
11.	CULTURAL HERITAGE	
11.1.	Introduction	11-2
11.2.	Legislation, Policy and Guidance	11-2
11.3.	Assessment Methodology and Significance Criteria	11-3
11.4.	Scoping Responses and Consultation	11-8
11.5.	Baseline Conditions.....	11-12
11.6.	Assessment of Potential Effects.....	11-15
11.7.	Assessment of Cumulative Effects	11-30
11.8.	Mitigation Measures.....	11-33
11.9.	Residual Effects.....	11-34
11.10.	Summary	11-34

11. Cultural Heritage

11.1. Introduction

11.1.1. This chapter of the EIA Report evaluates the effects of the Proposed Development on the archaeology and cultural heritage resource of land between Craigengillan Hill and Marscalloch Hill and its environs.

11.1.2. This assessment is intended to identify archaeological and cultural heritage assets which may be affected, either directly (e.g. through physical disturbance during construction of the Proposed Development) or indirectly (e.g. through visual changes to the historic or archaeological setting) during construction, through operation, or from decommissioning of the Proposed Development. This chapter is structured as follows:

- Legislation, policy and guidance;
- Assessment methodology and significance criteria;
- Scoping Responses and Consultation;
- Baseline conditions;
- Assessment of potential effects;
- Assessment of cumulative effects;
- Mitigation measures;
- Residual effects; and
- Summary.

11.1.3. The chapter is supported by a Cultural Heritage and Archaeological Desk-Based Assessment (presented as **Appendix 11.1**).

11.2. Legislation, Policy and Guidance

11.2.1. Statutory protection for archaeology is principally outlined in Ancient Monuments and Archaeological Areas Act (1979)¹ as amended by the Historic Environment (Amendment) (Scotland) Act (2011)², and nationally important sites are listed in a Schedule of Monuments. Scheduled Monument Consent (SMC) is required before any work affecting the fabric of a Scheduled Monument can be carried out.

11.2.2. The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997³ (as amended by the Historic Environment (Amendment) (2011)) details the duties of National and Local Authorities regarding the desirability of preserving and enhancing settings.

11.2.3. Scottish Planning Policy (SPP)⁴, paragraphs 110 to 124 set out how all types of historic environment assets are to be dealt with within the planning framework.

¹ Ancient Monuments and Archaeological Areas Act (1979) Available at <http://www.legislation.gov.uk/ukpga/1979/46> (Accessed on 06/07/2018)

² Historic Environment (Amendment) (Scotland) Act 2011. Available at <http://www.legislation.gov.uk/asp/2011/3/contents/enacted> (Accessed on 06/07/2018)

³ Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. Available at <http://www.legislation.gov.uk/ukpga/1997/9/contents> (Accessed on 06/07/2018)

⁴ Scottish Government (2014) Scottish Planning Policy (SPP): Available at <http://www.gov.scot/Resource/0045/00453827.pdf> [Accessed on 17/04/2018].

- 11.2.4. Detail on how this high-level policy should be applied in practice is detailed in the Historic Environment Scotland Policy Statement 2016⁵; this replaces the operational practices which were set out in the Scottish Historic Environment Policy (2011).
- 11.2.5. The Dumfries and Galloway Local Development Plan was adopted in September 2014⁶. Policies HE1 - HE6 relate to the safeguarding of the historic environment, with policies HE3 and HE4 relating specifically to the protection of archaeological remains.
- 11.2.6. Supplementary Planning Guidance issued by Dumfries and Galloway Council, regarding Wind Energy Development⁷ (section F), advises that when there is likely to be an impact on the historic environment and/or the cultural heritage, the developer must consider and assess potential effects on the aesthetic, historic, social and intangible/spiritual sensitivities.
- 11.2.7. Standards and Guidance for historic environment desk-based assessments provided by the Chartered Institute for Archaeologists⁸ advises that the aim of a Desk-Based Assessment (DBA) is to gain information about the known and potential archaeological resource within the planning application site boundary (the Site), and from this, an appraisal can be made on the presence of absence of archaeology.

11.3. Assessment Methodology and Significance Criteria

Scope of Assessment

- 11.3.1. This assessment has involved:
- Consultation with the statutory and non-statutory consultees on the potential effects of the Proposed Development, and to obtain data to inform the baseline conditions for the Development and its surrounding location;
 - Desk-based studies and site visits to contribute to and validate data relevant to establishing the baseline conditions;
 - Assessment of the potential effects expected from the Proposed Development on the baseline conditions;
 - Assessment of the significance of any identified effects, considering the sensitivity of the cultural heritage receptor, the magnitude of potential effects (both direct and indirect); and
 - Identification of any measures to mitigate and where possible avoid any predicted effects and consideration of the significance of any residual effects after the implementation of any mitigation.
- 11.3.2. A desk-based assessment was undertaken to support the assessment for the Proposed Development. This utilised readily available documentary, cartographic and photographic to inform the baseline condition of the core

⁵ Historic Environment Scotland 2016. Historic Environment Scotland Policy Statement 2016. Available at: <https://www.historicenvironment.scot/archives-and-research/publications> [Accessed on 23/02/2018]

⁶ Dumfries and Galloway Local Development Plan (2014). Dumfries and Galloway Council. Available at: <https://www.dumgal.gov.uk/ldp> [Accessed on 23/02/2018]

⁷ Dumfries and Galloway Local Development Plan Supplementary Guidance. Part 1 Wind Energy Development: Development Management considerations (2017) <http://www.dumgal.gov.uk/article/15342/Supplementary-guidance> [Accessed 06/07/2018]

⁸ The Chartered Institute for Archaeologists (2014, Revised 2017) Standards and Guidance for historic environment desk-based assessment. CIfA: University of Reading.

archaeological study area. This study area included all land within a 1 km radius of the layout at scoping. A site visit was undertaken on 24th of October 2013, to validate the desk-based assessment.

Study Area

- 11.3.3. In order to provide a context for the discussion and interpretation of the known and potential resource within the Site, a Core Archaeological Study Area was established within a 1 km radius of the Site boundary (this is the same as the Site and Wider Study Areas as shown on Figure 1 of the Archaeological DBA) (see **Appendix 11.1**). The recorded historic environment resource within the Study Area is considered in detail within **Appendix 11.1**.
- 11.3.4. During the assessment of setting, a buffer zone within an initial 10 km radius of the Site was established in order to identify cultural heritage features with the potential for their settings to be affected by the Proposed Development. Distance and intervisibility have been used as the initial criteria in determining whether there is potential for a significant visual effect on the settings of cultural heritage features for the purposes of determining which should be subject to more detailed consideration. Consideration has been given, where appropriate, to the potential for effects upon settings to arise in views which include cultural heritage assets and the Proposed Development. Consideration has also been given to the potential for effects on linkages and designed lines of sight between monuments into which the windfarm may intrude, no such specific, significant distance associations have been identified (largely due to the nature of the topography of the area). This potential effect is not considered further in this Chapter of the EIA Report.
- 11.3.5. Detailed consideration has been given to assets within 5 km of the Site and to selected assets at greater distance in response to consultation with the Dumfries and Galloway Archaeologist. Study Areas and assets considered in the assessment are shown on **Figure 11.1**.

Survey Methodology

- 11.3.6. To accompany the archaeological desk-based assessment, a site walkover was conducted, in order to verify the written records, to assess the character of the site, and to note any archaeological features not previously identified. Any previously unknown sites were recorded by use of digital photography, an appropriate scale, and a handheld GPS.
- 11.3.7. The results of this work have informed the archaeological baseline and archaeological potential of both the archaeological core and wider study areas. This baseline has then been cross-referenced with the Proposed Development to assess the potential for harm to archaeological resources situated with the Proposed Development footprint.

Assessment of Potential Effects

- 11.3.8. The assessment of effects on the cultural heritage resource is concerned with direct (physical) and indirect (effect on setting) effects.

Direct (Physical)

- 11.3.9. The assessment of physical effects considers direct effects upon features of cultural heritage interest, where sites or potential sites / buried archaeology are in danger of being disturbed or destroyed. Physical effects are likely to occur during the construction and decommissioning phases of the Development and are permanent and irreversible. The potential for the occurrence of direct effects was assessed through analysis of information provided by the Dumfries and Galloway Historic Environment Record (HER) and information derived from national datasets of designated features. Potential direct physical effects are discussed in Section 11.6 of this Chapter.

Indirect (Effect on Setting)

- 11.3.10. This assessment takes account of the potential for effects on the settings of internationally and nationally important designated cultural heritage features that are situated within the Site and a 10 km Zone of Theoretical Visibility (ZTV) around it. The setting of a nationally important designated monument, building or landscape is defined by Historic Environment Scotland as the way in which surroundings of a historic asset or place contribute to how it is experienced, understood and appreciated⁹. This can incorporate a range of factors including views to, from and across the historic asset or place; key vistas; relationships between both built and natural features; aesthetic qualities; character of the surrounding landscape; and non-visual factors such as sensory, historical or artistic factors¹⁰.
- 11.3.11. Setting can be tangible, such as a defined boundary, or intangible, such as atmosphere or ambience. The main concern for visual effects on a cultural heritage setting is the potential for the Proposed Development to fragment the historic landscape, separate connectivity between historic sites and impinge on views to and from sites with important landscape settings. Although not specific to Scotland, English Heritage's (now Historic England) "Wind Energy and the Historic Environment" lists visual dominance, scale, intervisibility, vistas and sight-lines as well as noise, movement and light as potential effects on features of cultural heritage interest that might be derived from windfarm projects¹¹
- 11.3.12. Indirect effects can occur during construction, operation and decommissioning. Windfarms can have a lifespan of up to 25 years; therefore, the visual and any other indirect effects from this form of development are considered temporary (albeit long term) in cultural heritage terms and easily reversible. Finally, the background against which the assessment takes place includes the potential for threats to occur to historic assets from climate change.

Significance Criteria

- 11.3.13. The assessment of effects is based on the final form of the Development as described in Chapter 4; Description of the Proposed Development of this EIA

⁹ Historic Environment Scotland (2016) Managing Change in the Historic Environment: Setting. (p3)

¹⁰ Historic Environment Scotland (2016) Managing Change in the Historic Environment: Setting. (p4)

¹¹ English Heritage (2005) Wind Energy and the Historic Environment. Available at <http://www.english-heritage.org.uk/publications/wind-energy-and-the-historic-environment/> (p8)

Report. This appraisal proceeds from a consideration of the sensitivity of a cultural heritage feature against the magnitude of any potential impact, to arrive at the significance of the effect.

- 11.3.14. Receptor sensitivity for the purposes of this assessment has been equated with designation status, as shown in Table 11.1.
- 11.3.15. Listed Buildings are designated and are placed on lists maintained by Historic Scotland. Whilst they are regarded as a nationally important resource, they are subject to a grading process (Categories A, B, and C) and for the purposes of this assessment, this categorisation has been taken as indicative of a presumed level of sensitivity; based on rarity, period, architectural style, completeness, degree of subsequent alterations and so on. This assessment has assigned the Categories to different levels of sensitivity as shown in Table 11.1 below.

Table 11.1: Receptor Sensitivity

Level of Sensitivity	Designation Status
Very High	World Heritage Sites, which are internationally important.
High	Scheduled Monuments (whether or not in State Care), Category A Listed Buildings, Registered Battlefields, Inventoried Designed Landscapes and Historic Gardens. These are considered to be nationally important.
Medium	Category B Listed Buildings, regionally important archaeological features and areas (as defined in the Sites and Monuments Record) and Conservation Areas which are considered regionally important.
Low	Category C Listed Buildings, sites and archaeological features noted as Locally important in the Sites and Monuments Record.
Negligible	Badly preserved / damaged or very common archaeological features / buildings of little or no value at local or other scale.

- 11.3.16. Magnitude is a measure of the nature of the expected effect. It has been classified, for direct and indirect effects, as shown in Table 11.2. For the purposes of visual assessment, proximity to the Proposed Development (within the ZTV) has been taken as one of the determining attributes. Distances, where given, are from the receptor to the nearest turbine of the Development, unless otherwise stated.

Table 11.2: Magnitude

Level of Magnitude	Definition
Very High	Total loss of or major alteration to a site, building or other feature (e.g. destruction of archaeological feature, or blocking or severance of key visual or other relationship).
High	Major damage to or significant alteration to a site, building or other feature. Extensive change to the setting of a feature (e.g. loss of dominance, intrusion on key view or sightline).
Medium	Damage or alteration to a site, building or other feature. Encroachment on an area considered to have a high archaeological potential for buried remains. Change in the

	setting of a feature, e.g. intrusion on designed sight-lines and vistas.
Low	Minor damage or alteration to a site, building or other feature. Encroachment on an area where it is considered there is low potential for buried archaeological remains to exist. Minor change in the setting of a feature (e.g. above historic skylines or in designed vistas).
Negligible	No physical impact. Slight or no change in setting.

11.3.17. The Significance of any potential effect is arrived at by correlating Sensitivity against Magnitude as shown in Table 11.3.

Table 11.3: Significance

Magnitude	Very High	High	Medium	Low	Negligible
Sensitivity					
Very High	Major	Major	Moderate	Minor	Minor
High	Major	Major	Moderate	Minor	Negligible
Medium	Moderate	Moderate	Moderate	Minor	Negligible
Low	Minor	Minor	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible	Negligible

11.3.18. Where potential scores of moderate or major significance have been predicted for features using the matrix-based approach shown in Table 11.3, such features have been selected for a more detailed consideration in section 11.6. This includes a definition of the setting of each feature, considering its designation status, essential attributes, etc. An assessment is made using professional judgement of the extent to which that setting is affected by the Proposed Development, and an assessment of significance is given. Potential effects that are scored as minor or negligible are considered to be not significant for purposes of the EIA Regulations and are not discussed in further detail.

11.3.19. The assessment has taken an approach in which the designation status (sensitivity) of a feature is set against the magnitude of the effect of the development. For purposes of assessing indirect (visual) effects upon setting, distance to the Proposed Development is considered a determinant in the degree of magnitude of any change that might be caused. Simple intervisibility with turbines is not necessarily considered to be harmful, unless this negatively affects the setting so as to diminish its contribution to the understanding, appreciation or experience of the asset. Where considered appropriate, consideration has been given to the effect that turbines will have on the settings of historical assets in views towards the asset which include the Proposed Development as well as in views towards the Proposed Development from the asset. Distances, where given, are always from the nearest proposed turbine.

11.3.20. It is also important to consider that forestry and woodlands, as well as buildings, can provide visual screening to cultural heritage features. However,

it is noted that in managed forests the level of screening will change, and views may be opened up over time, which previously did not exist.

- 11.3.21. The ZTV used in this assessment is that produced for the Landscape and Visual Assessment (see Chapter 8 of this EIA Report, and Figures 8.7 to 8.18). It is based on a bare-earth digital terrain model and does not allow for screening afforded by settlements, structures and vegetation such as shelter belts and plantations.

Cumulative Effects

- 11.3.22. A cumulative effect is considered to be an additional effect on cultural heritage resources arising from the Proposed Development in combination with other existing, consented, or proposed similar developments likely to affect the cultural heritage environment. Consideration of potential cumulative effects is presented in section 11.7.

Assessment Limitations

- 11.3.23. No detailed consideration of potential effects from noise or shadow flicker (see "Chapters 14: Noise and 18: Shadow Flicker" of this EIA Report) has been undertaken for cultural heritage features, since no substantial above-ground or built heritage features exist within or immediately adjacent to the Development to receive any such effects.

Note on Visualisations

- 11.3.24. Use has been made of formal montages produced as part of the Landscape and Visual Assessment. These are referenced in the assessment text within this Chapter. The method used in their production is set out and described in the Landscape and Visual Chapter (see Chapter 8 of this EIA Report).
- 11.3.25. Additional visualisations are presented with this chapter to illustrate theoretical visibility at specific heritage assets. These include a mixture of wirelines, prepared against the same terrain model used in the landscape and visual assessment, as well as 'photowires' where wireframes have been draped over a photograph to better illustrate a particular view. These can be found at the rear of Volume 3 Landscape and Visual and Cultural Heritage Visualisations of this EIA Report.
- 11.3.26.
- 11.3.27. Note that the digital terrain model used for the wireframes (as with the Zone of Theoretical Visibility) presents a worst-case scenario and does not model any screening, such as blocks of vegetation, settlement or structures.

11.4. Scoping Responses and Consultation

- 11.4.1. Throughout the scoping exercises, and subsequently during the ongoing EIA process, relevant organisations were contacted with regards to the Proposed Development. Table 11.4 outlines the consultation responses received in relation to cultural heritage.

Table 11.4 Consultation

Consultee	Response	Where Addressed in EIA Report
Carsphairn Community Council	CCC state concerns that no full archaeological survey is proposed within the Scoping Document. CCC request a full, detailed field survey is conducted by professional archaeologists prior to the development going to planning.	A desk-based assessment and walkover survey have been conducted. The DBA is presented as Appendix 11.1. A formal survey is proposed as part of the proposed mitigation measures (see section 11.8 below).
Historic Environment Scotland (HES)	<p>Highlights the three Scheduled Monuments within vicinity of the proposal as having potential for significant impacts:</p> <p>Stroanfreggan Craig/Smittens Bridge (SM1095) HES recommends that any turbines in the southern half of the development site are set well back from the site boundary to mitigate impacts on the setting of this monument. An assessment (this EIA) of the setting impacts should seek to identify any necessary mitigation to reduce impacts and inform the project design going forward. This may include relocation of a number of the proposed turbines.</p> <p>Stroanfreggan Bridge (SM1043) HES notes that introduction of turbines on the hillsides to the northwest of the site may have an adverse impact on the setting of the cairn. Along with the proposed Longburn wind farm to the north, there is also potential for a cumulative adverse impact.</p> <p>Craigengillan (SM2238) HES concludes that potential impact of the proposed development on this setting may be significant. The scale and proximity of turbines to the cairn would represent significant and industrial introductions into its setting. Perceptions of the cairn and its setting would largely be dictated by the sense that it lay within a wind farm. The isolated location of the monument would be significantly altered. Along with the proposed Longburn wind farm to the east of the cairn, there is also potential for a cumulative adverse impact.</p>	The scheduled monuments at Craigengillan and Stroanfreggan (the Cairn and Fort) as well as the Listed Bridge are considered in section 11.6 below. These assessments are supported by visualisations (montages or wirelines), as indicated in the text. The Turbines of the layout assessed here are set well back from the southern boundary as compared to the scoping layout.

Consultee	Response	Where Addressed in EIA Report
	<p>In order to assess the potential impact on the setting of Craigengillan cairn, HES recommend that a series of wireframes be undertaken. These should focus on views from the cairn and show the sequential views of both the proposed scheme and Longburn wind farm.</p> <p>HES further recommends that the EIA includes the following photomontages:</p> <ul style="list-style-type: none"> • From both monuments, looking towards the wind farm • From the unnamed road leading eastwards from Smittons Bridge, looking north-westwards towards Stroanfreggan fort • From the south side of the Stroanfreggan Burn looking north-westwards towards the Stroanfreggan Bridge cairn and the proposed development. Where feasible, the viewpoint should be within c.30 – c.50m of the cairn. 	
ScotWays	Request assessment of impacts on routes addressed in response within the EIA (DS15-17, DS21).	<p>Effects on the SUW and other public routes are considered in Chapter 8 Landscape and Visual Assessment and Chapter 18 Socio-economics, Tourism and Recreation of this Environmental Report.</p> <p>Whilst sections of DS17 and other routes are historic in origin (the Sanquhar to Stroanpatrick Drove Route and the Polmaddy Pack Road), they are not directly affected by the Proposed Development. Visitors using these routes will be aware of turbines from operational wind farm in views from these routes, and the Proposed Development will add to this perception, but will not affect the ability to understand appreciate or experience these routes or their historic origins. This effect is not considered further.</p>
Dumfries & Galloway Council	Recommends that a local landscape character assessment should be undertaken to assess and mitigate against potential landscape and visual	Assets requested for consideration by the Council have been included in the Text assessment

Consultee	Response	Where Addressed in EIA Report
	<p>impacts on the local landscape and setting of features, which contribute to its sense of place and local distinctiveness.</p> <p>D&GC Highlight the following settings as areas for concern:</p> <ul style="list-style-type: none"> • The setting of and approach to the Stroanfreggan area and associated landscape (and historic) features, the Crag and Iron Age hill fort, and Smitton's Bridge. • The setting and character of the Dundough Hill and High Bridge of Ken area, including the picnic site by the river. • The setting and character of the upper water of Ken Valley, as appreciated from the minor Head of the Ken road and including Smitton's Bridge. 	<p>presented in section 11.6, Where considered appropriate visualisations are provide (as wireframes or montages) to accompany the assessment, as indicated in the text.</p>
<p>Dumfries & Galloway Council (Further correspondence by Andrew Nicholson (Planning Archaeologist) received 23/7/2018:</p>	<p>On the information available it is advised that indirect effects on the following assets must be included in any assessment:</p> <p>Designated monuments within a 10km boundary; at Craigengillan cairn (HS ref SM2238), Stroanfreggan fort (SM1095), Dundough Castle (SM2476), Braidenoch Fell crosses (SM1105), Woodhead Mines (SM5184), Cairn Avel (SM1006), Holm of Daltallochan Stone circle, standing stone and cross (SM1029, SM1106)</p> <p>Undesignated nationally significant assets including Round Craigs cairn (MDG3944), farmstead at Little Auchrae (MDG11404), Kiln Knowe farmstead (MDG15860), cairns on Stellhead (MDG3920), cairn west of Culmark Hill (MDG3845) and cairn on Green Dass Hill (MDG3406).</p> <p>Archaeologically Sensitive Areas (DGC Policy HE4) at Stroanfreggan, Polharrow Burn and Bardennoch - Garryhorn</p> <p>Non-Inventory designed landscape at Knockgray House (MDG25538)</p>	<p>See comment above. All of the assets listed here have been considered within section 11.6.</p>

11.5. Baseline Conditions

The Site

- 11.5.1. The Site is located off the B729, which connects the B7000 to Moniaive, within the Dumfries & Galloway Council Area. It covers approximately 8 km² and is largely covered by commercial plantation forestry.
- 11.5.2. The solid geology primarily consists of Wacke, a sedimentary bedrock formed approximately 451 to 461 million years ago in the Ordovician period. Superficial deposits across the majority of the core study area are made up of Devensian till however there are some small pockets of peat across the site¹².
- 11.5.3. The site rises from a height of approximately 200 m AOD in the valley to the east to 401 m AOD to the tip of Craigengillan Hill and 381 m AOD to the tip of Marscalloch Hill.

Heritage Assets within the Site

- 11.5.4. This study has identified 18 heritage features located within the site. These include the Scheduled Monument Craigengillan Cairn (SM2238), a substantial prehistoric cairn situated on the eastern boundary of the core study area. These are shown on **Figure 11.2**. There are no further features considered to be of national importance within the core study area.
- 11.5.5. Other features considered to be of local to regional significance situated within the core study area include numerous sheepfolds, enclosure and field systems as well as isolated examples of buildings and possible cairns. Three of these features were identified during the site walkover. These sites are detailed within Appendix A11.1.

Features within the Core Archaeological (1 km) Study Area

- 11.5.6. Consultation of the HER, Canmore and Historic Environment Scotland datasets has identified a total of 98 features within the Core Archaeological Study Area, which extends up to 1 km from the Site boundary. These features include three Scheduled Monuments (1043, 1095, 2238), two Listed Buildings (3628, 3627), two non-designated features considered to be of national importance (MDG3944, MDG3956), and one Archaeologically Sensitive Area (ASA). There are no Inventoried Gardens and Designed Landscapes, Inventoried Battlefields or World Heritage Sites situated within the core or wider study areas. Locations are shown on **Figure 11.3**. Specific Cultural Heritage Visualisations referred to in the following sections are presented in Volume 3 Landscape and Visual and Cultural Heritage Visualisations of this EIA Report.

¹² From the BGS online viewer available at <http://mapapps.bgs.ac.uk/geologyofbritain3d/index.html> [accessed 21/09/2018].

Features beyond the Core Archaeological Study Area

- 11.5.7. There are 50 designated cultural heritage features within 10 km of the Proposed Development. National designations are categorised as below. Assets discussed in the assessment are shown on **Figure 11.1** and **Figure 11.2**. Further information can be found in the Desk-based Assessment presented as Appendix A11.1

Scheduled Monuments

- 11.5.8. There are 14 Scheduled Monuments relating to several periods (primarily prehistoric and medieval) within 10 km of the Proposed Development. Five of these are situated within 5 km of the Site; with one, Craigengillan (Cairn), located within the site itself. Stroanfreggan Craig (Prehistoric fort) is located to the immediate east of the Proposed Development, within the Core Archaeological study area. The following were considered to have some potential to receive an effect on their setting (or were requested to be assessed in consultation responses) and are considered in section 11.6 below.

Table 11.5: Scheduled Monuments within 10 km of the Site*

Designation Number	Monument Name
SM2238	Craigengillan Cairn
SM5391*	Polmaddy (medieval and post-medieval settlement)
SM1043*	Stroanfreggan Bridge (Cairn)
SM1095*	Stroanfreggan Craig (Fort)
SM2476*	Dundeugh Castle
SM1105*	Braidnoch Hill
SM5184	Woodhead lead mines and smelter
SM1006	Cairn Avel
SM1029	Holm of Daltallochan (stone circle & standing stone)
SM1106	Holm of Daltallochan (cross slab)
SM1046	The Kings Cairn (Chambered Cairn)

*those within 5 km are SM5391, SM1043, SM1095, SM2476, and SM1105.

- 11.5.9. The King's Cairn (SM1046) is located in plantation forestry over 8.5 km to the north-northwest of the Proposed Development. Although theoretically intervisible, review of mapping indicates there is no real likelihood of visibility due to intervening close cover around the cairn. In any case, at 8.5 km distant, it is considered that there is a negligible potential that its setting would be so affected that the monument suffers any harm to its understanding, appreciation or experience, as a result. As there would be no significant effect, this asset is not considered further within this Chapter of the EIA Report.

Listed Buildings

- 11.5.10. Within the 10 km study area are 37 Listed Buildings (1 Category A, 28 Category B, and 8 Category C). Of these structures, the following are judged to be at

risk of potential effects from the Proposed Development (based on distance and/or confirmed presence within the predicted ZTV) and worthy of further assessment (all assets within 5 km, selected additional assets and the Category A property, Knocknalling Barn, will be assessed):

Table 11.6: Listed buildings

Designation Number	Building Name	Category
LB3628	Smitton's Bridge	B
LB3627	High Bridge of Ken	B
LB51691	Galloway Hydroelectric Power Scheme, Kendoon North Dam	B
LB51692	Galloway Hydroelectric Power Scheme, Kendoon South Dam	C
LB51693	Galloway Hydroelectric Power Scheme, Kendoon Surge Tower	C
LB51694	Kendoon Power Station	B
LB3680	Dalshangan, Dovecot	C
LB3679	Dalshangan Stables	B
LB9746	Knocknalling Barn	A
LB3677	Carsphairn Parish Church	B
LB51695	Galloway Hydroelectric Power Scheme, Carsfad South Dam	B

Conservation Areas and Inventoried Gardens/Parks

- 11.5.11. There are no Conservation Areas within the 10 km Study Area. The Dumfries & Galloway Historic Environment Record notes three areas of Archaeological Sensitivity: Stroanfreggan, to the immediate east of the Proposed Development, Bardennoch, to the west, and Polharrow Burn to the south.
- 11.5.12. No Inventoried Gardens are present within the 10 km Study Area. Six non-inventoried gardens are recorded within the Dumfries & Galloway Historic Environment Record. Closest is the site of Knockgray, c. 4 km to the west of the site.

Non-Designated "Nationally" Important Sites

- 11.5.13. Dumfries and Galloway's Archaeologist requested consideration of a number of non-designated monuments which are recorded as of "national importance" in the Historic Environment Record. These are listed below and have been assessed in the text in Section 11.6 (either separately or with reference to the Archaeologically Sensitive Areas in which they are located, as appropriate):
- Round Craigs cairn (MDG3944);
 - farmstead at Little Auchrae (MDG11404);
 - Kiln Knowe farmstead (MDG15860);
 - cairns on Stellhead (MDG3920);
 - cairn west of Culmark Hill (MDG3845); and
 - cairn on Green Dass Hill (MDG3406).

Archaeologically Sensitive Areas (ASA)

- 11.5.14. These are locally designated areas defined by Dumfries and Galloway where significant archaeological remains survive (or are anticipated to survive) and/or where significant elements of past cultural or historic landscapes are preserved or can be understood and experienced. The purpose of the designation is to trigger appropriate consideration within the planning process.¹³
- 11.5.15. For purposes of this report, three such areas fall within the Study Area and have been considered below through the assessment. Largely, they are considered in respect of the individual assets within them and the interrelationship of such assets. The relevant ASAs are listed below and shown on **Figure 11.1**:
- Stroanfreggan
 - Polharrow Burn, and
 - Bardenoch-Garryhorn

Archaeological Potential

- 11.5.16. Assessment of the data provided by the Dumfries & Galloway Historic Environment Record within the Archaeological Desk-Based Assessment (**Appendix 11.1**, Section 4 and 5) has established that there is a low archaeological potential within the Site. Ground disturbance from plantation forestry is likely to have damaged any prehistoric material within the top and subsoils, whilst post-medieval and modern agricultural remains are of low archaeological significance.
- 11.5.17. Roman and early medieval remains are not recorded within the 1 km Core Archaeological study area and are therefore unlikely to be present.

11.6. Assessment of Potential Effects

Potential Construction Effects

- 11.6.1. No physical effects are anticipated from the construction of the development upon any designated or non-designated heritage assets within the Site.
- 11.6.2. The solitary designated-heritage asset located within the Site, Craigengillan Cairn, is situated c. 150 m from the nearest turbine (T7) and will not be directly impacted. Known non-designated archaeological features are concentrated within the south-eastern area of the Site, at a minimum of c. 145 m from any proposed turbine locations. Within the northern portion of the Site, no asset is closer than c. 230 m from any proposed turbine location.
- 11.6.3. Up to 58 smaller cairns have been historically recorded (MDG3930, Canmore 64350, Canmore 64340) in small groups to the west, north, north-east and east of Craigengillan Cairn. These are no longer physically extant, but potential for sub-surface archaeological material associated within these monuments may remain, albeit this potential is considered limited due to the nature of forestry activities in the plantation area which are likely to have damaged if not

¹³ Dumfries and Galloway Local Plan 2 – Archaeologically Sensitive Areas (ASAs) Technical Paper January 2018

destroyed them. Locations of heritage assets as recorded on the HER are shown on **Figure 11.1**.

- 11.6.4. There is a limited potential for further unknown archaeological remains within the Site. If any do exist, they are unlikely to be no greater than local or regional in their significance and will likely have suffered some damage due to high levels of ground disturbance across the Site. It is expected that any unknown archaeological remains will be of post-medieval date, although there is some very low potential for prehistoric or medieval remains. Any remains are anticipated to be of local importance and low to negligible sensitivity; however, they may suffer a high magnitude of impact as a result of the Proposed Development. Therefore, the significance of the potential effect of any direct impacts is calculated as being minor and not significant in terms of the EIA Regulations. In order to ensure that no loss without preservation by record occurs, in the unlikely event that archaeological remains are uncovered, mitigation is proposed in section 11.8 below.
- 11.6.5. There is potential for the proposed site access infrastructure to require the removal of small sections of pre-existing dry-stone walls within the Site boundary. These features are not recorded within the local HER; however, they represent long standing divisions of the landscape and could be considered a non-designated heritage asset as they aid the understanding of the local landscape and its historic land use. The sensitivity of these features is negligible, with a medium magnitude of impact. Therefore, the potential for direct impacts is classified as not significant for the purposes of EIA regulations, as the majority of the structures will be retained, enabling continued appreciation of historic landscape use.
- 11.6.6. No physical impacts are anticipated on assets external to the Site as a result of any improvements required to the road network used for transportation of infrastructure to the Site.
- 11.6.7. Indirect, visual effects upon the setting of features beyond the Site would be as for the operation phase of the Proposed Development and are considered below.

Potential Operational Effects

- 11.6.8. No direct operational effects on the cultural heritage resource are anticipated from the operation of the turbines.
- 11.6.9. There are potential indirect visual effects upon the setting of some cultural heritage features within 5 km of the proposed turbines. These effects are discussed below. Assets considered in the assessment are shown in **Figure 11.2**

Scheduled Monuments within the Site

- 11.6.10. A single designated heritage asset is located within the Site. This is considered to be of high sensitivity and is assessed below:

Craigengillan Cairn (SM2238)

- 11.6.11. This prehistoric funerary cairn is located c. 100 m inside of the eastern site boundary, to the south of Goat Strand and east of Craigengillan Burn. The Cairn is relatively low lying, presenting as a mound of stones, covered by mosses and foliage, with trees close-up against its base. A sheepfold traverses the cairn (itself built of material likely robbed from the cairn). Although the asset is not identified by signage or described on any local interpretation boards, it is marked on the 1:25000 OS Explorer mapping.
- 11.6.12. Craigengillan Cairn is located within an overgrown clearing within mature commercial plantation, leading to very limited views to and from the asset across the surrounding area. There is currently no intervisibility between Craigengillan Cairn and the prehistoric site of Round Craigs to the east. Its current immediate setting is considered to relate to the clearing within which it stands, and this does not contribute to an understanding of the monument nor does it contribute positively to its appreciation. Its wider setting includes the Water of Ken to its east as it may have originally had views towards Round Craigs and over the lower land to its south-east, including towards Stroanfreggan.
The nearest proposed turbine is Turbine 7 at 126 m distant, and the closest proposed infrastructure (access track and laydown area) is shown as approximately 47 m.
- 11.6.13. Consideration of available felling plans indicates that the coup within which the cairn is located is due to be felled between 2019 and 2023. In this event, the cairn's setting will be entirely opened up, and this will have the effect of allowing an appreciation and understanding of Craigengillan Cairn within a wider landscape with which it was once associated, with visual linkage to Stroanfreggan and to the various (and perhaps contemporary) archaeological assets to the east in what is now the Archaeologically Sensitive Area east of the Water of Ken. However, on construction of the Proposed Development the closest turbine (T 7), together with the associated crane pad/laydown area etc., will be dominant in the immediate setting to the north-east of the cairn. All of the turbines of the Proposed Development will be visible to the south, west and north. An indicative visualisation is presented as a wireframe at **Figure 11.3**; this shows the theoretical extent of visibility of the turbines facing south from the cairn (and may more closely represent the degree of visibility post-felling). The proximity of the nearest turbine, as well as the presence of associated infrastructure close to the north, will constitute a major change in setting, and fundamentally alter the way in which this asset is appreciated, and experienced. As the Proposed Development is visually porous, it will still be possible to understand the monument's relationship to the wider landscape and the heritage assets within it, especially those located across the Water of Ken to the east and south-east. Nevertheless, in this event, the magnitude of effect upon the current setting of the cairn immediately post-felling and post construction is considered to be high and the overall effect is assessed as of "major" significance.
- 11.6.14. However, mitigation is proposed (see section 11.8 below) which is aimed at recreating a clearing setting around the cairn, using a mix of Broad leaf and "native" species. The planting around the cairn may provide an enhanced setting (at least one more "native" in character). Although this will take time

to establish, once mature, the trees around the edge of this recreated clearing should be able to screen the majority of the Proposed Development, with all but the very closest turbines screened. It is possible that only the tips of blades of the nearest turbines will overtop the clearing, and this effect may in fact be confined to Turbine 7 only. Turbines to the south and west will remain as new and relatively prominent additions in views from the cairn, whilst the proposed planting reaches maturity and there will still be a considerable change in setting (and in the way in which the asset is experienced and appreciated) whilst the planting matures so as to provide the desired screening. However, the effect on setting will diminish over time, as the clearing is established and until the current setting is recreated (as far as practicable given the proposed species mix), and as the proposed planting matures and provides increasing levels of screening.

- 11.6.15. The final effect i.e., once the proposed planting is fully established, and provides effective screening of the majority of the development with the exception of the tips of the closest turbines (including T 7) is assessed as 'minor'. This is because, whilst the cairn will continue to be within a clearing setting (so that the experience is effectively very similar to the current situation), some intrusion of modern and industrial elements (the blade tips of T7 for example) may be apparent over the clearing, with a small change in the experience at the cairn as a result. This "minor" effect is not significant for purposes of the EIA Regulations.

Scheduled Monuments within 5 km of the Site Boundary

- 11.6.16. Two Scheduled Monuments are located to the immediate south-east of the Site. Three further scheduled monuments are also located within 5 km to the south-west of the Site. All are of 'high' sensitivity and are assessed below:

Stroanfreggan Bridge (Cairn) (SM1043)

- 11.6.17. Stroanfreggan Bridge Cairn is a prehistoric (Neolithic/Bronze Age) monument located 1.7 km to the east of the nearest turbine (T19). It has been heavily robbed and is currently overgrown with grasses and scrub. The Cairn is set within an open and relatively low-lying, rural landscape. It is surrounded on all sides by open pasture, with the managed woodland of the Site c.1 km to the west. The asset sits just north of a tributary of the water of Ken and south of the B729. It is promoted locally to encourage public appreciation.
- 11.6.18. Despite being robbed, the importance of this monument is closely linked to its role as a source of archaeological information regarding prehistoric activity within the local area. The visual relationship of the cairn to Stroanfreggan Fort to the North also augments the setting of the Cairn, as does its relationship with the Water of Ken. A representative view is shown as VP 5, Figure 8.41 in Chapter 8: Landscape and Visual Assessment of this EIA Report.
- 11.6.19. The ZTV indicates that there is potential for visibility of all 19 turbines from this Cairn (albeit many only as blades or from hub height), with the Proposed Development introducing new industrial and upright elements into the landscape to the northwest. Views to the north west of the monument are already restricted, due to the presence of managed woodlands, with the ridge

on which Stroanfreggan Fort is located helping to close off views to the north and north-west. The turbines will be located behind this natural break within the landscape, and so their impact will be reduced. Views to broadly contemporary monuments at Round Craigs, to the north will have peripheral sight of the turbines to the west; however, this change will not impact the ability of the public to appreciate the cultural landscape to the east of the Site. The Proposed Development is considered to have a 'low' magnitude of impact.

- 11.6.20. The asset has a 'high' level of sensitivity. Combined with the 'low' potential magnitude of effect, the potential impacts on the asset and its setting are assessed as 'minor', which is not significant for the purposes of EIA Regulations.

Stroanfreggan Craig (Fort) (SM1095)

- 11.6.21. Stroanfreggan Craig Fort is an Iron Age fort occupying the summit of Stroanfreggan Craig. It survives as a series of drystone walls, with the addition of a later dyke. The Fort represents a high, focal point within the surrounding landscape, with clear views across the local area, including the earlier occupation site of Stroanfreggan Craig to the north. It is located to the north of the B729, with the managed woodland of the Site c. 200 m to the west. Its wider setting is predominantly open pasture land, with the Water of Ken, a historic watercourse, to the south. A historic relationship between the river, its crossing points, and the fort is anticipated, as both a source of water and part of a wider transport infrastructure network, across the Iron Age landscape. The ZTV indicates that all 19 turbines are likely to be visible from the asset, the closest turbine (T17) being c. 1.3 km to the north-west. A representative view is shown as VP 2, Figure 8.38 in Chapter 8: Landscape and Visual Assessment of this EIA Report.
- 11.6.22. The presumed defensive nature of the asset implies a need for clear views of the surrounding landscape; however, it is the availability of these views which is of importance, not their current content. Views to the west of the monument are already restricted, due to the presence of managed woodlands. The turbines will be visible, introducing a modern, industrial element to the landscape within this woodland. Although this represents a change in the fort's setting, their presence will not impede the public's ability to appreciate the surrounding landscape from the asset. Views to broadly contemporary monuments at Round Craigs, to the north will have peripheral sight of the turbines to the west; however, this change will not impact the ability of the public to appreciate the ancient landscape to the east of the Site. The proposed works are judged to have a 'low' magnitude of impact.
- 11.6.23. Whilst there is a change in setting as the development will introduce industrial upright elements in views to the west from the Fort, this will not prevent an understanding of the fort's form and topographic relation to the ridge on which it is situated, nor its relationship to the Ken and its tributary to the south, nor to the scheduled cairn to its south and the prehistoric remains (as defined in the Archaeologically Sensitive Area) to its north. It is noted that turbines are already a feature of the wider landscape, being already present at Whether Hill, approximately 5 km to the east, although the Proposed Development will introduce larger turbines at closer range to the north-east. As noted above,

this will not affect the ability of the public to understand or appreciate the significance of the asset it in its current location.

- 11.6.24. The overall effect is therefore assessed as 'minor', which is not significant for the purposes of EIA regulations.

Dundeugh Castle (SM2476)

- 11.6.25. Very little remains of this medieval castle, located c 3.9 km south-west of the proposed Site and c. 4.8 km from the nearest proposed turbine location. Several metres of broken walling suggest that the castle may have been built on an L-shaped plan; however, its precise date and function remain largely unclear.

- 11.6.26. The Castle is located on the eastern bank of the western tributary of Carsfad Loch. It is located within a relatively low-lying area of land with managed woodland to the east, a small settlement (Dundeugh) to the north, and open land to the west and south. There is some low-level screening, in the form of hedgerows and other foliage surrounding the site and lining the A713. Historically, views from the Castle are likely to have been of importance due to the defensive nature of the structure. Whilst views towards the turbines are theoretically possible, they are already impeded by the bulk of the intervening Dundeugh and Marscalloch Hills, and the presence of managed woodland on them. Due to the location of the asset within the landscape and intervening screening, it is anticipated that no more than a maximum of four turbines could potentially be visible from the Castle (and realistically none will be prominent even if visible). This would represent a low/negligible magnitude of impact that is not significant for the purposes of EIA Regulations.

Polmaddy medieval/post-medieval settlement (SM5391)

- 11.6.27. Polmaddy settlement is situated c.850 m west of Dundeugh Castle and c.5.2 km south-west of the nearest proposed turbine location. The monument consists of the remains of the deserted village of Polmaddy, documented from the early 16th century AD. The remains take the form of an extensive complex of fields that is bounded by drystone walls and contains many small cairns. On the lower land beside the Polmaddy Burn, there is an area of open fields marked by traces of rig and furrow cultivation. The settlement is locally promoted as part of the historic landscape of the area.

- 11.6.28. The asset is surrounded to the north, east and south by managed woodland, severely restricting views towards the Proposed Development. Views to the west of the asset remain largely open, whilst a watercourse bounds the southern and western extent of the former settlement. The importance of this asset stems from any archaeological remains' group value, and their continued survival as a record of domestic activity within the area. Due to the relative height of the settlement area, there is potential for 10 to 14 turbines to be visible from the asset; however, these will be not impact on any important views from the asset. As the archaeological and historic value of the asset will not be affected by the Proposed Development, nor will it prevent an appreciation of the form and function of the asset or jeopardise the ability to

understand the assets significance, the magnitude of impact of any change is low and not significant for the purposes of EIA Regulations.

Braidnoch Hillcross slabs (SM1105)

- 11.6.29. Lying on the south-west slope of Braidnoch Hill, some 250 metres south of the summit, are two stone slabs with incised crosses; one complete though broken in two, and the other a fragment. The asset is located south-west of the Proposed Development, c. 5.1 km from the closest turbine.
- 11.6.30. The monument's importance is derived from its location demarking a site of potential religious significance and as part of a pilgrim route (which ran north-south along the ridge). There are no obvious planned or designed views from the asset to the north-east towards the Site; however, due to its exposed nature, all 19 turbines are potentially visible from the asset's location. A representative view is shown as a wireline draped over a photograph at **Figure 11.4**.
- 11.6.31. Despite its likely visibility, the Proposed Development will not impact the ability to appreciate or understand the asset (in terms of its archaeological and historic value) or its setting; and therefore, the magnitude of any changes is 'negligible'. The overall effect is therefore assessed as 'not significant'.

Listed Buildings within 5 km of the Site Boundary

Smeatons/Smittons Bridge (Category B, LB3628)

- 11.6.32. Smeatons/Smittons Bridge is a 19th century stone bridge (c.1830) consisting of a single, depressed-arch with splayed abutments. It enables the B729 to cross the Water of Ken and is located c. 20 m outside of the south-eastern boundary of the Site and approximately 1.3 km east-southeast the closest proposed turbine (T19). The asset is located at a relatively low point within the surrounding landscape, with managed woodland obscuring views to the west and partially to the south. To the north and east, the bridge has open views across the pastoral landscape, which has remained largely unchanged since the asset's construction. A representative view is shown as VP 1, Figure 8.40 in Chapter 8: Landscape and Visual Assessment of this EIA Report.
- 11.6.33. The importance of the asset is linked to its function as a historic crossing point, enabling safe passage for travellers (most frequently local farmers and their livestock) across the river. Whilst there is potential for 18 turbines to be visible from the site, in reality, screening afforded by forestry means that it is unlikely that these would be distinguishable from the low-lying and partially enclosed position of the asset. The visualisation indicates that only parts of 6 turbines would be visible above or to the side of the existing forestry. The Proposed Development will not impede the historic association between the bridge and the Water of Ken, nor will impact the views from the asset across the managed landscape to the east from the bridge, nor impede views of the bridge structure from along the river.

- 11.6.34. The magnitude of impact of the proposals on this asset is therefore defined as 'negligible', and the overall significance of these impacts is 'not significant' in regard to the EIA Regulations.

High Bridge of Ken (Category B, LB3627)

- 11.6.35. The High Bridge of Ken is situated 1 km from the Site, to the south-west of the Proposed Development and 2.1 km from the nearest proposed turbine (T19). This stone Bridge dates from the 18th century and comprises of two semi-circular arches, topped with a narrow carriageway. It is located along the B700, immediately south of an area of managed woodland. Views to the east and south of the asset are largely open across enclosed pasture bisected by dry stone walls. Further woodland is present to the west, just past the route of the Water of Ken. A representative view is shown as VP 9, Figure 8.45 in Chapter 8: Landscaper and Visual Assessment of this Environmental Report.

- 11.6.36. The importance of the asset is linked to its function as a historic crossing point, enabling safe passage for travellers (most frequently local farmers and their livestock) across the river. Whilst the ZTV indicates there is potential for 16 turbines to be visible from the site, in reality screening afforded by intervening woodland and forestry means that effectively no turbines would be visible from the asset (as demonstrated by the visualisation). The development will not impede the historic association between the bridge and the Water of Ken, nor will impact the views from the asset across the managed landscape to the east, nor impede views of the bridge structure from the river bank to its west and north-east.

- 11.6.37. The magnitude of impact of the proposals on this asset is therefore assessed as "negligible", meaning the overall significance of these impacts is 'not significant'.

Galloway Hydroelectric Power Scheme Kendoon North Dam (Category B, LB51691)

- 11.6.38. The north dam lies on the western side of Kendoon Loch, approximately 2.3 km south-west of the nearest turbine of the proposed development (T19). It is a part of the Galloway hydro-electric scheme dating back to the 1930s. Its setting is considered to be fundamentally related to the reservoir which it helps to retain. Whilst a small number of turbines may be theoretically visible from the dam and its immediate environs, they will in no way detract from understanding the form and function of the dam, nor its place in the history of energy generation and engineering of Scotland. Indeed, as source of renewable energy, the turbines could be said to be complimentary in development type, and wholly in keeping with the purpose of the dam. No effect is found to occur to this asset as a result of the proposed development.

- 11.6.39. The same assessment is considered to apply to related parts of the Galloway hydro-electric scheme further down the Kendoon Loch and the Water of Ken to the south. This includes the South Dam (LB51692, Category C), Surge Tower (LB51693, Category C), Kendoon Power Station (LB 51694, Category B), and the Carsfad South Dam (LB51695, Category B) which lie between 3.1 to 6.8 km from the nearest turbines (T19) and are theoretically intervisible to various

degrees with the Proposed Development. In no case is any effect upon the setting or its appreciation, understanding or experience of the heritage value of the asset predicted to occur.

Dalshangan Stables (Category B, LB3679) and Dovecot (Category C, LB3680)

11.6.40. These assets are considered together as they have group value and relate to the same estate (Dalshangan House). They are situated approximately 4.1 and 4.3 km to the south-west of the closest of the proposed turbines (T19). They are considered to have value in respect of their architectural and historic interests. Their setting is defined by their position within the estate and relationship to each other as well as to the house itself.

11.6.41. Although theoretically intervisible with 10-14 of the proposed turbines, the significance of these asset is not considered to be harmed. Their architectural details are best appreciated in close proximity and experienced in relation to the estate as a whole. The visibility or otherwise of turbines from the vicinity of the buildings is not considered to affect this experience, and long views to or from the asset are not considered to be essential parts of their settings that contribute to the appreciation or understanding. The Proposed Development is therefore assessed as causing no effect.

Carsphairn Parish Churchyard (Category B, LB367) and Church (Category B, LB3677)

11.6.42. The church is situated just over 5 km from the nearest of the proposed turbines (T16). It lies within its own walled churchyard at the southern end of the village, adjacent to the western side of the A713. The yard contains many well-preserved tombs including the memorial to the MacAdams of Waterhead, dated 1838. They are designated for their architectural and historic (as well as aesthetic) interests.

11.6.43. There may be visibility of the turbines at distance from the environs of the churchyard, but this is not considered to detract from the architectural and historic interest protected by the designation. The Proposed Development will not interrupt any long views to or from the church that contribute to its appreciation or experience, nor adversely affect the ability to appreciate or understand the special interest in the church and churchyard. Consequently, no significant effect is predicted.

Stroanfreggan Archaeologically Sensitive Area

11.6.44. Stroanfreggan Archaeologically Sensitive Area (ASA) lies immediately to the west of the site (on the eastern side of the Water of Ken). This extends from Auchrae Burn in the north to just south of Stroanfreggan Bridge (cairn) in the south. It is bounded by managed woodland to the west, east and south-west and open agricultural land to the north and south-east. The area has been defined primarily to denote an area considered to have higher archaeological potential for traces of activity from earlier periods (including the prehistoric past) and which help to define the landscape within the Area. The Area contains two scheduled monuments (assessed above) and six sites identified in the

Dumfries and Galloway HER as being of national importance (albeit not protected by statute).

- 11.6.45. As the area is an artificially defined, modern space it is not assessed as a receptor itself. However, the specific sites within the ASA recorded as being of national importance are considered below.

MDG3956 and MDG3934

- 11.6.46. MDG3956 and MDG3934 represent two scatters of lithic material (and one possible enclosure) which are situated immediately south and south-west of Stroanfreggan Fort. They are likely to be prehistoric in date and are related to the occupation of Stroanfreggan. Their value is primarily in their archaeological interest, and this is not considered to be changed by the Proposed Development even where the turbines are visible from the find spots. As their significance does not rely on any visual contribution from their setting (other than an immediate relation with the fort and associated remains), they are not considered to receive any significant effect and are not considered further.

MDG3920

- 11.6.47. MDG3920 represents the remains of clearance cairns (of possible Bronze Age date) on the open moor at Stellhead, west of Cornharrow. The nearest turbine (T14) is approximately 3.4 km to the west and parts of 6 Turbines are theoretically visible (see an indicative view presented as a wireline in **Figure 11.5**). However, their value and significance is considered to lie in the archaeological and historic value they hold to inform on former agricultural activities in the area during the prehistoric period. This ability to appreciate, understand or experience this interest is not affected by intervisibility with the Proposed Development. The ability to appreciate the form of the monument and its historical and archaeological value is not jeopardised, and consequently, no significant effect is predicted to occur.

MDG3944 and MDG3945

- 11.6.48. MDG3944 (a cairn) and MDG3945 (a burnt mound) represent monuments that may be late Neolithic to Late Bronze Age in date. Both lie on open moorland at Round Craigs, above the headwaters of feeder streams for the Little Auchrae Burn, itself a tributary of the Water of Ken, and in general, have western facing aspects. Their value is primarily archaeological, contributing the understanding of the occupation of the wider area through time. The whole of the Proposed Development will be visible across the valley of the Ken in views to the west (the nearest turbine, T11, being 1.5 and 1.7 km to the west of the monuments. A representative view from Round Craigs is shown as **Figure 11.6**.

- 11.6.49. Whilst the archaeological interest in these monuments is not affected, the cairn may well have had a visual relationship with the Craigengillan cairn which lies some 2 km to its north-west, on the other side of the Water of Ken. Although no direct visual link is perceptible on the ground from either monument (due to planting around the Craigengillan Cairn and the limited above ground presence of the Round Craig Cairn) at the current time, such relationships are considered to have been important in the original location of these types of

monuments, and in this case, forms a part of the setting of both. The presence of the wind farm will introduce a strong industrial element in views across the Ken valley from the monuments, and one which may distract from an appreciation of the linkage with Craigengillan. However, taking into account distance, as well as the fact that a direct visual linkage is no longer experienced on the ground, and given that the archaeological value of these assets is not affected, the impact is considered to be 'low', and the effect on the significance of the assets (and the ability to appreciate and understand that significance) is assessed as 'minor' (and not significant for purpose of the EIA regulations).

MDG11404

- 11.6.50. Little Auchrae/Scalloch represents a medieval and post-medieval farmstead with associated field system in the north-western part of the ASA. It lies on higher ground, and its extent is partly defined by traces of dry stone walls marking boundaries and enclosures. This type of monument is relatively common and well-understood (especially in later periods) and its value lies in its archaeological interest, as well as its historic value, in respect of understanding the record of occupation and activity along the Valley of the Ken. It lies approximately 900 m from the nearest of the proposed turbines (T11).
- 11.6.51. Its setting is considered to relate to the higher ground on which it lies as well as to the Ken Valley. Views up and down the valley and across it are considered to contribute to the asset's understanding and appreciation. Whilst these views are not severed by the Proposed Development, the turbines will form a new and prominent industrial element in views to the west and south-west, which changes the character of the landscape in which the asset is situated - an indicative wireframe visualisation is presented at **Figure 11.7**. Nevertheless, the archaeological value of the asset will not be harmed, nor will the ability to appreciate the function and form of the settlement as a former farmstead, nor will an understanding of its topographic location be reduced. However, the rural character of the location will be changed, so that the experience at the monument will be affected, largely due to the proximity of the turbines.
- 11.6.52. The effect is considered to be of "medium" magnitude upon an asset considered by Dumfries and Galloway to be nationally important (if not actually legally protected), and the effect is assessed as "moderate" and 'significant' for purpose of the EIA regulations.

MDG15860

- 11.6.53. This asset consists of the remains (principally low traces of walls and earthworks) of a corn drying kiln, farmstead and field system situated in open moorland at Kiln Knowe, dating from the medieval period into the 19th Century. It is situated between two minor streams which run south into the Stroanfreggan Burn. The farmstead's main aspect is to the south, and its setting is related to the ground on which it stands and the streams to either side as well as to the valley of the Stroanfreggan Burn to the south. Its value is considered to lie primarily in its archaeological and historic value. The closest turbine is approximately 2.3 km to the west and 15 turbines are theoretically visible (albeit only the extreme tips in most cases). An indicative wireframe visualisation is presented at **Figure 11.8**.

- 11.6.54. The archaeological and historic value of the asset is not considered to be affected by the Proposed Development, and its significance is not affected by the presence of the turbines in views at some distance to the west. The effect upon the ability to understand, appreciate and experience that significance is considered to be negligible in magnitude, and the overall effect is assessed as 'not significant'.

Garryhorn-Bardennoch Archaeologically Sensitive Area

- 11.6.55. The designated assets within the ASA at Woodhead Lead Mines, Cairn Avel and the cross-slabs at Braidenoch have been considered separately elsewhere in this assessment. The basis for the area designation is to trigger consideration of archaeological and other heritage concerns by development within or adjacent to the ASA - in this, the ASA has served its purpose with relation to the Proposed Development as it will have no physical, direct effect on the ASA nor any assets within it.

- 11.6.56. The Proposed Development will be visible at distance above the ridgeline on the eastern side of the valley of the Water of Deugh. Nevertheless, this presence is confined to one direction of view only, and it is not considered to prevent any understanding of the form and function of any of the heritage assets (above and below-ground) which lie within the ASA, nor to prevent an appreciation of their relationship to each other or to the valley to their east. No significant adverse effect is considered to occur to any asset within the ASA, and the ASA itself is not considered to be jeopardised as a result of the Proposed Development, notwithstanding intervisibility with the turbines.

Polharrow Archaeological Sensitive Area

- 11.6.57. The Green Dass Cairn (MDG 3406) is considered separately elsewhere in this assessment (11.6.75). As stated above, the ASA's purpose is to trigger consideration of archaeological and other heritage concerns by development within or adjacent to the ASA. In this, the ASA has served its purpose with relation to the Proposed Development, as it will have no physical, direct effect on the ASA nor any asset within it. An indicative view from the Cairn is shown as a wireline at **Figure 11.9**.

- 11.6.58. The ASA is focussed on the Polharrow Burn and surrounding uplands and is around 6.5 km or more from the nearest proposed turbine. The ASA covers a number of non-designated assets representing the remains of former settlements and enclosures etc. providing evidence for the evolving exploiting of the upper Polharrow Burn area from the prehistoric period onwards. Even where visible, the proposed turbines are not considered to cause any adverse effect on the settings of any of the heritage assets within the area, nor to affect the ability to understand, appreciate or experience their form and function and spatial relationships to each other. It is considered that the ASA is not jeopardised by the Proposed Development, and that none of the assets within it will suffer any adverse effect upon their settings (even where the turbines maybe visible at distance to the north-east); the potential effect is therefore assessed as 'not significant'.

Other Assets Selected for Assessment within 5 km

Cairn on Culmark Hill MDG3845

- 11.6.59. This bronze age cairn lies in open moorland on a low rise just to the west of the summit of Culmark Hill, approximately 3.2 km south of the nearest of the proposed turbines (T19). Although it does not itself have a prominent above ground presence, it has an extensive setting, with views north which include Stroanfreggan Fort, west over the water of Ken, and south over the small valley of the Black Water, which itself flows west into the Water of Ken. Its immediate setting is the low summit on which it sits and the small enclosure (of unknown date) to its west.
- 11.6.60. The Proposed Development introduces a new industrial element in views directly to the north, although it is noted that turbines at Wether Hill are already a component in views to the north-east, in the wider landscape. The Proposed Development sits behind Stroanfreggan and will not impede views to that ridge from the Culmark Cairn. An indicative view from the cairn (wireline) is presented at **Figure 11.10** and a viewpoint from the summit is presented at VP 7, Figure 8.43, Chapter 8 Landscape and Visual Assessment of this EIA Report.
- 11.6.61. The ability to understand and appreciate the cairn's form and function and relationship (intentional or otherwise) with the enclosure to its west is not affected by intervisibility of the proposed turbines, and the basis for its designation (the protection of its archaeological remains) is not jeopardised. Long views will still be available in all directions, and the ability to appreciate and experience the topographical location of the cairn is not affected. There will be a change in setting a result of the Proposed Development's construction, but this is confined to its appearance in distant landscape views to the north from the cairn and does not affect the understanding of the historic or archaeological interest in the cairn. The magnitude of change is considered to be 'low', and the effect is therefore assessed as 'minor' and 'not significant' for purposes of the EIA Regulations.

Knockgray Park Landscape (non-inventoried)

- 11.6.62. This relict and largely informal parkland lies to the east of Carsphairn, north of the Water of Deugh, and south of the Craig of Knockgray, approximately 3.5 km west of the closest turbine of the Proposed Development (T13). It consists of a number of plantation blocks and landscaping around Knockgray Farm and Knockgray House, taking advantage of the Knockgray Burn as this flows south-east through the park towards the Water of Deugh. In general, the landscape slopes to the south.
- 11.6.63. An indicative visualisation (wireline) is presented as **Figure 11.11**. This indicates that 16 turbines may be visible over the intervening higher ground (many as the extreme tips of blades or only at hub height), but the degree to which this visibility is possible will be dependent on where the viewer is within the landscape itself. It is likely that screening within the parkland afforded by plantation and structures within it will limit the degree to which the turbines will be visible. Where visible, the turbines will introduce new elements in view

to the east from within the park, and this is considered to cause a change in setting of 'low' magnitude that may marginally affect the experience of the park, but one which does not prevent an appreciation or understanding of the landscape as a setting for the structures within it, not in how it has been placed and designed in respect to the landform it occupies. Any effect therefore is assessed as of 'minor' significance and this is 'not significant' for purposes of the EIA Regulations.

Other Assets Selected for Assessment beyond 5 km

- 11.6.64. A number of sites at a greater distance than 5 km from the Proposed Development were requested to be assessed following consultation with the Dumfries and Galloway Archaeologist. These are considered below.

Knocknalling Barn (LB9746, Category A)

- 11.6.65. The barn forms part of a range of buildings associated with Knocknalling house. It is primarily designated for its historic and architectural interest. Its setting is considered to be defined by its relation to the House, gardens and other structures and spaces at Knocknalling. The main range is enclosed by mature plantation to north, west and south, and the main approach to the house is from the east.

- 11.6.66. The nearest turbine (T19) of the Proposed Development is situated approximately 7.9 km to the north-northeast, but the ZTV (See figure 8.7) indicates that there is no theoretical visibility of the Proposed Development from the vicinity of this asset. Consequently, no significant effect is predicted to occur and this asset is not considered further.

Cairn Avel SM 1006

- 11.6.67. The cairn lies approximately 5.5 km west of the nearest of the proposed turbines (T16). It is situated in open ground on the northern slopes of Bardennoch Hill, south of a tributary of the Water of Deugh, which lies to the east. It is promoted and accessible to the public. The monument consists of a much-reduced long cairn (of Neolithic date), with most of its material robbed, so that only the eastern end is well preserved above ground level. Its setting is related to the stream to its north and to the valley of the Water of Deugh to its east.

- 11.6.68. An indicative view from the Cairn towards the Proposed Development is presented as **Figure 11.12**. All of the turbines are predicted to have some degree of intervisibility with the cairn, but the visualisation indicates that many will be visible as blades or at hub height only. Whilst the turbines will be a new addition to views towards the east, they will not prevent an understanding or appreciation of the physical form of the cairn, nor its relationship to the valley. The turbines will not obscure any long views towards the cairn, nor interrupt any visual linkages with similar monuments or landmarks. They will introduce a new and more industrial element in views to the east, but some modern infrastructure is already apparent around Carsphairn and along the A713. There is a change in setting as a result, but this is considered to be limited to views towards the east and does not affect the ability to appreciate to

experience the cairn, nor does it jeopardise the basis for its designation. As a result, the change in setting is considered to be negligible, and notwithstanding the visibility of the turbines behind the ridge to the east, the effect on the monument and the ability to experience, appreciate and understand it within its setting is assessed as 'not significant' in terms of the EIA Regulations.

Holm of Daltallochan Stone Circle and Standing Stone (SM1006)

- 11.6.69. This monument represents a possible stone circle and associated standing stone and lies approximately 6.6 km from the closest turbine (T10). It lies in a field to the north of Daltallochan, north of Carsphairn, and west of the A713. Its immediate setting is the field in which it lies, but with a wider setting that includes the flat land between the Water of Deugh, south of Holm Hill and the higher ground on the west side of the Carsphairn Lane stream at Garryhorn Rig. The ZTV indicates that the Proposed Development will not be visible from the Stones themselves. Whilst the turbines may be visible at distance in views across the monument to the south east, they will not impede and specific visual relationships, nor prevent long views towards the monument (where these are available). Consequently, the monument's setting is not considered to be changed, and the ability to understand, appreciate and experience the stones is not in any way jeopardised or diminished. No effect is found, and the effect is 'not significant' in EIA terms.

Daltallochan Holm Cross slab (SM1106)

- 11.6.70. This monument consists of a stone cross slab located in the grounds of Holm of Daltallochan, although it may have been moved here from elsewhere. The inscribed cross is said to be similar to slabs at Braidenoch Hill, and likely of similar early medieval date. The setting is currently defined by its location within the grounds. This is not changed. The ability to appreciate, understand or experience the monument is not considered to be dependent on visibility or otherwise of the Proposed Development, which is in any case not predicted to be visible from this location. No significant effect is considered to occur.

Woodhead Lead Mines (SM5184)

- 11.6.71. This monument covers remains of historic lead-mining activity (extraction and smelting, including remains of structures, pits spoil heaps etc.) in higher ground around Woodhead, dating to the Nineteenth century (although the associated settlement may pre-date this). The monument lies within a valley to the north of the Garryhorn Burn, south of Garryhorn Rig, east of the high ground around Corran of Portmark, and north of Craighit and Black Craig; the valley descends towards Carsphairn to the east. The monument lies approximately 7.9 km west of the nearest turbine (T16) and is a part of the wider Bardenoch and Garryhorn Archaeologically Sensitive Area (as defined in the Dumfries and Galloway Local Plan). The setting of the monument is defined by its geographic location as described above, albeit there are views to the east from the site. A view is presented as VP 20, Figure 8.56, Chapter 8 Landscape and Visual Assessment of this EIA Report. This indicates that 16 turbines will be visible, albeit a number of these are only as the extreme tips and hub height and above.

- 11.6.72. There are no specific designed views to and from the monument and long-range visibility to or from it is not considered to be a determinative part of its setting. The ability to understand and appreciate the location of the monument, and the function and interrelationship of its various constituent parts is not considered to be adversely affected by the presence of the Proposed Development at distance in long views to the east. This presence is considered to constitute a very minor change in setting, but one which does not affect how the monument is understood or experienced within its landscape. As a result, the magnitude of change is considered to be negligible, and the overall effect on the monument is assessed as 'not significant'.

Green Dass Hill Cairn MDG3406

- 11.6.73. This non-designated cairn lies in open ground on the south-eastern slopes of The Glenkens, below Green Dass, approximately 6.8 km south-west of the nearest of the proposed turbines (T19). It overlooks an area of marshier ground to its east (Loch Goosie) and Black Strand burn to its south (this being a tributary of the Polharrow Burn); this is considered to define its setting.
- 11.6.74. Although the Proposed Development may be visible in views to the north-east, the turbines will constitute only a minor addition to that view, with many only visible as blade tips or hub height and above. An indicative view is presented as a wireline **Figure 11.9**. Their presence will not affect how the monument is understood, appreciated or experienced, in terms of its relationship to the Polharrow Burn and the settlement evidence in this area. The change in setting is considered negligible, with no effect on the ability to understand or appreciate the archaeological or historic interest in the cairn, and no adverse effect on understanding or experiencing its place amongst the surrounding archaeological traces in and around the Polharrow Burn area. No potential adverse effect is predicted, and any effect is assessed as 'not significant'.

Potential Effects of Decommissioning

- 11.6.75. Assuming no additional land take is required to facilitate removal of the proposed infrastructure, no direct effects on any heritage assets are predicted as a result of decommissioning the wind farm at the end of its consented life.
- 11.6.76. Apart from temporary presence of cranes and other plant required during this phase, no additional indirect, visual or other, effects are anticipated to occur to any heritage assets within or beyond the development site boundary. Any predicted operational effects upon the settings of any heritage assets will be reversed by decommissioning (all other current conditions remaining the same).

11.7. Assessment of Cumulative Effects

- 11.7.1. Although there are a considerable number of wind farms in the wider area of the Site (including those consented/operation, in planning and at scoping - see **Figures 8.2 and 8.3**, Chapter 8: Landscape and Visual Assessment of this EIA Report), only those in relatively close proximity (effectively within c. 10km) are considered to have the potential to cause cumulative effects on the settings

and significance of heritage assets as a result of the addition of the Proposed Development.

- 11.7.2. This assessment has taken in to account the distance at which significant effects on heritage assets have been predicted as a result of the Proposed Development, as well as the distance of the cumulative sites from those assets (and whether they lie at distances which might cause significant effects in their own right on assets lying between them and the Proposed Development). Consideration has been given to the respective ZTVs in relation to the assets which are predicted to receive any effect from the Proposed Development. Consideration has been given to the overlapping ZTVs (and where heritage assets lie within them) showing the Proposed Development with other schemes presented in Figures 8.25 to 8.36 in Chapter 8 of this EIA Report). As a result of this appraisal, some cumulative sites have been excluded from detailed consideration in the following sections, as set out below.
- 11.7.3. It is noted that Wether Hill already has a presence to the east of the Proposed Development. The planned extension will increase the number of turbines present further to the east, but these are not likely (due to distance and topography) to significantly affect the settings of any heritage assets which are also likely to receive any significant effect from Proposed Development. Consented schemes at Afton, South Kyle and Benbrack (together with the operational Windy Standard) are all too far to the north and screened by higher ground for there to be a potential significant cumulative effect on assets between them in combinations with Proposed Development. The same applies to Knockman Hill and Black Craig Hill to the South.
- 11.7.4. The two sites of Trostan Loch and Glenshimmeroch to the south-east are all currently in scoping and full details of their turbine layout were not available at the time of writing. Nevertheless, they are considered sufficiently distant that they are unlikely to affect the same assets as Shepherds Rig, with the exception of Stroanfreggan Fort (SM1095) and the non-designated assets around Stellhead (MDG3920) and Kiln Knowe (MDG15860). It is considered that they may lead to an increase in a sense of enclosure by turbines at the latter sites, but the Proposed Development will play a more limited and distant role in this; any effect is likely to be no more than of 'low' magnitude and hence of 'minor' significance at most; this is not significant for purposes of the regulations, and these schemes are not considered further.
- 11.7.5. Longburn and Cornharrow are considered to be sufficiently close to the Proposed Development that they have potential to affect the same group of heritage assets and give rise to the potential for cumulative effects to occur. These wind farms are considered below.

Longburn

- 11.7.6. Longburn Wind Farm is currently considered to be at the application stage (subject to an ongoing appeal against refusal). It lies to the immediate east of the Proposed Development and is situated to the east of the Water of Ken with many of its turbines located within the open ground covered by the Archaeologically Sensitive Area designation for Stroanfreggan.

- 11.7.7. If allowed, the Longburn Scheme will introduce turbines into views to the east and south-east from Craigengillan Cairn (SM2238). The Proposed Development turbines will therefore not be a new element in views, but due to their proximity (especially for T7) and the sense in which they will surround this asset, the cumulative effect is considered to be of 'high' magnitude'. This is considered to be 'major' and 'significant' (especially given the felling plans and the potential that the Proposed Development will not be able to be screened when viewed from this cairn (without mitigation). However, proposed mitigation (see section 11.8) will seek to recreate a clearing as the setting of the cairn, with the expectation that once the planting is mature, views in the direction of Longburn will be restricted, with visibility of the turbines limited to glimpsed views (if any) through the screening. This is expected to reduce the magnitude of the potential cumulative effect over time to one that is "minor" and not significant for purposes of the EIA regulations (in that effectively, the current clearing setting will be replicated).
- 11.7.8. The Proposed Development will not cause any significant cumulative effect on those heritage assets within the main part of the Longburn scheme such as the clearance cairns and settlement remains around Stellhead (MDG3920) and Kiln Knowe (MDG15860), as well as for the burnt mound (MDG3945) and cairn at Round Craigs (MDG3944) as they will be in the midst of the Longburn turbines.
- 11.7.9. However, it is considered that the Proposed Development will provide more of sense of enclosure by turbines for assets within the western side of Longburn and within the ASA. This would be the case at Little Auchrae farmstead (MDG11404), and at the Scheduled Stroanfreggan Fort site (SM1095) (in views to west and north-west from those assets respectively), even though the Proposed Development turbines would be somewhat more distant than the Longburn turbines from any given feature. For these assets, the additional effect on setting is considered to be 'medium' in magnitude, leading to a cumulative effect on setting that is assessed as "moderate" and 'significant'.
- 11.7.10. Assets further to the south such as the scheduled Stroanfreggan Bridge Cairn (SM1043) and the cairn at Culmark Hill (MDG3845) will tend to see more turbines in wider arcs of view to the north. For Stroanfreggan Bridge Cairn, the Longburn turbines are likely to be more prominent and intrusive in views towards Stroanfreggan Fort, than the Proposed Development turbines, which are further away and are less likely to affect that strong visual connection. As a result, the additional effect from the proposed turbines as an addition to the Longburn turbines is assessed as 'low' in magnitude (in that they increase the numbers of turbines visible) and "minor" in effect (as they do not cumulatively further adversely affect that view - the effect being largely generated by the Longburn scheme). This is 'not significant' for purposes of the EIA Regulations.
- 11.7.11. For Culmark Hill, more turbines are visible in views to the north, but the availability of long views is considered key here, and this will still be the case. Although more turbines are visible in a wider arc of view, the effect on setting is considered to be 'low' in magnitude, resulting in a cumulative effect assessed as only 'minor' in significance and 'not significant' for purposes of the EIA Regulations.

- 11.7.12. For assets to the west and south-west, the Proposed Development will be the determining wind farm with Longburn being largely more distant, and even where visible not contributing to any adverse effect on settings. In this respect, no significant cumulative effect is considered likely to occur for assets in this direction.

Cornharrow

- 11.7.13. The Cornharrow Scheme is currently in application. It would be situated on the western side of Carroch Hill, some 4 km from the Proposed Development. It will tend to be more prominent (if not dominant) in respect of the settings of the assets around Stellhead (MDG 3920) and Kiln Knowe (MDG15860). The Proposed Development turbines will be additions in views to the west from these assets and may contribute to a sense in which the assets are surrounded by turbines (albeit distantly in the case of the Proposed Development). However, as the archaeological interest in these assets is not harmed by this additional visibility, this cumulative change in setting is considered to be an effect of 'low' magnitude only, and the overall cumulative effect for these assets is assessed as 'minor' and 'not significant' for purposes of the EIA Regulations.
- 11.7.14. This is also considered to be the case with respect to Stroanfreggan Fort (SM1095) and Stroanfreggan Bridge Cairn (SM1043).
- 11.7.15. Cornharrow and Proposed Development are not considered to overlap in influence on assets to the south-west and west of the Proposed Development; no significant cumulative effects are predicted on any assets in this direction as a result of the addition of Shepherds Rig to Cornharrow.

11.8. Mitigation Measures

- 11.8.1. It is proposed that a programme of planting be undertaken around Craigengillan Cairn (after the felling of the current Sitka crop due in the 2019-2023 forestry plan) with the aim of to some extent retaining its current setting within a clearing. It is proposed to plant broadleaf and native species around the cairn, and this use of historically appropriate species will provide some enhancement relative to the current commercial crop. The proposal will create a larger clearing around the cairn, better allowing its form to be appreciated by visitors within the clearing, and this will also help to secure its long-term preservation by removal of close planting and the potential for damage from roots and tree-fall. Felling immediately around the cairn will be undertaken by hand, with trees dropped so as to fall away from the monument, so as to minimise the potential for disturbance to it.
- 11.8.2. A number of features are recorded on the Dumfries and Galloway HER lying within the Site (in particular, within the southern section). These are mainly recorded as walls and structures (enclosures/sheepfolds etc.) of post-medieval (where known) date providing evidence for the agricultural exploitation of the area. Due to the presence of forestry, these may already have been damaged and destroyed. If present, they may be impacted by the Proposed Development infrastructure layout. It is proposed that a programme of survey and recording be undertaken based on upon the final infrastructure layout to establish

whether any such remains survive, and to appropriately record them. This will lead to their preservation by record (if they are still extant features).

- 11.8.3. It is suggested that an appropriate scheme could be set out and agreed in the form of a Written Scheme of Investigation, to be agreed with the Council Archaeologist. Such a scheme will include reference to appropriate analysis of the archive generated by fieldwork and dissemination of any results. The survey work could be carried out post-consent and prior to principal construction (and subject to the felling programme), thus allowing time to appropriately record any remains identified. This can be secured by an appropriately worded planning condition.

11.9. Residual Effects

- 11.9.1. After the implementation of an appropriate scheme of archaeological mitigation (survey and recording), the residual effect on any archaeological assets (where these exist within the south/Smittons section of forestry) which may be impacted by construction works will be reduced to 'minor' or 'negligible' which is 'not significant' in regard to the EIA Regulations (as these will have been preserved by record).
- 11.9.2. With the implementation of proposed mitigation in the form of re-establishing the current clearing setting around Craigengillan Cairn (and thus providing screening around it), then a predicted 'major' effect of 'major' significance would be reduced to 'minor' which is not significant in regard to the EIA Regulations. The predicted effect would decline in magnitude (and significance) over the lifetime of the Proposed Development as the planting matures over time and the clearing setting develops and effective screening is thus achieved.

11.10. Summary

- 11.10.1. This assessment has considered the potential for the Proposed Development to cause likely significant effects, both direct and indirect upon heritage assets within the Site and at range beyond it. The findings of this assessment are summarised below, taking into account any proposed mitigation as described in section 11.8 above.
- 11.10.2. There would be a significant potential effect on the setting of Craigengillan Cairn (SM2238) without screening. With the implementation of an appropriate woodland planting scheme which would provide screening as it matures the significant effect would reduce to a non-significant ('minor') effect over the lifetime of the development.
- 11.10.3. A significant effect is predicted on the setting of the non-designated Little Auchrae settlement (MDG11404), for which no mitigation is possible (in terms of screening).
- 11.10.4. A significant cumulative effect (Longburn) is predicted to occur to setting of Craigengillan Cairn (SM2238) assuming the concerns with screening referred to above apply (however, mitigation will reduce this anticipated effect to one considered 'minor' and not significant once the proposed planting around the cairn to recreate a "clearing" setting has matured).

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- 11.10.5. Significant cumulative effects are anticipated upon the setting of Stroanfreggan Fort (SM1095) and the Little Auchrae medieval Settlement (MDG11404) as a result of the addition of the Proposed Development to a baseline which includes Longburn.
- 11.10.6. The addition of the Proposed Development to a situation including Cornharrow will lead to a non-significant cumulative effect upon the setting of Stroanfreggan Fort. However, there would be a significant cumulative additional effect from the Proposed Development as an addition to both Longburn and Cornharrow, as in that scenario this asset will effectively have turbines across the entire north half of its viewshed, considerably changing its current setting.
- 11.10.7. No other assets are considered to receive effects upon their settings, which are considered significant for purposes of the Regulations, either from the proposed development in isolation or cumulatively with other proposed or operational and consented similar development.
- 11.10.8. Any effects on setting are considered fully reversible on decommissioning of the Proposed Development.