

11 Cultural Heritage

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11 Cultural Heritage

11.1 Executive Summary

11.1.1 This Chapter considers the environmental effects of the Proposed Development on cultural heritage (historic environment sites and features, archaeology and built heritage), describing the results of a desk-based assessment undertaken by CFA Archaeology Ltd (CFA). The assessment also takes into account comments provided in Scoping Opinions by Historic Environment Scotland (HES) and West of Scotland Archaeology Service (WoSAS), in their capacity as archaeological advisors to South Ayrshire Council (SAC).

11.1.2 The baseline assessment has established that there are 34 known heritage assets that lie either within the site or along the proposed access routes. These assets have mostly been avoided by the design of the wind farm layout, and mitigation has been proposed that would address direct effects upon these and upon previously unrecorded cultural heritage assets. Taking account of the current land-use and historic landscape character of the site and its surroundings, the potential for further archaeological discoveries within the site is assessed as being low to moderate.

11.1.3 The assessment has considered the effect of the Proposed Development on the settings of heritage assets in the wider landscape and one impact has been identified as being significant in EIA terms: an effect of moderate significance on the setting of a possible burial cairn (HER Ref: 11669), determined by WoSAS to be potentially of national importance and assessed on that basis as being of high sensitivity, but that effect would not lead to any diminishing of the cultural significance of the asset concerned.

11.1.4 Two significant cumulative effects resulting from the addition of the Proposed Development to the emerging baseline of operational, consented, and in planning applications have been identified: on Knockinculloch, enclosures on E slope of, 600 m NW of Glenalla (SM 3357) and on a possible burial cairn (HER Ref: 11669), a non-statutory register site identified in the WoSAS HER.

11.2 Introduction

11.2.1 This Chapter considers the environmental effects of the Proposed Development on archaeology and cultural heritage (historic environment sites and features, archaeology and built heritage); hereafter referred to as 'heritage assets'. The Chapter details the results of a desk-based assessment and walkover survey by CFA Archaeology Ltd (CFA) and draws on comments provided by Historic Environment Scotland (HES) and West of Scotland Archaeology Service (WoSAS). The assessment considers the potential direct effects on assets within the site (Inner Study Area), and along the proposed access routes, and the indirect effects of the Proposed Development on the settings of heritage assets in the wider landscape (Outer Study Area).

11.2.2 The specific objectives of the study were to:

- Identify the cultural heritage baseline within and in the vicinity of the site;
- Assess the site in terms of its archaeological potential;
- Consider the potential effects of the construction, operation and decommissioning of the Proposed Development on heritage assets, within the context of the relevant legislation and planning guidance; and
- Consider the potential cumulative effects of the Proposed Development in combination with other existing or proposed developments, upon cultural heritage assets.

11.2.3 The assessment evaluates the effects of the Proposed Development on designated and non-designated heritage assets, including:

- World Heritage Sites;

- Scheduled Monuments and other archaeological features;
 - Listed Buildings and other buildings of historic or architectural importance;
 - Conservation Areas;
 - Gardens and Designed Landscapes; and
 - Historic Battlefields.
- 11.2.4 It assesses the potential effects arising from the Proposed Development on the fabric and setting of heritage assets within the site and the settings of heritage assets in the wider landscape.
- 11.2.5 This chapter is supported by the following figures and technical appendices:
- Figure 11.1: Cultural Heritage: Inner Study Area (including access routes).
 - Figure 11.2: Cultural Heritage: Outer Study Area (including cumulative schemes).
 - Figures 11.3 to 11.11: Cultural Heritage Visualisations.
 - Technical Appendix 11.1: Heritage Assets within the Inner Study Area.
 - Technical Appendix 11.2: Heritage Assets within Outer Study Area and within 5 km of the Proposed Development.
 - Technical Appendix 11.3: Heritage Assets within Outer Study Area and between 5 km and 10 km of the Proposed Development.
- 11.2.6 Where relevant, cross-reference is also made to Landscape and Visual Impact Assessment (LVIA) viewpoints, where these coincide with the locations of heritage assets in the wider landscape.
- 11.2.7 Figures and technical appendices are referenced in the text where relevant.

11.3 Legislation, Policy and Guidelines

Legislation

- 11.3.1 Relevant legislation and guidance documents have been reviewed and taken into account as part of this assessment. Of particular relevance are:
- The Ancient Monuments and Archaeological Areas Act 1979;
 - Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (as amended by Town and Country Planning (Historic Environment Scotland) Amendment Regulations 2015);
 - The Electricity Act (1989) Schedule 9 (paragraph 3);
 - Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013; and
 - Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

Planning Policy

- 11.3.2 National planning policy relevant to archaeology and cultural heritage that has been considered as part of this assessment includes:
- National Planning Framework for Scotland 3 (NPF3) (Scottish Government, 2014);
 - Scottish Planning Policy (SPP) (Paragraphs 135-151) (Scottish Government, 2014);
 - Historic Environment Policy for Scotland (HEPS) (HES, 2019);

- Planning Advice Note 1/2013 (PAN 1): Environmental Impact Assessment (Scottish Government, 2013); and
- Planning Advice Note 2/2011 (PAN 2): Planning and Archaeology (Scottish Government, 2011).

11.3.3 Local planning policies and guidance relevant to archaeology and cultural heritage that have been considered as part of this assessment include:

- South Ayrshire Local Development Plan LDP Policy: Historic Environment;
- South Ayrshire Local Development Plan LDP Policy: Archaeology;
- South Ayrshire Council Supplementary Guidance: Historic Environment; and
- South Ayrshire Council Supplementary Guidance: Wind Energy.

Guidance

11.3.4 Cognisance has been taken of the following best practice guidelines and technical guidance:

- Environmental Impact Assessment Handbook (SNH and HES, 2018);
- Designation Policy and Selection Guidance (HES, 2019b);
- Principles of Cultural Heritage Impact Assessment (IEMA, 2021);
- Standard and Guidance for Historic Environment Desk-Based Assessment (Chartered Institute for Archaeologists, 2017); and
- Managing Change in the Historic Environment: Setting (HES, 2016).

11.4 Consultation

11.4.1 In undertaking the assessment, consideration has been given to the Scoping responses from South Ayrshire Council (SAC) and HES. Further advice on the choice of visualisation viewpoints and visualisation types was provided by HES through post-scoping follow-up consultations. Summaries of the responses are set out in Table 11.1.

Table 11.1 – Scoping Consultation Responses

Consultee	Consultation Response	Applicant Action
Historic Environment Scotland (HES) (12/02/2021) Scoping Opinion	Agreed that the Outer Study Area extending 10 km was acceptable based on the current layout. However, if the layout is altered the radius should be considered in line with new ZTVs.	Noted. A 10 km Outer Study Area has been adopted from outermost of the finalised design turbines.
	Recommended an appropriately detailed ZTV should be used to identify potential setting impacts in the first instance and that consideration should be given to including assets where even though the ZTV indicates that no direct intervisibility would be possible there is the potential for turbines to appear	Noted. Blade tip height and hub height ZTVs have been used to carry out the assessment (Technical Appendices 11.2 and 11.3).

Consultee	Consultation Response	Applicant Action
	<p>in the background of key views towards these assets.</p>	
	<p>Requested focus on:</p> <ul style="list-style-type: none"> • Knockinculloch, Enclosures on E Slope of, 600 m NW of Glenalla (SM 3357) and welcomed visualisations from this asset. 	<p>Noted.</p> <p>This Scheduled Monument, along with others within the Outer Study Area, is included in the assessment (Technical Appendices 11.2 and 11.3).</p> <p>An assessment of the impact on this monument is included in Section 11.7 (paragraphs 11.7.18 to 11.7.21).</p>
	<p>Requested focus on Category A Listed Buildings and Inventory Gardens and Designed Landscapes (GDL):</p> <ul style="list-style-type: none"> • Category A Listed Blairquhan House (LB 19094) and associated Inventory Garden and Designed Landscape; • Category A Listed Kilkerran House (LB 1114) and associated Inventory Garden and Designed Landscape; and • Category A Listed Craigengillan (LB 18793) and associated Inventory Garden and Designed Landscape. 	<p>Noted.</p> <p>These Listed Buildings and GDLs, along with others within the Outer Study Area, are included in the assessment (Technical Appendices 11.2 and 11.3).</p> <p>An assessment of the impact on these three listed buildings and GDLs is included in Section 11.7 (paragraphs 11.7.22 to 11.7.33).</p>
	<p>Requested the following additional visualisations:</p> <ul style="list-style-type: none"> • a photomontage showing the view of Kilkerran House (LB 1114) in its designed landscape setting from the B741; • a photomontage of Blairquhan House (LB 19094) with the hills behind with the memorial obelisk in memory of Colonel James Hunter Blair MP set on the summit of Craigengower (Highgate Hill) to the south-east, 	<p>Noted.</p> <p>Follow-up consultation carried out (with draft wirelines) to confirm viewpoints and agree visualisation requirements (see below).</p>

Consultee	Consultation Response	Applicant Action
	<p>taken from the final mile of the approach from the north; and</p> <ul style="list-style-type: none"> a photomontage demonstrating the impacts on Craigengillan House in its designed landscape. 	
<p>HES (23/03/2021) Follow up Consultation response (via email dated 05/03/2021)</p>	<p>Agreed wirelines acceptable from:</p> <ul style="list-style-type: none"> Knockinculloch, enclosures on E slope of, 600 m NW of Glenalla (SM 3357); Knockdon, enclosure 700 m NE of (SM 7491); Munteoch, settlement and field systems (SM 5200); Blairquhan GDL (GDL 063); Craigengillan GDL (GDL 111); and Kilkerran GDL (GDL 238). 	<p>Noted.</p> <p>Wireline visualisations are provided for each of these assets from locations agreed with HES (Figures 11.3 to 11.8).</p> <p>These are referenced where applicable in Technical Appendices 11.2 and 11.3 and in the assessments in Section 11.7.</p>
<p>West of Scotland Archaeology Service (21/01/2021) Scoping Opinion</p>	<p>Confirmed that the topics cited, and the proposed actions, would appear appropriate and agreeable. But noted that, due to Covid-19 restrictions, they were without access to GIS, database, and archive systems so could not check on all details of the scoping report at that time.</p>	<p>Noted.</p> <p>Post-scoping consultation was carried out (25/06/2021) to obtain HER data extract for all sites within 5 km of the Proposed Development.</p>
<p>West of Scotland Archaeology Service (05/05/2021) Pre-application Consultation (SAC)</p>	<p>Advised that a walk over survey or sufficiently detailed Lidar survey of the application area is required.</p>	<p>Noted.</p> <p>Walk over surveys of the site were carried out on 16 and 17 September 2020 and surveys of access route options were carried out on 29 to 30 April 2021.</p> <p>Lidar imagery, which covers a small part of the site and part of the access route, was examined to identify possible low relief features not recorded previously.</p>
	<p>Advised assessment of likely direct impacts for buried archaeology required.</p>	<p>Noted.</p> <p>Provided in Section 11.6 and 11.7 below.</p>

Consultee	Consultation Response	Applicant Action
	Agreed with mitigation including the appointment of an archaeological clerk of works (ACOW) and further consultation on mitigation.	Noted. Mitigation measures are set out in Section 11.8.
	Require setting assessment of “C” and “V” category sites from the former non-statutory register (NSR) of sites of schedulable quality out to 5 km distance.	Noted. These classifications are included in the assessment as requested (Technical Appendix 11.2). Wireline visualisations are provided for three of these (Figures 11.9 - 11).

11.5 Assessment Methodology and Significance Criteria

Study Area

11.5.1 Following the approach proposed in the Scoping Report, the archaeology and cultural heritage assessment has adopted the following defined study areas:

- The Inner Study Area (Figure 11.1): the main body of the Proposed Development site (including proposed access routes, from the north and from the west), defined by the site red line boundary, within which turbines and associated infrastructure are proposed forms the study area for the identification of heritage assets that could receive direct effects arising from the construction of the Proposed Development and informing the archaeological potential of the site.
- The Outer Study Area (Figure 11.2): a wider study area extending 10 km from the outermost proposed turbine locations is used for the identification of cultural heritage assets whose settings may be affected by the Proposed Development (including cumulative effects). Views towards any assets identified as having settings sensitive to change have been considered, even where no visibility is predicted from the asset. The wider ZTV was also assessed to identify any designated assets specifically requested by consultees, and/or beyond 10 km that have settings that may be especially sensitive to the Proposed Development.

Desk Study

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

- Historic Environment Scotland Spatial Data Warehouse (HES, 2020a): provided up-to-date data on the locations and extents of Scheduled Monuments, Listed Buildings, Conservation Areas, Inventory Garden and Designed Landscapes and Inventory Historic Battlefields;
- The National Record for the Historic Environment (NRHE; Canmore) (HES, 2020b): for any information additional to that contained in the HER;
- Relevant bibliographic references were consulted to provide background and historic information;
- Map Library of the National Library of Scotland: for Ordnance Survey maps and other historical map resources;

- Historic Land-Use Assessment Data for Scotland (HLA Map) (HES, 2020c): for information on the historic land use character of the site and the surrounding area;
- Modern vertical aerial photographic imagery (Google Earth, Bing Maps, and ESRI World Imagery) was examined to obtain information on current land-use and evidence for continuing survival of sites and features identified through other desk-based resources; and
- Lidar data available through the Scottish Remote Sensing Portal: for the identification of features of potential archaeological interest within the Proposed Development site.

Field Surveys

- 11.5.3 A walk-over field survey of the proposed wind farm development area was carried out on the 16 and 17 September 2020, by two experienced surveyors in overcast conditions, with good visibility. A subsequent survey of two proposed site access routes from the public road to the proposed wind farm development area was carried out on 29 and 30 April 2021.
- 11.5.4 Site visits to heritage assets in the Outer Study Area were undertaken on the 30 April 2021 to assess, with the aid of draft wireline visualisations, the potential impact of the Proposed Development on their settings. Site visits included those assets specifically identified by consultees as requiring assessment and those identified through analysis of the blade tip height ZTV where it was considered, on the basis of professional judgement, that the impact on their settings could be significant.

Assessment of Potential Effect Significance

- 11.5.5 The effects of the Proposed Development on heritage assets have been assessed based on their type (direct effects, impacts on setting and cumulative impacts) and nature (adverse or beneficial). The assessment takes into account the relative value/sensitivity of the heritage asset, and its setting, and the magnitude of the predicted impact.
- Adverse effects are those that detract from or reduce cultural significance or special interest of heritage assets.
 - Beneficial effects are those that preserve, enhance, or better reveal the cultural significance or special interest of heritage assets.

Assigning Sensitivity to Heritage Assets

- 11.5.6 Cultural heritage assets are given weight through the designation process. Designation ensures that sites and places are recognised by law through the planning system and other regulatory processes. The level of protection and how a site or place is managed varies depending on the type of designation and its laws and policies (HES, 2019b). Table 11.2 summarises the relative sensitivity of key heritage assets relevant to the Proposed Development.

Table 11.2 – Sensitivity of Heritage Asset

Sensitivity of Asset	Definition/Criteria
High	Assets valued at an international or national level, including: <ul style="list-style-type: none"> ▪ World Heritage Sites; ▪ Scheduled Monuments; ▪ Category A Listed Buildings; ▪ Inventory Gardens and Designed Landscapes; ▪ Inventory Historic Battlefields; and ▪ Non-designated assets that meet the relevant criteria for designation (including heritage assets in the WoSAS HER with non-statutory register (NSR) codes C and V).
Medium	Assets valued at a regional level, including: <ul style="list-style-type: none"> ▪ Archaeological sites and areas that have regional value (contributing to the aims of regional research frameworks); ▪ Category B Listed Buildings; ▪ Non-Inventory Designed Landscapes (NIDL), where these are recorded in Council HERs; and ▪ Conservation Areas.
Low	Assets valued at a local level, including: <ul style="list-style-type: none"> ▪ Archaeological sites that have local heritage value; ▪ Category C Listed Buildings; and ▪ Unlisted historic buildings and townscapes with local (vernacular) characteristics.
Negligible	Assets of little or no intrinsic heritage value, including: <ul style="list-style-type: none"> ▪ Artefact find-spots (where the artefacts are no longer in situ and where their provenance is uncertain); and ▪ Poorly preserved examples of particular types of minor historic landscape features (e.g. quarries and gravel pits, dilapidated sheepfolds, etc.).

Assessing Magnitude of Impact

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

Table 11.3 – Magnitude of Impact

Magnitude of Impact	Definition/Criteria	
	Adverse	Beneficial
High	<p>Changes to the fabric or setting of a heritage asset resulting in the complete or near-complete loss of the asset's cultural significance.</p> <p>Changes that substantially detract from how a heritage asset is understood, appreciated, and experienced.</p>	<p>Preservation of a heritage asset in situ where it would otherwise be completely or almost completely lost.</p> <p>Changes that appreciably enhance the cultural significance of a heritage asset and how it is understood, appreciated, and experienced.</p>
Medium	<p>Changes to those elements of the fabric or setting of a heritage asset that contributes to its cultural significance such that this quality is appreciably altered.</p> <p>Changes that appreciably detract from how a heritage asset is understood, appreciated, and experienced.</p>	<p>Changes to important elements of a heritage asset's fabric or setting, resulting in its cultural significance being preserved (where this would otherwise be lost) or restored.</p> <p>Changes that improve the way in which the heritage asset is understood, appreciated, and experienced.</p>
Low	<p>Changes to those elements of the fabric or setting of a heritage asset that contribute to its cultural significance such that this quality is slightly altered.</p> <p>Changes that slightly detract from how a heritage asset is understood, appreciated, and experienced.</p>	<p>Changes that result in elements of a heritage asset's fabric or setting detracting from its cultural significance being removed.</p> <p>Changes that result in a slight improvement in the way a heritage asset is understood, appreciated, and experienced.</p>
Negligible	<p>Changes to fabric or setting of a heritage asset that leave its cultural significance unchanged and do not affect how it is understood, appreciated, and experienced.</p>	

Assessment of Effects on Setting

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

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

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

11.5.9 The guidance also advises that:

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

- 11.5.10 The guidance recommends that there are three stages in assessing the impact of a development on the setting of a historic asset or place:
- Stage 1: identify the historic assets that might be affected by the Proposed Development.
 - Stage 2: define and analyse the setting by establishing how the surroundings contribute to the ways in which the historic asset or place is understood, appreciated, and experienced.
 - Stage 3: evaluate the potential impact of the proposed changes on the setting, and the extent to which any adverse impacts can be mitigated.
- 11.5.11 The turbine blade tip and hub height ZTVs for the Proposed Development have been used to identify those heritage assets from which there would be theoretical visibility of one or more of the proposed turbines and to assess the degree of potential visibility. Consideration was also given to designated heritage assets where there is no predicted visibility from the asset but where views of or across the asset are important factors contributing to its cultural significance. In such cases, consideration was given to whether the Proposed Development could appear in the background of those views.
- 11.5.12 Scheduled Monuments, Category A and B Listed Buildings, Conservation Areas, Inventory Gardens and Designed Landscapes, Inventory Historic Battlefields, and other, where present within the blade tip height ZTV, are included in the assessment. These assets are included in the tabulated assessments in Appendices 11.2 and 11.3 and they are shown on Figures 11.2 and 11.3. There are no World Heritage Sites nearby that would be adversely affected by the Proposed Development.
- 11.5.13 Category C Listed Buildings, which are of local value (low sensitivity) and generally have localised settings, that lie within the blade tip height ZTV and within 5 km of the outermost turbines have been included in the assessment. Heritage assets described in the HER as being potentially of national importance (NSR codes C and V) within 5 km of the outermost turbines have also been included in the assessment. Non-inventory designed landscapes (NIDLs), which are derived from map evidence and recorded in the Ayrshire Designed Landscapes Survey Report (2009), within 5 km of the outermost turbines have also been included in the assessment. Although it mostly lies more than 5 km from the Proposed Development, Cloncaird (NIDL) is included in the assessment (Appendix 11.3) because its southern end just clips the 5 km buffer, and it adjoins both Blairquhan GDL and Straiton CA.
- 11.5.14 Where it has been determined that the setting of an asset is such that there is no potential for it to be affected by the presence of the Proposed Development (including all assets of negligible sensitivity and Category C Listed Buildings, NSR Sites, and NIDLs more than 5 km from the Proposed Development), the asset has not been considered further. For the remaining assets, the magnitude of impact on the setting was assessed according to the thresholds in set out in Table 11.3.

Criteria for Assessing the Significance of Effects

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

11.5.16

Table 11.4 – Significance Criteria

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

11.5.17 Major and moderate effects are considered to be 'significant' in the context of Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA Regulations). Minor and negligible effects are considered to be 'not significant'.

Cumulative Assessment

11.5.18 The assessment of cumulative effects on heritage assets is based upon consideration of the effects of the Proposed Development on the settings of assets with statutory designations and non-statutory designations, in addition to the likely effects of other operational, under construction, consented and proposed (at the application stage) developments. For this assessment, operational and consented developments, including those under construction, are taken to form part of the baseline against which the effect of the Proposed Development is assessed. Other proposed developments that have validated planning applications are considered to form part of the potential cumulative baseline. Proposed developments that are at the scoping stage, with the exception of the proposed Carrick Wind Farm, adjoining the southern boundary of the Proposed Development, are excluded from the assessment as there is insufficient information on the proposed scale and size or configuration to reliably assess the potential cumulative impact, and uncertainty over whether they will be progressed to a formal application.

11.5.19 The assessment takes into account the relative scale (i.e. size and number of turbines) of the identified developments, their distance from the affected assets, and the potential degree of visibility of the various developments from the assets under consideration.

Requirements for Mitigation

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

11.5.21 The emphasis in Planning Advice Note 2/2011: Planning and Archaeology (PAN2) is for the preservation of important remains in situ where practicable and by record where preservation is not possible. The mitigation measures presented below (paragraphs 11.8.1 to 11.8.14) therefore take into account this planning guidance and provide various options for protection or recording and ensuring that, where practical, surviving assets are preserved intact to retain the present historic elements of the landscape.

11.5.22 Historic Environment Policy for Scotland 2019 (HEPS) also contains policies (notably HEP2 and HEP4) that are relevant for conservation and preservation of the historic environment. HEP2 requires that decisions affecting the historic environment should ensure that its understanding and enjoyment as well as its benefits are secured for present and future generations. HEP4 requires that changes to specific assets and their context should be managed in a way that protects the historic environment. Opportunities for enhancement should be identified where appropriate. If detrimental impact on the historic environment is unavoidable, it should be minimised. Steps should be taken to demonstrate that alternatives have been explored, and mitigation measures should be put in place.

Assessment of Residual Effect Significance

- 11.5.23 The assessment of the significance of residual effects takes into account the mitigation proposed and the effectiveness of that mitigation to avoid, reduce or offset the predicted effects. Where a predicted impact is avoided through micro-siting the Proposed Development would result in no residual effect. Where an asset cannot be avoided but where the proposed mitigation would ensure that the affected asset is subject to an appropriate level of archaeological investigation and recording, resulting in its preservation by record, the significance of residual effect is accordingly reduced. Where an asset (usually one of little or no heritage importance and negligible sensitivity) is lost without any mitigation, the residual effect remains the same as the predicted effect; in all such cases the residual effect (major magnitude impact (Table 11.3) on an asset of negligible sensitivity (Table 11.2)) would be no more than minor adverse (not significant in EIA terms).

Limitations to Assessment

- 11.5.24 The desk-based assessment draws on evidence taken from historic maps, cross referenced with modern aerial photography, and lidar imagery, and some grid co-ordinates are approximations based on that analysis. These sites were visited in the field and grid coordinates corrected where necessary.
- 11.5.25 Not all heritage assets, where potential impacts on their settings were considered likely, were visited. This was due to them lying on third party land and being some distance from readily available access routes, and because the site visits were carried out during the period of Covid restrictions. Where assets were not visited directly, vantage points from where the assets could be viewed from public roads were used to gain an appreciation of the character of their settings. Other available resources, including current Ordnance Survey maps and modern aerial photographic and terrain modelling resources (Google Earth Pro), were used to obtain an understanding of key elements of their settings such as their positions in the landscape and views and vistas obtainable from the assets. The lack of direct site visits to the heritage assets did not adversely affect the assessment of their baseline settings.

11.6 Baseline Conditions

Heritage Assets within the Inner Study Area (Figure 11.1; Appendix 11.1)

- 11.6.1 Thirty-four heritage assets have been identified within the Inner Study Area. The assets are mainly associated with medieval or later settlement and agrarian activity. One prehistoric site (a burnt mound) is recorded within the Inner Study Area and one asset (a natural mound) is considered potentially to have been used in the medieval period.
- 11.6.2 Numbers in brackets and in bold in the following text refer to the heritage assets shown on Figure 11.1, and they are described in detail in Appendix 11.1.

Designated Heritage Assets

- 11.6.3 There are no Scheduled Monuments or Listed Buildings within the Inner Study Area, and no part of the Inner Study Area falls within a Conservation Area, Inventory Garden and Designed Landscape or Inventory Historic Battlefield.

Non-designated Heritage Assets

Prehistoric

- 11.6.4 A HER entry records that a burnt mound (**30**) was recorded during a walk-over survey in advance of forestry creation at Dyke Farm (Ward, 2001). The recorded location is alongside an unnamed watercourse on the west side of Cawin Hill, south of 'Cawin' Farm. Field survey did not record the baseline condition of the burnt mound as its recorded location lies outwith the original survey corridor. There is though no reason to doubt the reliability of the original surveyor's identification.

As remains of probable prehistoric activity associated with domestic settlement, the burnt mounds are considered as being of heritage value at a regional level and to be of **medium** sensitivity.

Medieval Period

- 11.6.5 A natural mound (**10**) at Linfairn is recorded in the HER as being either the possible site of a ‘moot-hill’ (meeting point) or a defensive mound. No evidence has been found to date to confirm either interpretation, but the HER notes that the mound is typical of the sort of natural feature that is known to have been exploited as a moot-hill in the medieval period. As such, the mound is assessed to potentially be a heritage asset of value at the local level and to be of **low** sensitivity.

Post-Medieval Period

Farmsteads and Other Buildings

- 11.6.6 The HER records the presence of a former farmstead (**1**) located at a junction of the Knockoner and Palmullan Burns, to the south-west of Linfairn Farm (**25**). The HER records that a settlement, annotated ‘Knockonnyr’ is depicted at this location on Pont’s map (1583-1614) and the settlement continues to be shown on historic maps up until Thomson 1845. Knockoner is not shown or recorded as a farmstead on the Ordnance Survey 1st edition map (1859), so must have been abandoned prior to that date. Field survey identified the remains of at least three buildings (**1e-1g**) and a possible turf-built structure (**1d**) clustered together to the west of the Knockoner Burn, along with an area of rig and furrow cultivation (**1a**), to the north-west, and scattered fragments of stone and turf banks (**1b-1c, 1h**), all of which likely formed a field system surrounding the farmstead. Further south on the higher slopes of ‘The Standard’ and ‘The Red Glen’, along the western side of the Knockoner Burn, are areas of improved pasture with associated fragments of stone and turf banks (**1i-1m**) which are most likely to be remnants of fields, or enclosures, associated with the former farmstead. A later drystone walled enclosure (**1n**), which is depicted on the Ordnance Survey 1st edition map (1859) now surrounds the farmstead buildings. Two of the field banks (**1l**) were noted to continue outwith the Inner Study Area, running to the edge of commercial forestry plantation at ‘The Standard’, suggesting that the field system originally continued along the northern slopes of the hill. The former settlement and associated remains (i.e. building footings, field banks and rig and furrow cultivation) are common features that survive in upland areas of Ayrshire and individually they are considered to be of value at a local level and of low sensitivity. Together, however, they form the coherent remains of an early post-medieval farmstead, with origins in the 16th century, and have potential to provide information on both the layout and development of the settlement and its associated land-use. The site is recorded in the HER as being potentially of ‘national importance’; in recognition of which, the farmstead remains are collectively assessed as being of **high** sensitivity.
- 11.6.7 A farmstead (**25**), annotated ‘Linfairn’, is depicted on the Ordnance Survey 1st edition map (1859) on the lower slopes of the Palmullan Burn, and continues to be shown on subsequent maps. A settlement, annotated ‘Linfern’, is shown at the same location on Roy’s ‘Military Map of Scotland’ map (1747-55) and it is marked as ‘Leffinairn’ on Blaeu’s map of 1654. The farmstead continues to be occupied and is in use as a working farm. As a historic farmstead of the local historic landscape with origins in the 16th century and still in use, the farmstead is considered as being of heritage value at a local level and to be of **low** sensitivity.
- 11.6.8 A long rectangular building and an associated enclosure (**27**), annotated ‘Halfmark’, is depicted on the Ordnance Survey 1st edition map (1859) immediately west of the Genoch Burn. The building is shown as unroofed on the 2nd edition map (1897) indicating that it had been abandoned by this date. No upstanding remains of the building or the enclosure now survive within an improved pasture field. However, there is some potential for buried remains of the building to survive, which could contain archaeological information regarding the buildings date and function. If buried remains were to survive, these would be considered to be of heritage value at a local level and to be of **low** sensitivity.
- 11.6.9 Field survey along the northern access route recorded remains of a small farmstead (**32**) in an unplanted area within commercial forestry west of Cawin Hill. The farmstead is depicted on the Ordnance Survey 1st edition map (1859), named as ‘Cawin’, and now survives only as stone wall

footings. As remains of a historic farmstead of the local historic landscape with probable origins in the late-18th or early-19th century, the farmstead is considered as being of heritage value at a local level and to be of **low** sensitivity.

- 11.6.10 Remains of a small building (**33a**) and possibly associated enclosure (**33b**) are recorded in the HER and were found during the field survey. They comprised turf covered wall footings and the enclosure is largely overlain now with commercial forestry. It is likely that the building was associated with the nearby historic farmstead at 'Cawin' (**32**) and, as such, is assessed as being of heritage value at a local level and to be of **low** sensitivity.
- 11.6.11 Field survey identified the remains of three buildings (**5**, **6** and **8**), two of which may be of turf construction, and a possible building platform (**10**) spread along the Sheil Burn. These are potentially remains of shieling huts, associated with former summer grazing activity, and the name of the burn (Sheil Burn) is suggestive of a long association with summer grazing in this area. Shieling huts are considered to be of medieval or later date, although some excavated examples have been demonstrated to have prehistoric origins (Gilmour & Church, 2002; Carter et al., 2005). As a small group of buildings, remnants of past agrarian activity, the shieling huts are considered to be of heritage value at a local level and to be of **low** sensitivity.

Sheep Management Features

- 11.6.12 Field survey recorded the presence of four sheepfolds (**2**, **13**, **20** and **22**) and one sheep shelter (**18**) surviving in generally good condition. As generally well-preserved features of the local historic farming landscape, the upstanding sheepfolds (**2**, **13**, **20** and **22**) and the sheep shelter (**18**) are considered to be of heritage value at a local level and to be of **low** sensitivity.
- 11.6.13 One other sheepfold (**4**), recorded from modern aerial photographs, was found to have been recently demolished. As no remains survive, the former site of this sheepfold is considered to be of little or no heritage value and to be of **negligible** sensitivity.
- 11.6.14 Poorly preserved remains of a sheepfold (**34**) were recorded during the field survey along the western access route abutting a drystone wall. The sheepfold has been truncated by construction of the existing forestry track and survives only as tumbled wall remains. It is assessed as having little or no heritage value and to be of **negligible** sensitivity.
- 11.6.15 The low relief remains of a U-shaped enclosure (**12**), were recorded just south of the Sheil Burn and close to sheepfold (**13**). The enclosure is defined by a low turf bank, surviving to 0.2 m high and difficult to define, but enclosing an area 12 m long by 8 m wide. It is also located close to a possible shieling/building platform (**10**) and may be associated with medieval or post-medieval agrarian activity in the area, possibly a former sheep milking bucht. It is considered to be a fairly rare feature in this area and to be of heritage value at a local level and to be of **low** sensitivity.

Banks and Dykes

- 11.6.16 Field survey recorded remains of a number of stone and turf banks (**6b**, **7**, **11**, **15** and **16**) within upland rough pasture areas and alongside small watercourses. The banks are not shown on the Ordnance Survey 1st edition map (1859) and are therefore likely to be relict remains of earlier pre-improvement field systems or to be related to sheep husbandry. These fragmentary or poorly preserved remains are assessed as having little or no intrinsic heritage value and to be of **negligible** sensitivity.
- 11.6.17 Field survey recorded two walls (**21a** and **21b**), to the west of the Palmullan Burn. Both are of drystone construction. The first (**21a**) survives in a tumbled condition, while the second (**21b**) is well-preserved, standing to its original height and abutting a sheepfold (**22**). Both walls are depicted on the Ordnance Survey 1st edition map (1859) and were likely constructed as part of agricultural improvement activities in the 19th century. As components of the former farming landscape, they are considered to be of heritage value at a local level and to be of **low** sensitivity.
- 11.6.18 A sinuous field bank (**26a**) is visible on the lower slope of 'Halfmark Rig' on modern aerial photographs, in an area of improved pasture adjacent to the Genoch Burn. Field survey identified a second associated field bank (**26b**) running east to west and down slope from the first (**26a**). The

field banks, which survive up to 0.5 m high and up to 0.7 m wide, are not shown on any historic maps, but they appear to be part of an early phase of a field system associated with Linfairn Farm (25). Therefore, as remains possibly associated with the 18th century field system, the field banks are considered to be of heritage value at a local level and to be of **low** sensitivity.

- 11.6.19 A field system (28a), south of Knockskae Farm, was detected in lidar imagery. Traces of the field banks, now heavily ploughed down, were found during the field survey. The field system, as visible in the lidar imagery, comprises a pattern of six conjoined fields (one large and four small) that is not shown on the Ordnance Survey 1st edition map (1859) or on the 2nd edition map (1897), on both of which a track is shown crossing a large, enclosed field. The field pattern must therefore be of an earlier date. It is possible that this is a field system associated with a farm named as 'Glen Alla' on Roy's Military Survey of Scotland map (1747-55). Remains of a small settlement or farmstead (28b) were recorded during field survey for the proposed access routes, but this lies outwith the Proposed Development site. Although poorly preserved, as vestigial remains possibly associated with the 18th century field system, the field banks are considered to be of heritage value at a local level and to be of **low** sensitivity.

Cairns

- 11.6.20 Field survey recorded three small cairns (9, 14 and 19), in areas of rough pasture around 'Big Benyaw' and 'Clashverains'. These are likely to be shepherd's cairns (or marker cairns), used to navigate or demarcate upland grazing areas. They are relict features associated with historic pastoral farming practices and are considered to be of heritage value at a local level and to be of **low** sensitivity.
- 11.6.21 What may be the remains of two clearance cairns (17a and 17b) were found during field survey, in an area of rough grassland on the lower slopes of Big Benyaw. Both are turf covered with occasional stones visible, suggesting that they have some age to them. The cairns were recorded at around 300 AOD and it is unlikely that at that altitude they were associated with arable farming; it is more likely that they were created during the clearing of pastureland to aid animal grazing. They are relict features possibly associated with historic pastoral farming practices and are considered to be of heritage value at a local level and to be of **low** sensitivity.
- 11.6.22 A cluster of 25 small cairns (31), to the south of 'Cawin' Farmstead (32) is recorded in the HER. Field survey found some scattered cairns around the former farmstead but recorded that forestry plantation around the farmstead has likely destroyed most of those previously identified. It is likely that these represent field clearance around, and associated with, the farmstead and, through association with the farmstead, those that survive are considered as being of heritage value at a local level and to be of **low** sensitivity.

Miscellaneous

- 11.6.23 The HER records that a stone (23) at Linfairn Farm (25) marks the spot where Covenanter Thomas McHaffie was killed (Thomson, 1903). The stone is a recumbent stone boulder alongside a farm track, and it reputedly bears a small natural depression which local legend asserts is McHaffie's handprint. The stone, which has no archaeological significance, was found during the field survey to be as described in the HER. As a local landmark associated with the 17th century Covenanters movement, and commemorating a local historical event, the stone is considered to be of heritage value at a local level and to be of **low** sensitivity.
- 11.6.24 A road (3) running from 'Wigton to Damallentoun' is shown on Roy's map (1747-55) running west of 'Linfairn' (25) and east of 'Knockonner' (1). The actual route of the road is not clear from Roy's map, although it is likely to have followed a similar alignment to that of a trackway shown on the Ordnance Survey 1st edition map (1859) running from Linfairn Farm (25) along the south side of the Palmullan Burn to 'Red Glen' and then continuing south to 'Burnside'. A trackway, on a similar alignment is depicted on Johnson's map of 1828 and Thomson's map of 1845. Today the trackway survives as a well-used gravelled farm access track running from Linfairn Farm (25) along the south side of the Palmullan Burn to the former farmstead at Knockonner (1) and then continues south to 'Red Glen', as a poorly defined hill path, where it peters out in an area of commercial forestry. As a

former historic road through the hill country running from Wigton to Dalmellington, the trackway is considered to be of heritage value at a local level and to be of **low** sensitivity.

- 11.6.25 A circular feature (**29**) visible in lidar imagery was found during field survey to be a roughly circular platform with no obvious structural features other than a slight hollow in its centre. It is possible that this is simply the site of a stock feeding station. It is assessed as having little or no heritage value and to be of **low** sensitivity.

Historic Landscape Character

- 11.6.26 The Proposed Development is located within the lands of Linfairn Farm, on the south-western side of the Water of Girvan. HLA Map classifies the majority of the historic land-use within the Inner Study Area as 'Moorland and Rough Grazing' with a band of 'Agriculture and Settlement' across the northern end of the Inner Study Area and two areas of 'Woodland and Forestry', an L-shaped 20th century plantation near the north-western edge, and a belt of 18th to 20th century managed woodland along the northern edge. These historic land uses continue largely unchanged; the north-eastern corner of the Inner Study Area, around Linfairn Farm, is currently under arable cultivation, with the north-western corner in partially improved pasture. The majority of the Inner Study Area, south of the main complex of farm buildings at Linfairn, is rough pasture on unimproved undulating upland, rising gradually, and fairly steeply, to the south. The land through which both proposed access routes pass is in current use as commercial forestry plantation (Knockskae/Glen Alla and Dyke Farm).
- 11.6.27 Roy's 'Military Survey of Scotland' map (1747-55) depicts the majority of the Inner Study Area as an uncultivated upland landscape. Areas of cultivation are depicted on the north and east-facing slopes of the hills south and west of the Water of Girvan, around the buildings of 'Linfearn' Farm (**25**) and 'Black Gainoch' (Black Genoch). The farmstead at 'Knockonner' (**1**) is also shown, together with another 'Glenalla' on either side of the 'Burn of Linfearn' (Palmullan Burn). A track, annotated as the 'Road to Damallintoun' (**3**), runs south-west from 'Linfearn' across the Inner Study Area. Other farming settlements outside the Inner Study Area are similarly restricted to the fertile and easily cultivable land along the river valleys. Johnson's map of 1828 is not well detailed, but depicts the farms at Linfairn and Knockoner, labelled as 'Glenphairn' and 'Knockonar' respectively. The Ordnance Survey 1st edition map (1857) shows a largely unenclosed moorland and rough grazing pasture landscape with enclosed fields around Linfairn Farm. The route to Dalmellington, depicted by Roy, is also shown on the Ordnance Survey 1st edition map, running west from Linfairn and then south-west alongside the Palmullan Burn.

Archaeological Potential

- 11.6.28 The desk-based assessment, and walkover survey, have shown that the heritage assets that have been identified within the Inner Study Area are almost exclusively of post-medieval date and relate to upland farming practices and livestock management. No remains of prehistoric date have been identified within the proposed wind farm site and only limited evidence suggests any possible medieval activity. There is some recorded evidence of possible prehistoric settlement activity along the northern access route, in the form of possible burnt mounds recorded during pre-afforestation survey in 2001. The recorded location of one of these (**30**) lies close to the route of the proposed northern access track where it passes through an area that is currently in use as commercial forestry plantation (Dyke Farm). The 2001 survey recorded a total of ten possible burnt mounds along small watercourses around Cawin Hill.
- 11.6.29 Historic 18th and 19th century maps show that land-use within the Inner Study Area was divided between cultivated ground, later enclosed farmland, around the farmsteads of Linfairn (**25**) and 'Black Genoch', and unimproved hill pasture on the higher ground to the south and south-west of Linfairn. Earlier maps also show that this has been a settled farming landscape since at least the early 17th century and very probably earlier, as Blaeu's Atlas (1654) is based on the manuscript maps of Timothy Pont (ca. 1583-96), the farmsteads being located on the lower lying ground close to watercourses.

- 11.6.30 Taking into account the current land-use and the evidence for occupation and settlement within the Inner Study Area, it is assessed that there is a low to moderate potential for hitherto undiscovered archaeological remains to be present within the site or along either of the proposed access routes. Although it cannot be ruled out that previously unrecorded archaeological remains will be present within the site or along either of the access routes, it is probable that any that do survive are most likely to be of post-medieval date and associated with farming activities.

Designated Heritage Assets within the Outer Study Area (Figure 11.2; Appendices 11.2 and 11.3)

- 11.6.31 Within 10 km of the Proposed Development there are ten Scheduled Monuments (three with predicted theoretical visibility of the Proposed Development); eight Category A Listed Buildings (one with predicted theoretical visibility); 65 Category B Listed Buildings (32 with predicted theoretical visibility); three Conservation Areas (all with some degree of predicted theoretical visibility); and four Inventory Gardens and Designed Landscapes (three with some degree of predicted theoretical visibility).
- 11.6.32 Within 5 km of the Proposed Development there are 11 NSR Sites (eight with predicted theoretical visibility), one NIDL, and 20 Category C Listed Buildings (all with some degree of predicted theoretical visibility). An additional NIDL (Cloncaird) is included in the assessment (Appendix 11.3) because, although it mostly lies more than 5 km from the Proposed Development, its southern end just clips the 5 km buffer, and it adjoins both Blairquhan GDL and Straiton CA.

11.7 Potential Effects

Construction

- 11.7.1 Any ground-breaking activities associated with the construction of the Proposed Development, (such as those required for turbine bases and crane hardstandings, access tracks, cable routes, compounds, borrow pits, etc.) have the potential to disturb or destroy features of cultural heritage interest within the site. Other construction activities, such as vehicle movements, materials storage, soil and overburden storage and landscaping also have the potential to cause permanent and irreversible effects on the cultural heritage of the site.
- 11.7.2 The Proposed Development layout has been designed to avoid impacts on heritage assets as far as possible (Figure 11.1), but four heritage assets would be directly affected by construction works associated with the Proposed Development. These are:
- Remains of a small field and associated field banks (**1l-m**) would be directly affected by construction of turbine T1. This isolated field and associated banks is individually assessed as being of low sensitivity, as an isolated component of a historic farmstead (**1a-h** and **1n**). The farmstead is assessed as being of high sensitivity as it is recorded as potentially of national importance in the HER. Construction of turbine T1 would result in the loss of this small field and the field banks, but this would not detract from the cultural significance of the historic farmstead as a whole. The remains of other fields (**1a-c**, **1h-k** and **1n**) and the remains of the historic farm buildings (**1d-g**), from the crook bend in the Knockronal Burn to the Palmullan Burn to the north, would remain unaffected, preserving the overall integrity of the former farmstead. The impact on this individual field and field banks (**1l-m**) would be of high magnitude, resulting in an effect of **moderate** significance (significant in EIA terms) through the loss of a small component of the historic farmstead. Mitigation measures at the construction stage to offset the effect are outlined in Section 11.8 below.
 - Remains of a drystone wall (**21a**), of low sensitivity, would be crossed by the main site access track. The proposed site access track would directly affect only a short section of the tumbled remains of the wall and would therefore have a low magnitude adverse impact on the integrity of the field boundary as a whole. The resulting effect would be of **minor** significance (not

significant in EIA terms). Mitigation measures at the construction stage to minimise the effect are outlined in Section 11.8 below.

- Remains of a field system (**28a**), of low sensitivity, would be crossed by the site access tracks. Both the northern and western access routes would cross the very denuded and ploughed down remains of a former field system, detected in lidar imagery but barely visible on the ground. The proposed western access track would cross the remains of a north-south aligned field boundary (at 237255, 601247) and the junction of the northern and western access tracks would cross a second, west to east aligned, field boundary (at 137337, 601154). The impact on the field system and field banks (**28a**) would be of medium magnitude, resulting in an effect of **moderate** significance (significant in EIA terms) through fragmentation of the field system, disrupting its integrity. Mitigation measures at the construction stage to offset the effect are outlined in Section 11.8 below.
- A small circular platform (**29**), of low sensitivity, would be intersected by a new track section of the northern access route. The purpose of the platform is not known and there is little visible evidence to provide a proper understanding of its cultural significance. It is evidently though a genuine feature in the landscape and could retain archaeological evidence regarding its character and purpose. The platform would be crossed by a new section of the northern access track and the impact would be of high magnitude, resulting in an effect of **moderate** significance (significant in EIA terms) through loss of the feature. Mitigation measures at the construction stage to offset the effect are outlined in Section 11.8 below.

11.7.3 It has been assessed that there is a low to moderate potential for hitherto undiscovered archaeological remains to be present either within the site or along either of the proposed access routes. Remains of prehistoric date could be encountered but it is more likely that any remains encountered are likely to be of post-medieval date and associated with farming activities.

11.7.4 Taking into account the assessed low sensitivity of most of the known archaeological remains on the site and along the access tracks, and assuming potential impacts of high magnitude arising from construction works, it is assessed that, without mitigation, any adverse direct effects on buried archaeological remains could be of **moderate** significance (significant in the context of the EIA regulations). Mitigation measures at the construction stage are outlined in Section 11.8 below.

11.7.5 A micro-siting allowance of 50 m in all directions is being sought in respect of each turbine and all associated infrastructure in order to address any potential difficulties which may arise in the event that pre-construction environmental/geotechnical surveys identify potential constraints. Although this is unlikely to affect heritage assets identified within the site, consideration will be given to the presence of the identified remains within any decision regarding micro-siting. Mitigation measures at the construction stage to avoid direct impacts are outlined in Section 11.8 below.

Operation

Direct Effects

11.7.6 There are no heritage assets likely to receive a direct effect during operation of the Proposed Development as any required maintenance or replacement works would use the as-built tracks and infrastructure to facilitate such works.

Setting Effects

11.7.7 The Proposed Development could result in adverse effects on the setting of cultural heritage assets, both within the Inner Study Area and in the Outer Study Area, although such effects would diminish with increasing distance from the site. At distances greater than 10 km, it is considered that, in most instances, the Proposed Development would not appreciably alter features of the setting of the

heritage assets that contribute to their cultural significance, neither would it appreciably alter how a heritage asset is understood, appreciated, and experienced.

- 11.7.8 Technical Appendix 11.2 and Technical Appendix 11.3 contain tabulated assessments of the predicted effects on the settings of designated heritage assets from which there is some degree of predicted theoretical visibility of the Proposed Development based on analysis of the hub and blade tip height ZTVs.
- 11.7.9 There are no designated heritage assets beyond 10 km from the Proposed Development that have been identified through appraisal of the blade tip ZTV or notified through consultation with HES and WoSAS that require consideration of potential impacts on their settings.
- 11.7.10 The assessment of operational effects on the settings of heritage assets has been carried out with reference to the layout of the Proposed Development and the locations of the cultural heritage assets shown on Figure 11.2. The criteria detailed in Tables 11.2 (Sensitivity of Heritage Assets), 11.3 (Magnitude of Impact) and 11.4 (Significance of Effect) have been used to assess, in combination with professional judgement, the nature and magnitude of the effects set out in the Technical Appendices.
- 11.7.11 The following discussion addresses those assets where potentially significant adverse effects have been identified through the tabulated assessment and those assets identified by HES as requiring detailed consideration, even where the significance of the predicted effect is assessed as being not significant in EIA terms. The assessments are supported with cultural heritage visualisations (Figures 11.3 to 11.11) and by reference to the LVIA photomontages listed in Table 11.5. The visualisations are referenced in the tabulated assessment set out in Appendices 11.2 and 11.3, where relevant, and are referenced where relevant in the assessment below.

Table 11.5 – Cultural Heritage (CH) Visualisation Viewpoints

Figure Ref.	Figure Title - Asset Name (& Ref No)
Figure 11.3 (CH 1)	Knockinculloch, enclosures on E slope of, 600 m NW of Glenalla (SM 3357)
Figure 11.4 (CH 2)	Knockdon, enclosure 700 m NE of (SM 7491)
Figure 11.5 (CH 3)	Munteoch, settlement and field systems (SM 5200)
Figure 11.6 (CH 4)	Blairquhan GDL (GDL 063)
Figure 11.7 (CH 5)	Craigengillan GDL (GDL 111)
Figure 11.8 (CH 6)	Kilkerran GDL (GDL 238)
Figure 11.9 (CH 7)	Knockoner Burn farmstead (HER Ref: 6128)
Figure 11.10 (CH 8)	Knockoner Cairn (possible) (HER Ref: 11669)
Figure 11.11 (CH 9)	Dalmorton Cairn (HER Ref: 6126)
Figure 6.24 (LVIA VP 4)	Craigengower Monument (LB 19104)
Figure 6.26 (LVIA VP 6)	Straiton, minor road south of settlement (Straiton CA)
Figure 6.27 (LVIA VP 7)	Straiton (Straiton CA)
Figure 6.29 (LVIA VP 9)	Craigengillan GDL, Shear Hill (Craigengillan GDL)
Figure 6.30 (LVIA VP 10)	B7045, west of Kirkmichael (Kirkmichael CA)
Figure 6.41 (LVIA VP 21)	B741 nr Largs Farm (Craigengower Monument (LB 19104))
Figure 6.42 (LVIA VP 22)	B7023 north of Gartlea Farm (Crosshill CA)

Inner Study Area

- 11.7.12 There is one non-designated heritage asset (Knockoner Burn farmstead, HER Ref: **6128**) within the Inner Study Area where consideration of the impact on its setting is warranted. ‘Knockonnry’ (**1d-g**; HER Ref: **4135**) is shown on Robert Gordon’s map (1636-52) and on Joan Blaeu’s Atlas (1654) and evidently has 17th century or earlier origins. It is recorded in the HER as being potentially of national importance and is therefore assessed as being of **high** sensitivity.
- 11.7.13 The remains of the historic farmstead (**1d-g**) and its associated field system (**1n**), lie around 750 m to the north of the nearest proposed turbine (T2). The farmstead comprises the remains of four buildings set within a large area of poorly preserved relict rig and furrow, on low lying sloping ground on the south side of the Palmullan Burn. Several other separate fields and field banks (**1i-m**) lie to the south and uphill from the farmstead remains, between the Palmullan Burn and a crook bend in the Knockcronal Burn. The remains are not widely visible in the landscape and are best appreciated at close quarters, moving around the drystone walled enclosure (**1n**).
- 11.7.14 The farmstead has a localised setting, focussed on the confluence of the Knockcronal Burn with the Palmullan Burn, the higher ground to the south forming part of the wider landscape farmed by the occupants of the farmstead. Cultivation appears to have focused on the area immediately around the farmstead (**1n**) and the outlying fields, which do not contain any evidence of former cultivation, may have been used as pasture grazing. The farmstead’s location beside the watercourses and its association with the Palmullan Glen are important aspects of its setting; the rising ground to the south forms the backdrop against which the farmstead is seen when approached from the north-east, along the historic road (**3**) from Dalmellington to Wigton that runs along Palmullan Glen.
- 11.7.15 The ZTV (Figure 11.2; Appendix 11.3) predicts that eight turbines (six at hub height) would be visible from the farmstead and on approach to it from the north-east along the historic road (**3**). Views looking down onto the site of the farmstead on approach from the south along the historic road would not be affected and views from the farmstead north-west along the Palmullan Glen would not be affected. A wireline view from the farmstead (Figure 11.9a-c) confirms that eight turbines (six at hub height) would be visible from the farmstead. However, the Proposed Development, visible above and beyond the skyline view to the north from the farmstead, would not adversely affect the integrity of its localised setting and it would remain possible for any visitor to understand and appreciate the remains of the farmstead in its setting around the confluence of the Palmullan Burn and the Knockcronal Burn. As such, the impact of the Proposed Development on the setting of Knockoner farmstead is assessed as being one of **low** magnitude (Table 11.3), assessed based on professional judgement to be of **minor** significance (**not significant** in EIA terms). The cultural significance of the farmstead, as a relic of the historic farming landscape with archaeological potential to inform our understanding of the organisation of farms and farming life in the 18th century, would not be diminished by the presence of the Proposed Development.

Outer Study Area

- 11.7.16 There are four designated heritage assets with the Outer Study Area (one Scheduled Monument (Knockinculloch, Enclosures on E Slope of, 600 m NW of Glenalla (SM 3357)), and three Category A Listed Buildings (Blairquhan (LB 19094), Kilkerran House (LB 1114), and Craigengillan (LB 18793)), with associated GDLs, that HES requested be focused upon in the assessment. Each of these is discussed in detail below.
- 11.7.17 The tabulated assessment, presented in Appendices 11.2 and 11.3, identified two NSR Sites within 5 km of the Proposed Development (additional to that discussed above) where detailed consideration of the potential impact on their settings is warranted. These are also discussed below.
Knockinculloch, enclosures on E slope of, 600 m NW of Glenalla (SM 3357) (Figures 11.3a-e (CH 1))
- 11.7.18 This monument, consisting of a large enclosure containing eight or nine smaller enclosures of unknown purpose but presumed to be of medieval or postmedieval date, occupies an area of moorland in a clearing in forestry on the south-east flank of Knockinculloch, to the north of the Palmullan Burn. The Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) assessment (1955) is that the site is a complex series of livestock pens. The site is a

Scheduled Monument, of heritage value at the national level, as an unusual complex of enclosures which has the potential to provide information about agricultural practice and associated economy and it is assessed as being of **high** sensitivity.

- 11.7.19 The monument is partially enclosed by commercial forestry, to the north-west and south sides, but it retains an open aspect to the east along the Palmullan Burn. While it is likely that the location of these presumed livestock pens was important to its creators and those who used it, it is unlikely to have been a visually dominant feature of the landscape. In its present condition, surviving as low-profile, turf-covered banks it is not readily visible from any great distance and is a site best appreciated at close quarters. As such, the site can be considered to have a localised setting where long distance views either to or from the enclosure do not contribute appreciably to its setting.
- 11.7.20 A wireline view from the monument (Figure 11.3a) shows that the Proposed Development (nine turbines at hub height) would be visible in the view eastwards along the valley, the nearest turbine (T1) being 2.5 km from the Scheduled Monument (2.65 km from the viewpoint location). The Proposed Development would be prominent in the view but not dominant in relation to the scale of the monument, neither would its presence adversely affect understanding or appreciation of the supposed function of the site. The Proposed Development would not adversely affect the integrity of the monument's localised valley setting and the view eastwards from the monument would remain one of an open view along a wooded river valley (Figure 11.3a). Views towards the monument when approached from the east, along the Palmullan Burn valley, would be unaffected by the Proposed Development. It would remain possible for any visitor to the monument to understand and appreciate the enclosure and its setting.
- 11.7.21 Overall, the impact of the Proposed Development on the setting of the Knockinculloch enclosures is assessed as being one of **low** magnitude (Table 11.3), assessed based on professional judgement to be of **minor** significance (**not significant** in EIA terms). The cultural significance of the enclosures, as a relic of the historic farming landscape within a modern commercial forestry environment, would not be diminished by the presence of the Proposed Development.
- Blairquhan (LB 19094) and GDL (GDL 063) (Figures 11.6a-e (CH 4))*
- 11.7.22 Blairquhan (LB 19094) is a Category A Listed, mid-19th century mansion style Country House set within a GDL that occupies slightly elevated north-facing ground above the Water of Girvan. The House and the GDL are heritage assets of value at the national level, as an important historic country house and associated grounds, and they are assessed as being of **high** sensitivity.
- 11.7.23 The House is oriented to take advantage of long, landscape views to north from the rear elevation over parkland, towards the Water of Girvan. Views to the south, from the front elevation, are towards Cawin Hill and Bennan Hill but are more constrained by the topography and woodland in the foreground. The GDL, which provides the setting for Blairquhan House, makes a distinctive contribution to the local scenery with its combination of early 19th century parkland and specimen trees, a late 19th century arboretum, and extensive early 20th century amenity woodlands incorporating deciduous trees planted in 17th and 18th centuries. Views over the GDL can be obtained from the north and west and are especially to be appreciated from the B7045, Kirkmichael Road, which skirts the eastern side of the GDL.
- 11.7.24 The ZTV analysis indicates that there is no visibility of the Proposed Development from the House, or from its immediate locality. The Proposed Development would be visible (up to nine turbines at hub height) from farmland in the northern part of the GDL, and from the B7045. However, views of the House from the B7045 are screened by intervening plantations of woodland and direct lines of sight towards the House from this road would not include the Proposed Development in the background. A wireline view (Figure 11.6a), from the B7045 near Cloncaird Castle (LB 7557), shows that in this view from the north eight of the turbines (five at hub height) would theoretically be visible but mostly screened by the intervening topography. Views towards the House from this location are obscured by a combination of the topography and woodland within the GDL and this woodland would provide additional screening of the Proposed Development. Views of the House when approached along the carriage drive are obscured by the woodland through which the drive passes, until the drive emerges from the woodland close to the House, from which location there is

no predicted theoretical visibility of the Proposed Development. The character of the GDL would not be adversely affected by the Proposed Development and the Proposed Development, partly screened by Cawin Hill and Bennan Hill, and 5.6 km distant from the House would not be intrusive in views of the House from within the GDL.

- 11.7.25 Overall, the impact of the Proposed Development on the setting of the Blairquhan House and GDL is assessed as being one of **low** magnitude (Table 11.3), assessed based on professional judgement to be of **minor** significance (**not significant** in EIA terms). The character and cultural significance of the House and GDL, and their contribution to the local scenery of the Water of Girvan valley, would not be diminished by the presence of the Proposed Development.

Craigengillan (LB 18793) and GDL (GDL 111) (Figure 11.7a-e (CH 5))

- 11.7.26 Craigengillan House (LB 18793) is Category A Listed mansion style Country House that stands, alongside a Category A Listed stables block (LB 18794), within a GDL. The House and the GDL are heritage assets of value at the national level, as an important historic country house and associated grounds, and they are assessed as being of **high** sensitivity.

- 11.7.27 The House is oriented to enjoy views to the north-east over parkland and Bogton Loch, across the Doon valley, towards the hills of Pennyarthur Rigg beyond. The GDL, comprised of a mixture of farmland, woodland and moorland, occupies a wooded valley setting and hillsides along the River Doon, south-west of Dalmellington, between Loch Doon in the south and the B741 north of Bogton Loch in the north. There are two Scheduled Monuments within the GDL: Dalnean Hill farmstead (SM 4390) and Bogton Loch airfield (SM 13693), in the northern part of the GDL. Craigengillan House is a notable feature in the landscape when travelling south along the C-class road from Mossdale to Loch Doon, in which view the House is seen set within designed woodland surroundings. The existing Dersalloch Wind Farm is a notable feature of this view lying in the hills behind the view of the House.

- 11.7.28 The ZTV analysis indicates that there would be visibility of the Proposed Development (up to nine turbines at hub height) from limited locations on the higher ground within and around the GDL, notably from the summits of Carwaur and Wee Cairn Hill to the north-west of Craigengillan House (e.g. Figure 6.29: LVIA VP 9). There is no predicted visibility of the Proposed Development from the House or from its immediate vicinity and views from the House, or views of it from within the GDL, would not be adversely affected by the Proposed Development. Where visible from the B741, when emerging from the Bellsbank Plantation and travelling south, the House is visible low down in the valley within its wooded designed setting, backdropped by wooded hills with the Glenmount Hills beyond. A wireline view (Figure 11.7a) from this location shows that two turbine tips only (no hubs) of the Proposed Development would be theoretically visible beyond and to the left of the view of the House but would not detract from appreciation of the House in its setting. Dersalloch Wind Farm is prominently visible from this viewpoint (Figure 11.7b) and is seen to the right of the view of the House. The character of the GDL would not be adversely affected by the Proposed Development and the Proposed Development, almost entirely screened by the topography of hills behind Craigengillan House, and 11 km distant from the viewpoint at Bellsbank Plantation would not be intrusive in views of the House. It would remain possible for any visitor passing this viewpoint to appreciate Craigengillan House in its setting.

- 11.7.29 Overall, the impact of the Proposed Development on the setting of the Craigengillan House and GDL is assessed as being one of **low** magnitude (Table 11.3), assessed based on professional judgement to be of **minor** significance (**not significant** in EIA terms). The character and cultural significance of the House and GDL, and their contribution to the local scenery of the Doon valley, would not be diminished by the presence of the Proposed Development.

Kilkerran House (LB 1114) GDL (GDL 238) (Figure 11.8a-e (CH 6))

- 11.7.30 Kilkerran House (LB 1114) is Category A Listed mansion style Country House that stands within a GDL in the Water of Girvan valley. The GDL encompasses the lower lying valley river plain on the southern bank of the river, and the lower hill slopes of the higher moorland ground to the south. It includes extensive parkland and woodland, laid out in the early 19th century, much of which along the hill slopes to south, is now covered by commercial forestry. The House and the GDL are heritage

assets of value at the national level, as an important historic country house and associated grounds, and they are assessed as being of **high** sensitivity.

- 11.7.31 The GDL provides the setting for Kilkerran House, which is situated on gently rising ground on a north-west facing slope, backdropped by the mixed woodland of the policies and the commercial forestry visible on the steeply rising ground behind the house. From the House, open views to the north-west and south-west along the Water of Girvan valley are possible, although clear views in a westerly direction from the house are partly screened by the policy planting. The main approaches to the House are from the west and from the north. Glimpses of the House, and views into and across the GDL, are possible from the B741, which borders the north-western side of the GDL, and the whole of the GDL, with Kilkerran House at its centre, can be viewed from the hills to the north. The GDL, particularly the open parkland and the mixed woodland policies, are a feature of the local landscape and contribute appreciably to the wider scenic landscape of the Water of Girvan valley.
- 11.7.32 The ZTV analysis indicates that there would be no visibility of the Proposed Development from Kilkerran House and only minimal theoretical visibility (one turbine tip) from anywhere within the GDL. The only location within the GDL from which visibility is predicted lies on the high ground within commercial forestry plantation in Falaird Wood in the south-east corner of the GDL. The ZTV shows that, from the higher ground of the hills to the north-west, across the Girvan Water valley, the Proposed Development would be visible beyond the GDL. A wireline view (Figure 11.8a), from a viewpoint near High Newland Farm on the C-class road between Wallacetown and Kirkoswald, north-west of the GDL, shows that there would be visibility of eight turbines (two at hub height) beyond the skyline, to the right of the summit of Clauchrie Hill. From this viewpoint, Kilkerran House is visible set low down in the valley, backdropped by woodland and set against a backdrop of rising hills. Operational wind farms (e.g. Dersalloch, Afton, and Windy Standard) are part of the backdrop in distant views to the east along the valley (Figure 11.8b). The Proposed Development would be seen in the background behind the view of the House but would not detract from appreciation of the House in its setting. The nearest proposed turbine would be 7.2 km from Kilkerran House and 10.8 km from the viewpoint. The character of the GDL and the primary setting for the House would not be adversely affected by the Proposed Development. It would remain possible for any visitor passing this viewpoint to appreciate Kilkerran House in its setting.
- 11.7.33 Overall, the impact of the Proposed Development on the setting of the Kilkerran House and GDL is assessed as being one of **low** magnitude (Table 11.3), assessed based on professional judgement to be of **minor** significance (**not significant** in EIA terms). The character and cultural significance of the House and GDL, and their contribution to the local scenery of the Water of Girvan valley, would not be diminished by the presence of the Proposed Development.
- Knockoner (NSR) Site (HER Ref: 11669) (Figures 11.10a-f (CH 8))*
- 11.7.34 When visited by RCAHMS, in 1982, it was recorded that a low stony mound about 16 m in diameter and 0.5 m high, located within a sheepfold, may be a robbed burial cairn. When visited by WoSAS in 1989, it was determined that although of doubtful antiquity, the site was to be retained in a clearing in commercial forestry, with an area 20 m all around it to be unplanted. The site has been determined by WoSAS to be potentially of national importance and is accordingly assessed as being of **high** sensitivity.
- 11.7.35 The remains of the possible cairn survive within a complex sheepfold that stands to its original height (around 1.2 m high) and comprises a circular enclosure, 25 m in diameter with a series of small, roughly rectilinear enclosures appended at its north-east end. Commercial forestry encroaches to within around 20 m of the sheepfold on its south, west and north-west sides, retaining an open aspect to the north-east, along the Knockoner Burn. High ground to the west directs the visitor's attention to the northeast along the Knockoner Burn towards the Water of Girvan valley. If the site is the remains of a burial cairn, it is likely that this north-east view along the watercourse is an important aspect of its setting, although the cairn in its narrow valley setting is unlikely to have been a visually prominent feature of the landscape. In its current condition and location, it is a feature only really understood and appreciated at close quarters.

- 11.7.36 The ZTV analysis indicates that, from the possible cairn and its immediate vicinity, there would be visibility of all nine turbines (Figure 11.10a-b). The nearest proposed turbine (T1) would be 400 m away on the high ground to the east of Knockoner Burn, beyond a stand of commercial forestry trees. The Proposed Development would not adversely affect the possible cairn's association with the Knockoner Burn (Figure 11.10e), or views north-east (Figure 11.10d), and its setting is already dominated by commercial forestry around the sheepfold within which it is now located. The Proposed Development would though be a new, modern addition to the wider surroundings and would give rise to a noticeable change within its immediate setting. It would though remain possible for any visitor to the monument to understand and appreciate the remains of this possible burial cairn and its setting.
- 11.7.37 Overall, the impact of the Proposed Development on the setting of the possible burial cairn of doubtful antiquity is assessed as being one of **medium** magnitude (Table 11.3), resulting from the close proximity of the Proposed Development, and is assessed based on professional judgement to be of **moderate** significance (**significant** in EIA terms). The character and cultural significance of this possible cairn, lying within a post-medieval sheepfold, would not be diminished by the presence of the Proposed Development.
- Dalmorton (NSR) Site (HER Ref: 6126) (Figures 11.11a-e (CH 9))*
- 11.7.38 When visited by RCAHMS, in 1982, it was recorded that a low mound, measuring about 28 m in diameter, on the haughland of the Water of Girvan, has been hollowed out at the centre and may be the remains of a robbed burial cairn. The remains of the cairn are determined by WoSAS to be potentially of national importance and the site is accordingly assessed as being of **high** sensitivity.
- 11.7.39 The remains lie within a hayfield on the flat valley bottom on the west side of the Water of Girvan, with rising ground to the west and an open aspect across the river to the east. There are also views from the cairn along the river to the north and south-east and the cairn, when built, is likely to have been readily visible from within the valley. The siting of the possible burial cairn close to the Palmullan Burn appears to be a deliberate act and is an important aspect of its setting. A further important aspect of its setting is evidently its location within the valley, which would have been an attractive location for settlement and acts as a routeway through the surrounding hills, to the west and east, from the low ground around and to the north of Straiton and Loch Doon to the east.
- 11.7.40 A wireline visualisation (Figure 11.11a) from the cairn shows that eight turbines would be visible (four at hub height). The nearest proposed turbine (T4) would be 1.78 km away, seen beyond the skyline of Benyaw. The Proposed Development would not be visible in views north along the river valley (Figure 11.11c), and not in direct line of sight south-east along the valley (Figure 11.11c) and would not adversely affect the cairn's association with the low-lying haughland of the Water of Girvan valley. The Proposed Development would though be a new, modern addition to the wider surroundings and would give rise to a noticeable, but not dominating, change within its setting. It would remain possible for any visitor to the monument to understand and appreciate the remains of this possible burial cairn and its valley setting.
- 11.7.41 Overall, the impact of the Proposed Development on the setting of the possible burial cairn is assessed as being one of **low** magnitude (Table 11.3), assessed based on professional judgement to be of **minor** significance (**not significant** in EIA terms). The character and cultural significance of the possible cairn in its valley bottom setting would not be diminished by the presence of the Proposed Development.

11.8 Mitigation

- 11.8.1 Planning Advice Note 1/2013: Environmental Impact Assessment (PAN1/2013) describes mitigation as a hierarchy of measures: prevention, reduction, and compensatory (offset) measures. Prevention and reduction measures can be achieved through design, whilst compensatory measures offset effects that have not been prevented or reduced.
- 11.8.2 Historic Environment Policy for Scotland (HEPS) requires the recognition, care and sustainable management of the historic environment and the emphasis in Planning Advice Note (PAN) 2/2011: Planning and Archaeology (PAN2) is for the preservation of important remains in situ where

practicable and by record where preservation is not possible. The mitigation measures presented below take this policy advice and planning guidance into account and provide various options for protection or recording and ensuring that, where practical, surviving assets are preserved intact to retain the present historic elements of the landscape.

- 11.8.3 All mitigation works presented in the following paragraphs would take place prior to, or, where appropriate, during, the construction of the proposed development. The scope of works would be detailed in one or more Written Scheme(s) of Investigation (WSI) developed in consultation with (and subject to the agreement of) WoSAS, acting on behalf of South Ayrshire Council.
- 11.8.4 A professionally qualified Archaeological Contractor would be appointed to act as an Archaeological Clerk of Works (ACoW) for the duration of the construction phase. The role of the ACoW would be to provide advice to the appointed Construction Contractor regarding micro-siting of development components, where there is a possibility of intersecting with identified heritage assets, and to undertake archaeological monitoring of topsoil stripping operation in areas designated and approved by the Council's Archaeological Advisors (WoSAS). The activities of the ACoW would be carried out according to the scope of work and terms specified under the WSI approved by WoSAS.

Construction Phase

Preservation In Situ

- 11.8.5 Four heritage assets (**30-32** and **33a**), along the proposed northern access route, have been identified as lying close to an existing forestry track that will require upgrading as part of the Proposed Development works. In addition, an enclosure (**12**) and a nearby sheepfold (**13**) lie within 25 m of the crane hardstanding and access track at turbine T3. One of these assets, a burnt mound of possible prehistoric date (**30**), is assessed as being of medium sensitivity for its archaeological value. The remaining five assets (**12**, **13** and **31-33a**) are all of low sensitivity but add value to the character of the historic landscape.
- 11.8.6 These assets will be marked out for avoidance during the construction phase. The features will be identified by placing high visibility markers 5 m from the outer limit of the visible remains, facing the working area. Any required micro-siting of the access tracks or of turbine (T3) will be managed to avoid the visible remains and the demarcated areas. The markers will be left in place for the duration of the construction phase and removed on completion of the Proposed Development.
- 11.8.7 Where the proposed site access track crosses the tumbled remains of a drystone dyke (**21a**), disturbance of the wall remains will be kept to the minimum necessary. This will ensure that most of the remains of the dyke would be retained intact.
- 11.8.8 There is no requirement for any measures to ensure preservation in situ of any of the other identified heritage assets within the Proposed Development site.

Archaeological Investigation and recording

- 11.8.9 Two heritage assets, a pair of field banks (**11-m**), and a circular platform (**29**), have been identified that will be directly affected by construction of the Proposed Development; effects that warrant offsetting by archaeological investigation and recording:
- Remains of two field banks (**11-m**), part of a small field system, will be investigated by archaeological excavation of a section across each bank. The purpose of the investigations will be to record the character and method of construction of the two field banks and recover any material that may help to date their construction; thereby helping to establish a possible date for the establishment or development of the farmstead (**1d-g**).
 - A small circular platform (**29**), of unknown purpose, will be investigated; initially by archaeological excavation of two opposed quadrants across the feature. The purpose of the investigation will be to establish the nature, character and condition of the feature and its archaeological significance. If this excavation reveals the feature to be a genuine archaeological

feature, the whole platform will be excavated to a strategy to be agreed with WoSAS once the character of the feature is revealed.

- 11.8.10 Investigation and recording of these features will result in the acquisition of archaeological knowledge and result in preservation by record, thereby offsetting the predicted effects and reducing the significance of the predicted adverse impacts.

Watching Briefs

- 11.8.11 The Applicant will seek to agree the scope of the archaeological watching brief with WoSAS in advance of development works. The scope of the agreed works will be confirmed in a WSI to be signed-off prior to the commencement of the construction works, including enabling works.

- 11.8.12 Taking account of the avoidance through the design, and the character of identified cultural heritage baseline, it is proposed that watching briefs will be carried out at the following location:

- Asset (28): where the northern and western access routes converge and cross a historic field system and cut through the poorly preserved remains of two former field banks. The purpose of the watching brief here will be to record the character of the field banks and identify any evidence for historic cultivation (rig and furrow) that may remain as buried features and record any sequential development of cultivation (overlapping rigs, alternate alignments, or varying rig widths) and recover any artefactual evidence that may be present or any underlying archaeological features of earlier date.

- 11.8.13 Based on the results of the desk-based study and the field survey, there are no other specific areas where construction works could be expected to encounter buried archaeological remains. It has though, been assessed that there is a low to moderate potential for hitherto undiscovered archaeological remains to be present within the site or along the proposed access routes. Therefore, if required under the terms of a condition of consent, the scope of any other required archaeological watching brief(s) will be agreed through consultation with WoSAS in advance of development works commencing and will be set out in the WSI.

Post-excavation assessment and reporting

- 11.8.14 If new, archaeologically significant discoveries are made during archaeological monitoring, and it is not possible to preserve the discovered remains in situ, provision will be made for the excavation where necessary, of any archaeological deposits encountered. The provision will include the consequent production of written reports on the findings, with post-excavation analysis and publication of the results of the works, where appropriate.

Construction Guidelines

- 11.8.15 Written guidelines will be issued for use by all construction contractors, outlining the need to avoid causing unnecessary damage to known heritage assets. The guidelines will set out arrangements for calling upon retained professional support if buried archaeological remains of potential archaeological interest (such as building remains, human remains, artefacts, etc.) should be discovered during any construction activities.

- 11.8.16 The guidelines will make clear the legal responsibilities placed upon those who disturb artefacts or human remains.

Operation Phase

- 11.8.17 As the as-built infrastructure would be used to facilitate maintenance, repair and replacement activities, no mitigation is required in relation to cultural heritage during the operational lifetime of the proposed development.

Decommissioning Phase

- 11.8.18 As the as-built infrastructure would be used to facilitate decommissioning, no mitigation is required in relation to cultural heritage.

11.9 Residual Effects

Construction Effects

- 11.9.1 Taking account of the mitigation proposals set out above, the following residual construction effects have been identified:
- Residual effect of no more than **minor** significance (not significant in EIA terms) on the remains of two field banks (**11-m**), as a consequence of investigation and recording to a standard acceptable to WoSAS.
 - Residual effect of no more than **minor** significance (not significant in EIA terms) on the remains of the field dyke (**21b**), as a consequence of minimising disturbance during track construction.
 - Residual effect of no more than **minor** significance (not significant in EIA terms) on a small circular platform (**29**), as a consequence of investigation and recording to a standard acceptable to WoSAS.
 - Residual effects of no more than **minor** significance (not significant in EIA terms) on any buried remains revealed through archaeological watching briefs and investigated and recorded to a standard acceptable to WoSAS.

Operational Effects

- 11.9.2 During its operational lifetime, there would be no significant residual direct effects on any of the cultural heritage assets identified within the site.
- 11.9.3 During its operational lifetime, the residual effects of the Proposed Development on the settings of heritage assets in the wider study area would be the same as the predicted effects.
- 11.9.4 **One** impact, affecting the setting of a possible burial cairn (HER Ref: 11669), determined by WoSAS to be potentially of national importance and accordingly assessed as being of **high** sensitivity, has been assessed as being of **moderate** significance (**significant** in EIA terms), but that effect would not lead to any diminishing of the cultural significance of the asset concerned. It would remain possible for any visitor to the monument to understand and appreciate the remains of the possible burial cairn and its setting.
- 11.9.5 All other impacts, affecting the settings of heritage assets in the surrounding landscape, would give rise to effects that are either of **minor** or **negligible** significance (not significant in EIA terms).
- 11.9.6 All operational effects identified would be fully reversible upon decommissioning of the Proposed Development.

Decommissioning Effects

- 11.9.7 There would be no residual direct effects arising from decommissioning the Proposed Development.
- 11.9.8 Decommissioning the Proposed Development would remove the operational effects on heritage assets (impacts on their setting), resulting in no residual effects.

11.10 Cumulative Assessment

Construction Effects

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

Operational Effects

- 11.10.2 The Proposed Development could, in combination with other windfarm developments in the area that are operational, consented but not yet built, or are the subject of valid planning applications, result in adverse cumulative effects on the setting of cultural heritage assets. Operational and under construction developments are considered as part of the baseline and are taken to be such for the assessment of effects on the settings of heritage assets described above. Developments that are consented but not yet under construction and those that are the subject of valid planning applications are considered as being potential additions to the baseline and are considered in the cumulative impact assessment. In accordance with the assessment undertaken in the LVIA Chapter (Chapter 6), those proposed wind farms that are at the scoping stage, with the exception of the proposed Carrick Wind Farm, adjoining the southern boundary of the Proposed Development, are excluded because there is insufficient information of the size and scale of the development proposed and uncertainty over whether they will be progressed to a formal application.
- 11.10.3 Figure 11.2 shows the Proposed Development and heritage assets within 10 km, along with the locations of other operational and consented or under construction wind farms, and those that are currently proposed (in planning). From this, it can be seen that the cumulative effect on cultural heritage is likely to arise from the addition of the Proposed Development to a baseline that includes the operational Dersalloch and Hadyard Hill Wind Farms, the in planning Craiginmoddie Wind Farm, and the at scoping Carrick Wind Farm. The in planning North Kyle Wind Farm and Clauchrie Wind Farm, and the consented Kirk Hill Wind Farm are too far distant to have any appreciable cumulative effect on the settings of heritage assets in combination with the Proposed Development.
- 11.10.4 Cumulative wirelines from nine heritage assets are provided that show the likely cumulative effect resulting from the introduction of the Proposed Development to a baseline including operational and consented wind farms, those that are in planning, and the at scoping Carrick Wind Farm, where those schemes are visible from the asset. These visualisations are referenced in the tabulated assessment set out in Appendices 11.2 and 11.3, where relevant, and are referenced in the assessment below.
- Knockinculloch, enclosures on E slope of, 600 m NW of Glenalla (SM 3357) (Figure 11.3 (CH 1))*
- 11.10.5 The wirelines provided from this monument (Figure 11.3b-d) show the theoretical cumulative visual impact on the enclosures resulting from the Proposed Development (Figure 11.3b) in combination with the in planning Craiginmoddie Wind Farm and at scoping Carrick Wind Farm (Figure 11.3b-d). The proposed Carrick Wind Farm would be seen in the same view as the Proposed Development (Figure 11.3b-c), with the Carrick Wind farm being the more prominent and closer (1.5 km distant) to the enclosure, partly screened by forestry on the south-east side of the Palmullan Burn valley. The proposed Craiginmoddie Wind Farm (Figure 11.3c-d) would, in the absence of screening provided by current commercial forestry, be seen as a separate development closer to the monument (around 1.5 km to the south-west) than the Proposed Development and visible in a different direction. The Proposed Development would also be seen in the context of other operational, consented, and proposed developments at greater distance in views to the east (Figure 11.3b).
- 11.10.6 The cumulative impact of the addition of the Proposed Development to a baseline including the proposed Craiginmoddie Wind Farm and Carrick Wind Farm, in the context of the monument's current commercial forestry setting would result in a cumulative effect of **medium** magnitude and **moderate** significance (**significant** in EIA terms), through the introduction of the three proposed developments, in close proximity, into the landscape close to the site of the enclosures and occupying an arc of view from south-east to south-west.
- 11.10.7 The contribution to the cumulative effect from the Proposed Development would be one of **low** magnitude, the Proposed Development being seen (**Figure 11.3b**) as part of, and an extension to, the eastern extent of the proposed Carrick Wind Farm. The combined developments would not however adversely affect the monument's heritage value or cultural significance.

Knockdon, enclosure 700 m NE of (SM 7491) (Figure 11.4 (CH 2))

- 11.10.8 The wirelines (Figure 11.4) provided from this monument show the theoretical cumulative visual impact on the setting of this enclosure resulting from the Proposed Development in combination with the in planning Craiginmoddie Wind Farm, the at scoping Carrick Wind Farm, and the operational Dersalloch Wind Farm. Dersalloch (Figure 11.4c) is part of the baseline and is visible in views to the north-west, partly screened by topography. The proposed Craiginmoddie Wind Farm and Carrick Wind Farm would be seen in the same view as the Proposed Development (Figure 11.4b), visible behind the Proposed Development but at greater distances. The three developments would though be seen as one group of turbines in the same view.
- 11.10.9 The cumulative impact of the addition of the Proposed Development to a baseline including the proposed Craiginmoddie Wind Farm and Carrick Wind Farm would be of **low** magnitude and **minor** significance (**not significant** in EIA terms), no different from that of the Proposed Development alone. Although the combined effect would be from the addition of turbines within that view, as a group they would be no more visually dominant in the view. The three developments in combination would extend the spread of turbines visible beyond the near skyline in views to the south-west but would not adversely affect the monument's heritage value or cultural significance.
- Munteoch, settlement and field systems (SM 5200) (Figure 11.5 (CH 3))*
- 11.10.10 The wirelines provided from this monument (Figure 11.5b-c) show the theoretical cumulative visual resulting from the Proposed Development in combination with the in planning Craiginmoddie Wind Farm, the at scoping Carrick Wind Farm, and the operational Dersalloch Wind Farm. Dersalloch (Figure 11.5b-c) is part of the baseline and is prominently visible in views to the north-west from the settlement. The proposed Craiginmoddie Wind Farm and Carrick Wind Farm would be seen in the same view as the Proposed Development (Figure 11.5b), visible at greater distances than the Proposed Development and more prominently visible than the Proposed Development. Craiginmoddie would lie between the operational Dersalloch Wind Farm and the Proposed Development, and the proposed Carrick Wind Farm would be seen directly behind the Proposed Development. In combination, the three developments would increase the number and spread of turbines visible from the monument in views to the south-west.
- 11.10.11 The cumulative impact of the addition of the Proposed Development to a baseline including the proposed Craiginmoddie Wind Farm and Carrick Wind Farm would be of **low** magnitude and **minor** significance (**not significant** in EIA terms), no different from that of the Proposed Development alone. The three developments in combination would extend the spread of visible turbines across the skyline in views to the south-west, with the Proposed Development better screened from view from the monument and contributing less to the cumulative impact than either Carrick or Craiginmoddie. The three developments in combination would not adversely affect the monument's heritage value or cultural significance.
- Blairquhan (LB 19094) and GDL (GDL 063) (Figure 11.6 (CH 4))*
- 11.10.12 The wirelines provided from this monument (Figure 11.6b-c) show the theoretical cumulative visual impact resulting from the Proposed Development in combination with the in planning Craiginmoddie Wind Farm, the at scoping Carrick Wind Farm, and the consented Kirk Hill Wind Farm. Carrick Wind Farm would be seen directly behind the Proposed Development (**Figure 11.6b**) and extending the visibility of turbines along the skyline towards the proposed Craiginmoddie Wind Farm. Craiginmoddie Wind Farm would be theoretically visible to the right of the Proposed Development, and the proposed Carrick Wind Farm, in the view over Blairquhan GDL and part of the Cloncaird NIDL from this viewpoint (Figure 11.6b). In practice, woodland along the boundary between the two designed landscapes, within the Blairquhan GDL, and along the Water of Girvan, would provide a high degree of screening of the proposed turbines from the viewpoint. The consented Kirk Hill Wind Farm would be theoretically visible in views to the south-west (Figure 11.6c) but in practice would be entirely screened from view by woodland close to the viewpoint.
- 11.10.13 The cumulative impact of the addition of the Proposed Development to a baseline including the proposed Craiginmoddie Wind Farm and Carrick Wind Farm would be of **low** magnitude and **minor** significance (**not significant** in EIA terms), no different from that of the Proposed Development alone. The three developments in combination would extend the spread of visible turbines across

the skyline in views to the south-west from this viewpoint, but the three developments in combination would not adversely affect the character or cultural significance of the GDL.

Kilkerran House (LB 1114) GDL (GDL 238) (Figure 11.8 (CH 6))

11.10.14 The wirelines provided from this monument (Figure 11.8b-d) show the theoretical cumulative visual impact resulting from the Proposed Development in combination with the in planning Craiginmoddie Wind Farm, the at scoping Carrick Wind Farm, and the consented Kirk Hill Wind Farm plus other operational, consented, and proposed wind farms in views to the south-east from the viewpoint. Craiginmoddie Wind Farm would be visible to the right of the Proposed Development in the view over Kilkerran GDL and closer to the viewpoint (Figure 11.8b). Carrick Wind Farm would be visible between the Proposed Development and the proposed Craiginmoddie Wind Farm, extending the spread of turbines visible along the skyline from the viewpoint. Craiginmoddie would be more prominent in the view than either of the other two, standing on and along the ridge of hills to the south of Kilkerran. Carrick Wind farm would also be prominent along the skyline with hubs and towers visible alongside and in combination with Craiginmoddie. The Proposed Development by contrast is considerably screened by the topography of intervening hills and would be seen as a part of the eastern extent of the Carrick turbines. The consented Kirk Hill Wind Farm would be visible from the viewpoint in views to the north-west (Figure 11.8d) and at much closer distance, partly screened by topography. Kirk Hill Wind Farm would though be likely to be much less visible from within and around the GDL, being screened from view by the topography of rising ground to the north-west of the Water of Girvan valley.

11.10.15 The cumulative impact of the addition of the Proposed Development to a baseline including the proposed Craiginmoddie Wind Farm and Carrick Wind Farm would be a cumulative effect of **medium** magnitude and **moderate** significance (**significant** in EIA terms), through the introduction of the three proposed developments in a continuous array along the skyline, occupying an arc of view from south-east to south south-east, closer to the viewpoint, and the GDL, than the operational and proposed developments in the background in that view.

11.10.16 The contribution to the cumulative effect from the Proposed Development would be one of **low** magnitude, the Proposed Development being seen (Figure 11.8b) as part of, and an extension to, the eastern extent of the proposed Carrick Wind Farm. The combined developments would not however adversely affect the monument's heritage value or cultural significance. The contribution to the cumulative effect from the Proposed Development would be of minor significance (**not significant** in EIA terms).

Knockoner (NSR) Site (HER Ref: 11669) (Figure 11.10 (CH 8))

11.10.17 The wirelines provided from this monument (Figures 11.10c, e-f) show the theoretical cumulative visual impact resulting from the Proposed Development in combination with the in planning Craiginmoddie Wind Farm, at scoping Carrick Wind Farm, and operational Dersalloch Wind Farm. Dersalloch (Figure 11.10f) is part of the baseline and is visible in views to the north-east, beyond and at greater distance than the Proposed Development. The proposed Craiginmoddie Wind Farm would, in the absence of the current commercial forestry closely planted around the location of the cairn, be theoretically visible in views to the west (Figure 11.10e), partly screened by topography. The proposed Carrick Wind Farm (Figure 11.10c-e) would be visible behind and extending across the view to the south-west and west from the cairn (Figure 11.10d). Existing forestry along the south side of the Knockoner Burn valley would provide some screening.

11.10.18 The cumulative impact of the addition of the Proposed Development to a baseline including the proposed Craiginmoddie Wind Farm and Carrick Wind Farm would be no different from that of the Proposed Development alone; that is, an impact of **medium** magnitude and **moderate** significance (**significant** in EIA terms). The effect on the setting of the possible burial cairn would not be an additionally significant effect.

11.11 Summary

- 11.11.1 A desk-based assessment and field surveys have been carried out to establish the cultural heritage baseline, within the site (Inner Study Area) and in the wider landscape (Outer Study Area). The assessment has been informed by scoping responses provided by HES and WoSAS.
- 11.11.2 Thirty-four cultural heritage assets have been identified within the Inner Study Area. With the exception of a burnt mound, likely to be of prehistoric date, and a natural mound that may have been used in the medieval period, these are all of post-medieval date and relate to pastoral farming practices. The burnt mound has been assessed to be of heritage value at a regional level and to be of medium sensitivity. A historic farmstead, recorded in the HER as a non-statutory register (NSR) site potentially of national importance, has been assessed as a heritage asset of value at the national level and of high sensitivity. All other sites and features found are either of heritage value at a local level, and of low sensitivity, or are of little or no intrinsic heritage value, and of negligible sensitivity.
- 11.11.3 An assessment of the identified cultural heritage resource within the site, and consideration of the current and past land-use, indicates that there is a low to moderate potential of hitherto unidentified archaeological remains of prehistoric or medieval/post-medieval date being present within the site. It is probable that any remains that do survive are most likely to be of post-medieval date and associated with farming activities.
- 11.11.4 The layout of the Proposed Development has been designed as far as possible to avoid direct effects on the identified heritage assets within the site. Direct impacts on four heritage assets, each of low sensitivity, have been identified. These effects would be offset through a programme of mitigation to recover any archaeological information that may be present at the affected locations.
- 11.11.5 Within 10 km of the Proposed Development there are ten Scheduled Monuments (three with predicted theoretical visibility of the Proposed Development); eight Category A Listed Buildings (one with predicted theoretical visibility); 65 Category B Listed Buildings (32 with predicted theoretical visibility); three Conservation Areas (all with some degree of predicted theoretical visibility); and four Inventory Gardens and Designed Landscapes (three with some degree of predicted theoretical visibility).
- 11.11.6 Within 5 km of the Proposed Development there are 11 NSR Sites (eight with predicted theoretical visibility), one NIDL, and 20 Category C Listed Buildings (all with some degree of predicted theoretical visibility).
- 11.11.7 An effect of **Moderate** significance (**significant** in EIA terms) is predicted on the setting of Knockoner Cairn (HER Ref: 11669), a possible burial cairn recorded in the HER as being potentially of national importance but of doubtful antiquity. The effect, which would not adversely affect the feature's cultural significance, would last for the duration of the operational phase of the Proposed Development individually and cumulatively with other operational, consented, or proposed developments.
- 11.11.8 Taken in the context of existing operational wind farms in the wider landscape, a **significant** cumulative effect is predicted arising from the Proposed Development in combination with the proposed (in-scoping) Carrick Wind Farm. The predicted effects would occur on the setting of Knockinculloch, enclosures on E slope of, 600 m NW of Glenalla (SM 3357). The combined developments would not however adversely affect the heritage value or cultural significance of the scheduled monument.

Table 11.6 – Summary Table

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect	
	Significance	Beneficial / Adverse		Significance	Beneficial / Adverse
Construction					
Direct effect on remains of small field and associated field banks (11-m)	Moderate	Adverse	Investigation by archaeological excavation. Preservation by record.	Minor	Adverse
Direct effect on remains of a drystone wall (21a)	Minor	Adverse	None required.	Minor	Adverse
Direct effect on remains of a field system (28a)	Moderate	Adverse	Watching brief.	Minor	Adverse
Direct effect on a small circular platform (29)	Moderate	Adverse	Investigation by archaeological excavation. Preservation by record.	Minor	Adverse
Potential direct impacts on any buried remains surviving within the Proposed Development footprint.	Moderate	Adverse	Implementation of mitigation proposals where required through planning condition.	Minor	Adverse
Operation					
Effects on the settings of ten Scheduled Monuments.	Minor or negligible	Adverse	No mitigation necessary.	Minor or negligible	Adverse
Effect on the setting of one NSR Site: possible burial cairn (HER Ref: 11669).	Moderate	Adverse	None.	Moderate	Adverse
Effects on the setting of ten other NSR Sites.	Minor or negligible	Adverse	No mitigation necessary.	Minor or negligible	Adverse

Effects on the settings of 53 Listed Buildings.	Minor or negligible	Adverse	No mitigation necessary.	Minor or negligible	Adverse
Effects on the settings of three Conservation Areas.	Minor or negligible	Adverse	No mitigation necessary.	Minor or negligible	Adverse
Effects on the settings of three Inventory Gardens and Designed Landscapes.	Minor or negligible	Adverse	No mitigation necessary.	Minor or negligible	Adverse
Effects on the settings of two Non- Inventory Designed Landscapes.	Minor or negligible	Adverse	No mitigation necessary.	Minor or negligible	Adverse
Decommissioning					
None	None	None	None	None	None

Table 11.1 – Summary of Cumulative Effects

Receptor	Effect	Cumulative Developments	Significance of Cumulative Effect	
			Significance	Beneficial/ Adverse
Knockinculloch, enclosures on E slope of, 600 m NW of Glenalla (SM 3357).	Cumulative effect on setting.	Carrick Wind Farm and Craiginmoddie Wind Farm	Moderate	Adverse
NSR Site: possible burial cairn (HER Ref: 11669).	Cumulative effect on setting.	Carrick Wind Farm and Craiginmoddie Wind Farm	Moderate	Adverse
Kilkerran House (LB 1114) GDL (GDL 238)	Cumulative effect on setting.	Carrick Wind Farm and Craiginmoddie Wind Farm	Moderate	Adverse

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