developments across the UK.
Gordon Buchan (Pell Frischmann)	Transport Lead. Author of Chapter 12 (Traffic and Transport).	BEng (Hons), MSc, CMILT, MCIHT Over 24 years' experience in undertaking transport assessment and impact review studies for a wide variety of projects including wind farm and energy generation and distribution projects in the UK, Ireland and Northern Europe.
Paul Darnborough (ITPE)	Socio-economic, Tourism and Recreation Lead. Author of Chapter 13 (Socio-economic, Tourism and Recreation).	BSc (Hons), MSc, Chartered Environmentalist, MIEMA Over 20 years' experience leading and undertaking EIAs for a range of sectors, including Scottish wind farms.
Commander John Taylor Royal Navy (Ret) (WPAC)	Aviation Lead. Author of Chapter 14 (Aviation).	Over 30 years' experience in Aviation Traffic Control (ATC) and senior roles in military regulation. 14 years' experience in the interaction of wind farms and aviation, including assessment of over 2000 sites and being an expert witness at over 20 inquiries in England and Scotland.
Norman O'Neill (RTS Forestry)	Forestry Lead.	BSc (For), MICFor, CEnv

Person	Role	Expertise
	Author of Chapter 16 (Forestry).	20 years' experience in the production of forestry associated EIA chapters for a combination of utility projects including wind farms and overhead power lines.

1.7 Availability of the EIA Report

If you would like a copy of the EIA Report, please email Kirsty O'Brien at INVICTA PA, quoting "Strath Tirry Wind Farm" in the subject header.

Email: kirsty.obrien@invictapa.co.uk

- 1.7.1 Hard copies of the Non-Technical Summary (NTS) are available for £20 (including printing and postage) from the Applicant, a hard copy of the EIA Report Volumes 1, 2, 3 and 4 are available for £1,800 (including printing and postage). In addition, all documents are available as a PDF (for screen viewing only) on a USB for £20.00 (including postage).
- 1.7.2 Due to the COVID-19 Pandemic and in-line with The Town and Country Planning (Miscellaneous Temporary Modifications) (Coronavirus) (Scotland) Regulations 2020 (Scottish Government, 2020), no physical copies are available for public viewing at the point of submission.

1.8 Representations to the Application

- 1.8.1 Any representations to the application should be made by email, directly to The Highland Council at:

Email: epanning@highland.gov.uk

1.9 References

Scottish Government (1997). *Town and Country Planning (Scotland) Act 1997*. Available at:
<http://www.legislation.gov.uk/ukpga/1997/8/contents>

Scottish Government (2017). *Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended)*. Available at:
<http://www.legislation.gov.uk/ssi/2017/102/contents/made>

Scottish Government (2019). *Climate Change Action*. Available at:
<https://www.gov.scot/news/climate-change-action-1/>

Scottish Government (2020). *The Town and Country (Miscellaneous Temporary Modifications) (Coronavirus) (Scotland) Regulations 2020*. Available at:
<https://www.legislation.gov.uk/ssi/2020/124/made>

UK Government (2018). *European Union (Withdrawal) Act 2018*. Available at:
<http://www.legislation.gov.uk/ukpga/2018/16/contents/enacted>

11 Cultural Heritage

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11 Cultural Heritage

11.1 Executive Summary

- 11.1.1 This chapter evaluates the effects on cultural heritage associated with the construction, operation and decommissioning of the Proposed Development. The chapter describes the results of a desk-based assessment and field surveys and draws on comments provided by Historic Environment Scotland (HES), The Highland Council (THC) and Highland Council’s Historic Environment Team (HET). The assessment considers the potential direct effects on assets within the Proposed Development site (Inner Study Area) and the indirect effects of the Proposed Development on the settings of heritage assets in the wider landscape (Outer Study Area).
- 11.1.2 Eleven heritage assets have been identified within or directly adjacent to the Inner Study Area, details of which are provided in Appendix 11.1. A possible sheiling hut (4) and the Category C Listed Fèith Osdail bridge (5) are assessed as being of low sensitivity. The site of a former possible cairnfield (1) (destroyed by forestry), the site of former milestone (6), and five quarries (7, 8, 9, 10 and 11), are assessed as being of negligible sensitivity. Two recorded features (2 and 3) have been identified as being natural features and are assessed as being of negligible sensitivity.
- 11.1.3 An assessment of the identified cultural heritage resource, and consideration of the current and past land-use within and in the immediate vicinity of the Inner Study Area, suggests that there is a low likelihood that hitherto undiscovered archaeological remains are present within the site.
- 11.1.4 The Proposed Development has been designed as far as possible to avoid direct effects on the identified heritage assets within the site.
- 11.1.5 An old roadside quarry (7), of negligible sensitivity, would be directly affected by the Proposed Development. No mitigation is required in respect of this effect and the residual effect resulting from its loss is assessed as being **minor** adverse and **not significant**.
- 11.1.6 A possible shieling hut (4), the recorded location of which is within 15 m of the temporary access track, could be directly affected by the Proposed Development. Mitigation to offset the predicted effect is proposed and the residual effect is assessed as being **minor** adverse and **not significant**.
- 11.1.7 A programme of standard mitigation is proposed to address the possibility of encountering as yet undiscovered buried archaeological remains.
- 11.1.8 Fourteen Scheduled Monuments (of high sensitivity) have been identified within the Outer Study Area from which there is some degree of theoretical visibility of the Proposed Development. Two other Scheduled Monuments (of high sensitivity), outwith the Outer Study Area, have been included in the assessment at the specific request of HES. There are also two Category C Listed Buildings (low sensitivity) within the Outer Study Area from which there is predicted theoretical visibility of the Proposed Development. These assets are listed in Appendices 11.2 and 11.3, which include tabulated assessments of the effect of the Proposed Development on their settings.
- 11.1.9 There are two Scheduled Monuments (SM 5300; SM 5081) within the Outer Study Area where a **moderate** significance adverse effect (significant in EIA terms) has been identified. Although these effects are assessed as significant, because of the predicted change in their immediate surroundings, the integrity of the settings of the affected assets, the capacity to convey their cultural significance, would not be compromised.
- 11.1.10 No significant cumulative effects have been identified.

11.2 Introduction

- 11.2.1 This chapter evaluates the effects on cultural heritage and archaeology (hereafter ‘heritage assets’) associated with the construction, operation and decommissioning of the Proposed Development.

The chapter details the results of a desk-based assessment undertaken by CFA Archaeology Ltd (CFA), and draws on comments provided by Historic Environment Scotland (HES), The Highland Council (THC) and THC Historic Environment Team (HET) in their consultation responses.

- 11.2.2 The assessment was prepared by Juliette Mitchell MA (Hons) MSc PhD a Consultant with CFA Archaeology Ltd (CFA) a Chartered Institute for Archaeologists (CIfA) Registered Organisation (RO) based in Musselburgh, East Lothian. Miss Mitchell has over 5 years post graduate experience as an archaeologist. The chapter was reviewed and approved by George Mudie MA (Hons) FSA Scot MCIfA. Mr Mudie is Principal Consultant with CFA and is a Member of the Chartered Institute for Archaeologists (MCIfA). He has 20 years full-time experience of producing Environmental Impact Assessments (EIAs) for renewable energy developments, and for other industrial and commercial developments across the UK.
- 11.2.3 The assessment considers the potential direct effects on heritage assets within the site (Inner Study Area) arising from construction or decommissioning of the Proposed Development and the indirect effects of the Proposed Development on the settings of heritage assets in the wider landscape (Outer Study Area) during the operational phase and as a result of decommissioning.
- 11.2.4 The specific objectives of the chapter are to:
- describe the cultural heritage baseline;
 - describe the assessment methodology and significance criteria used in completing the impact assessment;
 - describe the potential effects, including direct, indirect and cumulative effects;
 - describe the mitigation and, where appropriate, monitoring measures proposed to address likely significant effects; and
 - assess the residual effects remaining following the implementation of mitigation.
- 11.2.5 This assessment has assessed the design which includes turbine layout F and infrastructure layout 4 as described in Chapter 2. For the purpose of this assessment, it has been assumed that the Proposed Development turbines will not exceed 135 m to blade tip. In addition, the candidate turbine that has been used to inform the assessment has a hub height of 77.8 m and rotor diameter of 117 m. It is recognised that turbine selection will be subject to commercial tendering and availability and the specific parameters of hub height and rotor diameter may therefore vary; it is however unlikely that a change to the hub height or rotor diameter from that assessed would result in a material change in the findings of the assessment.

11.3 Legislation, Policy and Guidelines

Legislation

- 11.3.1 Legislation relevant to archaeology and cultural heritage that has been considered as part of this assessment includes:
- The Ancient Monuments and Archaeological Areas Act 1979 (as amended by the Historic Environment (Amendment) (Scotland) Act (2011)).
 - Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (as amended by the Historic Environment (Amendment) (Scotland) Act (2011)).
 - Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.

Planning Policy

- 11.3.2 Planning policy relevant to archaeology and cultural heritage that has been considered as part of this assessment includes:

- National Planning Framework for Scotland 3 (NPF3) (Scottish Government, 2014a).
- Scottish Planning Policy (SPP) (Scottish Government, 2014b) (paragraphs 135-151).
- Historic Environment Policy for Scotland (HEPS) (HES, 2019a).
- Planning Advice Note 2/2011 (PAN2) (Scottish Government, 2011).
- Highland-wide Local Development Plan (THC, 2012a).
- Caithness and Sutherland Local Development Plan (THC, 2018).
- Onshore Wind Energy Supplementary Guidance (THC, 2016).

Guidance

11.3.3 Guidance relevant to archaeology and cultural heritage that has been considered as part of this assessment includes:

- Environmental Impact Assessment Handbook (SNH/HES, 2018).
- Designation Policy and Selection Guidance (HES, 2019b).
- Managing Change in the Historic Environment: Setting (HES, 2016).
- Highland Council, Standards for Archaeological Work (THC, 2012b).
- Highland Historic Environment Strategy: Supplementary Planning Guidance (THC, 2013).
- Highland Renewables Energy Strategy and Planning Guidelines (THC, 2006).
- Standards and Guidance for Historic Environment Desk-Based Assessment (Chartered Institute for Archaeologists (CIfA), 2014 updated 2017).
- Code of Conduct (CIfA, 2014 revised 2019).

11.4 Consultation

11.4.1 Scoping responses in relation to the Proposed Development were received from HES and THC in both 2015 and 2018. A summary of these responses and the actions required are summarised below in Table 11.1.

11.4.2 Additional consultation with HES and HET, for this application, was carried out by email and letter in June 2020. The aim of the consultation was to obtain advice on the Proposed Development and to agree the approach to the assessment and agree visualisation viewpoints to support the assessment of effects on the settings of heritage assets. Table 11.1 summarises the responses received.

11.4.3 A Pre-Application Advice Response was also provided by THC (09/09/2020) which included advice from HES and from HET.

Table 11.1 – Consultation Responses

Consultee	Consultation Response	Applicant Action
THC (March 2018) Scoping response	Advised that the cultural heritage chapter of the EIAR will need to be undertaken by a professional and competent historic environment consultant.	The assessment has been carried out by CFA archaeology Ltd, a Registered Organisation (RO) with the Chartered Institute for Archaeology (CIfA).

Consultee	Consultation Response	Applicant Action
	Advised that the cultural heritage chapter should be informed by a detailed walkover survey.	A field survey was carried out on 21/07/2020
	Advised that HES should be consulted.	HES provided a scoping response (19/02/2018). They have also been consulted through consultation 25/06/2020, following up on the advice provided in their scoping response (see below).
	Requested that, where indirect impacts are predicted, these should be illustrated using photomontages. Photomontages must be produced in line with Highland Council visualisation standards. Advised that cumulative visual impacts, including existing and proposed wind farm development in the wider area must be taken into consideration and assessed.	Post scoping consultation has been carried out with HES and HET to agree visualisation requirements (see below). Cumulative impacts are assessed in Section 11.12.
	Advised that the assessment should consider the potential direct impacts of the development to cultural heritage as well as indirect impacts.	The assessment considers potential direct effects on archaeology and cultural heritage, as well as effects on setting and cumulative effects.
	Where impacts are unavoidable, HET expect proposed methods to mitigate the impact to be discussed in detail.	Mitigation is set out in Sections 11.7 and 11.10.
HES (February 2018) Scoping response (in THC March 2018)	Confirmed that there are no designated heritage assets within the Proposed Development site.	A desk-based assessment and field survey (21/07/2020) have been carried out over the Proposed Development site to establish the cultural heritage baseline.
	Advised that there are a number of heritage assets within HES remit in the vicinity of the development	A study area of 5 km from the proposed turbines, combined with appraisal of the blade tip height ZTV, has been used for the identification of

Consultee	Consultation Response	Applicant Action
	whose settings have the potential to be adversely impacted by it.	designated heritage assets that could have their settings affected by the Proposed Development.
	Advised that cumulative impacts of the Proposed Development with other developments in the vicinity should be assessed.	Cumulative impacts are assessed in Section 11.12.
	Provided comments on the methodology proposed in the (2018) scoping report for the assessment of significance, but broadly approved the search areas and scope of assessment based on the previous (2015) scoping exercise.	Additional consultation (25/06/2020) was carried out with HES and HET to follow up on the HES comments and present a revised methodology for their approval (see response below 16/07/2020).
	Recommended that the ZTV should inform the identification of heritage assets that could have their settings affected and which may require visualisations.	A study area of 5 km from the proposed turbines, combined with appraisal of the blade tip height ZTV, has been used for the identification of designated heritage assets that could have their settings affected by the Proposed Development.
	<p>Identified a number of heritage assets in the vicinity of the Proposed Development where there is potential for significant effects on their settings, and cautioned that the list is not exhaustive:</p> <p>Cnoc a' Bhreac-leathaid, shielings and cairnfield 700 m NNN of (SM 5300)</p> <p>Loch Beag na Fuaralachd, cairn and shielings 1175 m ESE of SW end (SM 5081)</p> <p>Loch Beag na Fuaralachd, shielings 1000 m SW of SW end of (SM 5159)</p> <p>Dalnessie, settlement N of Fèith Osdail (SM 4563)</p>	<p>A study area of 5 km from the proposed turbines, combined with appraisal of the blade tip height ZTV, has been used for the identification of designated heritage assets that could have their settings affected by the Proposed Development.</p> <p>Additional consultation (25/06/2020) was carried out with HES and HET to agree the scope of assessment and visualisation requirements (see response below 16/07/2020).</p>

Consultee	Consultation Response	Applicant Action
	<p>Cnoc Ollasdail hut circle and field systems (SM 4375)</p> <p>Loch Beag na Fuaralachd, prehistoric settlement 950 m SW of SW end of (SM 5401)</p>	
HET (February 2018) Scoping response (in THC March 2018)	<p>Advised that the methodology as set out in the scoping report is acceptable and that appropriate sources of data had been identified.</p>	<p>Additional consultation was carried out with HES and HET to follow up on the HES comments and present a revised methodology for their approval (see response below 16/07/2020).</p>
	<p>Advised that the cultural heritage assessment should follow the Highland Council Standards for Archaeological Work.</p>	<p>The assessment has been carried out with due regard to all applicable guidance, including THC Standards.</p>
HES Consultation Response (July 2020)	<p>Largely content with the proposed assessment methodology. Suggested that the assessment makes clear where 'moderate/minor' impacts are considered significant.</p>	<p>The assessment follows the recommendations in the SNH/HES EIA Handbook (Appendix 1).</p>
	<p>Recommend that a photomontage as well as a wireline is considered from:</p> <p>Cnoc a' Bhraec-leathaid, shielings and cairnfield 700 m NNN of (SM 5300)</p>	<p>A photomontage and wireline have been provided as requested (Figure 11.3a-k).</p>
	<p>Content with wirelines for the following:</p> <p>Loch Beag na Fuaralachd, cairn and shielings 1175 m ESE of SW end (SM 5081)</p> <p>Dalnessie, settlement N of Fèith Osdail (SM 4563)</p> <p>Cnoc Ollasdail hut circle and field systems (SM 4375)</p> <p>Altbreck, broch 1650 m ESE of Dalchork Bridge (SM 1829)</p>	<p>A wireline has been provided from the large, chambered cairn on The Ord (Figure 11.10a-e).</p> <p>An LVIA viewpoint (Figure 6.34: LVIA VP 20) provides a photomontage of the view from the summit of The Ord</p>

Consultee	Consultation Response	Applicant Action
	<p>Sallachy, broch 425 m NNE of Fruchan Cottage (SM 1883)</p> <p>The Ord, chambered cairns, cairns, settlements and field systems (SM 1812)</p>	
	<p>The following assets were identified in the scoping response in 2018 but are excluded from the list of visualisations:</p> <p>Loch Beag na Fuaralachd, shielings 1000 m SW of SW end of (SM 5159)</p> <p>Loch Beag na Fuaralachd, prehistoric settlement 950 m SW of SW end of (SM 5401)</p> <p>If they are excluded from assessment, then it would be useful to the EIA Report to explain the exclusion.</p>	<p>The assets are considered as part of the assessment, in Appendix 11.2.</p> <p>The assets are adjacent to Loch Beag na Fuaralachd, cairn and shielings 1175 m ESE of SW end (SM 5081) and have a similar setting (surrounded by commercial forestry). The wireline visualisations from SM 5081 are representative of the view from these other locations.</p>
	<p>Assessment of setting impacts should recognise that views from monuments screened by forestry may open up in future.</p>	<p>Consideration has been given to the bare earth wirelines, which represent possible future views from monuments where forestry currently screens views.</p> <p>Screening effects by commercial forestry has been discussed in relation to the monuments and the Proposed Development.</p>
	<p>Advised that assessment of cumulative effects is particularly important given the number of existing and proposed wind turbines in the area.</p>	<p>Cumulative 360-degree wirelines have been prepared to show other wind turbine locations.</p> <p>Cumulative effects are outlined in Section 11.12.</p>
<p>HES pre-application advice response (in THC Pre-Application Advice Response September 2020).</p>	<p>Content with the information and advice provided to date as there are no changes to the proposed development in terms of site boundary, number and heights of proposed turbines.</p>	<p>Noted.</p>

Consultee	Consultation Response	Applicant Action
<p>HET pre-application advice response (in THC Pre-Application Advice Response September 2020).</p>	<p>A walkover survey should be carried out to cover the proposed development area, including the proposed access tracks, infrastructure developments, borrow pits, compounds, etc.</p>	<p>Walkover field survey was carried out on 21/07/2020 and 22/07/2020.</p>
	<p>If abnormal loads are expected to use the Category C Listed Rhian Bridge during construction, maintenance or decommissioning of the wind farm, a full structural survey will be required to confirm the bridge can handle the loads.</p>	<p>This matter is addressed in Chapter 12.</p>
	<p>Assessment of indirect impacts should be carried out. There are potential impacts on a number of Scheduled Monuments to the east and south-east</p> <p>Where indirect impacts are predicted in the EIAR they will be illustrated using photomontages. All assets that have visual site of the wind farm must be identified.</p> <p>Cumulative visual impacts including existing and proposed wind farm development in the wider area must be taken into consideration and assessed.</p>	<p>A study area of 5 km from the proposed turbines, combined with appraisal of the blade tip height ZTV, has been used for the identification of designated heritage assets that could have their settings affected by the Proposed Development. These are set out in Appendix 11.2 and Appendix 11.3.</p> <p>Consultation has been carried out with HES and HET to agree the scope of assessment and visualisation requirements (see above).</p> <p>Cumulative wirelines have been provided.</p> <p>Site visits to external receptors were undertaken on 21/07/2020 and 22/07/2020.</p>

Consultee	Consultation Response	Applicant Action
	<p>Attention is drawn to an extensive prehistoric landscape to the east of Loch Shin, that includes roundhouses, burnt mounds, field systems and a broch.</p> <p>The following designated assets, also to the west of the turbines, must be considered:</p> <p>Scheduled Monument Sallachy Broch (SM 1883)</p> <p>Category C Listed Shinness Murray Memorial (LB 8027).</p>	<p>The prehistoric landscape east of Loch Shin is considered in paragraphs 11.9.36 to 11.9.39. The indicative extent of the remains is shown on Figure 11.2.</p> <p>Wirelines have been provided from Sallachy Broch (Figure 11.9) and from Shinness Murray Memorial (Figure 11.8).</p> <p>The visualisations, from Shinness Murray Memorial (Figure 11.8) is representative of the visual impact on the prehistoric landscape east of Loch Shin.</p>
HET Consultation Response (email September 2020)	<p>Satisfied with the approach that has been proposed.</p> <p>No additional recommendations for assets to consider.</p> <p>The proposed visualisations will provide enough material from which to make an assessment on impacts.</p>	Noted.

11.5 Assessment Methods and Significance Criteria

Proposed Study Area

11.5.1 Two study areas have been used for the assessment:

- The Inner Study Area (Figure 11.1): The Proposed Development site (the site), has been used to identify the potential for direct impacts upon heritage assets (including buried archaeological remains) arising from the construction of the Proposed Development. Figure 11.1 shows the site boundary, the Proposed Development layout and the location of heritage assets identified and described in Appendix 11.1.
- The Outer Study Area (Figure 11.2): a 5 km study area, extending from the outermost proposed turbine locations (agreed through the scoping responses in 2018 and 2020 and Pre-Application Advice), and which includes the Inner Study Area, has been used for the identification of heritage assets whose settings may be affected by the Proposed Development (including cumulative effects). Two Scheduled Monuments, beyond the Outer Study Area have been included in the assessment following advice from HET (Table 11.1: HET, 09/09/2020), together with consideration of a prehistoric landscape along the east shore of Loch Shin. Figure 11.2 shows the Proposed Development and those designated heritage assets from which there

would be theoretical view of the turbines and which are included in the assessment. Lists of these are provided in Appendix 11.2 and Appendix 11.3, which also provide tabulated, summary assessments of the predicted effects on their settings.

- 11.5.2 The 5 km study area is also used for the assessment of cumulative effects on the settings of heritage assets (Figure 11.2).

Methodology

- 11.5.3 The principal study methods comprised desk-based (archival and documentary) research, consultation with HES and HET, and a walkover reconnaissance field survey (21/07/2020 and 22/07/2020).

Desk-based Assessment

- 11.5.4 The following information sources were consulted as part of the desk-based assessment:

- Historic Environment Scotland Spatial Data Warehouse (HES, 2020): provided up-to-date data on the locations and extents of Scheduled Monuments, Listed Buildings, Conservation Areas, Inventory Garden and Designed Landscapes and Inventory Historic Battlefields.
- The Highland Council Historic Environment Record (HER): provided a digital database extract in GIS for all assets within and within 1 km of the Inner Study Area.
- The National Record of the Historic Environment (NHRE) database (Canmore) (HES, 2020): for any information additional to that contained in the HER.
- Map Library of the National Library of Scotland: for Ordnance Survey maps and other historical map resources.
- Historic Land-Use Assessment Data for Scotland (HES, 2020) (HLAMap): for information on the historic land use character of the site and the surrounding area.
- ZTV mapping to identify those designated heritage assets within the Outer Study Area from which there is theoretical visibility of the Proposed Development.

Field Survey

- 11.5.5 A targeted walk-over field survey was carried out on 21/07/2020 and 22/07/2020 within the Inner Study Area (as defined in paragraph 11.5.1).

- 11.5.6 The aims of the field survey were to:

- Assess the baseline condition of the known heritage assets identified through the desk-based assessment.
- Identify any further features of cultural heritage interest not detected through the desk-based assessment.
- Identify areas with the potential to contain currently unrecorded buried archaeological remains.

- 11.5.7 Field survey targeted both, those heritage assets identified through the desk-based assessment and all elements of the Proposed Development infrastructure (access track routes, turbine locations and crane hardstandings, site compounds and the proposed substation location). Previously recorded heritage assets, which were later identified as being natural features (2 and 3), which lie well away from Proposed Development infrastructure, were not revisited during the field survey.

- 11.5.8 The positions of identified assets (and where appropriate their extents) were logged using a GPS with typical sub-metre accuracy. The baseline condition of identified assets was recorded on pro-forma monument recording sheets and by digital photography.

11.5.9 Site visits were undertaken on 21/07/2020 and 22/07/2020 to assess the character and sensitivity of the settings of heritage assets in the Outer Study Area (Figure 11.2). The site visits focused on those heritage assets most likely to receive significant effects on their settings (i.e. those closest to the Proposed Development and those considered, on preliminary analysis of the blade tip height ZTV, to potentially be the most sensitive to change within their settings).

Criteria for the Assessment of Effects

11.5.10 The effects of the Proposed Development on heritage assets have been assessed on the basis of their type (direct effects, impacts on setting and cumulative impacts) and nature (adverse or beneficial). The assessment takes into account the relative value/sensitivity of the heritage asset, and its setting, and the magnitude of the predicted impact.

- Adverse effects are those that detract from or reduce cultural significance or special interest of heritage assets.
- Beneficial effects are those that preserve, enhance or better reveal the cultural significance or special interest of heritage assets.

Assigning Sensitivity to Heritage Assets

11.5.11 Cultural heritage assets are given weight through the designation process. Designation ensures that sites and places are recognised by law through the planning system and other regulatory processes. The level of protection and how a site or place is managed varies depending on the type of designation and its laws and policies (HES, 2019).

11.5.12 Table 11.2 summarises the relative sensitivity of cultural heritage assets relevant to the Proposed Development (excluding, in this instance, World Heritage Sites and Marine Resources).

Table 11.2 - Sensitivity of Heritage Assets

Sensitivity of Asset	Definition / Criteria
High	Assets valued at a national level, including: Scheduled Monuments Category A Listed Buildings Inventory Gardens and Designed Landscapes Inventory Historic Battlefields Non-designated assets that meet the relevant criteria for designation (where applicable)
Medium	Assets valued at a regional level, including: Archaeological sites and areas that have regional value (contributing to the aims of regional research frameworks) Category B Listed Buildings Conservation Areas
Low	Assets valued at a local level, including: Archaeological sites that have local heritage value

Sensitivity of Asset	Definition / Criteria
	Category C listed buildings Unlisted historic buildings and townscapes with local (vernacular) characteristics
Negligible	Assets of little or no intrinsic heritage value, including: Artefact find-spots (where the artefacts are no longer in situ and where their provenance is uncertain) Poorly preserved examples of particular types of features (e.g. quarries and gravel pits, dilapidated sheepfolds, etc)

Criteria for Assessing the Magnitude of Impact

11.5.13 The magnitude of impact (adverse or beneficial) has been assessed in the categories, high, medium, low and negligible and described in Table 11.3.

Table 11.3 - Magnitude of Impact

Level of Magnitude	Definition	
	Adverse	Beneficial
High	Changes to the fabric or setting of a heritage asset resulting in the complete or near complete loss of the asset's cultural significance. Changes that substantially detract from how a heritage asset is understood, appreciated and experienced.	Preservation of a heritage asset in situ where it would otherwise be completely or almost completely lost. Changes that appreciably enhance the cultural significance of a heritage asset and how it is understood, appreciated and experienced.
Medium	Changes to those elements of the fabric or setting of a heritage asset that contribute to its cultural significance such that this quality is appreciably altered. Changes that appreciably detract from how a heritage asset is understood, appreciated and experienced.	Changes to important elements of a heritage asset's fabric or setting, resulting in its cultural significance being preserved (where this would otherwise be lost) or restored. Changes that improve the way in which the heritage asset is understood, appreciated and experienced.
Low	Changes to those elements of the fabric or setting of a heritage asset that contribute to its cultural	Changes that result in elements of a heritage asset's fabric or setting detracting from its cultural significance being removed.

Level of Magnitude	Definition	
	Adverse	Beneficial
	<p>significance such that this quality is slightly altered.</p> <p>Changes that slightly detract from how a heritage asset is understood, appreciated and experienced.</p>	<p>Changes that result in a slight improvement in the way a heritage asset is understood, appreciated and experienced.</p>
Negligible	<p>Changes to fabric or setting of a heritage asset that leave its cultural significance unchanged and do not affect how it is understood, appreciated and experienced.</p>	

Assessment of Effects on Setting

11.5.14 Historic Environment Scotland's guidance document, 'Managing Change in the Historic Environment: Setting' (HES, 2016), notes that:

"Setting can be important to the way in which historic structures or places are understood, appreciated and experienced. It can often be integral to a historic asset's cultural significance."

"Setting often extends beyond the property boundary or 'curtilage' of an individual historic asset into a broader landscape context".

11.5.15 The guidance also advises that:

"If proposed development is likely to affect the setting of a key historic asset, an objective written assessment should be prepared by the applicant to inform the decision-making process. The conclusions should take into account the significance of the asset and its setting and attempt to quantify the extent of any impact. The methodology and level of information should be tailored to the circumstances of each case".

11.5.16 The guidance recommends that there are three stages in assessing the impact of a development on the setting of a historic asset or place:

- Stage 1: identify the historic assets that might be affected by the Proposed Development.
- Stage 2: define and analyse the setting by establishing how the surroundings contribute to the ways in which the historic asset or place is understood, appreciated and experienced.
- Stage 3: evaluate the potential impact of the proposed changes on the setting, and the extent to which any negative impacts can be mitigated.

11.5.17 The turbine blade tip and hub height ZTVs for the Proposed Development have been used to identify those heritage assets from which there would be theoretical visibility of one or more of the proposed wind turbines. Consideration was also given to designated heritage assets where there is no predicted visibility from the asset but where views of or across the asset are important factors contributing to its cultural significance. No assets were identified where this might be the case for the Proposed Development.

11.5.18 Scheduled Monuments, Category A, B, and C Listed Buildings, Conservation Areas, Inventory Gardens and Designed Landscapes and Inventory Historic Battlefields, where present within the blade tip height ZTV and within 5 km of the outermost turbines, have been included in the assessment. Two other Scheduled Monuments (Sallachy Broch (SM 1883) and The Ord (SM 1812), that are outwith the 5 km Outer Study Area, have been included in the assessment, at the request of HET (Table 11.1: 09/09/2020).

Criteria for Assessing the Significance of Effects

11.5.19 The sensitivity of the asset (Table 11.2) and the magnitude of the predicted impact (Table 11.3) have been used to assess the potential significance of the resultant effect (adverse or beneficial). Table 11.4 summarises the criteria for assigning significance of effect. Where two outcomes are possible through application of the matrix, professional judgement supported by reasoned justification, has been employed to determine the level of significance.

Table 11.4 - Significance of Effects Matrix

Magnitude of Impact	Sensitivity of Asset			
	High	Medium	Low	Negligible
High	Major	Major / Moderate	Moderate / Minor	Minor
Medium	Major / Moderate	Moderate	Minor	Minor / Negligible
Low	Moderate / Minor	Minor	Minor / Negligible	Minor / Negligible
Negligible	Minor	Minor / Negligible	Minor / Negligible	Negligible

11.5.20 Major and Moderate effects are considered to be ‘significant’ in the context of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (‘the EIA Regulations’). Minor and Negligible effects are considered to be ‘not significant’.

Requirements for Mitigation

11.5.21 Planning Advice Note 1/2013: Environmental Impact Assessment (PAN1/2013) describes mitigation as a hierarchy of measures: prevention, reduction, compensatory (offset) measures. Prevention and reduction measures can be achieved through design, whilst compensatory measures can offset impacts that have not been prevented or reduced through design.

11.5.22 Historic Environment Policy for Scotland 2019 (HEPS) also contains policies (notably HEP2 and HEP4) that are relevant for conservation and preservation of the historic environment.

- HEP2 requires that “*decisions affecting the historic environment should ensure that its understanding and enjoyment as well as its benefits are secured for present and future generations*”.
- HEP4 requires that “*changes to specific assets and their context should be managed in a way that protects the historic environment. Opportunities for enhancement should be identified where appropriate. If detrimental impact on the historic environment is unavoidable, it should be minimised. Steps should be taken to demonstrate that alternatives have been explored, and mitigation measures should be put in place*”.

11.5.23 The emphasis in Planning Advice Note (PAN) 2/2011: Planning and Archaeology (PAN2) (2011) is for the preservation of important remains in situ where practicable and by record where preservation is not possible. The mitigation measures presented below (Sections 11.7 and 11.10) take account of this planning guidance and provide various options for protection or recording and ensuring that,

where practical, surviving assets are preserved intact to retain the present historic elements of the landscape.

Assessment of Residual Effects

- 11.5.24 The assessment of the significance of residual effects takes into account the mitigation proposed and the effectiveness of that mitigation to avoid, reduce or offset the predicted effects. Where a predicted impact is avoided, for example through micro-siting the Proposed Development to avoid the impact, this would result in no residual effect. Where an asset cannot be avoided but where the proposed mitigation would ensure that the affected asset is subject to an appropriate level of archaeological investigation and recording, resulting in its preservation by record, the significance of residual effect is accordingly reduced. Where an asset (usually one of little or no heritage importance and negligible sensitivity) is lost without any mitigation, the residual effect remains the same as the potential effect; in all such cases, the residual effect (high magnitude change (Table 11.3) on an asset of negligible sensitivity (Table 11.4) would be no more than minor adverse (i.e. not significant in EIA terms).

Cumulative Assessment

- 11.5.25 The assessment of cumulative effects on heritage assets has been based upon consideration of the effects of the Proposed Development on the settings of assets with statutory designations and non-statutory designations within 5 km of the outermost turbines, in addition to the likely effects of other developments that are consented but not yet built and those that are currently at the application stage (and for which sufficient detail is available upon which to develop and assess). The schemes included in the cumulative impact assessment are those identified through the LVIA consultations with THC and NatureScot and the reasoning behind their inclusion or exclusion as cumulative scheme are set out in the LVIA chapter (Chapter 6.6).
- 11.5.26 Operational and under construction developments are considered to be part of the baseline and are taken as such in the assessment of potential effects on the settings of designated heritage assets presented in Section 11.9 (and in Appendices 11.2 and 11.3). Proposed developments at the scoping or pre-application stage have not been included in the assessment (as agreed by the LVIA Consultants in consultations with THC), as they do not have fixed layouts as of the cut-off date for the assessment (16/09/2020). The schemes excluded are: Chleansaigh, Garvary, Glencassley and Sallachy wind farms.
- 11.5.27 The assessment takes into account the relative scale (i.e. size and number of turbines) of the identified developments, their distance from the affected assets, and the potential degree of visibility of the various developments from the assets under consideration. Proposed developments at South Kilbruar and Meall Buidhe are more than 20 km from the Proposed Development and would be too far distant to have any appreciable cumulative impact on the settings of the heritage assets assessed. As such, these two schemes have been scoped out of the assessment presented in Section 11.12.

Limitations to Assessment

- 11.5.28 The desk-based assessment draws on the records in THC HER. The data was acquired in May 2020 and it is assumed that those records were up to date at the time of acquisition.
- 11.5.29 Designated heritage assets within the Outer Study Area have been identified from the HES database, downloaded from the HES website in June 2020. That data is assumed to have been current and up to date at the time of acquisition.
- 11.5.30 The desk-based assessment draws in part on evidence taken from historic maps and the grid coordinates attributed to those heritage assets taken from them are approximations only, based on a professional interpretation of topographic relationships derived from examination of the maps. Where possible, these variations have been evaluated using modern maps and modern aerial

photography to compensate for the historic mapping inaccuracies and to provide an accurate grid co-ordinate and, where possible, extent for the assets identified from such sources.

11.5.31 The field survey carried out within the site targeted locations that would be affected by the Proposed Development. As the majority of the site is covered by commercial forestry plantation, and in other areas there is no proposal to site any infrastructure, no systematic survey was carried out over the whole of the Inner Study Area as shown on Figure 11.1. The main site access route (temporary access track), the routes of on-site tracks, the sites of proposed compounds and the turbine locations were all covered by the survey.

11.5.32 In the assessment of effects on setting (Section 11.9) use has been made of ZTVs and wireline visualisations provided by the LVIA consultants. The method used in their production and details of limitations of their use is set out in Chapter 6. The ZTVs illustrate the 'bare ground' situation, and do not take into account the screening effects of vegetation, buildings, or other local features that may prevent or reduce visibility. The wireline visualisations represent the theoretical 'bare ground' visibility from the selected viewpoint and are indicative of the likely degree of visibility in the absence of any screening provided by intervening vegetation, buildings, or other local features. As such they represent the 'worst-case' scenario. The wirelines were prepared using the same terrain model used in the landscape and visual assessment.

11.6 Baseline Conditions

Heritage Assets within the Inner Study Area

11.6.1 There are only seven identified heritage assets within the Inner Study Area that are within the Proposed Development site. All are likely to be of post-medieval date. They are: three clearance cairns (1), a shieling hut (2), and five quarries (7-11).

- Three clearance cairns (1) were identified by field survey in 1978 (Mercer, 1980). They were found to have been surviving, as previously described, when visited by the Royal Commission on the Ancient and Historical monuments of Scotland (RCAHMS) in 1989. The most recent field survey (CFA 2020) found the area to be covered by mature commercial forestry and, despite thorough investigation, no trace of the cairns was found. As it seems probable that the cairns have been destroyed by deep ploughing during creation of the commercial forestry, they are assessed as being of negligible heritage value and to be of negligible sensitivity.
- The shieling hut (2) was identified by field survey in 1978 (Mercer, 1980). It was found to have been surviving, as previously described, when visited by the RCAHMS in 1989. Despite thorough investigation of the area around the recorded location, no trace of any structure was found during the most recent field survey (CFA 2020). The general area around the recorded location was found to be low-lying land, adjacent to an area of forestry and stony rubble from the forestry ploughing appears to have been pushed downslope. The shieling hut may survive underneath this rubble. The shieling hut has value as a relict feature of the historic land-use, relating to seasonal occupation for the pasturage of livestock, and to have some archaeological value, possibly containing evidence of its period of construction and occupation. If any remains survive, as a single, isolated example of its type, it is assessed as being of heritage value at the local level and to be of low sensitivity.
- Five quarries (7-11) were identified during the most recent field survey (CFA Survey 2020). The quarries are likely to have been for the procurement of stone for road or bridge construction. They are of little heritage value and are assessed as being of negligible sensitivity.

11.6.2 The Highland HER also contains records for two other features (3 and 4), identified by field survey in 1978 (Mercer, 1980). These features were assessed by later surveyors (Ordnance Survey 1981) to

be natural and of no archaeological interest. Therefore, as natural features, with no archaeological value, they are assessed to be of negligible sensitivity.

- 11.6.3 Two other assets, a road bridge (5) and the site of a former milestone (6), lie directly adjacent to the site boundary and are included in the baseline assessment. The road bridge (Fèith Osdail Bridge) is Category C Listed (LB 8018, see also below - paragraph 11.6.10) and is of heritage value at the local level and assessed as being of low sensitivity. The former milestone is no longer in situ and its whereabouts are unknown. Its former location has little heritage value, and the former milestone is therefore assessed as being of negligible sensitivity.

Archaeological Potential of the Proposed Development Site

- 11.6.4 The Ordnance Survey 1st edition map (1873, Sutherland LXXXV.12) and the 1908 edition (Sutherland Sheet LXXXV) both show the Proposed Development site and the surrounding area, as unenclosed heathland. Roy's map (1747-55) shows no settlements in the area. An anonymously authored map of 1815 shows the Proposed Development site as lying within the Estate to the Earl of Sutherland but does not show any settlements within the site. HLAmap shows the site as part of a large commercial forestry plantation (Dalchork Wood).
- 11.6.5 THC HER contains records providing evidence of prehistoric settlement in the wider landscape around the site, along the Fèith Osdail watercourse and throughout Dalchork Wood, but none within it. For example, there is evidence of prehistoric settlement (SM 5300), to the south of the site, where there are hut circles and a cairnfield, overlain by a later shieling settlement. To the east of the site is evidence of prehistoric occupation, in the form of a burial cairn (SM 5081) and hut circle (SM 5401), also overlain by later medieval/post-medieval settlement. To the south-east of the site there is further evidence of prehistoric settlement preserved in clearings within the commercial forestry of Dalchork Wood (e.g. SM 1829, SM 4560, SM 5194 and SM 5563) and evidence of prehistoric settlement to the north-east (e.g. SM 4375) (see Figure 11.2).
- 11.6.6 The current land-use of the site is partly mixed woodland and partly commercial forestry plantation, and the ground is currently used for deer stalking. The commercial forestry on the site is around 15 years old, and there is some open moorland and lightly wooded ground in the southern part of the site, along the Fèith Osdail.
- 11.6.7 The peat depth mapping (Figure 9.4) shows that peat across the site varies in depth from less than 0.5 m to up to almost 3 m (in limited areas) but is mainly less than 1 m deep. Peat can conceal archaeological remains, buried below the visible surface, but the evidence elsewhere along the Fèith Osdail and within the forestry plantations suggests that prehistoric settlement and burial remains generally survive as visible features where they are present. Whilst the possibility that some features may be present as buried remains, the evidence from previous survey of the site (Mercer, 1980) suggests that there is a low likelihood that hitherto undiscovered archaeological remains are present within the site.

Heritage Assets within the Outer Study Area

- 11.6.8 Within the Outer Study Area there are 14 Scheduled Monuments (high sensitivity), two Category C Listed Buildings (low sensitivity) and a small archaeological landscape, as identified by HET during consultation. Beyond the 5 km Outer Study Area, two other Scheduled Monuments were identified by HES/HET as having settings that should also be assessed for potentially significant effects arising from the Proposed Development (Figure 11.2).
- 11.6.9 The Scheduled Monuments within the Dalchork Wood commercial forestry plantation include remains of prehistoric settlement (hut circles and field systems and a broch) and funerary remains (one burial cairn), and the remains of post-medieval farming activities (farmsteads and shielings). These are all preserved within open clearings within the forestry plantations but share broadly similar characteristics with many of the archaeological remains in this part of Sutherland.
- 11.6.10 The two listed buildings, a road bridge (LB 8018) and a memorial monument (LB 8027), are minor 19th century structures. One, the road bridge is a functional feature carrying the A836 over the Fèith

Osdail watercourse, the other is a simple obelisk memorial commemorating the life and service of a local man. Both have localised setting that are not especially sensitive to change.

- 11.6.11 Along the east side of Loch Shin, on a low ridge between the loch and the valley of Strath Tirry to the east is a spread of prehistoric settlement remains, potentially of late Bronze Age date and later, including groups of hut circles, several burnt mounds, spreads of small cairns and a broch. The remains are well preserved within an area of pasture farmland and have archaeological value both as individual monuments and collectively as a group, perhaps representing occupation and farming activity over an extended period in the later prehistoric period.

11.7 Standard Mitigation

- 11.7.1 A range of embedded mitigation measures have been applied as part of the iterative design process to avoid heritage assets within the site. This included the sensitive siting of the proposed infrastructure in order to avoid or reduce effects on the cultural heritage. All assets, except for an old quarry (7), of negligible cultural heritage value, have been avoided.

- 11.7.2 Standard mitigation measures include the following, some of which will be submitted in outline as part of this application:

- Overseeing of all work by an appointed archaeological contractor who will act as an Archaeological Clerk of Works (ACoW) to advise on and oversee all aspects of the construction phase archaeological mitigation work.
- Preparation of a Written Scheme of Investigation (WSI) to be submitted to the planning authority for approval prior to any construction works (including enabling works) commencing on site.
- Implementation of the scope of works outlined in WSI during the construction phase.
- No component of the Proposed Development would be relocated to a position where it would intersect with any of the heritage assets without consultation and approval by the ACoW. Any heritage asset identified as potentially being affected by micro-siting would be marked out for avoidance, where possible or other mitigation, to be agreed with HET, implemented to reduce and offset the impact.
- Written guidelines would be issued for use by all construction contractors, outlining the need to avoid causing unnecessary damage to heritage assets. The guidelines would set out arrangements for calling upon retained professional support in the event that buried archaeological remains of potential archaeological interest (such as building remains, human remains, artefacts, etc.) should be discovered in areas not subject to archaeological monitoring. The guidelines would make clear the responsibilities placed upon those who disturb artefacts or human remains.

11.8 Receptors Brought Forward for Assessment

- 11.8.1 Taking account of the standard mitigation outlined above, two heritage asset within the Inner Study Area, an old quarry (7), which would be directly affected by the Proposed Development, and a shieling hut (4), the recorded location of which lies close to the proposed temporary access track are carried forward for assessment of direct effects. The potential for impacts on buried archaeology is also carried forward for assessment of direct effects. All other assets within or directly adjoining the site boundary, would be mitigated by the standard mitigation and no further assessment is required.

- 11.8.2 Based on analysis of the blade tip height ZTV, there are 12 Scheduled Monuments (High sensitivity) within the Outer Study Area from which there is some degree of theoretical visibility of the Proposed Development. Of these, ten (including a prehistoric cairn and post medieval settlement (SM 5081),

two brochs (SM 1829 and SM 1883), six prehistoric settlement sites (SM 5300, SM 5401, SM 5194, SM 4560, SM 4375 and SM 5563) and a group of multi-period domestic and funerary remains (SM 1812)) have settings where wider landscape views and intervisibility with related monuments are potentially important aspects of their settings. The value and sensitivity criteria for each of the heritage assets in the Outer Study Area is set out in Appendices 11.2 and 11.3.

- 11.8.3 Two additional Scheduled Monuments more than 10 km from the Proposed Development have been included at the specific request of HET. These are: Sallachy, Broch 425m NNE of Fruchan Cottage (SM 1883) and The Ord, Chambered Cairns, Cairns, Settlements and Field Systems (SM 1812).
- 11.8.4 Within the Outer Study Area there are two Category C Listed Buildings (Low sensitivity) from which there is a degree of predicted theoretical visibility of the Proposed Development. Both have localised settings, where long distance views to or from the assets, or designed intervisibility with other monuments, are not important aspects to their cultural significance. One, Fèith Osdail Bridge (LB 8018), lies on the boundary of the Inner Study Area (Figure 11.1: Asset 5) and the other, Murray Memorial, Shinness (LB 8027), is included at the specific request of HET. Both are assessed in Appendix 11.2 and the Murray Memorial is assessed below (paragraphs 11.9.27 to 11.9.29).

11.9 Potential Effects

Construction

- 11.9.1 Any ground breaking activities associated with the construction of the proposed development, (such as those required for turbine bases and crane hard standings, access tracks, cable routes, compounds, borrow pits, etc.) have the potential to disturb or destroy features of cultural heritage interest. Other construction activities, such as vehicle movements, materials storage, soil and overburden storage and landscaping also have the potential to cause permanent and irreversible effects on the cultural heritage.
- 11.9.2 One identified heritage asset: an old roadside quarry (7) would be directly affected by construction of the northern entrance access track. The quarry has no intrinsic archaeological value and is of negligible sensitivity. A high magnitude impact is predicted, resulting in an effect of **minor** significance (not significant in EIA terms). No mitigation is required in relation to the predicted effect.
- 11.9.3 The recorded location of a possible shieling hut (4), of low sensitivity, lies within 15 m of the main site access track (temporary southern access track) (Figure 11.1). The shieling hut was identified by field survey in 1980 but was not found during the recent field survey carried out in July 2020. Its location is therefore unconfirmed, and it is possible that remains lie covered in vegetation or overgrown with peat in the vicinity of its previously recorded location. The remains of the shieling hut could be encountered during construction of the temporary access track. A high magnitude direct impact would, without mitigation, result in an effect of **moderate** significance (significant in EIA terms), from the loss of the asset and the archaeological evidence that it may hold. Mitigation is therefore proposed to offset and reduce the predicted effect (Section 11.10).
- 11.9.4 It has been assessed (*paragraph Error! Reference source not found.*) that there is a low likelihood of any hitherto unknown buried archaeological remains being present within the site. In the afforested parts of the site, due to the damaging effects of forestry ploughing, drainage and planting activities, it is assessed that there is a negligible probability for any undisturbed surviving archaeological remains to be present.
- 11.9.5 Taking into account the medium to high sensitivity of known prehistoric remains around the site, and assuming potential impacts of high magnitude, it is assessed that, without mitigation, any adverse direct effects on any buried archaeological remains that might be present could potentially be of **major** or **moderate** significance (significant in the context of the EIA regulations).

Operation

Direct Effects

- 11.9.6 There are no identified assets likely to receive a direct effect arising during operation of the Proposed Development. This is due to the approach adopted in formulating the design and layout of the Proposed Development, i.e. avoidance, and because the as-built infrastructure would be used to facilitate maintenance, repair and replacement activities.

Setting Effects

- 11.9.7 The Proposed Development could result in adverse effects on the settings of designated heritage assets within the Outer Study Area. Potential effects on the settings of heritage assets would however diminish with increasing distance from the site. It is considered that, beyond 5 km, the Proposed Development would not appreciably alter features of the settings of the heritage assets that contribute to cultural significance, nor would it appreciably alter how a heritage asset is understood, appreciated and experienced.
- 11.9.8 Two assets beyond 5 km from the Proposed Development have been identified by HET as requiring consideration for potential effects on their settings. Appendices 11.2 and 11.3 contain tabulated assessments of the predicted effects on the settings of designated heritage assets from which there is some degree of predicted theoretical visibility of the Proposed Development (no matter how small) based on analysis of the hub and blade tip height ZTVs.
- 11.9.9 The assessment of operational effects on the settings of designated heritage assets has been carried out with reference to the layout of the Proposed Development and the locations of the cultural heritage assets shown on Figure 11.2. The criteria detailed in Tables 11.2 to 11.4 have been used to assess the nature and significance of the effects set out in the Appendices and described below (paragraphs 11.9.711 to 11.9.39).
- 11.9.10 The following discussion addresses those assets identified by HES or HET as requiring detailed consideration, even where the significance of the predicted effect is assessed as being not significant in EIA terms. The assessments are supported with visualisations (Figures 11.3 – 11.10; Figure 6.25: LVIA VP 11 and Figure 6.34: LVIA VP 20). The effects of the Proposed Development on the settings of all other assets considered in the assessment are presented in the tabulated assessments in Appendices 11.2 and 11.3.

Table 11.5 – Cultural Heritage Visualisation Viewpoints

Figure Ref.	Figure Title - Site Name (& Ref No)
11.3 (VP 1)	Cnoc a' Bhreac-leathaid, shielings and cairnfield 700 m NNE of (SM 5300)
11.4 (VP 2)	Loch Beag na Furalachd, cairn and shielings 1175 m ESE of SW end (SM 5081)
11.5 (VP 3)	Dalnessie, settlement N of Fèith Osdail (SM 4563)
11.6 (VP 4)	Cnoc Olasdail, Hut Circles & Field Systems (SM 4375)
11.7 (VP 5)	Altbreck, Broch 1650 m ESE of Dalchork Bridge (SM 1829)
11.8 (VP 6)	Shinness Murray Memorial (LB 8027)
11.9 (VP 7) (see also Figure 6.25: LVIA VP 11)	Sallachy, broch 425 m NNE of Fruchan Cottage (SM 1883)

Figure Ref.	Figure Title - Site Name (& Ref No)
11.10 (VP 8) (see also Figure 6.34: LVIA VP 20)	The Ord, chambered cairns, cairns, settlements and field systems (SM 1812)

Cnoc a' Bhreac-leathaid, shielings and cairnfield 700 m NNE of (SM 5300) (Figure 11.3)

- 11.9.11 This monument comprises three elements: a small prehistoric cairnfield; a prehistoric hut circle defined by a low wall and surrounded by a field system including clearance cairns; and, a group of medieval/post-medieval rectilinear structures, shielings, and enclosures. The remains occupy an elevated spot on the north slopes of Cnoc a' Bhreac leathaid, overlooking the Fèith Osdail watercourse, and lie alongside a forestry and farm access track to Dalnessie (Figure 11.2). There are several prehistoric settlements throughout Dalchork Wood, and the remains here are unusual in having a north-facing aspect. The remains are not prominent features of the landscape and are only properly visible at close quarters, for example from the hill track to the north. As a small, farming settlement, it is assessed as having a localised setting where long distance views and visual prominence in the landscape are not important contributors to its cultural significance. As a Scheduled Monument, Cnoc a' Bhreac-leathaid, shielings and cairnfield is assessed as being an asset of **high** sensitivity.
- 11.9.12 The blade tip height ZTV (Figure 11.2) predicts that there would be theoretical visibility of all four proposed turbines from the monument, the nearest turbine being 0.8 km distant in views to the north-west. A photomontage (Figure 11.3k) is provided showing that the turbines would be visible from the settlement, within the present surrounding commercial forestry, and seen against the backdrop of distant hills (Figure 11.3b). The Proposed Development would not interrupt the visual link with the nearby prehistoric remains (SM 5401 and SM 5081), which are in any case currently obscured by intervening commercial forestry. Views towards the settlement from the north would be unaffected by the Proposed Development and the settlement's association with the local valley landscape would be retained: the integrity of its setting, the capacity to convey the cultural significance of the settlement remains, would not be compromised. It would remain possible for any visitor to understand and appreciate the settlement remains within their localised setting.
- 11.9.13 Overall, it is assessed that, as a result of the predicted change in its immediate surroundings, the Proposed Development would have an impact of **medium** magnitude on the baseline setting of Cnoc a' Bhreac-leathaid, shielings and cairnfield, an asset of high sensitivity, resulting in an effect that is assessed, based on professional judgement, as being of **moderate** significance (significant in EIA terms).

Loch Beag na Furalachd, cairn and shielings 1175 m ESE of SW end (SM 5081) (Figure 11.4)

- 11.9.14 This monument comprises two elements: a prehistoric cairn on top of a small knoll, and a post-medieval settlement with at least eight structures that may have formed part of a 'cottar town' (tenant farming communities occupying small cottages and cultivating small plots of land). The remains are located within a clearing within a commercial forestry plantation; above the Fèith Osdail burn. As a small, farming settlement, it is assessed as having a localised setting where long distance views and visual prominence in the landscape are not important contributors to its cultural significance. The cairn, which lies on a south-west facing slope oriented towards the valley to the south and south-west, has an evident close association with the Fèith Osdail. It would have been a focal point for a local prehistoric community living along the Fèith Osdail and is unlikely to have been widely visible from the surrounding landscape, even in the absence of the commercial forestry that currently surrounds it. As such, it too has a fairly localised setting, focused on the Fèith Osdail valley and the prehistoric settlements along it (e.g. SM 5300 and SM 5401). As a Scheduled Monument, Loch Beag na Furalachd cairn and shielings is assessed as being an asset of **high** sensitivity.

11.9.15 The blade tip height ZTV (Figure 11.2) predicts that there would be theoretical visibility of all four proposed turbines from the monument, the nearest turbine being 1.6 km distant in views to the west. A wireline from the monument (Figure 11.4b) shows that, in the absence of the screening currently provided by commercial forestry, the proposed turbines would be visible in the view to the west, viewed against the backdrop of distant hills. The close links with the Fèith Osdail valley and with the prehistoric settlements nearby (SM 5300 and SM 5401), which are in any case currently obscured by intervening commercial forestry, would not be interrupted. Views south across the river valley would be unaffected and it would remain possible for any visitor to understand the cairn and settlement remains within their localised setting. The presence of the Proposed Development would not appreciably alter the way in which the cairn and settlement remains, and their setting, are appreciated and understood and the integrity of its setting, the capacity to convey the cultural significance of the remains, would not be compromised.

11.9.16 Overall, it is assessed that, as a result of the predicted change in its immediate surroundings, the Proposed Development would have an impact of **medium** magnitude on the baseline setting of Loch Beag na Furalachd cairn and sheilings, an asset of high sensitivity, resulting in an effect that is assessed, based on professional judgement, as being of **moderate** significance (significant in EIA terms).

Dalnessie, settlement N of Fèith Osdail (SM 4563) (Figure 11.5)

11.9.17 This monument comprises remains of a post-medieval settlement or township of around 20 rectangular houses and subcircular enclosures adjacent to an area of commercial forestry. The settlement extends around 400 m along the south south-east facing slope of Cnoc na Fuaralachd hill above the Fèith Osdail watercourse. As a small, farming settlement, it is assessed as having a localised setting where long distance views and visual prominence in the landscape are not important contributors to its cultural significance. As a Scheduled Monument, Dalnessie, settlement N of Fèith Osdail, is assessed as being an asset of **high** sensitivity.

11.9.18 The blade tip height ZTV (Figure 11.2) predicts that there would be a maximum theoretical visibility of all four proposed turbines from only the westernmost part of the monument; the majority of the monument is screened of view of the Proposed Development by the topography of the hillside on which the settlement remains lie. The nearest proposed turbine would be 3.6 km distant from the settlement, in views to the north-west. A wireline from the approximate centre of the settlement (Figure 11.5b) shows that, from that location, only a small section of the blade tip of one turbine would be visible. The Proposed Development would be almost entirely screened by the rising topography at the western end of the settlement and additionally screened by currently intervening commercial forestry. Views towards the settlement would be unaffected by the Proposed Development and its close association with the Fèith Osdail would not be interrupted. The integrity of the setting of the settlement remains, the capacity to convey the site's cultural significance, would not be compromised and it would remain possible for any visitor to understand and appreciate the remains of the settlement and their setting.

11.9.19 Overall, it is assessed that, as a result of the predicted minimal change within its wider surroundings, the Proposed Development would have an impact of **negligible** magnitude on the baseline setting of Dalnessie, settlement N of Fèith Osdail, an asset of high sensitivity, resulting in an effect that is assessed, based on professional judgement, as being of **minor** significance (not significant in EIA terms).

Cnoc Olasdail, Hut Circles & Field Systems (SM 4375) (Figure 11.6)

11.9.20 The monument consists of a small settlement of five prehistoric roundhouses, set in slight scoops on the side of a low rounded hill, at least one other hut circle, abundant field clearance cairns, low banks and lynchets, and other more recent features, including an annular enclosure. The monument extends over nine hectares and most of the features of the site appear to be of the later second millennium BC. The monument is situated on a steep, south-west facing slope in a clearing in commercial forestry and close to A836 public road, and views extend north-west and south-east

along the River Tirry. It has a localised setting, restricted largely to the nearby River Tirry valley, and long-distance views and visual prominence in the landscape are not important contributors to its cultural significance. As a Scheduled Monument, Cnoc Olasdail, Hut Circles & Field Systems, is assessed as being an asset of **high** sensitivity.

- 11.9.21 The blade tip height ZTV (Figure 11.2) predicts that there would be theoretical visibility of all four proposed turbines from the monument: the nearest turbine being 4 km distant in views to the south-east. A wireline from the monument (Figure 11.6b) shows that the turbines would, in the absence of any screening provided by the current commercial forestry, be visible against the backdrop of distant hills. Views in other directions from the settlement, which are in any case currently obscured by intervening commercial forestry, would not be affected and the settlement is not a prominent feature of the local landscape. Its close association with the River Tirry would not be interrupted and the integrity of its setting, the capacity to convey the cultural significance of the settlement remains, would not be compromised. It would remain possible for any visitor to understand and appreciate the settlement remains and their setting.
- 11.9.22 Although the Proposed Development would be theoretically visible from the monument, it would not dominate the view and it would remain possible for any visitor to understand the hut circles and field system within their wider setting. The presence of the Proposed Development would not appreciably alter the way in which the monument and its setting are experienced and appreciated.
- 11.9.23 Overall, it is assessed that, as a result of a slight change within its wider surroundings, the Proposed Development would have an impact of **Low** magnitude on the baseline setting of Cnoc Olasdail, Hut Circles & Field Systems, an asset of high sensitivity, resulting in an effect assessed, based on professional judgement, as being of **minor** significance (not significant in EIA terms).

Altbreck, Broch 1650 m ESE of Dalchork Bridge (SM 1829) (Figure 11.7)

- 11.9.24 The monument consists of a broch, surrounded by an enclosure and associated with other enclosures and dykes. The remains occupy the summit of a small, naturally terraced knoll, c.110 m north of a modern forestry access track. Although the remains lie within a commercial forestry plantation (Dalchork Wood), they are within an open hilltop setting as the forestry around the monument has been felled. As a result, views are afforded from the monument in all directions, looking out across surrounding commercial forestry plantation and taking in wide panoramic views to Loch Shin, in the west. The broch stands in a strategic position overlooking the confluence of the Allt Ruadh and the Allt Chaiseagail watercourses to the south. A key aspect of the setting of the asset would appear to be its topographical setting and its close association with a nearby later prehistoric homestead (SM 5563) and the Allt Chaiseagail. Lairg Wind Farm is just visible in distant views on the skyline to the south. As a Scheduled Monument, Altbreck, Broch is assessed as being an asset of **high** sensitivity.
- 11.9.25 The blade tip height ZTV (Figure 11.2) predicts that there would be theoretical visibility of all four proposed turbines from the monument: the nearest turbine being 4 km distant in views to the north north-west. A wireline from the broch (Figure 11.7b) shows that, in the absence of the intervening forestry, three turbines would be visible at hub height, in a narrow arc of view, and largely screened by topography. The Proposed Development would be seen against the backdrop of distant hills and intervening commercial forestry also currently provides some additional screening. Views from the broch, other than those to the north, would be unaffected and the close association with the nearby later prehistoric homestead (SM 5563) and Allt Chaiseagail would not be affected. The integrity of the setting of the broch, the capacity to convey its cultural significance, would not be compromised and it would remain possible for any visitor to understand and appreciate the broch and its setting.
- 11.9.26 Overall, it is assessed that, as a result of the predicted change within its wider surroundings, the Proposed Development would have an impact of **low** magnitude on the baseline setting of Altbreck broch, an asset of high sensitivity, resulting in an effect assessed, based on professional judgement, as being of **minor** significance (not significant in EIA terms).

Shinness Murray Memorial (LB 8027) (Figure 11.8)

- 11.9.27 This monument is a simple, ashlar obelisk, around 10 m in height, erected in 1877 to Kenneth Murray of Easter Ross to commemorate his services to the Duke of Sutherland. It stands within an area of woodland to the north of Achnairn, on a spur of land overlooking Loch Shin to the east. There are theoretical wide-ranging views to the wider landscape, especially to the south, towards Lairg and along Loch Shin. It is not widely visible from the surrounding landscape and is not a prominent local landmark; it is though provided with public access along a marked footpath from a small parking bay at Achnairn. The monument has a secluded localised woodland setting. As a Category C Listed Building, the Murray Memorial monument is assessed as being an asset of **low** sensitivity.
- 11.9.28 The blade tip height ZTV (Figure 11.2) predicts that, in the absence of the woodland that currently surrounds the monument, there would be theoretical visibility of all four proposed turbines; the nearest turbine being 2.6 km distant, in views to the north-west. A wireline from the memorial (Figure 11.8b) shows that, in the absence of the woodland, the Proposed Development would be visible backdropped by distant hills. Views in other directions from the monument, including that southwards towards Lairg and along Loch Shinn, would be unaffected. The integrity of its setting, the capacity to convey the cultural significance of the memorial monument, would not be compromised and it would remain possible for any visitor to understand the monument within its localised woodland setting. The presence of the Proposed Development would not appreciably alter the way in which the monument and its setting, are appreciated and understood.
- 11.9.29 Overall, it is assessed that, as a result of the predicted change in its wider surroundings, the Proposed Development would have an impact of **low** magnitude on the baseline setting of Shinness Murray Memorial, an asset of low sensitivity, resulting in an effect assessed, based on professional judgement, as being of **minor** significance (not significant in EIA terms).

Sallachy, broch 425 m NNE of Fruchan Cottage (SM 1883) (Figure 11.9; Figure 6.25: LVIA VP 11)

- 11.9.30 This monument consists of a broch, surrounded by a ramped terrace running around its eastern circuit, two terraced banks to the north-east, and slight traces of a ditch and bank to the north-west, west and south-west. The broch is positioned on a low, rocky knoll on a sloping hillside close to the south-west shoreline of Loch Shin, and commands views to north-west and south-east along Loch Shin and there is a visual link to The Ord (SM 1812). Rising ground to south-west forms a backdrop in views of the broch from the north-east side of Loch Shin. As a Scheduled Monument, Sallachy broch is assessed as being an asset of **high** sensitivity.
- 11.9.31 The blade tip height ZTV (Figure 11.2) predicts that there would be theoretical visibility of all four proposed turbines from the broch: the nearest turbine being 5.9 km distant. A wireline from the broch (Figure 11.9b) shows that the Proposed Development would be visible on the far side of the loch, in the view to the north north-east, viewed against a backdrop of distant hills and commercial forestry. The character of the view, and the visual impact of the Proposed Development from the vicinity of Sallachy broch, are shown by reference to Figure 6.25: LVIA VP11. This viewpoint, from a location higher up the ground on the west side of Loch Shin, shows that the Proposed Development would be visible backdropped against the view of distant hills. Views north-west from the broch along the loch and south-east along Loch Shin towards Lairg and The Ord would be unaffected and views of the broch in its loch-side setting viewed from the far side of Loch Shin would also be unaffected. The integrity of its loch side setting, the capacity to convey the cultural significance of the broch, would not be compromised and it would remain possible for any visitor to understand the broch within its setting and the presence of the Proposed Development would not appreciably alter the way in which the broch and its setting are appreciated.
- 11.9.32 Overall, it is assessed that, as a result of the predicted change in its wider surroundings, the Proposed Development would have an impact of **low** magnitude on the baseline setting of Sallachy broch, an asset of high sensitivity, resulting in an effect assessed, based on professional judgement, as being of **minor** significance (not significant in EIA terms).

The Ord, chambered cairns, cairns, settlements and field systems (SM 1812) (Figure 11.10; Figure 6.34: LVIA VP 20)

- 11.9.33 The monument comprises a variety of prehistoric sites of varying date, including two chambered cairns, other burial cairns, a homestead, several hut circles and accompanying field systems, including cairns of field-cleared stones. The scheduled remains are scattered across 55 ha on the summit and slopes of The Ord, occupying a strategic position at the south end of Loch Shin and at the north end of Achany Glen. The Ord is a promoted visitor's site and form part of an archaeology trail, starting from Ferrycroft Countryside Centre at Lairg. There are wide ranging views to the north, south and east from the summit of The Ord, whilst rising ground to the west constrains views in that direction. The principal views, and those that are most relevant to the understanding and appreciation of the monument within its setting, are those views to the north and north-west, along Loch Shin, and those to the south, along Achany Glen. The Ord is a prominent feature in the surrounding landscape, visible whilst travelling along the A836 public road and from Lairg and its surrounding landscape. As a Scheduled Monument, The Ord, chambered cairns, cairns, settlements and field systems is assessed as being an asset of **high** sensitivity.
- 11.9.34 The blade tip height ZTV (Figure 11.2) predicts that there would be theoretical visibility of all four proposed turbines from The Ord: the nearest turbine being 8.7 km distant in views to the south-west. A wireline from the largest of the chambered cairns on the summit (Figure 11.10) shows that the Proposed Development would be visible in a narrow arc of view in distant views to the north partially screened by topography and backdropped against distant hills (Figure 11.10b). The character of the view, and the visual impact of the Proposed Development from The Ord, are shown by reference to Figure 6.34: LVIA VP 20). This shows that, currently, the Proposed Development would be largely screened from view by the Dalchork Wood forestry plantation. Views in directions other than to the north would be unaffected by the Proposed Development and the association with the local landscape at the south end of Loch Shin and the north end of Achany Glen would be unaffected. The integrity of the setting of the various remains on The Ord, the capacity to convey the cultural significance, would not be compromised by the presence of the Proposed Development and it would remain possible for any visitor to understand and appreciate the various remains within their setting.
- 11.9.35 Overall, it is assessed that, as a result of a very slight change within its wider surroundings, the Proposed Development would have an impact of **negligible** magnitude on the baseline setting of The Ord, chambered cairns, cairns, settlements and field systems, an asset of high sensitivity, resulting in an effect assessed as being of **minor** significance (not significant in EIA terms).

Prehistoric landscape east of Loch Shin (Figure 11.8)

- 11.9.36 A number of prehistoric remains recorded in the HER, including numerous roundhouses, several burnt mounds, relict field systems, a cairn, and a broch, collectively form what has been described by HET as an "extensive prehistoric landscape" (Table 11.1; HET, 09/09/2020). The remains are spread over a wide area from Achnairn in the south-east to Alltnacaorach in the north-west (Figure 11.2). They occupy a ridge of higher ground that slopes towards the loch on its the west side and towards the River Tirry on its east side and lie in a mixture of moorland, rough grazing and enclosed farmland. The individual remains are mainly those of domestic farming settlement and most of the remains are not prominent visual features of the landscape. None of the remains are designated as Scheduled Monuments but they are collectively assessed to comprise a well-preserved group of related remains assessed collectively to be of value at the regional level and to be of **medium** sensitivity.
- 11.9.37 The blade tip height ZTV (Figure 11.2) indicates that from the eastern side of the ridge, north of Achnairn, there would be visibility of all four proposed turbines. A wireline from the Shinness Murray memorial (Figure 11.8), which lies at the southern end of this archaeological landscape, provides a visualisation providing a representative view of the visual impact of the Proposed Development viewed from the ridge (Figure 11.8b). At its closest point, the Proposed Development

would be around 1.5 km from the easternmost extent of the archaeological landscape, and, at its furthest, around 8 km from the north-westernmost extent.

- 11.9.38 The relationship between the various remains along the ridge would be retained and there would be no visibility of the Proposed Development from the broch, which lies on the shoreline of Loch Shin or from the cairn, which lies on a south-west facing slope overlooking the loch. Those elements of the prehistoric archaeological landscape that have the most likely predicted visibility of the Proposed Development are mainly domestic, settlement remains (i.e. roundhouses, field systems and burnt mounds) that have a largely localised setting and a low visual presence in the landscape. Although the Proposed Development would be visible from the eastern side of the ridge, overlooking the River Tirry, the integrity of the setting, the capacity to convey the cultural significance of the various remains that make up this archaeological landscape, would not be compromised and it would remain possible for any visitor to understand and appreciate the prehistoric landscape and its setting and the various remains within it.
- 11.9.39 Overall, it is assessed that, as a result of the predicted change within its wider surroundings, the Proposed Development would have an impact of **low** magnitude on the baseline setting of the prehistoric landscape, an asset of medium sensitivity, resulting in an effect assessed as being of **minor** significance (not significant in EIA terms).

Decommissioning

- 11.9.40 There are no heritage assets within the Inner Study Area that would receive a direct effect arising from decommissioning of the Proposed Development.
- 11.9.41 Decommissioning would result in the removal of the effects of the Proposed Development on the settings of designated heritage assets in the Outer Study Area.

11.10 Additional Mitigation and Enhancement

Construction Phase

Preservation in-situ

- 11.10.1 No assets have been identified where preservation in situ is required.

Watching Brief

- 11.10.2 Taking account of the avoidance through design of the identified heritage assets within the site, it is assessed that there is only one location where a watching brief might be expected to encounter buried archaeological remains.

- A possible shieling hut (4) previously recorded on the south side of the Fèith Osdail watercourse was not found during the most recent survey (CFA 2020), but it remains possible that some remains are present in the locality of its formerly recorded position. A watching brief where the temporary access track passes the recorded location of the possible shieling hut is recommended to ensure that any remains are identified and recorded prior to its loss.

- 11.10.3 The Applicant would seek to agree the scope of any archaeological watching briefs that may be required under the terms of a planning condition with HET in advance of development works. The scope of the agreed works would be confirmed in a Written Scheme of Investigation (WSI) to be signed-off prior to the commencement of the construction works, including enabling works.

Post-excavation assessment and reporting

- 11.10.4 If significant discoveries are made during any watching briefs carried out, and it is not possible to preserve the discovered remains in situ, provision would be made for the excavation where necessary, of any archaeological deposits encountered. The provision would include the consequent

production of written reports, on the findings, with post-excavation analysis and publication of the results of the works, where appropriate.

Operation Phase

- 11.10.5 No mitigation is required in relation to any heritage assets during the operational phase of the Proposed Development.

Decommissioning Phase

- 11.10.6 No mitigation is required in relation to decommissioning of the Proposed Development.

11.11 Residual Effects

Construction

- 11.11.1 For heritage assets within the site, including possible buried remains, completion of the programme of archaeological mitigation works set out above (Sections 11.7 and 11.10) would avoid, reduce or offset the loss of any archaeological remains that may occur as a result of the construction of the Proposed Development.
- 11.11.2 Taking the proposed mitigation into account, any residual effect arising from construction of the Proposed Development in relation to direct effects on cultural heritage assets within the site would be of no more than **minor** significance (not significant in EIA terms). The summary table (Table 11.6) at the end of this chapter sets out predicted effects prior to the adoption of mitigation measures and the residual effect following implementation of the mitigation measures proposed.

Operation

- 11.11.3 During its operational lifetime, the residual effects of the Proposed Development on the settings of heritage assets in the Outer Study Area would be the same as the predicted effects. Effects on the settings of heritage assets are long-term and cannot be reduced by any form of mitigation other than avoidance or reduction. Two significant adverse effects are predicted: on the settings of Loch Beag na Furalachd, cairn and shielings 1175 m ESE of SW end (SM 5081) and Cnoc a' Bhreac-leathaid, shielings and cairnfield 700 m NNE of (SM 5300). These adverse effects would be removed following any future decommissioning of the Proposed Development.

Decommissioning

- 11.11.4 There would be no adverse effects on any heritage assets arising from decommissioning the Proposed Development and the residual effect following decommissioning would be the same as those resulting from construction. No significant adverse effects are predicted.

11.12 Cumulative Assessment

Potential Cumulative Construction Effects

- 11.12.1 Construction of the Proposed Development would not give rise to any cumulative direct effects on cultural heritage assets.

Potential Cumulative Operational Effects

- 11.12.2 The Proposed Development could, in combination with other wind farm developments in the area that are operational, consented but not yet built, or are the subject of valid planning applications, result in adverse cumulative effects on the setting of cultural heritage assets.
- 11.12.3 Operational and under construction developments are considered as part of the baseline and are taken to be such for the assessment of effects on the settings of heritage assets discussed above and in Appendices 11.2 and 11.3. Developments that are consented but not yet under construction

and those that are the subject of valid planning applications are considered as being potential additions to the baseline and are considered in the cumulative impact assessment.

- 11.12.4 Figures 7.3 to 7.10 show the cumulative developments in the surrounding landscape from each of the represented viewpoints. From the viewpoint location plans accompanying each of these (Figures 11.3a to 11.10a), it can be seen that the closest other wind farm developments that form part of the cumulative assessment are the consented wind farm developments at Lairg II (12 km to the southeast), Braemore (13 km to the south) and Creag Riabhach (15 km to the northwest). The proposed (in planning) developments at South Kilbruar (22 km to the southeast) and Meall Buidhe (23 km to the southwest) are both more than 20 km from the Proposed Development, would be too far distant to have any appreciable cumulative impact on the settings of the heritage assets assessed and have been scoped out of the assessment. The proposed South Kilbruar Wind Farm appears on only one of the visualisations: Figure 11.10 from The Ord. Meall Buidhe appears on five of the visualisations: Figures 11.4 – 11.7 and on Figure 11.10 from The Ord.
- 11.12.5 From each of the cumulative wirelines the other developments are, for the most part, distant enough not to give rise to any significant cumulative impacts. The exceptions are: Figure 11.7, Altbreck Broch; Figure 11.8, Shinness Murray Memorial; Figure 11.9, Sallachy Broch; and, Figure 11.10, The Ord. In each of these cases, Lairg II and Braemore are noticeable additions to the baseline. The following assessment briefly addresses each of these in turn.

Altbreck, Broch 1650 m ESE of Dalchork Bridge (SM 1829) (Figure 11.7)

- 11.12.6 Figure 11.7a shows that, from Altbreck, turbines at the consented Creag Riabhach would be barely visible in distant views to the north behind the Proposed Development. Figure 11.7d shows that the consented Lairg II would be visible in distant views to the south in combination with the operational Lairg Estate Wind Farm and in the same arc of view as the more distant operational developments at Beinn Tharsuin, and Extension, and Coire na Cloiche. The contested Braemore Wind Farm would also be visible in the same general view as operational developments at Achany and Rosehall (Figures 11.7d and 11.7e). All of these other developments would be visible in different directions to the view of the Proposed Development and would not be seen in combination with the Proposed Development.
- 11.12.7 The addition of the Proposed Development to this cumulative scenario would be an impact on the setting of Altbreck Broch of low magnitude and, based on professional judgement, of **minor** significance (not significant in EIA terms).

Shinness Murray Memorial (LB 8027) (Figure 11.8)

- 11.12.8 Figure 11.8c shows that, from Shinness Murray Memorial, the consented Lairg II would be visible in distant views to the south in combination with the operational Lairg Estate Wind Farm. The contested Braemore Wind Farm would also be largely screened from view by the topography on the west side of Loch Shin and seen in the same general view as operational developments at Achany and Rosehall. All of these other developments would be visible in different directions to the view of the Proposed Development and would not be seen in combination with the Proposed Development.
- 11.12.9 The addition of the Proposed Development to this cumulative scenario, of consented and proposed developments, would be an impact on the setting of the Shinness Murray Memorial of negligible magnitude and, based on professional judgement, of **minor** significance (not significant in EIA terms).

Sallachy, broch 425 m NNE of Fruchan Cottage (SM 1883) (Figure 11.9; LVIA VP 11)

- 11.12.10 Figure 11.9b shows that, from Sallachy broch, the consented Creag Riabhach Wind Farm would be barely visible in distant views to the north of the Proposed Development in views towards the Proposed Development. As such, Creag Riabhach Wind Farm would have a minimal cumulative impact on the setting of Sallachy broch in combination with the Proposed Development. Figure 11.9c shows that Lairg II would be visible in distant views to the south-east in combination with the operational Lairg Estate Wind Farm.

- 11.12.11 The addition of the Proposed Development to this cumulative scenario, of consented and proposed developments, would have an impact on the setting of Sallachy broch of negligible magnitude and, based on professional judgement, of **minor** significance (not significant in EIA terms).

The Ord, chambered cairns, cairns, settlements and field systems (SM 1812) (Figure 11.10; LVIA VP 20)

- 11.12.12 Figure 11.10b shows that, from The Ord, the consented Creag Riabhach Wind Farm would be barely visible in distant views to the north-east of the Proposed Development in views towards the Proposed Development. As such, Creag Riabhach Wind Farm would have a minimal cumulative impact on the setting of The Ord, chambered cairns, cairns, settlements and field systems in combination with the Proposed Development. From The Ord, Figures 11.10c and 11.10d and LVIA VP 20, show that the consented Lairg II Wind Farm would be visible in views to the south-east in combination with the operational Lairg Estate Wind Farm and the consented Braemore Wind Farm would be visible in views to the south. Neither of these developments would be seen in combination with the Proposed Development, Turbine tips at the proposed (in-planning) South Kilbruar Wind Farm would be barely visible in distant views to the east, mostly screened by topography.
- 11.12.13 The addition of the Proposed Development to this cumulative scenario, of consented and proposed developments, would be an impact on the setting of The Ord of low magnitude and, based on professional judgement, of **minor** significance (not significant in EIA terms).

Prehistoric landscape east of Loch Shinn (Figure 11.8)

- 11.12.14 The cumulative impact of the Proposed Development in combination with other consented and proposed developments on the prehistoric landscape east of Loch Shin is best illustrated by reference to Figure 11.8. Figure 11.8a shows that from the Shinness Murray Memorial monument the consented Lairg II Wind Farm and the consented Braemore Wind Farm would lie to the south south-east and that Creag Riabhach Wind Farm would lie to the north north-west, each at roughly similar distances. None of the consented or other proposed developments would be seen in combination with the Proposed Development and given the distances to the visible developments, the cumulative impact of the Proposed Development in combination with other consented or proposed developments would be no greater than that of the Proposed Development alone; that is of low magnitude and **minor** significance (not significant in EIA terms).

11.13 Summary

- 11.13.1 A desk-based assessment and field surveys have been carried out to establish the cultural heritage baseline, within the Proposed Development site (Inner Study Area) and in the wider landscape (Outer Study Area). The assessment has been informed by consultations with HES, THC and with HET.
- 11.13.2 Eleven heritage assets have been identified within or directly adjacent to the Inner Study Area, details of which are provided in Technical Appendix 11.1. A possible sheiling hut (4) and the Category C Listed Fèith Osdail bridge (5) are assessed as being of low sensitivity. The site of a former possible cairnfield (1), destroyed by forestry, the site of former milestone (6), and five quarries (7, 8, 9, 10 and 11) are assessed as being of negligible sensitivity. Two recorded features (2 and 3) have been identified as being natural features and are also assessed as being of negligible sensitivity.
- 11.13.3 An assessment of the identified cultural heritage resource, and consideration of the current and past land-use, within and in the immediate vicinity of the Inner Study Area, indicates that there is a low to moderate likelihood of hitherto unidentified archaeological remains of prehistoric or post-medieval date being present within the site, in the areas free of commercial forestry.
- 11.13.4 There is a predicted direct effect on one of the identified heritage assets within the site: an old quarry (7) of no intrinsic heritage value and negligible sensitivity. The effect is assessed as being **minor** adverse and not significant.

- 11.13.5 There is a predicted effect on any surviving remains of a possible shieling hut (4), an asset of value at a local level and of low sensitivity, the recorded location of which is within 15 m of the temporary access track. Mitigation to offset the predicted effect, through the recovery of archaeological information, is proposed and the residual effect is assessed as being **minor** adverse and not significant.
- 11.13.6 Fourteen Scheduled Monuments (of high sensitivity) have been identified within the Outer Study Area from which there is some degree of theoretical visibility of the Proposed Development. Two other Scheduled Monuments (of high sensitivity), outwith the Outer Study Area, have been identified that have settings considered to be important to understanding the monuments and have been included in the assessment at the specific request of HES. There are also two Category C Listed Buildings (low sensitivity) from which there is predicted theoretical visibility of the Proposed Development. These, together with other assets considered in the assessment of effects on their settings, are listed in Appendices 11.2 and 11.3, which include tabulated assessments of the effect of the Proposed Development on their settings.
- 11.13.7 There are two Scheduled Monuments (SM 5300; SM 5081) within the Outer Study Area where, a **moderate** significance adverse effect (significant in EIA terms) has been identified. Although these effects are assessed as significant, because of the predicted change in their immediate surroundings, the integrity of the settings of the affected assets, the capacity to convey their cultural significance, would not be compromised.
- 11.13.8 Based on the application of professional judgement, all other setting effects are anticipated to be non-significant.
- 11.13.9 No significant cumulative effects have been identified.
- 11.13.10 Table 11.6 sets out a summary of the predicted effects assuming adoption of the standard mitigation and prior to the adoption of any necessary additional mitigation measures. The residual effect resulting following implementation of any required additional mitigation measures is stated.

Table 11.6 – Summary of Effects

Description of Effect	Significance of Potential Effect		Mitigation Measures	Significance of Residual Effect	
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse
Construction					
Direct impact on quarry (7)	Minor	Adverse	No mitigation required	Minor	Adverse
Potential impact on remains of possible shieling hut (4)	Moderate	Adverse	Appointment of ACoW. Watching brief to a scope of work agreed with HET through WSI.	Minor	Adverse
Possible direct effects on buried archaeological remains.	Major or Moderate	Adverse	Appointment of ACoW. Watching brief to a scope of work agreed with HET through WSI.	Minor	Adverse
Operation					
Impacts on the settings of two Scheduled Monuments, of high sensitivity: (SM 5081 and SM 5300).	Moderate	Adverse	None	Moderate	Adverse
Impacts on the settings of 14 other Scheduled Monuments, of high sensitivity.	Minor	Adverse	None	Minor	Adverse

Description of Effect	Significance of Potential Effect		Mitigation Measures	Significance of Residual Effect	
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse
Impacts on the settings of two Category C Listed Buildings of low sensitivity: (LB 8018 and LB 8027).	Minor	Adverse	None	Minor	Adverse
Decommissioning					
n/a	n/a	None	None	n/a	n/a

Table 11.7 – Summary of Cumulative Effects

Receptor	Effect	Cumulative Developments	Significance of Cumulative Effect	
			Significance	Beneficial/ Adverse
Cumulative impacts on the settings of 16 Scheduled Monuments.	Minor	Consented Creag Riabhach Wind Farm; Consented Lairg II Wind Farm; Consented Braemore Wind Farm	Minor	Adverse

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Appendix 11.1 - Heritage Assets within the Inner Study Area

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Table 1 – Heritage Assets within the Inner Study Area (Figure 11.1)

Asset No	Asset Name	Easting	Northing	HER No / NHRE number	Source	Description	Sensitivity
1	Feith Osdail; Cairnfield	257680	914640	MHG 12842	HER; Historic Maps; Aerial Photography	Three sub-circular clearance cairns, each 4 m north - south by 2 m by 0.5 m high and partially grass-covered, recorded by field survey in 1980 (source: Mercer, 1980). Subsequent survey by the Ordnance Survey recorded several mounds and rickles of early modern stone clearance on a south-west slope (source: Ordnance Survey, 1981). Found to be as previously described when visited in 1989 (source: RCAHMS, 1989). Field survey found no visible remains. The area within which the cairns were recorded has been afforested and forestry ploughing is likely to have removed all evidence of the cairnfield.	Low
2	Feith Osdail; Peat Hag	258190	914620	MHG 12843	HER; Historic Maps; Aerial Photography	A peat mound, 2 m in diameter and 0.5 m high, recorded by field survey in 1980 (source: Mercer, 1980). Subsequently recorded by the Ordnance Survey as natural features of nil antiquity (source: OS, 1981).	Negligible
3	Feith Osdail; Mounds	258110	914530	MHG 13268 / MHG 10461	HER; Historic Maps; Aerial Photography	Two grass-covered mounds recorded by field survey in 1980. One measures 5 m north - south by 2 m and the other 7 m east - west by 4 m (source: Mercer, 1980). Subsequently recorded by the Ordnance Survey as natural features of nil antiquity, (source: Ordnance Survey, 1981).	Negligible
4	Feith Osdail; Sheiling Hut	257810	914160	MHG 12845	HER	Possible shieling hut recorded by field survey in 1980. Described as grass and moss covered, measuring 10 m by 4 m by 0.3 m high (source: Mercer, 1980). At least one structure, as described by Mercer, was recorded by field survey in 1989, located on low-lying, poorly drained ground (source: RCAHMS, 1989). Field survey found no obvious structures at or around the recorded location.	Low
5	Feith Osdail; Bridge	257485	913946	MHG 12835	HER; Historic Maps; Aerial Photography	Category C Listed Building (LB 8018) Single segmental arch bridge (c.1816) across the Grudie Burn on the road from Lairg to Rosehall (source: Calder, 1974). Field survey found the bridge to be as described.	Low
6	Dalmichy; Milestone	257406	914151	305110	NRHE; Historic Maps; Aerial Photography	A milestone depicted standing on the east verge of what is now the A836 public road about 1.1 km north of Dalmichy on the 1st edition of the Ordnance Survey map (1878, Sutherlandshire sheet LXXXV). It indicated the distance in miles to 'ALTNAHARROW 15½' and 'LAIRG 5½' but was not found when visited in 2009 (sources: RCAHMS, 2009) Field survey found no evidence of the milestone.	Negligible
7	Quarry	257329	914758	n/a	Survey	Field survey recorded a quarry within commercial forestry to the east of the road. The quarry measures 10 m by 6 m with a depth of 1.5 m.	Negligible
8	Quarry	257369	914709	n/a	Survey	Field survey recorded a quarry within commercial forestry to the east of the road. The quarry measures 16 m by 10 m with a depth of 2 m.	Negligible
9	Quarry	257480	914028	n/a	Survey	Field survey recorded a quarry within open grassland to the east of the road. The quarry measures 8 m by 6 m with a depth of 2 m.	Negligible
10	Quarry	257465	914054	n/a	Survey	Field survey recorded a quarry within commercial forestry to the east of the road. The quarry measures 18 m by 15 m with a depth of 4 m.	Negligible
11	Quarry	257753	914068	n/a	Survey	Field survey recorded a quarry within commercial forestry to the north of the track. The quarry measures 12 m by 11 m with a depth of 2.5 m. A 7.5 m long track leads into the quarry from the south east.	Negligible

Appendix 11.2 - Designated Heritage Assets within Outer Study Area

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Table 1 – Designated Heritage Assets within Outer Study Area (Figure 11.2)

Asset No	Asset Name	Asset Type	Status	Setting	No of tips visible ¹	No of hubs visible ²	Distance to nearest turbine (km)	Sensitivity of Asset	Magnitude of Impact	Significance of Effect ³	VP Figure (where applicable)
SM 1829	Altbreck, broch 1650 m ESE of Dalchork Bridge	Prehistoric domestic and defensive: broch	Scheduled Monument	Iron Age broch within a clearing within commercial forestry on a south facing slope. Views northwards partly screened by topography and by forestry, but there are panoramic views in all other directions. The broch occupies a strategic position overlooking the confluence of the Allt Ruadh burn and the Allt Chaiseagail burn to the south, which appears to be a key aspect of its setting.	4	4	4.0	High	Low. Discussed in detail in Chapter 11: Cultural Heritage and Archaeology, Operational Effects.	Minor	Figure 11.7 (VP 5)
SM 4375	Cnoc Olasdail, hut circles & field systems	Prehistoric domestic and defensive: field or field system	Scheduled Monument	Prehistoric settlement within an area of commercial forestry, on a west facing slope overlooking Strath Tirry and the River Tirry. Wide views afforded from the settlement, particularly from the upper slopes, looking along Strath Tirry to the north-west and south-east.	4	2	4.0	High	Low. Discussed in detail in Chapter 11: Cultural Heritage and Archaeology, Operational Effects.	Minor	Figure 11.6 (VP 4)
SM 4560	Meall Meadhonach, hut circles, field system & shielings 750 m SW of	Prehistoric domestic and defensive: field or field system; Secular: shieling	Scheduled Monument	Prehistoric settlement within a clearing in commercial forestry on a southwest facing slope. Open views across the surrounding plantation taking in Loch Beannach and distant hill tops to the northwest, to Loch Shin and the surrounding hill slopes to the southwest, and to Loch Dola and farmland to the south southeast around Lairg. One of a group of prehistoric settlement sites that survive within commercial forestry (Dalchork Wood) to the north of Lairg. Localised setting with possible visual links to other nearby prehistoric settlements.	4	4	3.9	High	Low. (Development visible on skyline in views to north east, partly screened by topography and commercial forestry. Visual links with related prehistoric settlement sites nearby to the north and south unaffected).	Minor	N/A
SM 4563	Dalnessie, settlement N of Feith Osdail	Secular: settlement, including deserted, depopulated and townships	Scheduled Monument	Post-medieval settlement, of around 30 structures, lies alongside forest and farm access track in open corridor through commercial forestry on a south facing slope. Open views southwards: views northwards constrained by topography and forestry. Localised settling.	4	4	3.6	High	Negligible. Discussed in detail in Chapter 11: Cultural Heritage and Archaeology, Operational Effects.	Minor	Figure 11.5 (VP 3)
SM 5081	Loch Beag na Furalachd, cairn and shielings 1175 m ESE of SW end	Secular: settlement, including barn	Scheduled Monument	Prehistoric cairn on top of a small knoll, within remains of a post medieval settlement, and within a clearing of a commercial forestry plantation. The settlement has a localised setting above the Fèith Osdail burn to the south. Forestry location compromises the cairn's setting.	4	4	1.6	High	Medium. Discussed in detail in Chapter 11: Cultural Heritage and Archaeology, Operational Effects.	Moderate	Figure 11.4 (VP 2)
SM 5084	Achadh nan Eun, shieling 1400 m N of	Secular: shieling	Scheduled Monument	Post-medieval building lying alongside a watercourse within commercial forestry; close to track and on north facing slope. Open views northwards along watercourse. Localised setting.	4	4	4.1	High	Negligible. (Views out from asset not an important contributor to cultural significance. Within commercial forestry plantation. Localised setting unaffected).	Minor	N/A

¹ Based on bare-earth blade tip height ZTV

² Based on bare-earth hub height ZTV

³ The assessment of significance is based on the application of professional judgment using the matrix provided as Table 11.4. Where potentially significant effects are predicted, these are discussed in detail in the chapter (Section 11.9)

Asset No	Asset Name	Asset Type	Status	Setting	No of tips visible ¹	No of hubs visible ²	Distance to nearest turbine (km)	Sensitivity of Asset	Magnitude of Impact	Significance of Effect ³	VP Figure (where applicable)
SM 5093	Meall Meadhonach, settlement and shielings 900 m N of	Secular: settlement, including deserted, depopulated and townships	Scheduled Monument	Post-medieval settlement, possibly a 'cottar town', within a clearing in commercial forestry on north facing slope either side of a forestry haul road. Long views to north and north-west. Localised setting.	4	4	3.9	High	Low. (Views out from asset not an important contributor to cultural significance. Within commercial forestry plantation. Localised setting unaffected).	Minor	N/A
SM 5154	Achadh nan Eun, shielings	Secular: settlement, including deserted, depopulated and townships	Scheduled Monument	Post-medieval settlement of around six buildings, possibly a 'cottar town', within a clearing in commercial forestry on north facing slope either side of a forestry haul road. Long views to north and north-west. Localised setting.	4	4	4.5	High	Negligible. (Views out from asset not an important contributor to cultural significance. Within commercial forestry plantation. Localised setting unaffected).	Minor	N/A
SM 5159	Loch Beag na Fuaralachd, shielings 1000 m SW of SW end of	Secular: settlement, including deserted, depopulated and townships	Scheduled Monument	Post-medieval sheiling settlement that may have been part of a 'cottar town'. Located within a clearing in a commercial forestry plantation. Localised setting above the Fèith Osdail burn to the south. Forestry location compromises setting.	4	4	2.0	High	Low. (Views out from asset not an important contributor to cultural significance. Within commercial forestry plantation. Localised setting unaffected).	Minor	N/A
SM 5161	Meall Meadhonach, sheepfold 1550 m NW of	Secular: enclosure	Scheduled Monument	Well-preserved and complex example of a sheepfold in clearing within commercial forestry on north facing slope. Localised setting.	4	4	2.9	High	Negligible. (Views out from asset not an important contributor to cultural significance. Within commercial forestry plantation. Localised setting unaffected).	Minor	N/A
SM 5194	Meall Meadhonach, hut circle and field system 1200 m WNW of	Prehistoric domestic and defensive: hut circle, roundhouse	Scheduled Monument	Prehistoric settlement remains in a clearing in commercial forestry on a southwest facing slope. Open views across the surrounding plantation taking in Loch Beannach and distant hill tops to the northwest and Loch Shin and the surrounding hill slopes to the southwest. One of a group of prehistoric settlement sites that survive within commercial forestry (Dalchork Wood) to the north of Lairg. Localised setting but with possible visual links to other nearby prehistoric settlements.	4	4	3.4	High	Low. (Development visible on skyline in views to north east, partly screened by topography and commercial forestry. Visual links with related prehistoric settlement sites nearby to the north and south unaffected).	Minor	N/A
SM 5300	Cnoc a' Bhreac-leathaid, shielings and cairnfield 700 m NNE of	Prehistoric domestic and defensive: hut circle, roundhouse; Secular: shieling	Scheduled Monument	Prehistoric and post medieval settlement remains that lie alongside forest and farm access track in an open corridor through commercial forestry on a north facing slope. Open views northwards. Localised setting.	4	4	0.8	High	Medium. Discussed in detail in Chapter 11: Cultural Heritage and Archaeology, Operational Effects.	Moderate	Figure 11.3 (VP 1)

Asset No	Asset Name	Asset Type	Status	Setting	No of tips visible ¹	No of hubs visible ²	Distance to nearest turbine (km)	Sensitivity of Asset	Magnitude of Impact	Significance of Effect ³	VP Figure (where applicable)
SM 5401	Loch Beag na Fuaralachd, prehistoric settlement 950 m SW of SW end of	Prehistoric domestic and defensive: hut circle, roundhouse	Scheduled Monument	Prehistoric hut circle and traces of a field system on a south facing hill side. Located within a clearing in a commercial forestry plantation. Localised setting above the Fèith Osdail burn.	4	4	1.9	High	Low. (Views out from asset not an important contributor to cultural significance. Localised setting unaffected).	Minor	N/A
SM 5563	Altbreck, homestead 1800 m ESE of Dalchork Bridge	Prehistoric domestic and defensive: homestead	Scheduled Monument	Prehistoric settlement with D-shaped enclosure occupying elevated position on a south facing slope, within commercial forestry plantation (Dalchork Wood). The forestry around the monument has been felled and the monument has open views from the east to the west overlooking the confluence of the Allt Ruadh burn and the Allt Chaiseagail. Views to the north are restricted by rising topography. Localised setting.	4	4	4.2	High	Low. (Views out from asset not an important contributor to cultural significance. Within commercial forestry plantation. Localised setting unaffected).	Minor	N/A
LB 8018	Feith Osdail Bridge	Bridge	Category C Listed	Single span rubble-built road bridge by Thomas Telford constructed c. 1815. Carries A836 over the Abhain Sgeamhaidh burn. Localised riverside setting.	4	4	0.5	Low	Medium. (The bridge is located 0.5 km from the Proposed Development and will be visible at close proximity to the west. Views out from asset not an important contributor to cultural significance).	Minor	N/A
LB 8027	Murray Memorial, Shinness	Memorial	Category C Listed	Ashlar obelisk memorial monument erected in 1877 to Kenneth Murray. Stands within woodland on a spur overlooking Loch Shin to the east. Localised setting within the small, dispersed settlement of Shinness.	4	4	2.6	Low	Low. Discussed in detail in Chapter 11: Cultural Heritage and Archaeology, Operational Effects.	Minor	Figure 11.8 (VP 6)

Appendix 11.3 - Designated Heritage Assets beyond the Outer Study Area (specifically requested by HET to be assessed)

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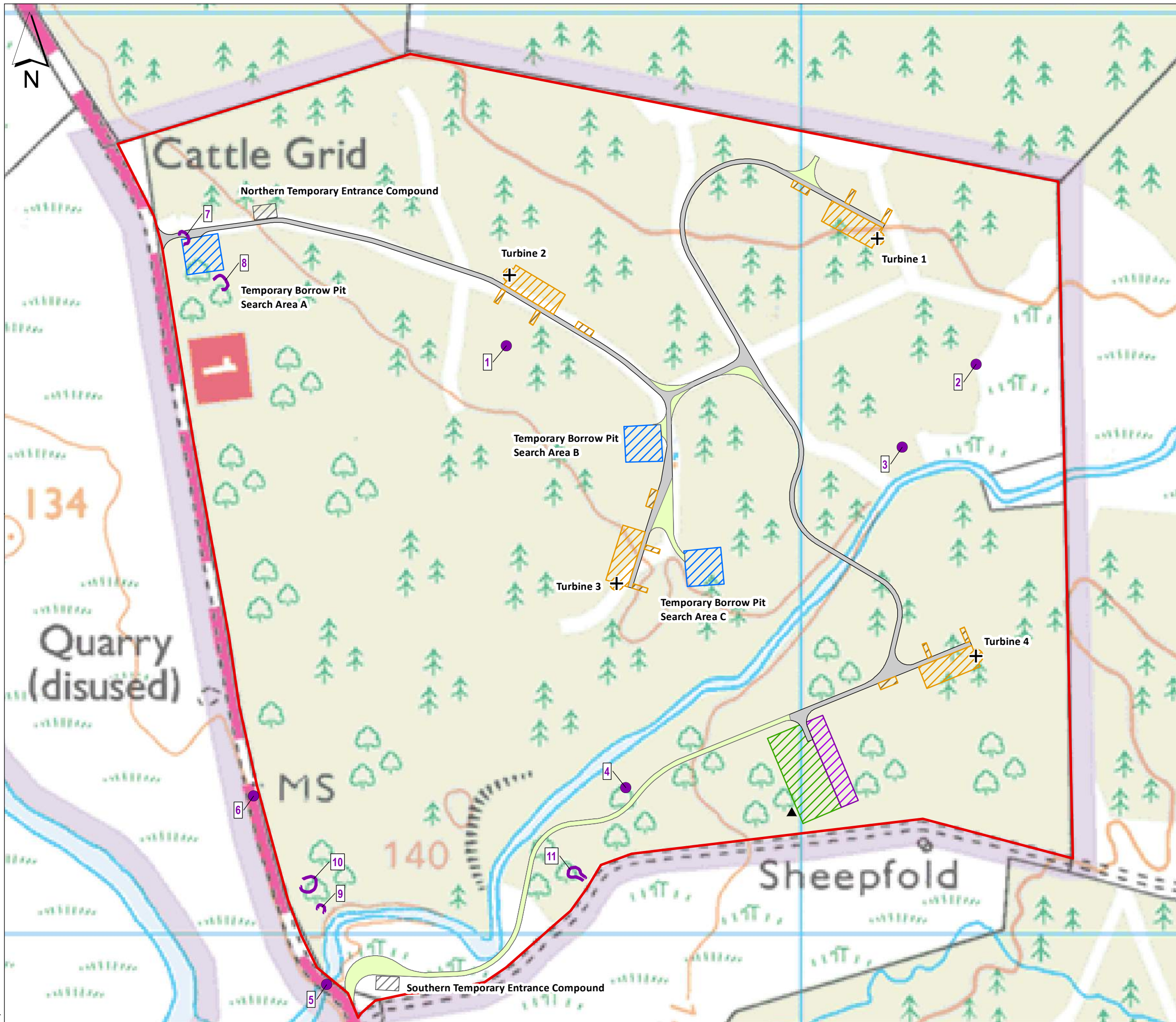
Table 1 – Designated Heritage Assets beyond the Outer Study Area specifically requested by HET to be assessed (Figure 11.2)

Asset No	Asset Name	Asset Type	Status	Setting	No of tips visible ¹	No of hubs visible ²	Distance to nearest turbine (km)	Sensitivity of Asset	Magnitude of Impact	Significance of Effect ³	VP Figure (where applicable)
SM 1812	The Ord, chambered cairns, cairns, settlements and field systems	Prehistoric domestic and defensive: settlement; Prehistoric ritual and funerary: chambered cairn	Scheduled Monument	Prehistoric funerary and settlement remains occupying a strategic position at the south end of Loch Shin and at the north end of Achany Glen. Wide ranging views to the north, south and east from the summit of The Ord, whilst rising ground to the west constrains views in that direction. The principal views are to the north and northwest, along Loch Shin, and to the south, along Achany Glen. The Ord is a prominent feature in the surrounding landscape.	4	4	8.2	High	Negligible. Discussed in detail in Chapter 11: Cultural Heritage and Archaeology, Operational Effects.	Minor	Figure 11.10 (VP 8) Figure X.X LVIA VP 20
SM 1883	Sallachy, broch 425 m NNE of Fruchan Cottage	Prehistoric domestic and defensive: broch	Scheduled Monument	Iron Age broch positioned on a low rocky knoll on sloping hillside towards Loch Shin with views up the loch to the north west and south east. The broch sits within a moorland clearing, surrounded by a small woodland and close to loch shore.	4	3	5.9	High	Low. Discussed in detail in Chapter 11: Cultural Heritage and Archaeology, Operational Effects.	Minor	Figure 11.9 (VP 7) Figure X.X LVIA VP 11

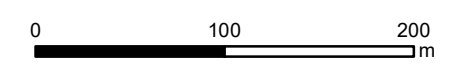
¹ Based on bare-earth blade tip height ZTV

² Based on bare-earth hub height ZTV

³ The assessment of significance is based on the application of professional judgment using the matrix provided as Table 11.4. where potentially significant effects are predicted, these are discussed in detail in the chapter (Section 11.9)



- KEY**
- Site Boundary
 - + Turbine Location
 - ▲ Meteorological Mast Location
 - Turbine Hardstanding
 - Temporary Hardstanding
 - Acces Track
 - Temporary Access Track
 - Energy Storage System, Switching Station & Control Room
 - Temporary Borrow Pit Search Area (Areas A-C)
 - Temporary Entrance & Exit Compound
 - Temporary Construction Compound
 - Cultural Heritage Site (point)
 - Cultural Heritage Site (linear)



Scale 1:4,000 @ A3

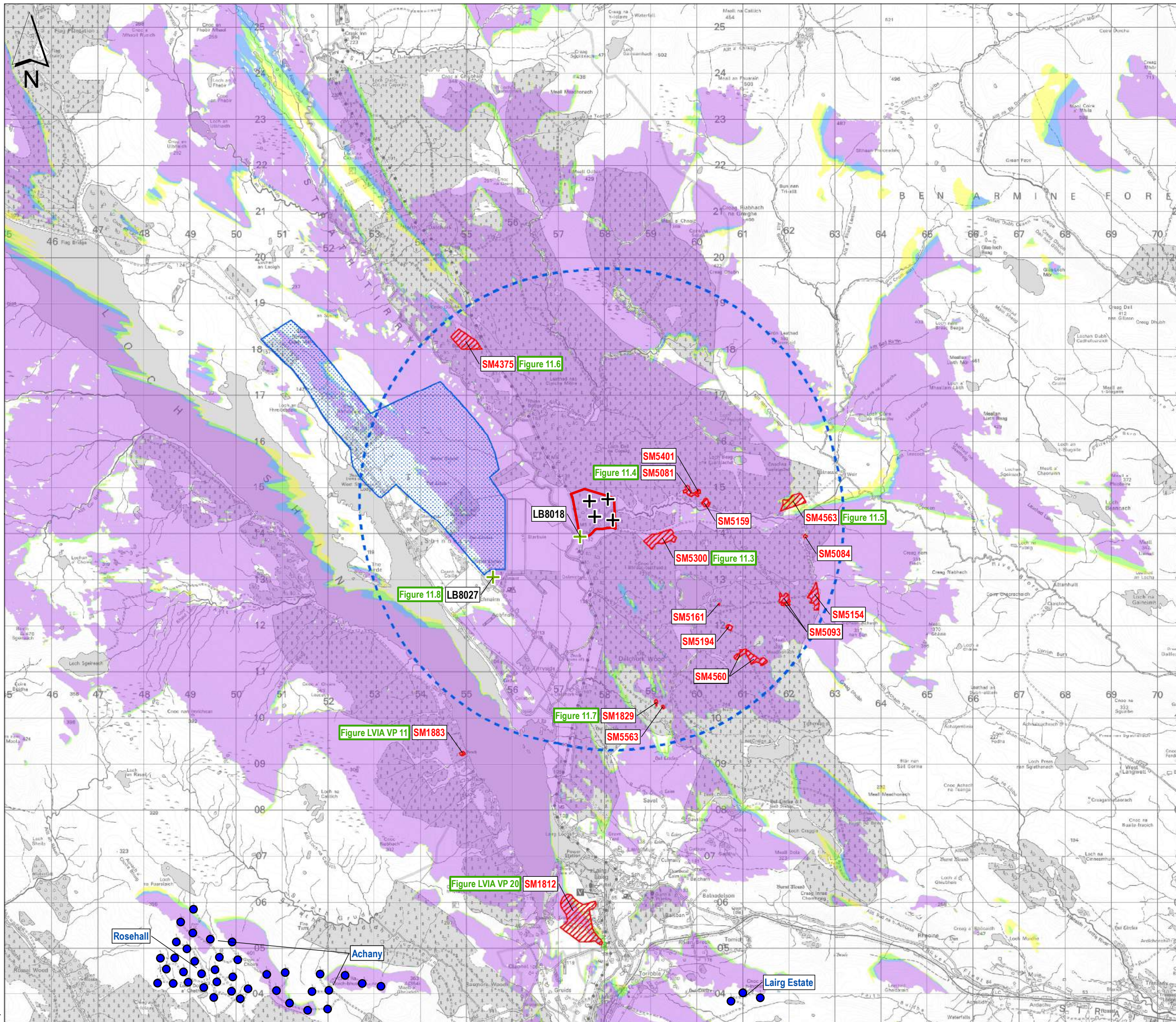


Strath Tirry Wind Farm
EIA Report
Figure 11.1

Cultural Heritage: Inner Study Area

Date: 10/11/2020	Drawn by: CA	Checked by: JM	Version: V1
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Project Number: 3225



KEY

- Site Boundary
- + Turbine Location
- 5km Outer Study Area
- Scheduled Monument
- + Category C Listed Building
- Archaeological Landscape

No. of Blade Tips Theoretically Visible

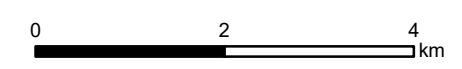
- 1
- 2
- 3
- 4

Cumulative Scheme

- Operational
- Figure x.x Visualisation Viewpoint

Notes:

- The ZTV illustrates the 'bare ground' situation, and do not take into account the screening effects of vegetation, buildings, or other local features that may prevent or reduce visibility.
- The ZTV does not indicate the decrease in visibility that occurs with increased distance from the Proposed Development.
- It is important to remember that there is a wide range of variation within the visibility shown on the ZTV. Please refer to Chapter 6 for full details."



Scale 1:80,000 @ A3



Strath Tully Wind Farm
EIA Report
Figure 11.2

Cultural Heritage: Outer Study Area

Date: 10/11/2020	Drawn by: CA	Checked by: JM	Version: V1
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Project Number: 3225