13. CULTURAL HERITAGE

Executive Summary

This chapter provides the results of the assessment of cultural heritage and archaeological features (referred to as 'assets') potentially affected by the proposed development.

The assessment has been prepared by AOC Archaeology Group with reference to the standards of professional conduct outlined in the Chartered Institute for Archaeologists' (CIfA) Code of Conduct, the CIfA Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology, the CIfA Standards and Guidance for Historic Environment Desk Based Assessments. The scope of the assessment meets the requirements of current planning policy and advice as set out in Scottish Planning Policy (SPP), Historic Environment Scotland Policy Statement (HESPS) and Planning Advice Note (PAN) 2/2011 'Planning and Archaeology'.

A desk-based study was completed to identify cultural heritage assets within the site. A walkover survey was completed in 2014, with an update survey undertaken in February 2018. The desk-based study and surveys identified 46 cultural heritage assets within the site.

All designated assets and sites of potential national importance, as identified in the Historic Environment Record, within the defined study areas and from which one or more turbines of the proposed development would be visible, were assessed for potential operational (settings) effects. Potential operational effects on the settings of 98 heritage assets have been considered in detail as part of this assessment. **Two moderate and significant operational effects** have been identified.

The proposed development layout and infrastructure have been finalised such as to avoid any direct effects upon known heritage assets within the site and consequently no significant direct effects have been identified on known cultural heritage assets during the construction of the proposed development. In some areas the proposed felling of forestry would occur in close proximity to known heritage assets. Within these areas the known heritage assets will be surveyed and fenced off under archaeological supervision prior to the commencement of forestry operations. To mitigate the potential for previously unrecorded assets to be impacted during the construction phase, an archaeological watching brief will be maintained on a representative proportion of ground-breaking works across the site. Any remains encountered will either be preserved in situ or will be recorded and removed as appropriate.

Following the implementation of the proposed mitigation measures detailed in this chapter, there would be **no significant direct or cumulative residual direct effects**. There would be a **moderate and significant residual operational effect** on the setting of two assets. In each case the effect, although significant, would not be at a level that would threaten the protection of the asset.

13.1 Introduction

13.1.1 This chapter considers the potential effects on cultural heritage and archaeology associated with the construction, operation and decommissioning of the proposed development. 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, on cultural heritage;
- describe the mitigation measures proposed to address likely significant effects; and
- assess the significance of residual effects remaining following the implementation of mitigation.

13.1.2 The assessment has been carried out by AOC Archaeology Group and in accordance with the standards of professional conduct outlined in the Chartered Institute for Archaeologists' (CIfA) Code of Conduct, the CIfA Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology, the CIfA Standards and Guidance for Historic Environment Desk Based Assessments, Field Evaluations and other relevant guidance.

13.1.3 This chapter is supported by:

- Appendix 13.1: Site Gazetteer;
- Appendix 13.2: Establishing the setting of an asset; and
- Appendix 13.3: Detailed assessment of Operational (settings) Effects.

13.1.4 Figures 13.1 – 13.3 and 13.3.1-.1 -13.3.34 are referenced in the text where relevant.

13.1.5 Figures 13.3.5.1-13.3.15.3 are referenced in Appendix 13.3 where relevant.

13.2 Scope of Assessment

13.2.1 This EIA Report has been prepared using baseline information and survey data collected for the Tangy III Environmental Statement (ES) (2014) which has been reviewed and reused where appropriate and, where necessary, additional surveys have been undertaken. This chapter provides an assessment of potential effects on cultural heritage and archaeological assets, including archaeological sites and monuments, historic buildings and historic landscapes that may be affected by the proposed development. Where relevant, mitigation measures are proposed to address likely significant effects. Residual effects remaining, following the implementation of mitigation, are identified and assessed.

Study Area

13.2.2 Two study areas were identified for this assessment:

- A 5 km study area for the assessment of potential effects on the setting of all designated heritage assets, including Scheduled Monuments; Listed Buildings; Inventoried Gardens and Designed Landscapes; Inventoried Battlefields and Conservation Areas as well Non-Statutory C (Almost Certainly of National Importance) and V (Probably of National Importance) assets as identified by the West of Scotland Archaeology Service (WoSAS) Historic Environment Record (HER). This study area is covered by the Zone of Theoretic Visibility (ZTV) and was also used to assess potential for unknown buried remains; and
- A 10 km study area for the assessment of potential effects on setting of nationally significant heritage assets which have potential inter-visibility with the proposed development including; Scheduled Monuments; Category A Listed Buildings; Inventoried Gardens and Designed Landscapes; Inventoried Battlefields and Conservation Areas as well as non-designated assets

of potential national importance 'C and V assets' as identified on the Non-Statutory List by the WoSAS HER. This study area is covered by the Zone of Theoretic Visibility (ZTV).

Scoping and Consultation

13.2.3 Scoping and consultation responses were sought from consultees and organisations. These are outlined in EIA Report Chapter 7: Scoping and Consultation. A summary of those pertaining to Cultural Heritage and Archaeology are summarised in Table 13.1.

13.2.4 Full details on the consultation responses can be reviewed in Appendix 2.1: Consultation Register.

Table 13.1: Consultation Responses

Consultee and Date	Summary of Response	Comment/Action Taken
Historic Environment Scotland (HES) 26th May 2017	Scoping Response As the footprint of the extant turbines will be retained and reused there are unlikely to be any direct impacts. Given the increased height of the proposed turbines, recommend in the first instance that in order to assess any likely indirect impacts a ZTV be used. Individual assessment of setting is also advised. Particular attention is advised with regard the setting of Kilocraw Cairn, 450m ESE of (SM3664- **Site 21**) and Tangy Loch, fortified dwelling (SM3180-**Site 27**). HES's predecessor body Historic Scotland did not agree with the conclusions of the setting impacts in the ES in 2014, however it is noted they did not object. Historic Environment Scotland's Managing Change in the Historic Environment: Setting (2016) makes some key changes to the guidance on the setting of nationally significant designated assets including; "Whether or not the site is visited do not change its inherent setting", and "sites need not be visually prominent to have a setting". HES further advised that potential cumulative impacts are scoped in to the report and that incremental impacts are assessed.	Direct effects on known heritage assets scoped out of assessment ZTV provided by the Developer (February 2018) and used as basis for selecting assets for assessment (see Figures 13.2 and 13.3). Detailed reassessment of these assets undertaken. Visualisation Figures are included and referenced in the text where appropriate (Figure 13.3.1. and 13.3.2.2). Settings assessment carried out in consideration of Historic Environment Scotland *Managing Change in the Historic Environment: Setting* (2016). Detailed assessment of setting of each asset undertaken (Sections 13.6.5-13.6.21 and Appendix 13.3). Cumulative effects assessed on an asset by asset basis.
WoSAS 28th January 2018	Agreed that the main consideration would be the extent to which the effects of the proposed development on the setting of the assets in the surrounding area may be changed by installing taller turbines. Requested that ES look in detail at changes to the ZTV as more turbines would potentially be visible from each asset and also across a wider area.	EIA Report Chapter 13 section 13.6.5-13.6.21 and Appendix 13.3 considers potential changes to setting of the assets which would result from taller turbines. Detailed analysis of updated ZTV undertaken with reference to heritage assets EIA Report Chapter 13 section 13.6.5-13.6.21 and Appendix 13.3 and Figures 13.2 and 13.3.

Effects to be Assessed

13.2.5 Assessment of effects on cultural heritage assets was undertaken, taking cognisance of the following guidance:

- Scottish Planning Policy (Scottish Government, 2014);
- Historic Environment Scotland Policy Statement (HESPS) (HES 2016a);
- Planning Advice Notes (PAN) for Scotland in particular PAN 2/2011 'Archaeology and Planning' (Scottish Government 2011); and
- Managing Change in the Historic Environment: Setting (HES, 2016b).

13.2.6 This assessment considers the potential effects on hitherto unknown archaeological remains during the construction phase of the proposed development and effects on the setting of heritage assets (e.g. changes as a result of visual intrusion) arising from the operational phase of the proposed development.

Effects Scoped Out of Assessment

13.2.7 Table 13.2 provides a summary of issues scoped out of the assessment:

Table 13.2: Issues scoped out of the EIA

Potential Effect	Basis for scoping out
Direct effects on known heritage assets within the site	Consideration of known heritage constraints early in the design process has allowed for the avoidance of direct effects on known assets through design in all cases.
Effects on the settings of designated heritage assets outside the ZTV	Assessment of the potential for indirect effects upon the settings of designated heritage assets was only undertaken in those cases where the assets fell within the proposed development's finalised ZTV. The majority of designated assets where no visibility is predicted have been scoped out. However, consideration was given to those assets that fall out with the ZTV but where key views towards them might be impacted by the proposed development. A total of 100 heritage assets within the identified study areas were found to be out with the ZTV and thus excluded from further assessment.
Effects on the settings of Inventory Battlefields, Inventory Gardens and Designed Landscapes and World Heritage	There are no Inventory Battlefields, Inventory Gardens and Designed Landscapes or World Heritage Sites located within 10 km of the proposed development.
Effects arising from decommissioning	Effects arising from the process of decommissioning have been scoped out since they are of a similar nature to construction issues, but of a smaller scale and shorter duration. However, the results of decommissioning (i.e. the removal of the wind farm) are taken into account in assessing ongoing and operational effects, where appropriate.
Effects on the settings of non-designated heritage assets	Assessment of the potential for indirect effects upon the settings of non-designated heritage assets was only undertaken where these assets both fell within the ZTV and their assessment was specifically requested by the local planning authority or other consultees at scoping.

13.3 Methodology

Overview

13.3.1 This assessment is based on publicly available data sources and an Historic Environment Record (HER) extract provided by the West of Scotland Archaeology Service (WoSAS) (received in January

2018). All designated heritage assets located within 5 km of the proposed development were identified and all nationally important assets were identified between 5 km and 10 km. A ZTV (Figures 13.2 and 13.3) has been used to identify the heritage assets which would have views of the proposed development.

13.3.2 AOC Archaeology Group is a Registered Archaeological Organisation of the CIfA. This status ensures that there is regular monitoring and approval by external peers of our internal systems, standards and skills development.

Method of Baseline Characterisation

Desk Surveys

13.3.3 For the purposes of this assessment, information was gathered from the following sources:

- National Map Library of Scotland: For old Ordnance Survey maps (1st & 2nd Edition, small- and large- scale) and pre-Ordnance Survey maps;
- Historic Environment Scotland: For National Record Historic Environment (NRHE) data, World Heritage Site data, Scheduled Monument data, Listed Buildings data, Inventory Garden and Designed Landscape data, and Inventory Battlefield data;
- West of Scotland Archaeology Service (WoSAS) Historic Environment Record (HER); and
- Tangy III Environmental Statement (2014).

13.3.4 Each heritage asset referred to in the text is listed in the Appendix 13.1: Site Gazetteer and shown on Figures 13.1-13.3. Each heritage asset has been assigned a 'Site No.' unique to this assessment, and the gazetteer includes information regarding the type, period, grid reference, NRHE number, HER number, statutory protective designation, and other descriptive information, as derived from the consulted sources.

Field Survey Techniques

13.3.5 Informed by the results of the 2014 assessment, a visit was made to the site to confirm ground conditions had not changed in the intervening period.

13.3.6 Informed by the results of the desk study, an assessment of effects on setting was carried out via site visits to designated heritage assets within the ZTV. Visits were made to heritage assets considered within the settings assessment in February 2018 to establish the current setting of the assets, establish elements of setting that contribute to their cultural value and to assess their sensitivity to change. A photographic record was made.

Effects Evaluation Methodology

Receptor Sensitivity

13.3.7 HESPS (HES 2016a) notes that to have cultural significance, an asset must have a particular 'artistic; archaeological; architectural; historic; traditional (factors listed in the 1979 Act[1]); aesthetic; scientific; [and/or] social [significance] – for past, present or future generations'. Heritage assets also have value in the sense that they '...create a sense of place, identity and physical and social wellbeing, and benefit the economy, civic participation, tourism and lifelong learning' (Scottish Government 2014b). For clarity and to avoid confusion with the EIA term 'significant', the term 'cultural value' will be used throughout this assessment though, as outlined above, it is acknowledged that this is the same as 'cultural significance' as defined in HESPS.

13.3.8 All heritage assets have some value; however, some assets are judged to be more important than others. The level of that importance is, from a cultural resource management perspective, determined by establishing the asset's capacity to inform present or future generations about the

[1] Ancient Monuments and Archaeological Areas Act 1979

past. In the case of many heritage assets their importance has already been established through the designation (i.e. scheduling, listing and inventory) processes applied by HES.

13.3.9 The criteria used to establish importance in this assessment are presented in Table 13.3 and are drawn from Appendices 1-6 of HESPS which outline the criteria for establishing National Importance.

Table 13.3: Criteria for Establishing Cultural Heritage Importance

Importance	Criteria
International National	World Heritage Sites. Scheduled Monuments (as protected by the Ancient Monuments and Archaeological Areas Act 1979 ("the 1979 Act"). Category A Listed Buildings (as protected by the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 ("the 1997 Act")). Inventory Gardens and Designed Landscapes (as protected by the 1979 Act, as amended by the Historic Environment (Amendment) (Scotland) Act 2011 ("the 2011 Act"). Inventory Battlefields (as protected by the 1979 Act, as amended by the 2011 Act). Non-Designated Assets considered to be of National Importance including, fine, little-altered examples of some particular period, style or type (as protected by SPP, 2014).
Regional	Category B Listed Buildings (as protected by the 1997 Act). Conservation Areas (as protected by the 1997 Act). Major examples of some period, style or type, which may have been altered (as protected by SPP, 2014). Non-Designated assets of a type which would normally be considered of national importance that have been partially damaged (such that their ability to inform has been reduced) (as protected by Paragraph 137 of SPP, 2014).
Local	Category C Listed Buildings (as protected by the 1997 Act). Lesser examples of any period, style or type, as originally constructed or altered, and simple, traditional sites, which group well with other significant remains, or are part of a planned group such as an estate or an industrial complex (as protected by SPP, 2014). Cropmarks of indeterminate origin (as protected by SPP, 2014). Non-Designated assets of a type which would normally be considered of regional importance that have been partially damaged or asset types which would normally be considered of national importance that have been largely damaged (such that their ability to inform has been reduced) (as protected by SPP, 2014).
Negligible	Relatively numerous types of remains. Find spots of artefacts that have no definite archaeological remains known in their context. Non-Designated assets of a type which would normally be considered of local importance that have been largely damaged (such that their ability to inform has been reduced). The above assets are protected by Paragraph 137 of SPP, 2014).

13.3.10 HESPS indicates that the relationship of an asset to its setting or the landscape makes up part of its contextual characteristics. SPP does not differentiate between the importance of the asset itself and the importance of the asset's setting. Indeed, under paragraph 143 on Scheduled Monuments it states that '*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'*. However, it is widely recognised (e.g. Historic England 2017) that the importance of an asset is not the same as its sensitivity to changes to its setting. Elements of setting may make a positive, neutral or negative contribution to the value of an asset. Thus, in determining the nature and significance of impacts upon assets and their settings by the proposed development, the contribution that setting makes to an asset's value and importance, and thus its sensitivity to changes to setting, need to be considered.

13.3.11 This approach recognises the importance of preserving the integrity of the setting in the context of the contribution that setting makes to the experience, understanding and appreciation of a given asset. It recognises that setting is a key characteristic in understanding and appreciation of some, but by no means all, assets. Indeed, a nationally important asset does not necessarily have high sensitivity to changes to its setting.

13.3.12 The criteria for establishing an asset's relative sensitivity is detailed in Table 13.4. This table has been developed based on AOC's professional judgement and experience in assessing setting impacts. It has been developed with reference to the policy and guidance noted above including SPP, HESPS, the Xi'an Declaration and Historic Environment Scotland's guidance on the setting of heritage assets.

Table 13.4: Criteria for Establishing Sensitivity of a Heritage Asset to Changes to its Setting

Relative Sensitivity	**Criteria**
High	An asset whose setting contributes substantially to an observer's understanding, appreciation and experience of it should be thought of as having High Sensitivity to changes to its setting. This is particularly relevant for assets whose setting, or elements thereof, contribute directly to their significance (e.g. form part of their Key or Contextual Characteristics (HES 2016a, Annex 1). For example, an asset which retains an overtly intended relationship with its setting and the surrounding landscape. These may be, but not limited to, assets such as ritual monuments which have constructed sightlines to and/or from them or structures intended to be visually dominant within a wide landscape area e.g. castles, tower houses, prominent forts etc. Setting is the way in which the surroundings of a historic asset or place contribute to how it is experienced, understood and appreciated. Therefore, an asset, which relies heavily on its modern surroundings for its understanding, appreciation and experience, is of high sensitivity. In particular, an asset whose setting is an important factor in its protection and in retention of its cultural value (as per SPP definition of setting) should be thought of as having a High Sensitivity to changes to its setting.
Medium	An asset whose setting contributes moderately to an observer's understanding, appreciation and experience of it should be thought of as having Medium Sensitivity to changes to its setting. This could be an asset for which setting makes a contribution to value, but whereby its value is derived mainly from its other qualities (ibid). This could for example include assets which had an overtly intended relationship with their setting and the surrounding landscape but where that relationship (and therefore the ability of the assets' surroundings to contribute to an understanding, appreciation and experience of them) has been moderately compromised either by previous modern intrusion in their setting or the landscape or where the asset itself is in such a state of disrepair that the relationship cannot be fully understood. An asset, the current understanding, appreciation and experience of which, relies partially on its modern setting regardless of whether or not this was intended by the original constructors or users of the asset. An asset whose setting is a contributing factor in its protection and the retention of its cultural value.
Low	An asset whose setting makes some contribution to an observer's understanding, appreciation and experience of it should generally be thought of as having Low Sensitivity to changes to its setting. This may be an asset whose value is mainly derived from its other characteristics and whereby changes to its setting will not materially diminish our understanding, appreciation and experience of it. This could for example include assets which had an overtly intended relationship with their setting and the surrounding landscape but where that relationship (and therefore the ability of the assets' surroundings to contribute to an understanding, appreciation and experience of them) has been significantly compromised either by previous modern intrusion to its setting or the landscape or where the asset itself is in such a state of disrepair that the relationship cannot be determined.

Table 13.4: Criteria for Establishing Sensitivity of a Heritage Asset to Changes to its Setting	
Relative Sensitivity	**Criteria**
Marginal	An asset whose setting makes minimal contribution to an observer's understanding, appreciation and experience of it should generally be thought of as having Marginal Sensitivity to changes to its setting. This may include assets for which the original relationship with their surrounding has been lost, possibly having been compromised by previous modern intrusion, but who still retain cultural value in their intrinsic and possibly wider contextual characteristics.

13.3.13 The determination of an asset's sensitivity to changes to its setting is first and foremost reliant upon the identification of its setting, including those elements that appreciably contribute to an understanding, appreciation and experience of it. The criteria set out in Table 13.4 are intended as a guide. Assessment of individual assets is informed by knowledge of the asset itself; of the asset type if applicable, and by site visits to establish the current setting of the assets. This allows for the use of professional judgement and each asset is assessed on an individual basis. It should be noted that individual assets may fall into a number of the sensitivity categories presented above, e.g. a country house may have a high sensitivity to alterations within its own landscaped park or garden, but its level of sensitivity to changes may be less when considered within the wider landscape context.

13.3.14 In establishing the sensitivity of an asset to changes to its setting, the setting must first be identified. Appendix 13.2 outlines the range of factors considered when establishing the setting of an asset. These have been used as a guide in assessing each asset from known records and in the field.

Impact Magnitude

13.3.15 The magnitude of indirect effect is an assessment of the magnitude of change to the setting of any given asset, in particular, those elements of the setting that inform its cultural value. Table 13.5 outlines the main factors requiring consideration when assessing magnitude of indirect (setting) impact.

Table 13.5 Factors Affecting Magnitude of Change in Setting	
Site Details	**Importance of detail for assessing magnitude of change**
1) Proximity to the proposed development (distance to nearest turbine)	Increasing distance of an asset from the proposed development will, in most cases, diminish the effects on its setting.
2) Visibility of development (based on ZTV model, site visits, photomontages and wireframes where appropriate)	The number of turbines that will be intervisible with the asset and the height to which each turbine will be visible will directly affect the magnitude of impact on its setting. The proportion of the view from each asset which will feature turbines will also affect the magnitude of impact. The existence of features (e.g. tree belts, forestry, landscaping or built features) that could partially or wholly obscure the proposed development from view will also affect the magnitude of impact.
3) Complexity of landscape	The more visually complex a landscape is, the less prominent the proposed development may appear within it. This is because where a landscape is visually complex the eye can be distracted by other features and will not focus exclusively on the new development. Visual complexity describes the presence, extent, character and scale of the existing built environment (HES 2016b) and the extent to which there are various land types, land uses, and built features producing variety in the landscape and how the proposed development compares to and fits in with this.
4) Design of the Development	This refers to the scale of the proposed change relative to the scale of the historic asset or place and its setting (HES 2016b). Depending on the individual asset, the design of the proposed development could affect the perception of dominance or foci of a particular asset and its relationship with other cultural and natural features within the landscape (SNH 2009). For example, whether the turbines would be seen against the skyline or against a backdrop of hills may affect the perception of the prominence of an asset and/or the proposed development.

13.3.16 It is acknowledged that Table 13.5 primarily deals with visual factors affecting setting. While the importance of visual elements of settings, e.g. views, intervisibility, prominence etc., are clear, it is also acknowledged that there are other, non-visual factors which could potentially result in setting impacts. Such factors could be other sensory factors, e.g. noise or smell, or could be associative (HES 2016b). Where applicable, these are considered whilst concluding the magnitude of impact.

13.3.17 The prediction of magnitude of impact upon setting will be based upon the criteria set out in Table 13.6. In applying these criteria, particular consideration is given to the relationship of the proposed development to those elements of setting which have been defined as most important in contributing to the ability to understand, appreciate and experience the heritage assets and their value. HES's guidance on setting indicates that adverse impacts upon the setting of a heritage asset will result from changes to that setting which would affect the ability to understand, experience and appreciate an asset. It notes several ways in which developments might impact upon the setting of heritage assets. Using AOC's professional judgement and experience, Table 13.6 sets out a guide to establish the extent to which changes can compromise setting such that the ability to understand, appreciate and experience the asset in question and its cultural value is reduced.

Table 13.6 Criteria for Establishing Magnitude of Setting Impact	
Relative Sensitivity	**Criteria**
High	Direct and substantial visual impact on a key sightline to or from a ritual monument or prominent fort. Direct and substantial visual impact on a key 'designed-in' view or vista from a Designed Landscape or Listed Building.

Table 13.6 Criteria for Establishing Magnitude of Setting Impact	
	Direct severance of the relationship between an asset and its setting. An impact that changes the setting of an asset, such that it threatens the protection (SPP 2014) of the asset and the understanding of its cultural value.
Medium	Oblique visual impact on an axis adjacent to a key sightline to or from a ritual monument or prominent fort but where the key sightline of the monument is not obscured. Oblique visual impact on a key 'designed-in' view or vista from a Designed Landscape or Listed Building. Partial severance of the relationship between an asset and its setting. Notable alteration to the setting of an asset beyond those elements of the setting which directly contribute to the understanding of the cultural value of the asset. An impact that changes the setting of an asset such that the understanding of the asset and its cultural value is marginally diminished.
Low	Peripheral visual impact on a key sightline to or from a ritual monument, prominent fort, designed landscape or building. Slight alteration to the setting of an asset beyond those elements of the setting which directly contribute to the understanding of the cultural value of the asset. An impact that changes the setting of an asset, but where those changes do not materially affect an observer's ability to understand, appreciate and experience the asset.
Marginal	All other setting impacts.
None	No setting impact anticipated.

Effects Significance

13.3.18 The predicted level of indirect effect on the setting of cultural heritage assets is judged to be the interaction of the asset's sensitivity to changes in its setting (Table 13.4) and the magnitude of the impact (Table 13.6) and also takes into consideration the importance of the asset (Table 13.3). A qualitative descriptive narrative is also provided for each asset to summarise and explain each of the professional value judgements that have been made.

13.3.19 The interactions determining level of effect on settings of the assets in question is shown in Table 13.7.

Table 13.7: Level of Indirect Effect based on Inter-Relationship between the Relative Sensitivity of the Heritage Asset and the Magnitude of Impact

		Relative Sensitivity			
		High	**Medium**	**Low**	**Marginal**
Impact Magnitude	**High**	Major	Moderate	Minor-Moderate	Minor
	Medium	Moderate	Minor-Moderate	Minor	Negligible
	Low	Minor-Moderate	Minor	Negligible	Neutral
	Marginal	Minor	Negligible	Neutral	None
The effects recorded in light grey highlighted cells are considered to be 'significant'					

Assessing Cumulative Effects

13.3.20 Cumulative effects, in this context, are considered to be additional effects resulting from the placing of the proposed development alongside other operational, consented or proposed wind farms within the landscape. In terms of cultural heritage, it is necessary to consider whether the effects of cumulative developments in conjunction with the proposed development would result in an additional cumulative change upon the settings of heritage assets, beyond the levels predicted for the proposed development alone.

13.3.21 Operational cumulative effects are assessed using the same criteria as used in determining effects resulting from the proposed development and Tables 13.4, 13.5, 13.6 and 13.7 and have been guided by Scottish National Heritage's published guidance for 'Assessing the Cumulative Impact of Onshore Wind Energy Developments' (2012).

13.3.22 In determining the degree to which a cumulative effect may occur as a result of the addition of the proposed development into the cumulative baseline a number of factors are taken into consideration including:

- the distance between wind farms;
- the interrelationship between their Zones of Theoretical Visibility (ZTV);
- the overall character of the asset and its sensitivity to wind farms;
- the siting, scale and design of the wind farms themselves;
- the way in which the asset is experienced;
- the placing of the cumulative wind farm(s) in relation to both the individual proposal being assessed and the heritage asset under consideration; and
- the contribution of the cumulative baseline schemes to the significance of the effect, excluding the individual proposal being assessed, upon the setting of the heritage asset under consideration.

13.3.23 This assessment is based upon a list of operational or consented developments along with sites where permission has been applied for. Cumulative developments are listed in Chapter 8: Landscape and Visual Impact. While all have been considered, only those which contribute to, or have the possibility to contribute to, cumulative effects on specific heritage assets are discussed in detail. Additionally, given the emphasis SNH place on significant effects, cumulative effects have only been considered for those assets where the effects upon the setting from the proposed development, alone, have been judged to be an effect of Minor-Moderate level or greater. The

setting of assets which would have an effect of less than Minor-Moderate significance are unlikely to reach the threshold of significance as defined in Table 13.7.

Limitations of Assessment

13.3.24 This assessment is based upon data obtained from publicly accessible archives as described in the Data Sources in Section 13.4.1 and site visits. Site visits were undertaken in February 2018. Historic Environment Record (HER) data was received on 5th February 2018 and National Record for the Historic Environment data was downloaded from HES in May 2018. This assessment does not include any records added after this date.

13.4 Baseline Conditions

Current Baseline

Context

13.4.1 The site is located within open pasture moorland and conifer plantation on a low plateau used currently and historically for sheep grazing. The site is a combination of forest agricultural land and wind farm, with areas of deep and shallow peat and areas of blanket bog. It is currently used for commercial forestry activities, grazing and renewable electricity generation. In the south-east of the site, an area of *'medieval/ post-medieval settlement remains'* is identified by Historic Landscape Assessment (HLA) mapping (HES) that pre-date the agricultural improvements of the 18th or 19th century survive in marginal areas, with ruinous buildings, curvilinear boundaries, and rig cultivation. An area of '*traditional 17th to 18th century peat cutting'* is located in the centre of the site, south of the commercial forestry plantation. The operational Tangy Wind Farm is characterised by the HLA (HES) as *'late 20th century to the present power station'*. The Scottish Palaeoecological Database (SPAD) does not record any palaeoecological assets within the site.

Designated Assets

13.4.2 There are no designated assets registered by HES (World Heritage Sites; Scheduled Monuments; Inventoried Battlefields; Inventoried Gardens and Designed Landscapes; and Conservation Areas) located within the site.

13.4.3 Within the site as shown on Figure 13.1 there are:

- Two heritage assets (Sites 13 & 120) deemed to be of '*almost certain National Importance'* (C) as recorded on the Non-Statutory Register held by WoSAS; and
- 18 assets of '*probable National Importance* (V) as recorded on the Non-Statutory Register held by WoSAS.

13.4.4 Within the 5 km study area, as shown on Figure 13.2, there are:

- 29 Scheduled Monuments;
- two Category B Listed Building;
- two Category C Listed Buildings; and
- 73 Non-Statutory Designated C and V assets as defined by WoSAS.

13.4.5 Designated assets within the defined 5 km and 10 km study areas that were judged to be potentially subject to changes in their settings and/or occurred within the ZTV were subject to further assessment and site visits. Heritage assets identified as falling within the blade tip ZTV and shown on Figures 13.2 and 13.3 include:

- 41 Scheduled Monuments;
- 53 assets from the HER Non-Statutory Register of assets of potential National Importance; and
- Three Listed Buildings (one which is Category A Listed).

Non-Designated Assets

13.4.6 There are 26 non-designated assets within the site. The assets range in date from the prehistoric to the modern period. Assets of probable prehistoric date include five cup marked stones (Sites 4, 6, 8 and 9), a burnt mound (Site 2) and a possible cist (Site 14). Fifteen of the non-designated assets (Sites 5, 11 and 131-143) are shielings of likely medieval to post-medieval date. A further five assets (Sites 1, 15-17 and 20) were recorded from historic mapping and relate to the sites of structures of likely post-medieval origin which are no longer extant.

Future Baseline

13.4.7 Future baselines (without the proposed development) would largely be expected to mirror the current baseline. Any alteration to the baseline condition of the heritage assets within the site would likely relate to very gradual deterioration of upstanding structures as a consequence of natural weathering and, in some cases, stock grazing. Heritage assets located within the afforested parts of the site would be at risk from potential further disturbance from forestry operations caused either by further tree and root growth or by the eventual disturbance that may be caused as a consequence of planned, rotational future clear felling. As a result, the current baseline is taken as the basis for the construction effects assessment presented here.

13.4.8 The setting of the site may be altered in the future through the construction and operation of the other proposed wind farm developments. The potential effects of these turbines will be discussed in detail under cumulative effects.

Summary of Baseline and Receptor Sensitivity

13.4.9 Table 13.8 provides a summary of the number of heritage assets within the respective study areas for direct and indirect effects.

Table 13.8: Summary of Heritage Assets		
Number of Assets	**Category**	**Total with Study Area**
2	Almost certain National Importance' (C) as recorded on the Non-Statutory Register held by WoSAS	46 assets within the site (See Figure 13.1)
18	Probable National Importance (V) as recorded on the Non-Statutory Register held by WoSAS.	
26	Non-designated assets	
29	Scheduled Monuments;	106 assets within the 5 km study area (see Figure 13.2)
2	Category B Listed Building;	
2	Category C Listed Buildings	
73	Non-Statutory Designated C and V assets as defined by WoSAS	
41	Scheduled Monuments.	97 assets within the 5 – 10 km study area (see Figure 13.3)
3	Listed Buildings (one of which is Category A Listed)	
53	Non-Statutory Designated C and V assets.	

13.4.10 The potential for likely significant indirect effects on the setting of three heritage assets has been identified and as such detailed assessment of these features is presented in Section 13.7 below. A summary of the receptors identified as being sensitive to the proposed development and potentially subject to significant effects and which have been 'scoped-in' to the assessment are given in Table 13.6. The effects on the remaining 94 heritage assets are considered unlikely to be significant and detailed assessment of these assets is provided in Appendix 13.3.

Table 13.9: Summary of Receptor Sensitivity		
Receptor	**Sensitivity**	**Justification**
Killocraw Cairn (Site 21)	High	The 2014 ES predicted a Moderate and significant effect on the setting of this asset. Detailed assessment of potential settings effects will thus be required.
Killocraw cup marked stone (Site 22)	Medium	The 2014 ES predicted a Moderate and significant effect on the setting of this asset. Detailed assessment of potential settings effects will thus be required.
Tangy Loch Fortified Dwelling (Site 27)	High	The 2014 ES predicted a Moderate and significant effect on the setting of this asset. Detailed assessment of potential settings effects will thus be required.

13.5 Effects Evaluation

Development Characteristics

- Potential direct effects on known or unknown buried archaeological remains, in the case of the proposed development, relate to the possibility of disturbing, removing or destroying in situ remains and artefacts during ground breaking works (including excavation, construction and other works associated with the proposed development) on this site.
- During the operational phase there is a potential for adverse indirect effects upon the settings of a range of heritage assets within 10 km of the site.

13.6 Mitigation Measures

- The proposed development layout includes 'mitigation by design', whereby the layout design has taken into account environmental sensitivities and constraints including the presence of known cultural heritage assets.
- No Significant direct effects are predicted and consequently no mitigation is required. It is recognised that there is a potential for inadvertent damage to both known and unknown archaeological remains; this is addressed in section 13.7.1: Additional Good Practice.
- No direct mitigation is possible for operational (setting) effects. Potential offset measures are considered in section 13.7.3.

Additional Good Practice

13.6.1 The forest clearance required for the construction the proposed development has the potential to impact upon the locations of several known heritage assets. The forest clearance required for the construction of Turbine 9 would occur in close proximity to Sites 10 and 46-60 a cluster of shielings along the Allt Nan Creamh Burn. In order to prevent inadvertent damage to these shielings during clearance operations, all visible remains will be photographed, surveyed and fenced off under archaeological supervision, in advance of forestry operations. The hut circle at Allt Naan Creamh (Site 3) and cup marked stone at Tangymoil (Site 13) will also be photographed, surveyed and fenced off under archaeological supervision in advance of forestry operations, to prevent any inadvertent damage. Forestry operations in the vicinity of these known assets will be undertaken in a controlled fashion, with relevant risk assessments, monitored by the Ecological Clerk of Works (ECoW) and an archaeologist to ensure that known assets are not damaged. Sites 3 and 13 are located within areas proposed for re-planting. The fencing of these assets should therefore be maintained throughout the felling and re-planting periods to ensure that they are not damaged though encroachment of vegetation.

13.6.2 Given the use of the north of the site for commercial forest plantation, the potential for undisturbed buried archaeological assets within the afforested areas is low. However, within the south of the site there has been limited previous ground disturbance. Although located within a remote upland area, which was likely never a focus of concentrated settlement, deposits of peat have the potential to mask archaeological deposits associated with known shielings and land management practices. There is therefore judged to be a medium potential for previously undiscovered archaeological remains in the south of the site. To mitigate the potential for previously unrecorded assets to be impacted during the construction phase, an archaeological watching brief will be maintained on a representative proportion of ground-breaking works associated with the construction of the proposed development. The areas to be monitored will include all areas of peat >1 m and proposed borrow pit locations, all of which are located in close proximity to known heritage assets (Sites 14, 15 and 16). The purpose of such works will be to identify any hitherto unknown archaeological remains threatened by the proposed development, to assess their value and to mitigate any impact upon them either through avoidance or, if preservation in situ is not feasible, through preservation by record. Depending upon the results of any watching brief works there is the potential that further works such as excavation and post-

excavation analyses could be required. Details of mitigation will be agreed in consultation with WoSAS through a Written Scheme of Investigation.

Offsetting

13.6.3 As an impact upon setting is ultimately an impact upon the ability of the surroundings of the monument to contribute to an observer's understanding, appreciation and experience, good practice measures which would increase the understanding, appreciation and experience of the assets and the wider archaeology of the area, are therefore an appropriate way to partially offset such impacts. In the case of the proposed development, a further archaeological survey would partially contribute to offset potential impacts of the proposed development on the setting of heritage assets in its vicinity. This assessment has identified a concentration of archaeological features in the north of the site; they include a group of 15 shielings on the banks of the Allt Nan Creamh burn, hut circles and a cup marked stone. Little information is currently known about the condition and extent of these features and how they relate to other possible contemporary assets known both within the site and the wider landscape. The removal of forestry in the immediate vicinity of these assets would provide an opportunity for the undertaking of a survey designed to create a detailed record of each of the individual assets and may also further our understanding of the development of the wider historic landscape and the interrelationships between heritage assets within that landscape. Dissemination of the results of this survey would improve access to information on the assets identified and surveyed. This would serve to increase both the understanding of the historic landscape of the site and the wider area, thereby increasing knowledge and appreciation of the local heritage.

13.7 Residual Effects

Effects on Killocraw Cairn (Site 21)

Receptor Sensitivity

13.7.1 Killocraw cairn is a ritual prehistoric burial monument, which survives as a low grassy mound approximately 13.5 m in diameter and 1 m high. The cairn is set within an area of rough grazing, situated in an elevated position on a small knoll, which in turn is located on a broad ridge which runs north to south. There are open views inland and extensive views out to sea and along the Kintyre coast from the cairn. Views west from the cairn towards the coast are most extensive as shown on Figure 13.3.3.3 and the eye is draw in this direction. The ground rises to the east of the cairn and features commercial forest plantation which currently blocks views of the operational turbines at Tangy I and II Wind Farm (Figure 13.3.1-4).

13.7.2 The monument is a typical early prehistoric burial cairn and is legible as a monument deliberately sited to have visibility over a wide area and also to be visible across the landscape (although the cairn can now only be appreciated at relatively close quarters). The cairn is part of a group of monuments including another scheduled cairn (Site 43) 275m to the north-east, and a cup-marked boulder (Site 22) 450 m to the north-east. Views north-east from the cairn also feature an abandoned post-medieval stone built dwelling (Figure 13.3.1.3c). There are also numerous potentially nationally important cup-marked stones (Sites 62-73) in the vicinity, many of which are located within forestry plantation and survive as discrete features not visible from the cairn. Key attributes of the setting that contribute to its cultural value are related to the expansive views, its prominent elevated location and the relationship with other important prehistoric heritage assets locally. The cairn is of High sensitivity to changes in its setting.

Predicted Ongoing and Operational Impacts

13.7.3 As the appended wireframe (Figure 13.3.3.2-3) and photomontage (Figure 13.3.3.4) show, the proposed development would be visible south-east of the cairn, within an area currently occupied by commercial forestry plantation. All 16 of the proposed development turbines would be visible

to hub height. The nearest turbine would be located 1.1 km to the south-east. At this distance the turbines would appear as prominent features. The proposed development turbines would also be visible in the backdrop in views to the cairn on approach to it from the north and west. The relationship between the cairn and other potentially contemporary monuments to the north-east would not be interrupted and the proposed development would appear offset from the sightline between these monuments.

13.7.4 The physical and topographic separation between the proposed development (which is at 1.1 km) would allow for the visual prominence of the cairn within its setting to be understood and it would remain possible to appreciate the key features of the landscape character that contribute to the understanding of its setting (including the broad ridgeline/ foothills and expansive coastal landscape and seascape to the north and west) along with the presence of the proposed development. The proposed development would therefore represent a notable alteration to the setting of the cairn beyond those elements of the setting which directly contribute to the understanding of its cultural value. The magnitude of effect would be Medium. The level of effect would be Moderate and significant.

13.7.5 Although significant, the effect would not be at a level that could threaten the protection of the asset. This is because a large proportion of the cairn's value lies in its intrinsic characteristics and in the high research potential offered by its buried remains in particular, which would not be affected by the proposed development. Furthermore, the critical relationship between the cairn and coast and also contemporary monuments to the north-east would remain uninterrupted.

Predicted Cumulative Effects

13.7.6 As the appended photomontages (Figures 13.3.3.4) show, Killocraw cairn has existing visibility with operational cumulative developments at Gigha and Gigha extension located over 17 km to the north. The consented developments at Auchadaduie and Blary Hill would also be theoretically visible beyond commercial forestry north of the cairn, as would the application developments at Killean Estate and Clachain Glen. All of these turbines would be seen north of the cairn and not in the same view as the proposed development. The proposed development would thus increase the arc of view in which wind farm development would be visible from the cairn and would also, owing to its greater proximity, appear larger and more prominent in comparison to the more distant cumulative developments. The interrelationship between Killocraw cairn and other contemporary monuments within the landscape to the north-east would not be affected by the wider increase in surrounding wind farm development. The magnitude of cumulative impact would be low. The level of cumulative effect would be Minor-Moderate and **not significant**.

Effects on Killocraw Cup Marked Stone (Site 22)

Receptor Sensitivity

13.7.7 Killocraw cup marked stone (Site 22) is part of a wider group of 14 cup and ring marked stones, constituting the largest concentration of monuments of this type in Kintyre. Extensive studies of cup and ring marked stones in Scotland and Northern England (Bradley, 1997; Beckensall, 2005) have analysed the placement of such features in the landscape. Bradley has argued that given the similarity between the sitings of many cup and ring marked stones, the idea that their setting is irrelevant is statistically improbable. Rock Art, he argues, was set, most often, on ridges or at the entrance to valleys for a particular reason. However, as the function of cup-marked and cup and ring marked stones is unknown, it is difficult to define their original or authentic setting and it is near impossible to understand their intended relationship with the surrounding built and natural features. Bradley also argues that impressively ornate cup and ring marked stones tend to be placed on highly visual rock outcroppings, while simpler cup markings tend to be on less visible low boulders. Bradley notes that 50% of the time the stones, on which simple cup motifs are carved, are not visible from as close as 50 m. Current research, however has led to a contemporary appreciation of this type of monument which relies partially upon their current visual setting.

13.7.8 The large hog backed Killocraw cup-marked stone is a discrete monument located on a west facing slope in an area of rough open moorland, on the western edge of a coniferous forestry plantation which rises behind the stone to the east. The monument is afforded extensive views west over rough grazing and out along the Kintyre coast. Other prehistoric monuments, including the two Killocraw cairns (Sites 21 and 43), are visible from this asset as are two boulders (Sites 69 and 70) bearing shallow cup marks (although the cup marks themselves cannot be seen from this monument). The boulder is also sited in close association with a further 12 cup marked stones (Sites 62- 68) which are set within commercial forestry plantation and which cannot be seen from the boulder. The placement of these stones in close proximity to one another and with some intervisibility with other monuments across this area of landscape contributes to an understanding of them as ritual monuments (which is the currently favoured interpretation). Although the setting of the stone has been somewhat compromised by the placement of commercial forest plantation in the immediate vicinity and although it is not visible from any distance across the landscape, it is recognisable as a ritual monument placed in association with nearby contemporary monuments of the same type. The Killocraw cup-marked stone is judged to be of Medium sensitivity to changes in its setting.

Predicted Ongoing and Operational Impacts

13.7.9 The current setting of this asset is dominated by adjacent commercial forest plantation set on rising ground immediately to its east. The boundary of the forest plantation is aligned north to south due east of the monument and currently restricts views into the site. As the appended wireline (Figure 13.3.4.2) shows all 16 turbines of the proposed development are theoretically visible from this monument. All turbines would theoretically be visible to hub height and the nearest turbine would be located at a distance of 1.1 km and would thus appear as a prominent feature in views from the monument and on approach to it from the north and west. Actual visibility of the proposed development would be blocked in part by the intervening forest plantation which is located north of the site and would continue to dominate the setting of the stone with glimpses of turbines possible on approach to the stone from the west. Future felling of the plantation adjacent to the stone would result in visibility of all turbines.

13.7.10 The proposed development would be located out with the key elements of the setting of this monument which is defined by the pasture and forestry within which it is set, the elevated location overlooking the coast and intervisibility with nearby contemporary prehistoric ritual monuments. The proposed development would not feature in views between the stone and the 13 other cup-marked stones which form part of a cluster of ritual monuments in the local landscape. The proposed development would not affect the ability of an observer to understand and appreciate the monument in its current setting. Future removal of the forest, beyond the site boundary, which would allow for visibility of the proposed development, would result in increased visibility of the proposed development. However, removal of the forest adjacent to the stone would also potentially visually reconnect Killocraw cup-marked stone (Site 22) with other contemporary cup-marked stones (Sites 62-68) currently within the forestry and thus allow for a better understanding of this cluster of monuments within the local landscape. The magnitude of impact would be Medium. The level of effect would be Minor- Moderate and **not significant**.

Predicted Cumulative Effects

13.7.11 As the appended visualisations (Figures 13.3.4.3) show, Killocraw cup marked stone has existing theoretical visibility with operational cumulative developments at Gigha and Gigha extension located over 17 km to the north. The consented developments at Auchadaduie and the application development at Clachain Glen would also be theoretically visible to the north, although the intervening forests north-east of the monument would likely block any visibility of these cumulative developments. Where visible the cumulative developments would be visible north of the monument and not in the same view as the proposed development. The proposed development would increase the arc of view in which wind farm development would be visible from the stone and would also, owing to its greater proximity, appear much larger and more

prominent in scale in comparison to the more distant developments. The interrelationship between the cup-marked stone and other contemporary cup marked stones within the local landscape and forests to the north-east would not be affected by the wider increase in surrounding wind farm development. The magnitude of cumulative impact would be Low. The level of cumulative effect would be Minor and **not significant**.

Effects on Tangy Loch Fortified Dwelling (Site 27)

Receptor Sensitivity

13.7.12 The remains of Tangy Loch Fortified Dwelling (Site 27) are presumed to be the subject of a charter grant by John, Bishop of the Isles to the Earl and Countess of Argyll in 1576 and it is indicated as a dwelling place on maps from the 17th century when the Tangy estate was held by the MacEachan family. The island is constructed of small boulders with traces of an outer kerb. The island was formerly connected to the south-west shore of the loch a causeway paved with stones. The causeway is now submerged and not visible owing to the raising of the level of the loch by about 1.2m in the 18th century in order to facilitate the operation of Tangy Mill (Site 34). The island is thus accessible only by boat and as such the setting of the asset was assessed from the loch shore from where the island appears to be manmade but internal structures cannot be seen or understood.

13.7.13 The dwelling is located within Tangy Loch, which is set within a topographic bowl within the landscape, drained to the west by the Tangy Burn. Commercial forest plantation extends from the hills down to the south-west and south-east shores of the loch, restricting access to the shore from this direction. The defined topographic bowl in which the loch is set creates an enclosed setting for the monument and views out to the wider landscape are limited to glimpses west towards the coast along Tangy Burn when approaching the monument from the north-east. The immediate setting of the dwelling comprises the loch and loch shore with the wider setting extending to include afforested hill slopes to the north and south and views west along the Tangy Burn, including operational turbines at Tangy I and II Wind Farm, towards the coast. The setting of the monument within a waterbody contributes to the understanding of the asset as a defensive monument constructed in an isolated location with excellent surveillance opportunities. Therefore, the enclosed island setting of the monument contributes to an understanding of its cultural value and it is of High sensitivity to changes within its setting.

Predicted Ongoing and Operational Impacts

13.7.14 As shown on the appended photomontage (Figure 13.4.1), the removal of the Tangy I and II turbines and their replacement with those of the proposed development would increase the horizontal and vertical extent in which views of turbines would be seen. All turbines would be visible to hub height. The nearest turbine would be located 947 m from the monument and would thus appear as a prominent feature in views from the island itself and in views towards the island from the loch shore (see Figures 13.3.1.1-4 and Figures 13.3.2.1-3). The associated reduction and restocking of the forestry would also change setting of the monument.

13.7.15 An understanding of this monument as a fortified dwelling is gained from its position within the loch and also in part from its sheltered and enclosed situation within a topographic bowl in the landscape. The proposed development would represent a notable alteration to the setting of the monument beyond those elements which directly contribute to an understanding and appreciation of its cultural value, i.e. the loch itself, but would encroach upon the wider topographic landscape setting. The proposed development would not adversely affect the ability to understand the monument's relationship within its landscape setting and would not alter the key relationship between the monument and the loch within which it is set. The magnitude of impact would be Medium. The level of effect would be Moderate and **significant**.

13.7.16 Although significant, the effect would not be at a level that could threaten the protection of the asset. This is because a large proportion of the dwelling's value lies in its intrinsic characteristics

and in the high research potential offered by its upstanding remains and submerged causeway which would not be affected by the proposed development. Furthermore, the critical relationship between the dwelling, island and loch would not be disrupted.

Predicted Cumulative Effects

13.7.17 The enclosed topographic bowl in which the monument is set restricts views out to the wider landscape and no cumulative developments would be visible from the monument and as such no cumulative effects are predicted.

13.8 Monitoring

13.8.1 There would be no direct effects on known archaeological remains. Any hitherto unknown remains would either be preserved in situ or recorded and removed in advance of construction of the proposed development. Monitoring during operation is therefore not considered necessary.

13.9 Summary

13.9.1 This assessment has considered the likely significant effects on archaeology and cultural heritage assets associated with the construction and operation of the proposed development.

13.9.2 This assessment has identified 46 cultural heritage assets within the site through desk-based assessment. The assets range in date from the prehistoric to the modern period.

13.9.3 A total of 78 Scheduled Monuments, 109 assets on the Non-Statutory Register and one Conservation Area are located within 10 km of the site. Eleven Listed Buildings are located within 5 km of the site. All designated assets and sites of potential national importance, as identified in the HER, within the defined study areas and from which one or more turbines of the proposed development would be visible were assessed for potential operational (settings) effects. Using this method, a total of 98 assets were selected for detailed settings assessment (see Figures 13.2 and 13.3) and site visits were undertaken in February 2018, to establish and assess the current settings of each asset and how the proposed development may affect them.

13.9.4 The proposed development layout and infrastructure have been finalised such as to avoid any direct effects upon known heritage assets within the site and consequently **no significant direct effects** have been identified on known cultural heritage assets during the construction of the proposed development. In some areas the proposed felling of forestry would occur in close proximity to known heritage assets. Within these areas the known heritage assets will be surveyed and fenced off under archaeological supervision prior to the commencement of forestry operations. Sites 3 and 13 are located within areas proposed for re-planting and as such fencing of these assets should be maintained following felling to ensure that the locations of these assets and a buffer around them are not re-planted.

13.9.5 To mitigate the potential for previously unrecorded assets to be impacted during the construction phase, an archaeological watching brief will be maintained on a representative proportion of ground-breaking works across the site. Any remains encountered will either be preserved in situ or will be recorded and removed as appropriate.

13.9.6 Following the completion of construction, no further groundworks would be undertaken and as a consequence no residual direct effects would occur as a result of the construction of the proposed development.

13.9.7 Potential operational effects on the settings of 98 heritage assets have been considered in detail as part of this assessment. Two Moderate and significant operational effects have been identified. In each case the effect, although significant, would not be at a level that would threaten the protection of the asset.

13.9.8 No significant cumulative effects are predicted and consequently there would be no significant residual cumulative effects.

13.9.9 Residual effects on cultural heritage are summarised in Table 13.7

Table 13.7: Summary of Residual Effects			
Likely Significant Effect	**Mitigation**	**Means of Implementation**	**Outcome/Residual Effect**
Construction			
N/A	N/A	N/A	N/A
Operational			
Moderate effect on setting of Killocraw cairn	N/A	N/A	Moderate
Moderate effect on setting of Tangy loch	N/A	N/A	Moderate
Decommissioning			
N/A	N/A	N/A	N/A

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