

10. Cultural Heritage 10-1

10.1 Summary	10-1
10.2 Summary of Conclusions – Previous Applications	10-2
10.3 Introduction	10-3
10.4 Scope of Assessment	10-7
10.5 Assessment Methodology	10-9
10.6 Baseline Conditions	10-18
10.7 The ‘Do Nothing’ Scenario	10-22
10.8 Design Layout Considerations	10-22
10.9 Micrositing	10-23
10.10 Assessment of Effects	10-23
10.11 Construction Effects	10-24
10.12 Operational Effects	10-25
10.13 Decommissioning Effects	10-29
10.14 Cumulative Effects	10-29
10.15 Interrelationship Effects	10-29
10.16 Mitigation and Enhancement Measures	10-29
10.17 Summary of Residual Effects	10-30
10.18 Conclusions	10-31
10.19 References	10-32

Figures

10.1	Known Heritage Assets within Inner Study Area (ISA)
10.2	Designated Heritage Assets within 5km Study Area
10.3	Cultural Heritage Viewpoint 1: Cnoc Freiceadain long cairns (wireline visualisation)
10.4	Cultural Heritage Viewpoint 2: The Hill of Shebster, chambered cairn (wireline visualisation)
10.5	Cultural Heritage Viewpoint 3: Clach Clais an Tuirc standing stone (wireline visualisation)

10. Cultural Heritage

10.1 Summary

- 10.1.1 This chapter considers the potential effects upon cultural heritage associated with the Revised Consented Development. The aim of the chapter is to identify any changes to the cultural heritage baseline since the submission of the 2016 ES for the Consented Development, and any changes to impacts upon that baseline as a result of the Revised Consented Development.
- 10.1.2 An updated desk-based assessment and walkover survey were undertaken to establish the cultural heritage resource that may be affected by the Revised Consented Development. The potential effect on this resource was then assessed.
- 10.1.3 The construction phase of the Revised Consented Development would not directly impact upon any known heritage assets, but may have an impact on previously unrecorded heritage assets within the new proposed development area. The significance of the effect upon previously unrecorded heritage assets is unknown but appropriate mitigation to be agreed with The Highland Council (THC) will reduce any effect to an acceptable level.
- 10.1.4 Effects on three scheduled monuments (SM90078, SM476 & SM441) have been identified for the operational phase of the Revised Consented Development. There will be no greater than a minor level of adverse effect on the setting of these assets.
- 10.1.5 In conclusion it is predicted that there will be **no significant adverse effects upon cultural heritage** as a result of the Revised Consented Development.
- 10.1.6 In relation to anticipated direct impacts in advance of or during construction, the overall effect of the Revised Consented Development will be the same as anticipated for the Consented Development.
- 10.1.7 In relation to anticipated operational effects resulting in a change within the setting of heritage assets, where this contributes to their significance, the overall effect of the Revised Consented Development will be the same as anticipated for the Consented Development.

10.2 Summary of Conclusions – Previous Applications

Table 10.1 Summary of conclusions - previous applications

Technical Topic	2012 ES (24 Turbine Layout – tip heights 126m and 139m)	2016 ES (24 Turbine Layout – tip heights 126m and 139m)	2017 SI (21 Turbine Layout – tip heights 126m and 139m)	2021 Section 36C Application (21 Turbine layout with 149.9 m tip heights, plus amended tracks)
Cultural Heritage	<p>EIA concluded that the construction phase had the potential to directly affect two previously recorded archaeological assets (Claperton Dyke and Milton Township) and may effect previously unrecorded cultural heritage assets within the area. Without mitigation these effects will be of no more than a slight to moderate level of adverse effect. Appropriate mitigation will reduce this effect.</p> <p>Effects on three cultural heritage assets (Cnoc Freiceadain long cairns, The Hill of Shebster,</p>	<p>Overall there was no change to the conclusions of the 2012 ES with all residual effects concluded to be 'not significant'.</p>	<p>Overall there was no change to the conclusions of the 2012 ES with all residual effects concluded to be 'not significant'.</p>	<p>All residual effects of the Revised Consented Development are concluded to be 'not significant'.</p> <p>Claperton Dyke is avoided entirely by the proposed rerouted access tracks. Effects upon heritage assets associated with Milton township (MHG13449 & MHG17820) identified in the ES for the Consented Development have already been mitigated.</p> <p>No further direct impacts on known heritage assets have been identified. The likelihood of direct impacts upon previously unrecorded heritage assets during construction is</p>

	<p>chambered cairn, and Clach Clais an Tuirc standing stone) have been identified for the operational phase of this wind farm. There will be no greater than a slight level of adverse effect on the setting of these assets.</p>			<p>considered to be the same for the Consented Development as for the Revised Consented Development.</p> <p>In comparison and in relation to the anticipated operational effects arising from change within the setting of heritage assets, where this contributes to their significance, the overall effect of the Revised Consented Development will be the same as anticipated for the Consented Development</p>
--	---	--	--	---

10.3 Introduction

- 10.3.1 This chapter considers the potential effects upon cultural heritage (including archaeological remains) associated with the construction, operation and decommissioning phases of proposals for an increase in tip height from 126m and 139m to up to 149.9m (all 21 turbines), the omission of the western borrow pit, rerouting the access tracks away from the existing Core Path and moving the temporary construction compound to the south (hereafter referred to as the 'Revised Consented Development').
- 10.3.2 A detailed description of the Revised Consented Development and an overview of the construction methodology is provided within **Chapter 4: Description of the Revised Consented Development**; the planning context for the Revised Consented Development is provided within **Chapter 5: Planning Policy**.
- 10.3.3 The extent and methodology of the assessments required to support the Revised Consented Development were agreed through a formal Scoping process in April 2021 (see Table 10.2).
- 10.3.4 The aim of this chapter is to identify any changes to the cultural heritage baseline since the submission of the 2016 ES for the Consented Development (see **Appendix 10.C Consented Development – Chapter 10 Cultural Heritage 2016**), and any changes to impacts upon that baseline as a result of the Revised Consented Development.
- 10.3.5 The specific objectives of this chapter are to:

- Describe the location, nature and extent of any known cultural heritage assets or areas of archaeological potential which may be affected by the Revised Consented Development;
- Provide an assessment of the importance of these assets;
- Assess the likely scale of any impacts on the historic environment posed by the Revised Consented Development;
- Outline suitable mitigation measures to avoid, reduce or offset significant adverse effects; and
- Provide an assessment of any residual effects remaining after mitigation.

10.3.6 The assessment was undertaken by Headland Archaeology (UK) Ltd. Headland Archaeology is a Registered Organisation with the Chartered Institute for Archaeologists (CIfA) and abides by its standards and codes of conduct. Headland has been independently assessed under the Achilles UVDB Verify audit and assessment service, which focuses on risk critical issues and provides demonstrable compliance to Safety, Health, Environment and Quality (SHEQ) requirements. As part of the RSK Group, Headland Archaeology is formally recognised as an Historic Environment Service Provider (HESPR) with the Institute of Historic Building Conservation (IHBC), an externally audited status which confirms our work is carried out in accordance with the highest standards of the profession.

10.3.7 Supporting Cultural Heritage **Figures 10.1 - 10.5** (Volume 3: Landscape and Visual and Cultural Heritage Visualisations) are referenced in the text where relevant and all known designated heritage assets in the Study Areas (see Assessment Methodology: Part 10.4) are listed in **Appendix 10.A**.

10.3.8 The Zone of Theoretical Visibility (ZTV) model for the Revised Consented Development and supporting visualisations are included in **Chapter 9: Landscape and Visual Impact Assessment (LVIA)**.

Legislation and Guidance

10.3.9 The assessment has been undertaken with reference to relevant national legislation, policy and guidance relating to the historic environment.

- Scottish Planning Policy (SPP) 2014 with amendments 2020;
- Planning Advice Note (PAN) 2/2011: Planning and Archaeology;
- Historic Environment Policy for Scotland (HEPS, 2019);
- Historic Environment Scotland Circular (2019);
- Managing Change in the Historic Environment: Setting (Historic Environment Scotland (HES) 2016);
- Highland Council Standards for Archaeological Work (post-consultation draft, February 2012)

- Standard and Guidance for Historic Environment Desk-Based Assessment (Chartered Institute for Archaeologists (CIfA 2020));
- Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment (CIfA 2020)

Legislation

- 10.3.10 Scheduled Monuments and Listed Buildings are protected by statute.
- 10.3.11 Legislation regarding Scheduled Monuments is contained within The Ancient Monuments and Archaeological Areas Act 1979. Legislation regarding Listed Buildings is contained in The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997.
- 10.3.12 The 1979 Act makes no reference to the settings of Scheduled Monuments. The 1997 Act does, however, place a duty on the planning authority with respect to Listed Buildings, and their settings and Conservation Areas. Section 59 of the 1997 Act states (in part):
- "In considering whether to grant planning permission for development which affects a listed building or its setting, a planning authority or the Secretary of State, as the case may be, shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses."*
- 10.3.13 Section 64 states:
- "In the exercise, with respect to any buildings or other land in a conservation area, of any powers under any of the provisions in subsection (2), special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area."*
- 10.3.14 The Historic Environment Scotland Act 2014 defines the role of the new public body, Historic Environment Scotland (HES), and the processes for the designation of heritage assets, consents and rights of appeal.

Planning Policy

- 10.3.15 The Scottish Government's planning policies in relation to the historic environment are set out in paragraphs 135-151 of Scottish Planning Policy (SPP) (The Scottish Government, June 2014 with amendments December 2020). The historic environment is defined as "the physical evidence for human activity that connects people with place, linked with the associations we can see, feel and understand" and includes "individual assets, related settings and the wider cultural landscape".
- 10.3.16 The policy principles are stated in paragraph 137:
- "The planning system should:*
- *promote the care and protection of the designated and non-designated historic environment (including individual assets, related settings and the wider cultural landscape) and its contribution to sense of place, cultural identity, social well-being, economic growth, civic participation and lifelong learning; and*
 - *enable positive change in the historic environment which is informed by a clear understanding of the importance of the heritage assets affected*

and ensure their future use. Change should be sensitively managed to avoid or minimise adverse impacts on the fabric and setting of the asset, and ensure that its special characteristics are protected, conserved or enhanced."

10.3.17 The SPP applies these principles to all designated assets (paragraphs 141-149). In particular, it states that:

- *Regarding developments affecting Listed Buildings, "special regard must be given to the importance of preserving and enhancing the building, its setting and any features of special architectural or historic interest";*
- *Proposals "which will impact on its appearance, character or setting [of a Conservation Area], should preserve or enhance the character and appearance of the conservation area";*
- *"Where there is potential for a proposed development to have an adverse effect on a scheduled monument or on the integrity of its setting, permission should only be granted where there are exceptional circumstances";*
- *"Where a development proposal has the potential to affect a World Heritage Site, or its setting, the planning authority must protect and preserve its Outstanding Universal Value";*
- *"Planning authorities should protect and, where appropriate, seek to enhance gardens and designed landscapes included in the Inventory of Gardens and Designed Landscapes and designed landscapes of regional and local importance"; and*
- *"Planning authorities should seek to protect, conserve and, where appropriate, enhance the key landscape characteristics and special qualities of sites in the Inventory of Historic Battlefields".*

10.3.18 The SPP also requires planning authorities to protect archaeological sites and monuments, preserving them in situ where possible, or otherwise ensure "appropriate excavation, recording, analysis, publication and archiving before and/or during development" (paragraph 150). "Non-designated historic assets and areas of historical interest, including historic landscapes, other gardens and designed landscapes, woodlands and routes such as drove roads" should also be preserved in situ wherever feasible (paragraph 151).

10.3.19 'Our Place in Time: the Historic Environment Strategy for Scotland' (2015) presents the Scottish Government's strategy for the protection and promotion of the historic environment. The Historic Environment Policy for Scotland (HEPS, 2019) and the Historic Environment Scotland Circular (2019) complement the SPP and provide further policy direction. In particular, HEPS provides more detailed policy on historic environment designations and consents.

Local Policy

10.3.20 The Highland Council (THC) adopted the Highland Wide Local Development Plan (HWLDP) in April 2012. Within the HWLDP Policy 57 Natural, Built and Cultural Heritage is of relevance to this Chapter.

10.3.21 This policy in part states;

"All development proposals will be assessed taking into account the level of importance and type of heritage features, the form and scale of the development, and any impact on the feature and its setting"

"Council also intends to adopt the Supplementary Guidance on the Highland Historic Environment Strategy. The main principles of this guidance will ensure that:

- *Future developments take account of the historic environment and that they are of a design and quality to enhance the historic environment bringing both economic and social benefits;*
- *It sets a proactive, consistent approach to the protection of the historic environment."*

10.3.22 In August 2018 THC adopted the Caithness and Sutherland Local Development Plan (CSLDP) to be used in conjunction with the HWLDP. The CSLDP sets out a number of Key Outcomes, of relevance to this Chapter is the Key Outcome for environment and heritage;

"High quality places where the outstanding environment and natural, built and cultural heritage is celebrated and valued assets are safeguarded"

Guidance

10.3.23 Planning Advice Note 2/2011: Planning and Archaeology provides technical advice to planning authorities and developers on dealing with archaeological remains. Among other issues it covers the balance in planning decisions between the preservation of archaeological remains and the benefits of development; the circumstances under which developers can be required to provide further information, in the form of a field evaluation, to allow planning authorities to reach a decision; and measures that can be taken to mitigate adverse impacts.

10.3.24 HES published Designation Policy and Selection Guidance (DPSG, 2019) to accompany HEPS. DPSG outlines the policy and selection guidance used by HES when designating sites and places of national importance.

10.3.25 HES provides guidance on how to apply the policies set out in the SPP in a series of documents entitled 'Managing Change in the Historic Environment', of which the guidance note on 'Setting' (Historic Scotland 2016) is relevant to this assessment.

10.3.26 Standards and Guidance published by the Chartered Institute for Archaeologists (CIfA) have been followed in preparing this assessment, in particular the 'Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment' (2020) and the 'Standard and guidance for historic environment desk-based assessment' (2020). The Highland Council Standards for Archaeological Work (2012) has also been followed.

10.4 Scope of Assessment

Effects Assessed in Full

10.4.1 A heritage asset (or historic asset) is any element of the historic environment which has cultural significance. Both discrete features and extensive landscapes

defined by a specific historic event, process or theme, can be defined as heritage assets; and assets may overlap or be nested within one another.

- 10.4.2 Designated assets include Scheduled Monuments, Listed Buildings, World Heritage Sites, Conservation Areas, Inventory Gardens and Designed Landscapes, Inventory Historic Battlefields and Historic Marine Protected Areas. Other assets may also be locally designated through policies in the Local Plan.
- 10.4.3 The majority of heritage assets are not designated. Some non-designated assets are recorded in Historic Environment Records or Sites and Monuments Records (HERs/SMRs) maintained by local authorities and other agencies. However, many heritage assets are currently unrecorded, and the information contained in HERs and SMRs is not definitive, since they may include features which, for instance, have been entirely removed, or are of uncertain location, dubious identification, or negligible importance. The identification of non-designated heritage assets is therefore to some extent a matter of professional judgement.
- 10.4.4 Some heritage assets may coincide with visual receptors or landscape character areas, which are assessed in **Chapter 9: (LVIA)**, and in such cases, it is important to recognise the difference in approach between these two topics. Historic environment assessment addresses effects on the significance of heritage assets, which may result from, but are not equivalent to, visual impacts. Similarly, an effect on a landscape character area does not equate to an effect on the cultural significance of heritage assets within it.

Effects Scoped Out

- 10.4.5 No construction or operational effects relating to cultural heritage have been scoped out prior to commencement of assessment.
- 10.4.6 The 2016 ES for the Consented Development carried out an appraisal to identify heritage assets that may be affected through development within their settings (see **Appendix 10.C**). This resulted in identification of three heritage assets on which 'not significant' effects were concluded. Other than the identification of data gaps (described below) this assessment of the Revised Consented Development scopes out the appraisal stage and focusses on the potential for previous conclusions to be increased in magnitude to 'significant' effects upon these three heritage assets, in accordance with up-to-date terminology and assessment methodology.
- 10.4.7 All heritage assets that may be affected by the Revised Consented Development have been considered in this assessment through a comparison with the Consented Development and the identification of any baseline data gaps: i.e. any additional heritage assets in the study areas since the 2016 ES for the Consented Development, or any additional heritage assets within the ZTV for the Revised Consented Development that were not considered in the 2016 ES for the Consented Development.

Consultation

- 10.4.8 In undertaking the assessment, consideration has been given to the scoping responses received from consultees during the formal Scoping process. Table 10.2 summarises the consultation responses and provides information on where and how they have been addressed in the assessment, where relevant.

Table 10.2 Consultation Responses

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
Historic Environment Scotland (HES) (April 2021)	Scoping	<p>Stated that one scheduled monument (Clach Clais an Tuire, standing stone 1000m SE of Loanscorribest (SM 441)) lies at the edge of the development boundary. HES recommend that a visualisation showing the difference in visibility between the consented limekiln turbines and the proposed higher turbines is prepared, as this would confirm whether the proposal alters the level of impact on this monument.</p> <p>Stated that the Highland Council’s archaeological and cultural heritage advisors will also be able to offer advice on the scope of the cultural heritage assessment.</p>	Ref to assessment text 10.11.26-30 and Figure 10.5 Cultural Heritage Viewpoint 3: Clach Clais an Tuirc standing stone (wireline visualisation)
The Highlands Council (THC)	Scoping	The Council’s Historic Environment Team are generally satisfied with the information presented in the scoping request will adequately address an impact assessment, updated from 2016 for this proposal.	This Chapter of the EIA is presented in accordance with the full methodology proposed in the Scoping Report

10.5 Assessment Methodology

Assessment Structure

10.5.1 The cultural heritage assessment has been carried out in the following stages:

- Desk-based study for identification of heritage assets potentially affected by the Revised Consented Development and definition of baseline conditions (presented in **Appendix 10.A**);
- Assessment of the importance of heritage assets potentially affected by the Revised Consented Development;
- Identification of potential impacts on heritage assets, informed by baseline information, results of prior site visits, and LVIA ZTV mapping and wireframes (presented in Volume 2: **Figure 9.8a** and Volume 3: **Figure 10.3 – Figure 10.5**);

-
- Proposal of mitigation measures, to eliminate, reduce or offset adverse effects;
 - Assessment of the magnitude of residual effects;
 - Assessment of the significance of residual effects, broadly a product of the asset's importance and the magnitude of the impact; and
 - Assessment of cumulative effects.

Study Areas

- 10.5.2 An 'Inner Study Area' (ISA) corresponds to the site boundary. Within this area, all heritage assets are assessed for construction and operational effects.
- 10.5.3 As defined below, a Study Area beyond the ISA is defined based on the 2016 ES for the Consented Development, and the ZTV for the Revised Consented Development, to identify any heritage assets that may be affected by the operation of the Revised Consented Development (i.e. through effects on their settings and the contribution made to their cultural significance). Assets have been included in the assessment based on the level of importance so as to ensure that all likely significant effects are recognised:
- Up to 5km from proposed turbines: all designated and non-designated heritage assets.
 - Beyond 5km from proposed turbines: any asset of national importance where long-distance views from or towards the asset are thought to be particularly sensitive, in the opinion of the assessor or consultees.
- 10.5.4 For the assets beyond 5km from proposed turbines, a comparative ZTV has been used to identify any highly designated assets which were not intervisible with the Consented Development, but would become intervisible with the Revised Consented Development.

Data Sources

- 10.5.5 Baseline data has been informed by an updated desk-based study, based on all readily available documentary sources, following the 'Standard and Guidance for Historic Environment Desk-Based Assessment' (CIfA 2020) and the Highland Council's Standards for Archaeological Work (March 2012).
- 10.5.6 The following sources of information were referred to:
- The 2016 ES for the Consented Development;
 - Updated designation data downloaded from the Historic Environment Scotland website April 2021;
 - Updated National Record of the Historic Environment (NRHE), including the Canmore database held by HES downloaded April 2021;
 - Updated Highland Council Historic Environment Record (HER) digital data received 11th March 2021; and
 - Relevant online resources (including; Pastmap, SCARF) and readily available published sources and unpublished archaeological reports.

- 10.5.7 A targeted walkover survey of the ISA was carried out on 17-19th January 2012 as part of the 2016 ES for the Consented Development, guided by modern mapping and a handheld GPS system. Due to the density of plantation forestry within the study area, the walkover was targeted on known cultural heritage assets and areas that were clear of forestry. It was considered that a walkover through plantation forestry would not be informative due to the highly restricted visibility within the woods. The intention of this walkover was to assess the presence/absence, character, extent and condition of known assets and to identify any previously unrecorded assets.
- 10.5.8 Targeted site visits were made to cultural heritage in the area surrounding the ISA in order to establish the potential for impacts upon their setting and to gather data to allow impacts to be assessed.
- 10.5.9 A further targeted walkover survey of the ISA was carried out on 13th May 2021. The intention of this walkover was to assess the presence/absence, character, extent and condition of known assets and to identify any previously unrecorded assets along the lines of the rerouted access tracks away from the existing Core Path, and the new proposed construction compound.

Potential for Unknown Heritage Assets within ISA

- 10.5.10 The likelihood that undiscovered heritage assets may be present within the ISA is referred to as archaeological potential. Overall levels of potential can be assigned to different landscape zones, following the criteria in Table 10.3, while recognising that the archaeological potential of any zone will relate to particular historical periods and types of evidence.
- 10.5.11 The following factors are considered in an assessment of archaeological potential:
- The distribution and character of known archaeological remains in the vicinity, based principally on an appraisal of HES/HER data;
 - The history of archaeological fieldwork and research in the surrounding area, which may give an indication of the reliability and completeness of existing records;
 - Environmental factors such as geology, topography and soil quality, which would have influenced land-use in the past and can therefore be used to predict the distribution of archaeological remains;
 - Land-use factors affecting the survival of archaeological remains, such as ploughing or commercial forestry planting; and
 - Factors affecting the visibility of archaeological remains, which may relate to both environment and land use, such as soils and geology (which may be more or less conducive to formation of cropmarks), arable cultivation (which has potential to show cropmarks and create surface artefact scatters), vegetation, which can conceal upstanding features, and superficial deposits such as peat and alluvium which can mask archaeological features.

Table 10.3 Archaeological Potential

Potential	Definition
High	Undiscovered heritage assets of high or medium importance are likely to be present.
Medium	Undiscovered heritage assets of low importance are likely to be present; and it is possible, though unlikely, that assets of high or medium importance may also be present.
Low	The study area may contain undiscovered heritage assets, but these are unlikely to be numerous and are highly unlikely to include assets of high or medium importance.
Negligible	The study area is highly unlikely to contain undiscovered heritage assets of any level of importance.
Nil	There is no possibility of undiscovered heritage assets existing within the study area.

10.5.12 The assessment of archaeological potential carried out as part of the 2016 ES for the Consented Development was accepted by consultees at the time and is generally considered valid for the current EIA, albeit this has been updated in light of more recent surveys.

Impact Assessment

10.5.13 Effects upon cultural heritage can arise through direct physical impacts, impacts on setting or indirect impacts:

- **Direct physical impacts** describe those development activities that have the potential to cause physical damage to the fabric of a heritage asset. Typically, these activities are related to construction works and will only occur within the ISA;
- An **impact on the setting** of a heritage asset occurs when the presence of a development changes the surroundings of a heritage asset in such a way that it affects (beneficially or adversely) the contribution made to the cultural significance of that asset by its setting. Visual impacts are those most commonly encountered, but other introduced environmental factors can affect setting, such as noise, light or air quality. Impacts may be encountered at all stages in the life cycle of a development from construction to decommissioning but they are only likely to lead to significant effects during the prolonged operational life of the development; and
- **Indirect impacts** describe secondary processes, triggered by the development, that lead to the degradation or preservation of heritage assets. For example, changes to hydrology may affect archaeological preservation; or changes to the setting of a building may affect the viability of its current use and thus lead to dereliction.

10.5.14 Likely significant direct or indirect effects on known and unknown heritage assets are discussed in terms of the risk that a significant effect could occur. The level of risk depends on the level of archaeological potential combined with the nature and scale of disturbance associated with construction activities and

may vary between high and negligible for different elements or activities associated with a development, or for the development as a whole.

- 10.5.15 Likely significant effects on the settings of heritage assets are identified from an initial desk-based appraisal of data from HES and the HER, and previously submitted assessments for the Consented Development. Visualisations have been prepared to illustrate changes to key views (**Volume 3, Figures 10.3 to 10.5**).

Mitigation Measures and Identification of Residual Effects

- 10.5.16 For both direct impacts and potential impacts on cultural significance resulting from change in setting, the preferred mitigation option is always to avoid or reduce impacts through design, or through precautionary measures such as fencing off heritage assets during construction works to avoid accidental direct impacts. Impacts which cannot be eliminated in these ways will lead to residual effects.
- 10.5.17 Adverse direct or indirect physical effects may be mitigated by an appropriate level of survey, excavation, recording, analysis and publication of the results, in accordance with a written scheme of investigation (SPP paragraph 150 and PAN2/2011, sections 25-27).

Heritage Importance, Cultural Significance and Sensitivity

- 10.5.18 Cultural heritage impact assessment is concerned with effects on cultural significance, which is a quality that applies to all heritage assets, and as defined by Historic Environment Scotland (Environmental Impact Assessment Handbook, SNH & HES 2018, Appendix 1 page 175), relates to the ways in which a heritage asset is valued both by specialists and the public. The cultural significance of a heritage asset will derive from factors including the asset's fabric, setting, context and associations. This use of the word 'significance', referring to the range of values attached to an asset, should not be confused with the unrelated usage in EIA where the significance of an effect reflects the weight that should be attached to it in a planning decision.
- 10.5.19 The importance of a heritage asset is the overall value assigned to it based on its cultural significance, reflecting its statutory designation or, in the case of non-designated assets, the professional judgement of the assessor (Table 10.4). Assets of national importance and international importance are assigned a high and very high level respectively. Scheduled Monuments, Inventory Gardens and Designed Landscapes, Inventory Historic Battlefields and Historic Marine Protected Areas are, by definition, of national importance.
- 10.5.20 The criterion for Listing is that a building is of 'special architectural or historic interest'; following DPSG Annex 2.19, Category A refers to 'outstanding examples of a particular period, style or building type', Category B to 'major examples of a particular period, style or building type', and Category C to 'representative examples of a particular period, style or building type'.

Table 10.4 Criteria for Assessing the Importance of Heritage Assets

Heritage Asset Importance	Criteria / Definition
Very High	World Heritage Sites and other assets of equal international importance
High	Category A Listed Buildings, Scheduled Monuments, Inventory Gardens and Designed Landscapes, Inventory Historic Battlefields, Historic Marine Protected Areas and non-designated assets of national importance
Medium	Category B Listed Buildings, Conservation Areas, and non-designated assets of regional importance
Low	Category C Listed Buildings and non-designated assets of local importance
Very Low	Any feature which does not merit consideration in planning decisions due to its cultural significance may be said to have very low heritage importance; in general, such features are not considered as heritage assets and are excluded from the assessment.

- 10.5.21 Cultural significance is assessed in relation to the criteria in DPSG Annexes 1-6, which are intended primarily to inform decisions regarding heritage designations, but may also be applied more generally in identifying the 'special characteristics' of a heritage asset, which contribute to its significance and should be protected, conserved and enhanced according to SPP paragraph 137. Annex 1 is widely applicable in assessing the cultural significance of archaeological sites and monuments, for instance, while the criteria in Annex 2 can be used in defining the architectural or historic interest of buildings, whether listed or not.
- 10.5.22 The special characteristics which contribute to an asset's cultural significance may include elements of its setting. Setting is defined in 'Managing Change in the Historic Environment: Setting' (HES 2016, Section 1) as 'the way the surroundings of a historic asset or place contribute to how it is understood, appreciated and experienced'. The setting of a heritage asset is defined and analysed according to Stage 2 of the three-stage approach promoted in 'MCHE: Setting', with reference to factors listed on pages 9-10. The relevance of these factors to the understanding, appreciation and experience of the asset determines how, and to what extent, an asset's cultural significance derives from its setting. All heritage assets have settings; however, not all assets are equally sensitive to impacts on their settings. In some cases, setting may contribute very little to the asset's significance, or only certain elements of the setting may be relevant.

Assessment of the Magnitude of Impacts on Cultural Significance

- 10.5.23 The magnitude of an impact is a measure of the degree to which the cultural significance of a heritage asset will potentially change as a result of the Revised Consented Development (SNH & HES 2018, Environmental Impact Assessment Handbook, Appendix 1, para 42). This definition of magnitude applies to likely impacts on the setting, as well as likely physical impacts on the fabric, of an asset. Impacts on the settings of heritage assets are assessed with reference to the factors listed in 'MCHE: Setting' Stage 3 (evaluate the potential impact of the proposed changes, pages 10-11). It is important to note that the magnitude of an impact resulting from an impact on setting is not a direct

measure of the visual prominence, scale, proximity or other attributes of the proposed Development itself, or of the extent to which the setting itself is changed. Moreover, it is necessary to consider whether, and to what extent, the characteristics of the setting which would be changed contribute to the asset's cultural significance (SNH & HES 2018, Environmental Impact Assessment Handbook, Appendix 1, paras 42 and 43).

- 10.5.24 Magnitude is assessed as very high/high/medium/low/very low, adverse or beneficial, or 'No Impact', using the criteria in Table 10.5 as a guide. In assessing the likely effects of a development, it is often necessary to take into account various impacts which affect an asset's significance in different ways, and balance adverse effects against beneficial effects. For instance, there may be adverse impacts on an asset's fabric and beneficial impacts on cultural significance resulting from change in setting arising from a development which would not otherwise occur in a 'do-nothing' scenario; a heritage asset that might otherwise degrade over time could be preserved or consolidated as a consequence of a development. The residual effect is an overall measure of how the asset's significance is reduced or enhanced.

Table 10.5 Criteria for Assessing the Magnitude of Impacts upon Heritage Assets

Magnitude of impact	Criteria
Very high beneficial	Alterations to an asset and/or its setting resulting in complete enhancement of cultural significance. Or: Preservation of an asset and/or its setting where it would otherwise suffer complete loss of cultural significance in the do-nothing scenario.
High beneficial	Alterations to an asset and/or its setting resulting in considerable enhancement of cultural significance. Or: Preservation of an asset and/or its setting where it would otherwise suffer considerable loss of cultural significance in the do-nothing scenario.
Medium beneficial	Alterations to an asset and/or its setting resulting in moderate enhancement of cultural significance. Or: Preservation of an asset and/or its setting where it would otherwise suffer moderate loss of cultural significance in the do-nothing scenario.
Low beneficial	Alterations to an asset and/or its setting resulting in a slight enhancement of cultural significance. Or: Preservation of an asset and/or its setting where it would otherwise suffer slight loss of cultural significance in the do-nothing scenario.
Very Low beneficial	Alterations to an asset and/or its setting resulting in a very slight enhancement of cultural significance. Or: Preservation of an asset and/or its setting where it would otherwise suffer very slight loss of cultural significance in the do-nothing scenario.
No Impact	The asset's cultural significance is not altered.
Negligible adverse	Alterations to an asset and/or its setting resulting in a very slight loss of cultural significance.
Low adverse	Alterations to an asset and/or its setting resulting in a slight loss of cultural significance.

Magnitude of impact	Criteria
Medium adverse	Alterations to an asset and/or its setting resulting in a moderate loss of cultural significance.
High adverse	Alterations to an asset and/or its setting resulting in a considerable loss of cultural significance.
Very high adverse	Alterations to an asset and/or its setting resulting in a complete loss of cultural significance.

Assessment of the Significance of Effects

10.5.25 The significance of an effect ('EIA significance') on the cultural significance of a heritage asset, resulting from a direct or indirect physical impact or an impact on its setting, is assessed by combining the magnitude of the impact and the importance of the heritage asset. The matrix in Table 10.6 provides a guide to decision-making but is not a substitute for professional judgement and interpretation, particularly where the asset importance or impact magnitude levels are not clear or are borderline between categories. EIA significance may be described on a continuous scale from negligible to major.

10.5.26 Where this matrix is used in the significance evaluation exercises, reference is made to:

- Major effects, which will always be determined as being significant in EIA terms;
- Moderate effects are likely to be significant, although there may be circumstances where such effects are considered not significant on the basis of professional judgement; and
- Minor or negligible effects, which will always be determined as not significant.

Table 10.6 Significance Evaluation Matrix

		Magnitude of change				
		Very high	High	Medium	Low	Very low
Sensitivity/importance/value	Very high	Major (Significant)	Major (Significant)	Major (Significant)	Major (Significant)	Moderate (Probably significant)
	High	Major (Significant)	Major (Significant)	Major (Significant)	Moderate (Probably significant)	Minor (Not significant)
	Medium	Major (Significant)	Major (Significant)	Moderate (Probably significant)	Minor (Not significant)	Negligible (Not significant)
	Low	Major (Significant)	Moderate (Probably significant)	Minor (Not significant)	Negligible (Not significant)	Negligible (Not significant)
	Very Low	Moderate (Probably significant)	Minor (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)

Cumulative Assessment

10.5.27 Cumulative effects can occur when other existing or proposed (typically wind energy) developments would also be visible in views that are relevant to the setting of a heritage asset. Cumulative effects are considered in cases where an effect of more than negligible significance would occur as a result of the proposed development.

10.5.28 The cumulative effects of the Revised Consented Development with the developments of the 18no consented, or at appeal, wind farm developments within a 20 km Study Area (as described in **Chapter 9: LVIA**) have been considered. Existing wind farms form part of the baseline of this assessment and are therefore not included as cumulative developments.

Assessment Limitations

Data Sources

10.5.29 Information held by public data sources is generally considered to be reliable; however, the following general points are noted:

- Documentary sources are rare before the medieval period;
- Whilst it is accepted that historic documents may be biased depending on the author, with content seen through the lens of context, wherever such documentary sources are used in assessing archaeological potential professional judgment is used in their interpretation in that the functionality of the document is considered;
- HER records can be limited because opportunities for research, fieldwork and discovery depend on the situation of commercial development and occasional research projects, rather than the result of

a more structured research framework. A lack of data within the HER records does not necessarily equal an absence of archaeology;

- Where archaeological sites have been identified solely from aerial imagery without confirmation from archaeological excavation or supporting evidence in the form of find-spots for example, it is possible the interpretation may be revised in the light of further investigation.
- The significance of sites can be difficult to identify from HER records, depending on the accuracy and reliability of the original source; and
- There can often be a lack of dating evidence for archaeological sites.

Site Visit

- 10.5.30 Any archaeological site visit has inherent limitations, primarily because archaeological remains below ground level may have no surface indicators.

10.6 Baseline Conditions

Site Description and Geology

- 10.6.1 The ISA comprises approximately 1140ha of upland moorland varying in height from 60 – 140m aOD. The bedrock of the north and west of the area is an unnamed igneous intrusion while that in the east and south is red sandstone. The superficial geology of the north of the ISA is diamicton till whilst in the south it is peat. Peat survives under waterlogged conditions with potential for the preservation of organic remains; this also potentially seals undisturbed prehistoric deposits. In terms of present land-use this area is almost completely covered by plantation forestry.

Archaeological and Historical Narrative

- 10.6.2 The archaeological record for this area of Caithness is relatively rich with assets dating from the prehistoric to the early modern period present. The Neolithic to Bronze Age is represented in the study area by chambered tombs (SM444 & SM90078), standing stones (SM421 & SM441) and a stone circle (SM427). Also possibly dating to the Bronze Age are an asset type – stone rows – unique to Caithness and the east of Sutherland. The site type is composed of multiple rows of small, upright stones commonly radiating in a fan shape from a cairn. One such site (Borlum Stone Rows: MHG19431) is located near the northern limit of the ISA. There is also a scheduled example of this monument type (Cnoc Freiceadain stone rows: SM2386) in the 5km Study Area.
- 10.6.3 The Iron Age to early medieval period is represented by brochs (SM564, SM514, SM492 & SM495) in the 5km Study Area and a possible broch (MHG710) within the ISA. Brochs are stone-built towers typically with a stair, well and intra-mural chambers built within the wall thickness. The exact function of brochs remains open to debate but the nature of these structures clearly suggests that defence was a priority. Caithness has the highest concentration of brochs in Scotland; these large dry-stone towers are commonly located on top of natural mounds.
- 10.6.4 Dating to the early medieval period are the Pictish inscribed stones (SM616) located within the 5km Study Area. Such stones clearly testify to Pictish cultural activity in the area in the last quarter of the first millennium AD.

- 10.6.5 Dounreay Castle (SM6401) is a late medieval castle dating to the late 16th century. This castle was built in the style of the Lowland Scots castles rather than the more typical Highland style castle. As such this castle reflects the influence that the Lowland Scots exerted here and is a symbol of the wealth of some of the larger estates of Caithness during the medieval period. The medieval period is also represented by Reay burial ground, old church and cross slab (SM615); the cross slab is believed to date to the 9th - 10th century.
- 10.6.6 Evidence for the Vikings in Caithness is largely concentrated along the coast. Beyond the study area, Viking burials were recovered in the early 20th century in the sand dunes at Reay. This set of burials is the largest concentration of Viking burials recorded on mainland Scotland.
- 10.6.7 From the medieval period through to the early 19th century, the inland glens and straths of Caithness were populous with communities of farmsteads and townships farming the land. Outlying these settlements in more remote areas small shielings related to summer pastoral activity were commonly used.
- 10.6.8 The Sandside Estate clearances took place in the 1830s. This period saw the inland glens and straths cleared of their densely populated farming settlements with the population being moved out to the coast to make way for the adoption of large scale sheep farming. These clearances left behind a legacy of abandoned remains of townships, farmsteads and shielings. Historic assets in the ISA which are likely to date to this period include MHG25104, MHG1616, MHG13443, MHG16111, MHG16110, MHG13436, MHG13437, MHG13449, & MHG17820.
- 10.6.9 Large scale sheep farming subsequently gave way to the creation of sporting estates and the development of extensive plantation forestry. To this day these remain the principal land-uses for the inner straths of Caithness, whilst the coastal fringe of this part of Caithness has been dominated by the Dounreay Nuclear Plant and the employment and infrastructure that this large industry has brought to the area.

Cultural Heritage Assets Within the ISA

- 10.6.10 There are no designated cultural heritage assets within the ISA.
- 10.6.11 Known non-designated assets within the ISA are largely concentrated in the northern portion, but there is also a number along the east side. Archaeological potential does not appear to be related to topography.
- 10.6.12 Some features within the ISA are of very low importance and as such do not merit consideration in planning decisions. As all known features are avoided by infrastructure for the Revised Consented Development, for completeness, all are listed in **Appendix 10.A** and shown on **Figure 10.1**.
- 10.6.13 The 2016 ES for the Consented Development identified 28 non-designated cultural heritage assets within the ISA through searches of THC HER and NRHE databases, review of desk-based resources, and a walkover survey (see **Figure 10.1** and **Appendix 10.A**). These include hut circles, burnt mounds, enclosures, a township, farmsteads, cairns and a possible broch.
- 10.6.14 An updated data search has confirmed that no further known heritage assets have been added to THC HER or NRHE databases within the ISA since the 2016 ES for the Consented Development. The extent of known heritage assets

defined through survey has been used for the current assessment of direct impacts of the Revised Consented Development as shown on **Figure 10.1**.

- 10.6.15 Since the granting of planning consent for the Consented Development, further surveys have been undertaken, including walkover survey and archaeological mitigation fieldworks (watching briefs) carried out over enabling groundworks (HAS forthcoming). Much of the fieldwork has concentrated on heritage assets that were already known to the HER and for which archaeological mitigation was agreed as part of the Consented Development. This has resulted in the redefinition of the extent of some known assets within the ISA. Where relevant, further information gathered through these more recent surveys has been added to the gazetteer (**Appendix 10.A**); namely Milton township (MHG13449 & MHG17820), Possible Scooped Settlement Creag Leathan (MHG724), Creag Leathan Hut Circle Settlement (MHG1604), Aryleive buildings/farmstead (MHG17819, MHG16110 & MHG16111), and Aryleive Moss Lime Kiln (MHG22039).
- 10.6.16 Archaeological surveys and mitigation carried out during construction of the access track for the Consented Development has resulted in the identification of a further 25 assets within the ISA, comprising 13 assets identified through walkover survey (W5, W9, W11-16, W23, W25, W26 & W54) and 12 assets identified during watching brief excavations (F27-30, F43-49, F52 & F53). These are included in the gazetteer (**Appendix 10.A**) and on **Figure 10.1** prefixed with 'W' for assets identified by walkover survey and 'F' for assets identified through excavation during watching briefs.
- 10.6.17 Additional walkover survey of the rerouted access tracks away from the existing Core Path and new construction compound location for the current assessment has resulted in one further asset being added to the gazetteer (W30- Possible turf covered structure on artificial grassy mound by burn/may be modern disturbance).

Designated Heritage Assets within the 5km Study Area

Scheduled Monuments

- 10.6.18 The 2016 ES for the Consented Development identified 18 scheduled monuments (Table 10.7) in the 5km Study Area. Since the preparation of the 2016 ES, three further scheduled monuments have been designated within the study area (SM13618 Broubster Village, prehistoric settlement, SM13630 Broubster Village, roundhouses & SM13636 Garadh an Ratha, roundhouse), resulting in a total of 21 assets.
- 10.6.19 Following a review of the comparative ZTV, no further scheduled monuments have been identified beyond the 5km study area which were previously not intervisible with the Consented Development, but would become intervisible with the Revised Consented Development.
- 10.6.20 Scheduled Monuments in the 5km Study Area are largely prehistoric in date and include five cairns, a stone circle, standing stones, stone rows as well as five brochs and three villages sites. The early historic period is represented here by two carved Pictish symbol stones (A33). There is also one scheduled monument dating to the medieval period; the remains of Reay burial ground, old church and cross slab (A35).

- 10.6.21 One of the scheduled monuments, Cnoc Freiceadain long cairns (A42) is also a property in care.

Table 10.7 Scheduled Monuments within the 5km Study Area

ID	Name
SM616	Sandside House, two carved stones
SM458	Knock Stanger, cairn
SM615	Reay, burial ground, old church and cross slab
SM6401	Dounreay Castle
SM564	Knock Urray, broch
SM444	Cnoc-na-h'Uiseig, chambered cairn
SM514	Achvarasdal House, broch
SM421	Achvarasdal House, two stones
SM513	Achunabust, broch
SM2386	Cnoc Freiceadain, stone rows
SM90078	Cnoc Freiceadain, long cairns
SM476	Hill of Shebster, chambered cairn
SM441	Clach Clais an Tuire, standing stone
SM427	Bridge of Broubster, stone circle
SM437	Carn Liath, cairn
SM492	Tota an Drannain, broch
SM2660	Creagan a'Bheannaich, chapel and graveyard
SM495	Tulach Gorm, broch
SM13618	Broubster Village, prehistoric settlement
SM13630	Broubster Village, roundhouses
SM13636	Garadh an Ratha, roundhouse

Listed Buildings

- 10.6.22 The 2016 ES for the Consented Development identified 13 listed buildings in the 5km Study Area and since then no further listed buildings have been designated within the study area. The group comprises three Category A Listed Buildings (Table 10.8), seven Category B, and three Category C(S) Listed Buildings (see **Appendix 10.A**).

- 10.6.23 Following a review of the comparative ZTV, no further Listed Buildings have been identified beyond the 5km study area which were not intervisible with the Consented Development, but would become intervisible with the Revised Consented Development.

Table 10.8 Listed Buildings within the 5km Study Area

ID	Name	Category
LB14986	Sandside House Kiln Barn And Single Storey Range Of Former Byres, Cottage And Dairy, And Implement Shed	Cat A
LB14988	Sandside Harbour 1 And 2, Sandside And Fishing Store	Cat A
LB14992	Reay Parish Church And Enclosure Wall	Cat A
LB14983	Reay Free Church And Walled Memorial, Achimenach	Cat B
LB14984	Sandside House	Cat B
LB14985	Dovecot, NW Walled Garden, Privy, SE Walled Garden, Sandside House	Cat B
LB14987	Lodge, Sandside House	Cat B
LB14989	Upper Dounreay Farm Steading	Cat B
LB17592	Reayburn House, Reay	Cat B

LB18831	Market Cross, Reay Village	Cat B
LB14981	Reay Bridge	Cat C
LB14982	D Miller's Cottage, Steading, Cheese Press, Reay	Cat C
LB17593	Shebster Barn	Cat C

Other Designations

- 10.6.24 There are no World Heritage Sites, Inventory Gardens and Designed Landscapes, Inventory Battlefields or Conservation Areas within the 5km Study Area.
- 10.6.25 Following a review of the comparative ZTV, no World Heritage Sites, Inventory Gardens and Designed Landscapes, Inventory Battlefields or Conservation Areas have been identified beyond the 5km study area which were not intervisible with the Consented Development, but would become intervisible with the Revised Consented Development.

Potential for Previously Unrecorded Heritage Assets Within the ISA

- 10.6.26 The potential for previously unrecorded heritage assets within the ISA is considered in relation to the location and number of recorded cultural heritage assets in the surrounding area and the topography and vegetation cover of the ISA.
- 10.6.27 Known cultural heritage assets in the ISA are concentrated in the north of the area.
- 10.6.28 The potential for previously unrecorded cultural heritage assets will be greatest in areas along watercourses above the strath floor or in well drained higher ground. Previous work in the region has shown these areas to have been the focus for settlement in this part of Caithness.
- 10.6.29 Due to the high number of cultural heritage assets recorded in the surrounding area compared to the relatively small number recorded within the ISA, it is considered that there is moderate potential for previously unrecorded cultural heritage assets to be present within the ISA. It is acknowledged that in areas of peat at the southern end of the ISA, there is potential for previously unrecorded assets to survive below-ground and obscured by the masking effect of peat cover.

10.7 The 'Do Nothing' Scenario

- 10.7.1 In the absence of the Revised Consented Development, it is likely that any (known and unknown) preserved archaeological remains present within the ISA would generally remain as they are at present, although accidental damage may occur through ongoing forestry activities or natural erosion. Identification, investigation and recording of such heritage assets would be unlikely to be undertaken in advance of any damage under the 'do nothing' scenario.
- 10.7.2 In terms of change within the setting of heritage assets, under the 'do nothing' scenario settings would remain as per the baseline situation, albeit accounting for any setting impacts that may occur as a result of existing and future consented developments.

10.8 Design Layout Considerations

- 10.8.1 Required access works in the northern part of the ISA have already been constructed as part of the Consented Development and impacts to known and

previously unknown archaeological remains have been mitigated through excavation and recording (watching brief) during construction.

10.8.2 In the central part of the site, all known heritage assets have been avoided by the proposed infrastructure of the Revised Consented Development.

10.8.3 The area of the limekiln (MHG22039, MHG13442) has been avoided as far as reasonably practicable to allow the relationship between the limekiln and associated building (MHG17819) to be preserved.

10.9 Micrositing

10.9.1 Any micrositing of infrastructure will take into consideration the potential for direct encroachment upon the surveyed extents of known heritage assets as detailed in this EIA Chapter.

10.10 Assessment of Effects

10.10.1 This section provides an assessment of the likely effects of the Revised Consented Development on heritage assets identified through the baseline studies. The assessment of effects is based on the project description outlined in **Chapter 4: Description of the Revised Consented Development**, and is structured as follows:

- construction effects;
- operational effects;
- decommissioning effects; and
- cumulative effects.

Project Assumptions

10.10.2 The following assumptions are included in the assessment of otherwise unmitigated effects:

- The construction period will last for up to 22 months and include borrow pit creation, construction of access tracks, hardstandings, turbines and other infrastructure, and site restoration.
- All electrical cabling between the turbines and the associated infrastructure would be underground in shallow trenches which would be reinstated post-construction and, in all cases, follow the access tracks.
- Any disturbance areas around permanent infrastructure during construction would be temporary and areas reinstated or restored before the construction phase ends. The only excavation in these areas would be for cabling as noted above and otherwise may only be periodically used for side-casting of spoil until reinstatement.
- To ensure all reasonable precautions are taken to avoid adverse effects on heritage assets, a suitably qualified Archaeological Clerk of Works (ACoW) will be appointed prior to the commencement of construction to advise the Applicant and the Contractor on all archaeological matters. The ACoW or an approved Archaeological Contractor will be required to be present on the site during the construction phase and will carry out monitoring of works and

briefings with regards to any archaeological sensitivities on the site to the relevant staff within the Contractor and subcontractors.

- The Limekiln Windfarm Construction Phase Archaeological Mitigation, Project Design, Methods Statement & Risk Assessment (HAS, August 2020) (**Appendix 10.B**) which has been approved for use by THC's Historic Environment Team for the Consented development will be implemented during the construction phase of the Revised Consented Development. The agreed methodology details measures to protect known heritage assets in the area, or to preserve by record through archaeological investigation any remains that are to be disturbed by the Revised Consented Development groundworks, including works with the potential to disturb peat.
- Standard good practice construction environmental management will occur across the site as standard and form part of a robust Construction Environmental Management Plan (CEMP).

10.11 Construction Effects

10.11.1 Likely construction impacts could result from topsoil stripping and excavation associated with wind turbines, borrow pit, access tracks, site compounds, substations, cable trenches and other infrastructure within the construction footprint. There is also a risk of accidental damage to heritage assets outside the construction footprint from uncontrolled plant movement.

Predicted Construction Effects

10.11.2 Direct construction impacts are anticipated upon no known cultural heritage assets as a result of the Revised Consented Development- specifically the access tracks which have been rerouted away from the existing Core Path and the construction compound which has been relocated to the south.

10.11.3 In comparison with the Consented Development, the number of direct predicted construction effects are reduced, as the Consented Development identified direct impacts upon two heritage assets: Claperton Dyke (W10, identified through walkover survey in 2016) and Milton township and its associated area of rig and furrow (MHG13449, MHG17820). Claperton Dyke (W10) is avoided entirely by the proposed rerouted access tracks; and as access construction works for the Consented Development in the northern part of the ISA are underway/completed, direct impacts upon Milton township (MHG13449, MHG17820) have already been mitigated.

10.11.4 Peat deposits with palaeoenvironmental potential are recorded within the ISA. Any deep excavations, particularly foundations for turbine bases, have the potential to disturb this resource and repository of potential environmental information.

10.11.5 It is considered in this assessment that there is moderate potential for previously unrecorded cultural heritage assets to be present within the ISA, including a potential for remains obscured by the masking effect of peat.

10.11.6 There is potential for previously unrecorded cultural heritage assets to be affected within this area as a result of the construction of the turbine bases, access tracks and associated infrastructure. As this resource is unknown their sensitivity and the magnitude of the effect cannot be assessed.

10.12 Operational Effects

- 10.12.1 Impacts in relation to the setting of heritage assets, and the contribution this makes to their significance, are the only operational effects of the Revised Consented Development that have the potential to result in significant effects on heritage assets.
- 10.12.2 As the maximum height of the turbines will be increased from 126m & 139m to up to 149.9m (all 21 turbines), it is possible that the operational effects of the Revised Consented Development on heritage assets will change compared to those of the Consented Development. A larger number of turbines may become visible, or a turbine may appear larger or more visible in views that contribute to an asset’s cultural significance.

Predicted Operational Effects

- 10.12.3 The starting point for the assessment of setting effects is reference to the ZTV (as described in **Chapter 9: LVIA**), which is used to identify those assets where views to or from the asset may be changed by the Revised Consented Development. It should be noted that the ZTV is based on a bare earth model that does not allow for the masking effects of local topography, vegetation and buildings. It is therefore possible for assets that are within the ZTV to, in reality, have no views which include the Revised Consented Development due to local conditions. This assessment has therefore been supported by site visits to appraise the local conditions at each site.
- 10.12.4 Of the 21 scheduled monuments, 14 Listed Buildings and non-designated heritage assets within the 5km Study Area, following detailed screening of significance and contribution of setting to significance, the ES for the Consented Development identified three potential assets requiring detailed assessment of potential setting effects (Table 10.9).

Table 10.9 Heritage Assets Screened-In for Detailed Setting Assessment

Receptor	Importance
Cnoc Freiceadain long cairns Scheduled Monument (SM90078)	High
The Hill of Shebster, chambered cairn Scheduled Monument (SM476)	High
Clach Clais an Tuirc standing stone Scheduled Monument (SM441)	High

- 10.12.5 Desktop analysis of the ZTV for the Consented Development and the Revised Consented Development (see Volume 2 **Figure 9.08a**) indicates that all heritage assets identified in the ES for the Consented Development whose cultural significance would not be affected by the Consented Development would be similarly unaffected by the Revised Consented Development.
- 10.12.6 Following the review carried out in this assessment for the Revised Consented Development, three additional scheduled monuments have been identified within the 5 km study area. Of these, two (SM13618 & SM13636) are located outwith the ZTV and are not considered further in the assessment. The third scheduled monument (SM13630: Broubster Village) is the archaeological remains of a group of Iron Age roundhouses located 4km to the east of the ISA. This monument has intrinsic value in its subsurface remains as a data source on the settlement activities of the prehistoric period in this area (understanding

of domestic buildings, agriculture and economy), in particular of Iron Age society and the construction, use and development of settlement in the north of Scotland. The remains are visible as the turf-covered upstanding remains of four structures defined by substantial circular banks and set around 160 m to 260 m apart in a roughly triangular arrangement. Whilst there is group value that connects the three scheduled areas, the relationship is appreciated only in close proximity. The siting and setting of the monument that contributes to its cultural significance relates to the adjacent fertile and well-draining soils which would have been exploited. Views towards or of the ISA do not contribute to the cultural significance of Broubster Village and the scheduled monument is not considered further in this assessment.

- 10.12.7 No additional designated heritage assets have been identified that would be potentially affected by the proposed increase in the height of the turbines for the Revised Consented Development. The receptors identified for setting impact assessment have therefore been retained for the current assessment of the Revised Consented Development.
- 10.12.8 The residual setting effects that were identified for the three scheduled monuments assets in the Consented Development ES have been reconsidered in relation to the Revised Consented Development.
- 10.12.9 The reassessments below are aided by Cultural Heritage Visualisations CHVPs1-3 (**Volume 3: Figures 10.3 to 10.5**).
- 10.12.10 For each of the scheduled monuments Cnoc Freiceadain long cairns (SM90078), The Hill of Shebster, chambered cairn (SM476), and Clach Clais an Tuirc standing stone (SM441), the reassessment has identified that likely residual setting effects would remain not significant: 'minor' in each case. This conclusion is the same as that for the Consented Development.
- Cnoc Freiceadain long cairns (SM90078)
- 10.12.11 The scheduled monument 'Cnoc Freiceadain long cairns' (SM90078) comprises the remains of two long cairns positioned approximately at right angles to one another. These cairns appear to be relatively well preserved with the southern cairn being virtually intact. It is probable that these two long cairns have been built incorporating three earlier chambered cairns (Close-Brooks, 1995, 162).
- 10.12.12 These cairns are located on the northern summit of the Hill of Shebster, the location affords extensive views over Caithness and, on clear days, across the Pentland Firth to the Orkney Islands.
- 10.12.13 The western long cairn is orientated north west to south east; to the north west the view is over the coastal plain to the Pentland Firth. The Dounreay Nuclear Plant is a notable feature in this direction, with this cairn appearing almost aligned to the buildings of the plant. The view to the south east is to the rising ground of Yellow Moss and the operational Baillie Wind Farm.
- 10.12.14 The eastern long cairn is orientated north east to south west. The view to the north east drops off the summit of the Hill of Shebster to the flat agricultural coastal plain with the Pentland Firth beyond. The view to the south west is along the summit of the Hill of Shebster towards the Hill of Shebster chambered cairn (SM476).

-
- 10.12.15 The Cnoc Freiceadain long cairns' intrinsic value is in their fabric. These well preserved cairns have the potential to add to our knowledge of the funerary and ritual activity of the prehistoric period in Caithness.
- 10.12.16 The contextual value of these cairns lies in their clear relationship with the surrounding landscape. They have been located on the Hill of Shebster to make use of the wide views over the coastal plain to the Pentland Firth and Orkney beyond.
- 10.12.17 This monument has associative value in its visual relationship with the Hill of Shebster chambered cairn (SM476). Although these cairns may not have been contemporary, they would have been recognisable and show a continued use of this hill for funerary and ritual practices during prehistory.
- 10.12.18 The closest turbine of the Revised Consented Development would be located 4.4km to the south west of this cairn (see **Volume 3: Figure 10.3**). At this distance, the proposed turbines would not change the prominence of the Cnoc Freiceadain long cairns in skyline views to these assets. The turbines will lie outwith the key views from this monument which are largely over the coastal plain through to the west, north and north east.
- 10.12.19 It is assessed that the Revised Consented Development would have an impact of very low magnitude on the setting of the Cnoc Freiceadain long cairns. It is therefore concluded that there will be a minor effect significance that is adverse but not significant in EIA terms on the setting of Cnoc Freiceadain long cairns.

The Hill of Shebster, chambered cairn (SM476)

- 10.12.20 The scheduled monument 'The Hill of Shebster, chambered cairn' (SM476) is the scheduled remains of a heavily robbed Neolithic round cairn. This cairn is located in a field on the southern plateau summit of the Hill of Shebster. This location affords, from the cairn, views over the flat agricultural land to the west with the rising hills of Sutherland beyond. To the north west the view is over the coastal plain to the Pentland Firth and the Orkney Islands visible in the distance on clear days; the Dounreay Nuclear Plant is also a notable feature in this direction. To the north the view is along the rise of the Hill of Shebster with the Cnoc Freiceadain long cairns (SM90078) visible on the summit. To the south the view is restricted to the top of the Hill of Shebster with only hills of a similar height or higher visible beyond.
- 10.12.21 The Hill of Shebster chambered cairn has intrinsic value in its fabric which has the potential to add to our knowledge of the funerary and ritual activity of the prehistoric period in Caithness. This value will have been diminished by the extent to which the cairn has previously been robbed.
- 10.12.22 The contextual value of this asset lies in its relationship with its surroundings, in particular that it was built on the top of a hill with wide views over the coastal plain to the Pentland Firth and Orkney beyond.
- 10.12.23 This monument has associative value in its visual relationship with the Cnoc Freiceadain long cairns (SM90078); although these cairns may not have been contemporary with the chambered cairn they would have been recognisable and show a continued use of this hill for funerary and ritual practices during prehistory.

- 10.12.24 The closest turbine of the Revised Consented Development would be located 3.8km to the south west of this cairn (see **Volume 3: Figure 10.4**). At this distance the proposed turbines would not change the prominence of Shebster Hill chambered cairn in skyline views to the cairn. The turbines will lie outwith the key views from this monument which are to the north and west.
- 10.12.25 It is assessed that the Revised Consented Development would have an impact of very low magnitude on the setting of the Hill of Shebster chambered cairn. It is therefore concluded that there will be a minor effect significance that is adverse but not significant in EIA terms on the setting of The Hill of Shebster chambered cairn.
- Clach Clais an Tuirc standing stone (SM441)
- 10.12.26 The scheduled monument 'Clach Clais an Tuirc standing stone' (SM441) is a large standing stone which is approximately 1.9m high. It is located to the east of Achvarasdall Burn in an area of heather moorland surrounded on all sides by plantation forestry. To the immediate north of the standing stone is a circular dry-stone sheepfold. The view to the south west, although somewhat limited by the plantation forestry, is along the course of the Achvarasdall Burn between the hills of Creag Leathan and Creag Mhor.
- 10.12.27 Clach Clais an Tuirc holds intrinsic value in that the footing of the standing stone may reveal information on the way in which the stone was erected and may also reveal information on the people that erected it through artefacts deposited or lost in the footing. This stone has contextual value in its relationship with the wider landscape. At present the understanding of this setting is diminished by the surrounding plantation forestry. This standing stone has no apparent associative value.
- 10.12.28 The closet turbine of the proposed wind farm would be located 1.4km to the south west of Clach Clais an Tuirc (**Volume 3: Figure 10.5**). The proposed turbines would be largely blocked from view by the Creag Leathan and Creag Mhor hills.
- 10.12.29 The ZTV indicates that up to 15 turbines will be visible and the wireline visualisation CHVP3 (**Volume 3: Figure 10.5**) indicates the hubs of 10 turbines and blades of a further 5 turbines would be visible. However, these will largely be screened from view by the Creag Leathan and Creag Mhor hills, and the plantation forestry which – although not necessarily present for the lifetime of the Revised Consented Development – will initially partly screen the turbines. The presence of the turbines will not affect the contribution of the surroundings to the understanding of the stone's contextual relationship with the landscape. While the standing stone may have some sense of place, this is not a previously unaltered cultural landscape and the effect of the turbines will be reduced by the effect of modern influences such as the surrounding commercial forestry plantation, the topographic separation from the intervening hills and the distance from the turbines. When the plantation forestry is felled the effect of the turbines will still be minimised by the topographic separation and the distance from the turbines.
- 10.12.30 Consequently, the effect on the sense of place is given little weight and it is assessed that the impact of the Revised Consented Development be of very small magnitude on the setting of Clach Clais an Tuirc standing stone. It is therefore concluded that there will be a minor effect significance that is

adverse but not significant in EIA terms on the setting of Clach an Tuirc standing stone that is adverse but not significant in EIA terms.

10.13 Decommissioning Effects

10.13.1 There will be no direct effects upon heritage assets during decommissioning. The mitigation put in place during the construction phase will remove the potential for effects during decommissioning.

10.13.2 Upon decommissioning, the minor adverse residual effects upon the contribution made by setting to the cultural significance of heritage assets will be reversed.

10.14 Cumulative Effects

10.14.1 In considering the likely setting effects of the cumulative schemes in combination as illustrated through CHVPs 1-3 (**Figures 10.3 to 10.5**) the detailed assessments presented above remain the same, with no increase in the concluded effects of minor adverse for each of Cnoc Freiceadain long cairns (SM90078), The Hill of Shebster, chambered cairn (SM476) and Clach Clais an Tuirc standing stone (SM441).

10.15 Interrelationship Effects

10.15.1 Interrelationship effects are defined as indirect and secondary effects resulting from the interaction of direct effects arising on cultural heritage both within another environmental topic area and interrelated with other topic areas.

10.15.2 No interrelated effects are predicted with regard to cultural heritage.

10.16 Mitigation and Enhancement Measures

Construction

10.16.1 Archaeological mitigation (preservation by record through watching briefs) has been implemented during construction of the access track for the Consented Development in the northern part of the ISA. These works have recorded the remains of Milton township and associated rig and furrow (MHG13449, MHG17820), as well as of a further 25 assets within the ISA (W5, W9, W11-16, W23, W25, W26, W54, F27-30, F43-49, F52 & F53). As such, no further mitigation is proposed for these known heritage assets.

10.16.2 To mitigate the potential for accidental impacts on upstanding remains of Milton township (MHG13449 & MHG17820) outwith the defined works areas, these features will remain fenced off throughout construction of the Revised Consented Development. This will remove the potential for damage to upstanding cultural heritage assets.

10.16.3 No known heritage assets have been identified through desk-based assessment or walkover survey for the Revised Consented Development in the locations of the rerouted access tracks away from the existing Core Path and new construction compound location. As such, no site-specific mitigation is recommended.

10.16.4 The potential for previously unrecorded assets in the ISA is moderate. The likelihood of previously unrecorded assets to be present within the construction footprint, and hence being affected by groundworks, is likewise considered to be moderate. Any construction effects upon previously unrecorded cultural heritage assets will be mitigated through a programme

of archaeological works to include potential impacts upon or beneath peat deposits, to be approved by THC's Historic Environment Team. This programme will allow for features to be recorded appropriately and is likely to comprise a watching brief on ground-breaking works with further excavation and recording being undertaken as appropriate. Consultation with THC's Historic Environment Team will confirm whether the extant approved Limekiln Windfarm Construction Phase Archaeological Mitigation, Project Design, Methods Statement & Risk Assessment (HAS, August 2020) (Technical **Appendix 10.B**) is suitable for the Revised Consented Development.

Operation

10.16.5 No significant operational effects are predicted on the setting of cultural heritage assets from the operation of the Revised Consented Development. No mitigation is therefore recommended.

Decommissioning

10.16.6 No direct decommissioning impacts are predicted for cultural heritage assets within the ISA. No mitigation is therefore recommended.

10.17 Summary of Residual Effects

10.17.1 There are no anticipated construction effects on any known cultural heritage assets.

10.17.2 Following mitigation there would be residual construction effects of a negligible adverse level on any currently unknown archaeological remains that may be identified during mitigation watching briefs. This level of effect is adverse but not significant in EIA terms.

10.17.3 Potential operational effects have been identified for three scheduled monuments (SM90078, SM476 & SM441). As no mitigation for operational effects is proposed, these effects will remain as residual effects. The residual operational effects are therefore of no greater than a minor effect significance that is adverse but not significant in EIA terms.

10.17.4 In summary, it is predicted that there will be no significant adverse effects upon cultural heritage as a result of the Revised Consented Development.

Table 10.10 Summary of Residual Effects

Receptor	Effect Type	Importance of asset	Magnitude of Impact	Level of effect significance	Significance of Residual Effect
Construction					
Previously unrecorded heritage assets within ISA	Direct Construction	Unknown	Unknown	Unknown	Negligible
Operational					
Cnoc Freiceadain	Indirect setting	High	Very Low	Minor	Minor

Receptor	Effect Type	Importance of asset	Magnitude of Impact	Level of effect significance	Significance of Residual Effect
long cairns (SM9078)					
The Hill of Shebster, chambered cairn (SM476)	Indirect setting	High	Very Low	Minor	Minor
Clach Clais an Tuirc standing stone (SM441)	Indirect setting	High	Very Low	Minor	Minor
Decommissioning – none as per Part 10.12					
Cumulative – none as per Part 10.13					

10.18 Conclusions

- 10.18.1 In conclusion it is predicted that there will be **no significant adverse effects upon cultural heritage** as a result of the Revised Consented Development.
- 10.18.2 In comparison and in relation to the anticipated direct impacts in advance of or during construction, the overall effect of the Revised Consented Development will be the same as anticipated for the Consented Development: Claperton Dyke (W10) is avoided entirely by the proposed rerouted access tracks. Effects upon heritage assets associated with Milton township (MHG13449 & MHG17820) identified in the ES for the Consented Development have already been mitigated, and therefore remain applicable to the Revised Consented Development. No further direct impacts on known heritage assets have been identified for the assessment of the Revised Consented Development. The likelihood of direct impacts upon previously unrecorded heritage assets during construction is considered to be the same for the Consented Development as for the Revised Consented Development.
- 10.18.3 In comparison and in relation to the anticipated operational effects arising from change within the setting of heritage assets, where this contributes to their significance, the overall effect of the Revised Consented Development will be the same as anticipated for the Consented Development: The anticipated residual effects upon three scheduled monuments (SM90078, SM476 & SM441) will be adverse but not significant in EIA terms. Whilst the assessment for the Consented Development concluded residual effects of Negligible/Small effect significance upon each of these heritage assets, the application of a different methodology in accordance with current best-practice for the Revised Consented Development results instead in conclusions of minor effect significance.

10.19 References

Brown N. A, 1996, *The Ruins of Craibstone Limekilns, Deskford*, Scottish Vernacular Buildings Working Group, Regional and thematic studies, no. 4

Close-Brooks J, 1995, *The Highlands*, Exploring Scotland's Heritage, The Royal Commission on the Ancient and Historical Monuments of Scotland.

Ordnance Survey, 1877, *Caithness Sheet X, 1:10560 (surveyed 1872)*

Ordnance Survey, 1877, *Caithness Sheet XVI, 1:10560 (surveyed 1872)*

Ordnance Survey, 1905, *Caithness Sheet X, 1:10560 (surveyed 1907)*

Ordnance Survey, 1905, *Caithness Sheet XVI, 1:10560 (surveyed 1907)*