

CONTENTS

INTRODUCTION	1
SCOPE AND CONSULTATION	2
Consultation and Scoping Responses	2
Effects Assessed in Full	7
Effects Scoped Out	7
APPROACH AND METHODS	7
Study Areas	7
Data Sources	7
Approach to Assessments of Effects	9
Cultural Heritage Significance	10
Magnitude of Impact	12
Cumulative Effects Assessment	14
Cumulative Effects	14
Significance and Integrity	14
Mitigation	15
Residual Effects	15
Limitations to the Assessment	15
BASELINE CONDITIONS	16
Introduction	16
Designated Heritage Assets	16
Non-Designated Heritage Assets	17
Historic Mapping and Historic Land-Use Assessment	20
Aerial Photography	20
Discussion of the Archaeological Potential	20
ASSESSMENT OF EFFECTS	21
Embedded Measures	21
Potential Construction Effects	21
Potential Operational Effects	23
Potential Decommissioning Effects	34
Cumulative Effects	34

STATEMENT OF SIGNIFICANCE	36
Construction Effects	36
Operational Effects	36
REFERENCES	39

TABLES

Table 11-1: Consultation with Stakeholders	3
Table 11-2: Cultural Heritage Significance	10
Table 11-3: Sensitivity of Setting	12
Table 11-4: Magnitude of Impact	13
Table 11-5: Significance of Effect Matrix	14
Table 11-6: Designated Heritage Assets to be Assessed	16
Table 11-7: Other Wind Farms Involved in the Cumulative Impacts Assessment	35
Table 11-8: Summary of Statement of Significance	37

FIGURES

Figure 11.1: Designated Heritage Assets ZTV
Figure 11.2: Non Designated Cultural Heritage Assets
Figure 11.3a-g: Cultural Heritage Wirelines

TECHNICAL APPENDICIES

Technical Appendix 11.1: Gazetteer of HER Data
Technical Appendix 11.2: Setting Assessment Photographs

Introduction

- 11.1 The cultural heritage of an area comprises archaeological sites (including Scheduled Monuments), historic buildings (including Listed Buildings), Inventoried Gardens and Designed Landscapes (GDLs), Inventoried Battlefields and other historic environment features (collectively known as 'heritage assets'). It also includes features or places that have the capacity to provide information about past human activity, or which have cultural significance due to their associations with literary or artistic work, folklore or historic events. The setting of an asset may also contribute to the understanding and appreciation of the asset and its cultural heritage significance.
- 11.2 This chapter assesses the potential effects of the construction and operation of the proposed development on heritage assets within the site and surrounding area. A full description of the proposed development is given in **Chapter 3: Description of Development**. The assessment has included consideration of all known designated and non-designated heritage assets within the site, all nationally significant heritage assets within 10km of the wind turbines that fall within the Zone of Theoretical Visibility model (ZTV), and further nationally significant heritage assets beyond 10km of the wind turbines identified in consultation with Statutory Consultees or during assessment as having a setting sensitive to change (**Figures 11.1 and 11.2**).
- 11.3 For the purposes of this assessment the historic environment and cultural heritage are considered to consist of a variety of historic assets, including the following types of designated assets:
 - World Heritage Sites (WHS);
 - Scheduled Monuments (SMs);
 - Listed Buildings (LBs);
 - Inventoried Battlefields;
 - Conservation Areas; and
 - Inventoried Gardens and Designed Landscapes (GDLs).
- 11.4 World Heritage Sites (WHS) are of international importance. Scheduled Monuments, Gardens and Designed Landscapes, and Category A Listed Buildings are considered to be of national importance. Conservation Areas may be of national or regional importance depending upon their composition. Category B Listed Buildings are considered of regional importance, and Category C Listed Buildings are of local importance (NatureScot Handbook, 2019).
- 11.5 This chapter is supported by:
 - **Technical Appendices 11.1 and 11.2**; and
 - **Figures 11.1a-d and 11.2** (referenced within the text where relevant).
- 11.6 Planning policies of relevance to this assessment are provided in **Technical Appendix 4.1: Legislation, Planning Policy and Guidance**.

Scope and Consultation

Consultation and Scoping Responses

- 11.7 In undertaking the assessment, consideration has been given to the scoping responses and other consultations undertaken as detailed in **Table 11-1**.

Table 11-1: Consultation with Stakeholders

Consultee and Date	Scoping/ Other Consultation	Issue Raised in Initial scoping	SLR Response/Action
Historic Environment Scotland 28 th July 2022	Pre-Application Advice	<p>Matters proposed to be scoped in:</p> <p>Alloa Tower, of which its setting comprises a designed landscape, and should be included in the assessment if potential impacts are identified. If potential impacts are identified, wirelines are requested for better visualisation.</p> <p>Initial designated heritage assets within the remit of HES for assessment:</p> <ul style="list-style-type: none"> • Clackmannan Tower (SM90073) • Sauchie Tower, tower and house (SM629) • Scoped in assets during appraisal need justification as to why, and other assets screened by woodland to the west and southwest also need to be scoped out with reason: • Topfauld, enclosure 140m NW of (SM7588); • The Roundel, burial mound 400m S of Greenloaning Farm (SM5325); • Rhynd, enclosed settlement 600m ENE of (SM7596); • Fort, Grinnan Hill (SM3088); • Ardoch, Roman military complex 900m NNE of Ardoch Bridge (SM1601); • Castle Law, fort 400m SW of summit of Dumyat (SM2182); • Lairhill, standing stone alignment 400m SSW of (SM4539); • Sheriff Muir, Whitestone Range, SW of Harperstone (SM10929). <p>The assessment should reflect advise provided in the EIA Handbook and Managing Change guidance note on Setting.</p>	<p>Methodology for the assessment will be in line with the EIA Handbook and Managing Change guidance note on Setting. This methodology was outlined in the Scoping Report submitted in March 2023.</p> <p>Scoping was conducted using a ZTV to establish all potential setting impacts upon designated heritage assets. An appraisal was done for receptors and were scoped in or out for further assessment.</p> <p>The Scoping Report submitted along with the appraisal outlined the following assets identified to have potential setting impacts:</p> <ul style="list-style-type: none"> • Braco Garden and Designed Landscape (GDL00067); • Ardoch, Roman Military Camp (SM1601); • Rhynd enclosed settlement (SM7596); • Orchill Fort (SM3605); • Shielhill Roman signal station (SM3871); • Shielhill Roman signal station (SM3897); • Grinnan Hillfort (SM3088); • Clackmannan Tower (SM90073); and • Alloa Tower (LB20959).

Consultee and Date	Scoping/ Other Consultation	Issue Raised in Initial scoping	SLR Response/Action
		The study area should not be limited to 10km for establishing potential impacts. Initial scoping should use ZTV analysis to identify potential impacts upon setting.	
Historic Environment Scotland 26 th May 2023	Scoping Response	<p>Matters raised:</p> <p>For the purposes of EIAs, indirect impact applies to indirect physical impact, and setting impacts should be considered separately.</p> <p>The type of developments considered for the Cumulative impact assessment should not be limited to only wind farms at this stage.</p> <p>A qualified cultural heritage expert should undertake the assessment in accordance with the EIA regulations.</p> <p>Requests further clarification on reasoning for the 10km scoping area. Also requests further clarification on assessment methodology.</p> <p>Agreed to the scoping in of Ardoch, Roman Military Camp (SM1601), Rhynd enclosed settlement (SM7596), Orchill Fort (SM3605), Shielhill Roman signal station (SM3871) & Shielhill Roman signal station (SM3897), Grinnan Hillfort (SM3088), Clackmannan Tower (SM90073), Alloa Tower (LB20959) and Braco (GDL00067) for setting impact assessments.</p> <p>Scheduled Monuments not already scoped in that need be to assessed:</p> <ul style="list-style-type: none"> • Clackmannan Tower (SM90073); • Sauchie Tower, tower and house (SM629); • Lairhill, standing stone alignment (SM4539). 	<p>Response issued 24 October 2023.</p> <p>A ZTV was produced to further clarify potential impacts upon Sauchie Tower (SM629) and the Lairhill standing stones (SM4539). An appraisal of these asset's settings and reasons for scoping out were summarised.</p> <p>Developments of a similar scale (EIA Projects) shall be considered within the cumulative assessment.</p> <p>We have reviewed our methodology since initial consultation. The assessment will identify impacts and effects as either direct, indirect or setting impacts, and cumulative impacts.</p> <p>Clarified that study areas are decided on the limitations of the ZTV and professional judgement.</p> <p>Clarified that wirelines and photomontages are not provided for every asset, only those that would be considered to have potential adverse impacts. A table of all wirelines produced for setting assessments and their locations were produced:</p> <ul style="list-style-type: none"> • Braco (GDL00067) and Ardoch, Roman military complex (SM1601) from Braco • Rhynd enclosed settlement (SM7596) • Grinnan Hillfort (SM3088)

Consultee and Date	Scoping/ Other Consultation	Issue Raised in Initial scoping	SLR Response/Action
			<ul style="list-style-type: none"> Clackmannan Tower (SM90073) Alloa Tower (LB20959)
Historic Environment Scotland 27 th November 2023	Scoping / Consultation Response	<p>Whilst content with scoping out of The Lairhill standing stone alignment 400m SSW of (SM4539), further assessment to clarify any potential visibility of the proposed turbines within the setting of Sauchie Tower, tower and house (SM629) is requested before scoping out the asset.</p> <p>Further rationale for the determination of the 10km study area is requested.</p> <p>It is expected that the EIA Report set out how the impact significance on asset's interest have been derived and the basis of judgement.</p> <p>Mitigation through design is recommended for the potential impacts upon Alloa Tower, due to the visibility of turbines including two hubs.</p>	<p>Sauchie Tower will be included for full assessment within the EIA to establish any potential effects upon the asset's setting, with visualizations provided facing the asset with the Site in the backdrop of views from higher ground to the south.</p> <p>Further requests for clarifications will be set out in the EIA chapter.</p>
Clackmannanshire Council (28 th April 2023)	Scoping Response	<p>A desk-based assessment and a walkover survey of the proposed development and the direct impacts upon any potential archaeology is recommended and establish the scale of impact.</p> <p>This should also consider impacts upon early Prehistoric lithic scatters which have been identified in other high altitudes in Scotland.</p> <p>Assets requested to be scoped into the assessment are Stirling Castle and the view from the French Spur.</p>	A walkover was conducted, and direct impacts upon archaeological remains are assessed within the baseline EIA Chapter.
Clackmannanshire Council (25 th August 2023)	Scoping Response	<p>Issues raised:</p> <p>Requested justification for the scoping out of Castle Campbell, Stirling Castle and the Wallace Monument.</p>	<p>Response issued 23 October 2023.</p> <p>A ZTV was provided to further justify the scoping out of these assets.</p> <p>SLR agreed to scope in the asset for assessment should any revised turbine layouts have visibility from</p>

Consultee and Date	Scoping/ Other Consultation	Issue Raised in Initial scoping	SLR Response/Action
			the esplanade. Three turbine tips have the potential to be visible from the castle esplanade, and as such the asset is assessed in Sections 11.164 to 11.170.
Perth and Kinross Council (19 th May 2023)	Scoping Response	Perth and Kinross agree with the assessment methodology and scoped in setting impacts.	None
Stirling Council (21 st April 2023)	Scoping Response	Stirling Council agrees to the methodology for the impact assessment set out. Agrees with matters scoped out, but with no comment on Listed Buildings and Conservation Areas. No requested visualisations in respect to assets scoped in for setting impact assessments.	No actions or responses. The agreed method and matters scoped in and out will be followed.

Effects Assessed in Full

11.8 The following effects have been considered in full:

- direct and indirect effects on all heritage assets within the site;
- setting effects on selected designated heritage assets of national importance within a 10km Study Area – assets selected in agreement with Historic Environment Scotland (HES) (outlined in **Table 11-1**);
- setting effects on selected designated assets of regional importance within a 5km Study Area (outlined in **Table 11-1**); and
- cumulative effects on designated assets of national importance that had been scoped in for assessment within this chapter.

Effects Scoped Out

11.9 The following have been scoped out:

- effects on the setting of heritage assets more than 10km from the proposed development unless identified as being particularly sensitive to change; and
- effects on the setting of designated heritage assets within the Study Area that are beyond the ZTV, and so would not be anticipated to be intervisible with the proposed development (no ‘third points’, where both the proposed development and the asset would be visible within the same viewshed from a given location, or potential for non-visual changes have been identified).

Approach and Methods

Study Areas

11.10 This assessment refers to the following:

- the site: land within the application boundary of the proposed development; and
- the Study Area¹: land within 10km of the proposed locations of the wind turbines.

11.11 The 10km Study Area has ensured that the potential for the proposed development to have an adverse setting effect upon any designated assets of national/up to regional importance within the vicinity of the site has been considered.

11.12 Heritage assets and other aspects of the historic environment recorded within the site, and a surrounding 1km radius has been used to inform a predictive model of the probability for currently unrecorded archaeological remains to survive buried within the site (i.e., archaeological potential).

Data Sources

11.13 The baseline conditions have been determined using the following sources:

¹ There is no guidance defining what the extent of an appropriate ‘study area’ should be for the archaeological and cultural heritage assessment of wind farms. Any given study area will therefore represent an exercise in professional judgment, refined to point of agreement between stakeholders during consultation.

- Historic Environment Scotland (HES), for information relating to designated heritage assets, including Scheduled Monuments, Listed Buildings, Inventoried Gardens and Designed Landscapes and Inventoried Battlefields;
- Perth and Kinross Heritage Trust for Historic Environment Record (HER) and Stirling and Clackmannanshire Historic Environment Record (HER), for records of known and potential heritage assets and other historic environment information;
- historic cartographic sources, for information relating to the development of the historic landscape, and for purposes of map regression;
- Historic Landscape Characterisation (HLC) data;
- the National Collection of Aerial Photography, Edinburgh, for vertical and oblique aerial photographs of the site and its environs;
- geotechnical data, including peat probing and sampling data;
- previous heritage assessments for supplementary historic environment information;
- published and archival sources, for information relating to the history of the site and its environs, its historic landscape and archaeological context, place names and any other relevant (tangible and intangible) cultural heritage associations; and
- online resources, including Canmore, for additional historic environment information, as required.

Field Survey

Archaeological Survey

- 11.14 A targeted walkover survey was carried out between 17 and 19 of October 2023 with the design chill turbine layout. The proposed turbine locations were inspected to confirm the presence or absence of any unknown above-ground archaeological remains. Known heritage assets within the site boundary were also inspected to confirm their presence and location. Ground conditions were predominantly those of upland moorland with significant areas of peat bog. No further heritage assets were identified during the walkover.
- 11.15 The turbine layout has been undergone a number of minor revisions since the targeted walkover, however all the locations of the turbines in the final site layout were still observed during the targeted walkover.

Setting Assessments

- 11.16 An in field setting assessment was conducted in September and October 2024. All assets scoped in for setting assessments were visited when weather conditions provided clear long distant views. The conditions during the visits were ideal to ascertain the setting of the assets.

Zone of Theoretical Visibility (ZTV) Analysis

- 11.17 Assessment of visual impact (as far as this is relevant to considering changes to setting and the effect on heritage significance) has been assisted by a ZTV calculation, which is presented in **Figure 11.1**. The ZTV calculation methodology is set out in detail in **Chapter 7: Landscape and Visual**. In summary, it maps the predicted degree of visibility of the proposed development from all points within a study area around the site, as would be seen from an observer's eye level, two metres above the ground. The ZTV model

presented in **Figure 11.1** is based on the maximum height of the blade tips of the proposed development (149.9m). The ZTV model has been used to assist in the assessment of potential indirect impacts upon designated assets within the study area; it is understood that visual change does not necessarily concur with setting change which would affect cultural significance.

- 11.18 The ZTV is a 'bare earth' representation of visibility; it is based on landform only and does not take into account the screening or filtering effects of vegetation, buildings or other surface features. In that respect, it provides an overestimate of the actual level of visibility of the proposed development, i.e., a worst-case scenario that may need to be ground-truthed or subject to cartographic/satellite analysis to determine the conditions under which an asset is truly experienced.
- 11.19 Assets that fall outside the ZTV have been excluded from any further assessment, with the exception of those assets anticipated to be co-visible with the proposed development, i.e., where both would be visible within the same viewshed from a given location; this is sometimes referred to as a 'third point'. Furthermore, assets that would be intervisible with the site, but which could be affected by other changes in setting, such as increased noise, would be considered as necessary. As noted above, however, no assets falling outside the ZTV have been identified for consideration under these factors.

Approach to Assessments of Effects

- 11.20 The proposed development has the potential to result in effects upon the significance of heritage assets where it changes their baseline condition and/or their setting.
- 11.21 In accordance with the EIA Regulations, this assessment has identified any development effects as either direct or indirect, adverse, or beneficial, and short-term, long-term, or permanent. The definition of impact is described below:
- Direct (physical) effects: occur where the physical fabric of the asset is removed or damaged, or where it is preserved or conserved, as a direct result of the proposed development. Such effects are most likely to occur during the construction phase and are most likely to be permanent.
 - Indirect (physical) effects: occur where the fabric of an asset, or buried archaeological remains, is removed or damaged, or where it is preserved or conserved, as an indirect result of the proposal, even though the asset may lie some distance from the proposal. Such effects are most likely to occur during the construction phase and are most likely to be permanent.
 - Setting effects: result from the proposal causing change within the setting of a heritage asset that affects its cultural significance or the way in which it is understood, appreciated, and experienced. Such effects are generally, but not exclusively, visual, occurring directly as a result of the appearance of the proposal in the surroundings of the asset. Setting effects may also relate to other senses or factors, such as noise, odour or emissions, or historical relationships that do not relate entirely to intervisibility, such as historic patterns of land-use and related historic features. Such effects may occur at any stage of a proposal's lifespan and may be permanent, reversible, or temporary.
 - Cumulative effects: can relate to the physical fabric or setting of assets. They may arise as a result of impact interactions, either of different effects of the proposal itself, or additive effects resulting from incremental changes caused by the proposal together with other projects already in the planning system or allocated in a Local Development Plan.

- 11.22 Direct effects upon the significance of heritage assets have taken into account the level of their heritage significance (where known) and the magnitude (extent) of the identified effects.
- 11.23 Setting effects on the significance of heritage assets have been identified and assessed with reference to Managing Change in the Historic Environment: Setting (2020) and the guidance set out by NatureScot and HES (2018). Assessment was carried out in the following stages:
1. initial consideration of intervisibility and other factors leading to the identification of potentially affected assets;
 2. assessment of the cultural heritage significance of potentially affected assets;
 3. assessment of the contribution of setting to the cultural heritage significance of those assets;
 4. assessment of the extent to which change to any contributing aspects of the settings of those assets, as a result of the proposed development, would affect their cultural heritage significance (magnitude of impact); and
 5. determination of the significance of any identified effects.

Cultural Heritage Significance

- 11.24 The categories of cultural heritage significance to be referred to are presented in **Table 11-2**, which will act as an aid to consistency in the exercise of professional judgement and provide a degree of transparency for others in evaluating the conclusions drawn.
- 11.25 The significance categories take into account factors such as: designation, status, and grading. For non-designated assets, consideration has been given to their inherent heritage interests, intrinsic, contextual, and associative characteristics as defined in HES's Designation Policy and Selection Guidance (HES 2019c). In relation to these assets, the assessment focuses upon an assessment of the assets' inherent capability to contribute to our understanding of the past; the character of their structural, decorative and field characteristics as informed by the Historic Environment Record (HER) and Canmore records and/or site visit observations; the contribution of an asset to their class of monument, or the diminution of that class should an asset be lost; and how a site relates to people, practices, events, and/or historical or social movements. Assessments of the cultural significance of specific assets, where recorded within the HER, have been taken into account where appropriate.

Table 11-2: Cultural Heritage Significance

Heritage significance	Explanation
Highest	Sites of international importance, including: <ul style="list-style-type: none"> World Heritage sites.
High	Site of National importance, including: <ul style="list-style-type: none"> Scheduled Monuments; Category A Listed Buildings; Gardens and Designed Landscapes included on the national inventory; Designated Battlefields Conservation areas containing nationally important buildings; and

Heritage significance	Explanation
	<ul style="list-style-type: none"> Non-designated assets of equivalent significance.
Medium	Sites of Regional/local importance, including: <ul style="list-style-type: none"> Category B and C Listed Buildings; Conservation Areas containing buildings that contribute significantly to its character; and Non-designated assets of equivalent significance.
Low	<ul style="list-style-type: none"> Assets of local importance Heritage assets compromised by poor preservation and/or poor survival of contextual associations or with little of the asset remaining to justify a higher importance.
None	<ul style="list-style-type: none"> Features that do not retain any cultural heritage significance.
Unknown	<ul style="list-style-type: none"> Assets of indeterminable significance.

- 11.26 In addition to identifying the significance of a heritage asset, it is essential, where changes to setting are being assessed, to understand the contribution that setting makes towards the significance of an asset. Elements of setting may make a positive, neutral, or negative contribution to the significance of an asset. Thus, in determining the nature and level of effect upon an asset and their setting by the development, the contribution that setting makes to an asset's significance and thus its sensitivity to changes to its setting need to be considered.
- 11.27 This approach recognises the importance of avoiding significant adverse effects on the integrity of the setting of an asset in the context of the contribution that setting makes to the understanding, appreciation, and experience of an asset. It recognises that setting may be key in characterising, understanding, and appreciating some, but not necessarily all, assets. Indeed, assets of high or very high significance do not necessarily have high sensitivity to changes to their settings.
- 11.28 An asset's relative sensitivity to alterations to its setting refers to its capacity to retain its ability to contribute to an understanding and appreciation of the past in the face of changes to its setting. The ability of an assets setting to contribute to an understanding, appreciation and experience of it and its significance also has a bearing on the sensitivity of that asset to changes to its setting.
- 11.29 While certain cultural heritage assets of high or very high importance are likely to be sensitive to direct effects, not all will have a similar sensitivity to effects on their setting; this would be true where setting does not appreciably contribute to their significance. HES' guidance on setting (2020) makes clear that the level of effect may relate to *"the ability of the setting of an asset to absorb new development without eroding its key characteristics"*. Assets with very high or high relative sensitivity to setting effects may be vulnerable to any changes that impact their settings and even slight changes may erode their key characteristics or the ability of their settings to contribute to the understanding, appreciation, or experience of them. Assets where relative sensitivity to changes to their setting is lower may be able to accommodate greater changes to their settings without key characteristics being eroded.
- 11.30 The key criteria used for establishing an assets relative sensitivity to changes to its setting is detailed in **Table 11-3**. This table has been developed based on SLR's professional

judgement and experience of setting effects. It has been developed in line with relevant policy and guidance throughout this chapter.

Table 11-3: Sensitivity of Setting

Relative Sensitivity	Explanatory Criteria
Very High	An asset, the setting of which is crucial to an understanding, appreciation, and experience of it, should be regarded as having very high sensitivity to changes to its setting. This is particularly relevant where setting, or elements of, make a crucial and essential direct contribution to significance.
High	An asset, the setting of which is major to an understanding, appreciation, and experience of it, should be regarded as having high sensitivity to changes to its setting. This is particularly relevant where setting, or elements of, contribute substantially to their cultural significance.
Medium	An asset, the setting of which makes a moderate contribution to the understanding, appreciation, and experience of it, should be regarded as having medium sensitivity to changes to its setting. This could be an asset for which setting makes a contribution to significance but whereby its value is derived equally from its other characteristics.
Low	An asset, the setting of which makes some contribution to the understanding, appreciation, and experience of it, should be regarded as having low sensitivity to changes to its setting. This could be an asset where its significance is derived mainly from other characteristics.
Negligible	An asset where setting makes a minimal contribution to the understanding, appreciation and experience of the asset and it should be thought of having a negligible sensitivity to changes to its setting.

- 11.31 The determination of an asset's relative sensitivity to changes to its setting is first and foremost reliant upon the determination of its setting and how setting aligns with other key characteristics which contribute to cultural significance. The criteria set out in **Table 11-3** is a guide and assessment of individual assets is informed by knowledge of the asset itself, its type and by a site visit conducted by the author of this chapter to establish the current setting of an asset. This allows for use of professional judgement on an individual basis.

Magnitude of Impact

- 11.32 Determining the magnitude of any likely effects includes consideration of the nature of the activities proposed during the construction and operational phases of the proposed development.
- 11.33 Changes could potentially include ground disturbance and changes to setting. The latter might include visual change, as well as noise, vibration, smell, dust, traffic movements etc. Effects may be beneficial or adverse, and may be short term, long term or permanent.
- 11.34 Where adverse effects on cultural heritage assets are possible, the magnitude of effect can be reduced through measures to prevent, reduce and/or, where possible, offset these effects.
- 11.35 Suitable measures for minimising effects through ground disturbance might include:
- the micro-siting of proposed development infrastructure away from sensitive locations;

- the fencing off or marking out of heritage assets or features in proximity to construction activity in order to avoid disturbance where possible;
- a programme of archaeological work where required, such as an archaeological watching brief during construction activities in or in proximity to areas of archaeological sensitivity, or excavation and recording where impact is unavoidable; and/or
- a working protocol to be implemented should unrecorded archaeological features be discovered.

11.36 Suitable measures for mitigating any setting effects might include:

- alteration of the proposed turbine layout; and/or
- reduction of proposed turbine heights.

11.37 Taking into account all embedded mitigation measures, the magnitude of any effect has been assessed using professional judgment, with reference to the criteria set out in **Table 11-4**.

Table 11-4: Magnitude of Impact

Magnitude of impact	Explanatory criteria
High Beneficial	The proposed development would considerably enhance the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Medium Beneficial	The proposed development would enhance, to a clearly discernible extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Low Beneficial	The proposed development would enhance, to a minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Very Low Beneficial	The proposed development would enhance, to a very minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate, and experience it.
Neutral/None	The proposed development would not affect the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Very Low Adverse	The proposed development would erode, to a very minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect effect would not be considered to affect the integrity of the asset's setting.
Low Adverse	The proposed development would erode, to a minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect effect would rarely be considered to affect the integrity of the asset's setting.
Medium Adverse	The proposed development would erode, to a clearly discernible extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect effect might be considered to affect the integrity of the asset's setting.
High Adverse	The proposed development would considerably erode the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect effect would probably be considered to affect the integrity of the asset's setting.

11.38 **Table 11-5** provides a matrix that relates the cultural heritage significance of the asset to the magnitude of effect on its significance, to produce an overall anticipated level of effect.

Table 11-5: Significance of Effect Matrix

Magnitude of Impact (Beneficial/Adverse)	Heritage Significance (excluding unknown)			
	Highest	High	Medium	Low
High	Substantial	Substantial	Moderate	Minor
Medium	Substantial	Moderate	Minor	Very Minor
Low	Moderate	Minor	Very Minor	Very Minor
Very low	Minor	Very Minor	Negligible	Negligible
None	Nil	Nil	Nil	Nil

Cumulative Effects Assessment

11.39 A cumulative assessment is presented in paragraphs 11.176 to 11.184.

Cumulative Effects

11.40 A cumulative effect is considered to occur when there is a combination of:

- An impact on an asset or group of assets due to changes resulting from the development subject of assessment; and
- An impact on the same asset or group of assets resulting from other development (consented or proposed) within the surrounding landscape.

11.41 The potential effects of other forthcoming wind energy developments within up to 15km on the affected heritage assets are then considered; this includes wind energy developments that have been consented, those that are subject of a live planning application, and those that are subject to a planning appeal/inquiry. Operational wind farms are considered as part of the baseline assessment.

Significance and Integrity

11.42 Once the anticipated effects of the proposed development upon cultural heritage assets are defined, professional judgment is used to determine whether those effects would be either 'Significant' or 'Not Significant' for the purposes of EIA. As part of this determination process, regard was given to any relevant guidance.

11.43 With reference to the matrix presented in **Table 11-5**:

- any effects identified as 'major' would most probably be considered 'significant';
- any effects identified as 'moderate' might also be considered 'significant,' although professional judgment may determine otherwise on the basis of the associated site-/asset-specific detail; and
- any effects identified as 'minor' or less are unlikely to be considered 'significant,' though again, professional judgment has been exercised.

11.44 A clear statement has been made in relation to all affected assets as to whether the identified effects upon them are 'significant' or 'not significant' for purposes of EIA.

Integrity

- 11.45 NPF4 (2023) indicates that development proposals affecting scheduled monuments will only be supported where; *“significant adverse impacts on the integrity of the setting of a scheduled monument are avoided.”*
- 11.46 A significant effect in EIA terms does not necessarily equate to a significant impact upon the integrity of setting. Where EIA significant effects are found, a detailed assessment of adverse impacts upon the integrity of the setting is made. Whilst non-significant effects are unlikely to significantly impact the integrity of the setting, the reverse is not always true. That is, the assessment of an effect as being significant in EIA does not necessarily mean that the adverse effect on the setting of the asset will significantly impact its integrity. The assessment of adverse impact upon the integrity of an asset’s setting, where required, is a qualitative one and largely dependent upon whether the impact predicted would result in a major impediment to the ability to understand, appreciate or experience a cultural heritage asset. This is most likely to occur where the sensitivity of setting as set out in **Table 11-3** is high or very high.
- 11.47 It is considered that a significant impact upon the integrity of the setting of an asset will only occur where the degree of change that will be represented by the proposed development would adversely alter those factors of the monument’s setting that contribute to cultural significance such that the understanding, appreciation and experience of an asset are not adequately retained.

Mitigation

- 11.48 A statement of any embedded mitigation measures proposed to be implemented in response to identified cultural heritage impacts is provided, with the impact predictions taking these into account. The main approach to mitigating both direct and indirect impacts has been through design. Avoidance of direct impacts on heritage assets has been a consideration throughout the design process. Where avoidance is not possible, further mitigation is proposed as a condition to consent.
- 11.49 In relation to indirect effects, embedded mitigation measures including adjustments to turbine numbers, layout and height, have been considered and incorporated as part of the design process (See **Chapter 2: Site Description and Design Evolution**).
- 11.50 Further mitigation, not referenced above, such as archaeological fieldwork undertaken as a condition to consent or other post-consent measures associated with public benefits, is proposed in paragraphs 11.97 to 11.100.

Residual Effects

- 11.51 A statement of the residual effects of the proposed development has been provided, taking into account any site-specific mitigation measures which could be implemented as a condition to consent.

Limitations to the Assessment

- 11.52 The assessment is based on the sources outlined in paragraph 11.13 and, therefore, shares the same range of limitations in terms of comprehensiveness and completeness of those sources. With the information provided in the sources outlined in paragraph 11.13, the assessment is considered to be robust.
- 11.53 All of the assets were accessed during the in-field setting assessments. However, for the assessment of Alloa Tower, the rooftop walk was not accessible during the in-field setting

assessment, and therefore the assessment of views from the rooftop walk are based on the wireline provided in **Technical Appendix 11.2**.

Baseline Conditions

Introduction

- 11.54 A full description of the site and environs is given in **Chapter 2: Site Description and Design Evolution**. All heritage assets within the site and 1km of this area are shown in **Figure 11.2**. Designated assets within the Study Areas are shown in relation to the ZTV in **Figures 11.1a – 11.1d**.
- 11.55 All recorded non-designated heritage assets within the site and 1km of the site are listed in the gazetteer that is contained within **Technical Appendix 11.1**. Where designated assets are tabulated in this chapter, they are identified by the index number (i.e., Scheduled Monuments) or reference number (i.e., Listed Buildings) under which they are registered by HES.

Designated Heritage Assets

- 11.56 There is a Scheduled Monument within 1km of the site, approximately 0.97km to the south east of the Sheriffmuir Road; East Biggs, hut circles 800m ESE of (SM7586).
- 11.57 There are 53 Category A Listed Buildings within 10km of the site to the north and south, and nine Category B Listed Buildings approximately 3.1km to the south of the site located along the foot of the Ochil Hills, proximate to Alva, Menstrie and Tillicoultry.
- 11.58 There are also ten Inventoried Garden and Designed Landscapes, fifteen Conservation Areas, three Inventoried Battlefields and 89 Scheduled Monuments within 10km of the site.
- 11.59 During the consultation and design process, assets within the study area were subject to an appraisal exercise to identify any impacts from the proposed development. This identified assets most likely to be subject to significant impacts as a result of the proposed development. As such, the assets outlined in **Table 11-6** are to be assessed for setting impacts, as agreed during the consultation outlined in **Table 11-1**.

Table 11-6: Designated Heritage Assets to be Assessed

Name	Type	Index Number	Distance to closest Turbine	Within the ZTV
Ardoch, Roman Military Camp	Scheduled Monument	SM1601	c.7.4km north of T13	Yes
Rhynd enclosed settlement	Scheduled Monument	SM7596	c.6.25km north of T13	Yes
Orchill Fort	Scheduled Monument	SM3605	c.8.75 north of T13	Yes
Shielhill Roman Signal Station	Scheduled Monument	SM3897	c.9km north of T13	Yes
Shielhill Roman Signal Station	Scheduled Monument	SM3871	c.8.5km north of T13	Yes
Grinnan Hillfort	Scheduled Monument	SM3088	c.7.4km north of T13	Yes

Name	Type	Index Number	Distance to closest Turbine	Within the ZTV
Clackmannan Tower	Scheduled Monument	SM90073	c.9km south of T1	Yes
Alloa Tower	Category A Listed Building	LB20959	c.8.3km south of T1	Yes
Braco	Garden and Designated Landscape	GDL00067	c.7.7km to the north west of T13	Yes
Stirling Castle	Scheduled Monument	SM90291	c.11km to the south west of T2	Yes
Sauchie Tower, tower and house	Scheduled Monument	SM629	c.5.3km to the south of T1	No

Non-Designated Heritage Assets

- 11.60 Known undesignated sites are detailed in **Figure 11.2**, including those in the 1km buffer zone surrounding the site. The type and density of archaeological remains can be used to inform a predictive model of what further, as yet undefined, buried remains may exist within the site. Non-designated heritage assets, recorded on the Clackmannanshire, Stirling and Perthshire and Kinross HER or recorded by SLR during baseline collection are pre-fixed by an SLR reference number (see **Technical Appendix 11.1**).

Prehistoric

- 11.61 There are a total of eleven non-designated heritage assets within the site boundary and 1km study area which comprise Prehistoric dated assets. Two of these assets are located within the site boundary; an area of neolithic to bronze age artefact scatters (SLR53) and an area recorded to have contained a stone circle (SLR6).
- 11.62 Two assets are evidence of settlement, comprising a sub-circular enclosure approximately 0.5km to the west of the Sheriffmuir Road near the A9 (SLR3) and the scheduled East Biggs hut circles (SM7586) approximately 1.km to the east of the access track. These two settlements are located on the north facing lower slopes to the north of the Ochil Hills, based near water courses.
- 11.63 There is a prehistoric presence within the Ochil Hills, with a prehistoric Scheduled Monument occupying the lower north slopes facing north (SM7586 approximately 2.8km north of T13) or defensive settlements in the upper peaks of the south ridges overlooking the River Forth and the wider flat valley (SM2182 approximately 6km., SM13758 approximately 4km southwest of T1). The Lairhill standing stones approximately 2.3km to the west of the site boundary (approximately 4.1km west of T9) also attest to the presence of prehistoric settlement and ritual activity within the wider landscape. The watching brief conducted at Blackford (Event: EPK762, approximately 4.5km north of T13), on the lower north slopes of the Ochil Hills, also identified post holes forming a circular building with internal features and an external shallow gully. These features were dated by a small assemblage of prehistoric pottery and burnt bone.
- 11.64 Other evidence of prehistoric activity within the landscape comprises funerary and ritualistic activity. There are four funerary assets focused on the part of the Glendevon Water which now forms the Glendevon Reservoir formed in the 19th century, previously

being located on the river embankments, comprising a cists barrows (SLR9), a cairn (SLR50) and a square cairn (SLR51), located approximately 0.1-0.3km to the east of the site boundary. There is a stone circle record which the track crosses through, with the main circle being recorded to the south east of the track (SLR6) which is an indication of prehistoric ritual activity, although no investigation or dating has been concluded for this asset. The stone circle, known as Wester Biggs stone circle, is recorded as having been 10 – 12ft in diameter comprising of 5 or 6 stones about 2ft in height in 1967. There was no evidence of it remaining during the site visit, potentially due to overgrowth or the removal of the stones.

- 11.65 There are also four findspots recorded on the HER comprising Neolithic to Bronze Age finds (SLR5, SLR2, SLR53 and SLR54), and whilst these are not indicators of definitive locations of features and activity, the number of findspots indicate a general spread of prehistoric materials on the northern slopes, in the region of the access track and the locality of the two areas of settlement evidence.

Roman

- 11.66 There are no heritage assets within the site or within 1km of the site boundary which date to the Roman period. The northern extent of the Roman Empire extended through the modern day village of Braco, where the Ardoch Roman Fort (SM1601) is located, through the Allan Valley and along the Roman road to the north-north east, essentially going around the Ochills following roughly the modern day route of the M9-A9. Roman activity focused on the lower landscapes, utilising forts linked by the Roman roads and signal stations, rather than upper landscapes for their defences and frontier boundaries. The land within the site would have been unfavourable for Roman infrastructure and settlement, and it would be unlikely for any Roman activity to have taken place within the landscape, evidenced by the lack of Roman archaeology within the extent of the Ochil Hills.

Early Medieval

- 11.67 There is no evidence of Early Medieval activity within the site or within the study area. Early Medieval settlements tended to occupy sites of previous occupation, sharing upland landscapes rather than the farm steads of the medieval period (ScARF, Perth and Kinross Research Framework), likely to reuse already cleared and cultivated land. As there is no evidence for such activity, it is not considered likely that any Early Medieval remains exist within the site. Early Medieval settlement is known in the eastern extent of the Ochil Hills, within the Fife boundary, to reoccupy prehistoric forts such as Clatchard Craig.

Medieval to Post Medieval

- 11.68 There are eleven medieval to post-medieval assets within the site boundary. These assets comprise farmsteads with associated cultivation (SLR33, approximately 2.2km north east of T11, and SLR12, approximately 2.5km north west of T13, SLR60, approximately 2.7km north west of T13), enclosures and shieling huts (SLR39 approximately 2km north east of T13, SLR1, approximately 0.9km north of T13, SLR56, approximately 2.6km north east of T13, SLR35, approximately 0.5km north east of T13, SLR37, approximately 0.8km north east of T11, SLR40, approximately 1.7km north east of T11, SLR41, approximately 1.7km north east of T11, SLR59, approximately 0.9km north east of T11) and a hunting lodge (SLR12, approximately 2.3km north west of T13).
- 11.69 The extent of recorded activity within the Ochil Hills in the region of the site dating to the medieval period comprises agricultural medieval to post-medieval dated assets, as

recorded on the HER. There is also a presence of high-class settlement comprising a castle/hunting lodge and motte, now located within Glendevon Reservoir (SLR10). The castle was quarried in the 20th century and a rescue excavation was done prior to the reservoir submerging the asset in the 19th century.

- 11.70 The agricultural settlements dating between the later medieval and earlier post-medieval periods are positioned on hillsides, proximate to burns and streams, along the Glendevon River to the north east and Ogilvie and Buttergask Burn to the north west. These farmsteads are associated with sheepfolds, dykes and ridge and furrow within their vicinities, indicating a number of separate farm settlements during the medieval to early post-medieval period within and to the north east and north west of the site. Many of these assets are now submerged within the Glendevon Reservoir, comprising of hunting lodges (SLR10), sheepfolds (SLR23, SLR26), and farmsteads associated with head dykes, ridge and furrows, and sheepfolds (SLR33, SLR39, SLR49).
- 11.71 During the post-medieval period, agricultural activity within these areas shifted toward livestock, with a number of shieling huts (SLR56, SLR35, SLR38, SLR40, SLR41, SLR47, SLR52) for seasonal livestock management, sheepfolds and enclosures, with farmsteads located approximately 4.4km to the north west (SLR18) and approximately 3.2km to the north east (SLR24) of Turbine 13. Much of this activity continued to be focused within the northeast of the site and around the existing Glendevon Reservoir, including an enclosure (SLR1), approximately 0.7km to the north of Turbine 13, and two shieling huts, approximately 2km and approximately 0.5km to the north east of Turbine 13.
- 11.72 Toward the later post-medieval period, farmsteads became more nucleated toward the lower slopes and valley to the north with fewer farmsteads owning larger areas of land for grazing. Some of these farmsteads focused on water courses for the utilisation of mills (SLR16, SLR19), showing a change in the local economy. Coupled with improved land drainage of the lower valleys and road access, settlement north of the hills would have been favourable during this period.
- 11.73 Since the later post-medieval to modern period, the land within the site has comprised reservoirs, plantations and seasonal grazing lands upon moorland. Much of the improved land assessed by the historic land character assessment (Historic Environment Scotland HLA, 2015) dates to the 18th to 20th centuries and is located in the north east of the site by the Glendevon Reservoir, and within the north west of the site where the access track turns off the existing road by Carim Lodge, with the rest of the site comprising unimproved moorland hillsides.
- 11.74 The closest 19th century activity is at Carim (Corrim) Lodge, a 19th century lodge, located near the planned access track at the north west of the site. By this time, settlement and intensive agricultural activity has entirely shifted outside of the Ochil region, leaving it utilised only for grazing livestock.

Undated Features or Structures

- 11.75 There are 23 undated assets within the 1km study area, three of which are within the site. A square enclosure (SLR36) is located just south of the River Devon on a steep slope, shortly north of a post-medieval dated building (SLR37), and, due to their proximity is likely associated.
- 11.76 The other two assets within the site are recorded as cairns, one being a marker cairn upon the top of Ben Buck (5742) and an undated cairn within the very north east of the site on the east facing slopes above the Glendevon Reservoir, within the River Devon Valley.

- 11.77 Other undated assets within the study area include agricultural structures (SLR21, SLR22, SLR28, SLR45 and SLR48) and water mills for corn and barley along the Danny Burn to the south of the Allan water (SLR14, SLR15, SLR19 and SLR20), and along Buttergask Burn (SLR29), associated with the township of Buttergask (SLR17), approximately 0.3km to the north east.
- 11.78 During the walkover in October 2023, no further heritage assets were identified.

Historic Mapping and Historic Land-Use Assessment

- 11.79 A review of the Historic Land-Use Assessment data provided by HES shows areas of agricultural settlement, at the enclosure within the north of the site (SLR1), to the east within the site on the western edge of the Glendevon Reservoir, and within the west of the site at Carim Lodge next to forestry. The landscape dates to the 20th century, with the land use primarily used for moorland rough grazing.
- 11.80 A review of the online historic mapping available from the National Library of Scotland was undertaken. The earliest map where the site is identifiable on detailed mapping is John Thomson's 1827². This map shows two settlements proximate to Glendevon Reservoir, Glenbee and Bruack, now comprising the abandoned settlements (SLR33) located just within the site boundary approximately 2.2km to the north east of T11. There are no additional heritage assets recorded on the map. No changes within the site and its vicinity occur on John Thomson's following map in 1845³. The First Edition OS 1866 map⁴ also shows no further heritage assets or changes within the site, and the location of Glenbee is now noted as a 'Sheepfold'.
- 11.81 The following 1-inch OS maps (Sheet 39)⁵ in 1868, 1876 and the 6-inch OS 1925 maps⁶ continue to show no changes within the site. All the features depicted on the historic mapping are recorded on the HER.

Aerial Photography

- 11.82 The aerial photography from the National Collection of Aerial Photography (Historic Environment Scotland) within the area was consulted but provided no further information than already established by both the HER data, historic mapping and the site walkover survey.

Discussion of the Archaeological Potential

- 11.83 The potential for unknown Prehistoric remains within the site is low. Whilst there are 11 historic environment records within the site and Study Area, the remains comprising settlement activity focus upon the north facing slopes of the hills, and funerary activity focused upon the River Devon, where the Glendevon Reservoir is now located. There are prehistoric findspots (SLR53) and a potential prehistoric stone circle located along the access track to the main site (SLR6), and whilst this indicates the presence of some prehistoric presence within the landscape, it does not indicate any substantial activity such

² <https://maps.nls.uk/view/74400163>

³ <https://maps.nls.uk/view/216442698>

⁴ <https://maps.nls.uk/view/74428205>

⁵ <https://maps.nls.uk/view/216384254> and <https://maps.nls.uk/view/216386772>

⁶ <https://maps.nls.uk/view/76406654>

as settlement; these are isolated monuments and materials located in a landscape that comprises what would have been wet hilltops and deep glens that would be undesirable and not advantageous for prehistoric settlement during this period. There are no further identified assets within the site, and a low potential for any further unknown prehistoric remains within the site. Should prehistoric remains survive, they would be well preserved in areas where extensive medieval to modern agricultural activities or commercial forestry haven't taken place and would likely be of low to moderate significance due to a probable high level of preservation.

- 11.84 Potential for unknown Roman remains within the site is negligible. Whilst the site's region has significant Roman military infrastructure within the Allan Valley to the north and west, Roman military infrastructure used the hill range in which the site is located as a natural defensive boundary and focused activity along defendable valley floors along which their military forces and supplies could navigate utilising Roman roads and infrastructure.
- 11.85 As there is no evidence for Early Medieval activity within the site, it is considered that potential for such remains is negligible.
- 11.86 Potential remains for unknown Medieval remains is considered to be low. There are two assets dating to the medieval or post-medieval period within the north east of the site comprising agricultural features (SLR39 and SLR33). They are likely to be primarily post-medieval, replacing most, if not all, medieval origins. Any medieval remains are likely to be agricultural in nature and be removed and replaced by later post-medieval structures and enclosures. If any remains should survive, they would likely consist of earthworks and drainage ditches for land boundaries, settlement and livestock enclosures. The presence of the medieval castle and motte (SLR10) within the existing Glendevon Reservoir would not indicate any potential activity within the site of the same character; during the walkover there was no evidence of potential medieval settlement or earthworks.
- 11.87 The potential for unknown post-medieval remains within the site is considered high, in the form of agricultural remains comprising remains associated with the recorded farmstead ruins, land enclosures and sheepfold remains, as recorded on the HER, in the form of infilled ditches forming boundaries or drainage and materials related to previous habitation. These remains would not be considered to be of any more than low significance.

Assessment of Effects

- 11.88 Impacts have been defined by the lifecycle of the proposed development: construction, operation and decommissioning. All stages consider direct, indirect, setting and cumulative effects upon cultural heritage receptors.

Embedded Measures

- 11.89 Impacts are considered with due regard to embedded mitigation measures. Mitigation through design has been outlined through **Chapter 2: Site Description and Design Evolution**.

Potential Construction Effects

- 11.90 Impacts on the setting of designated heritage assets as a result of construction activity are considered to be minimal at most and temporary in nature. The worst case scenario for settings impacts, comprising the completed proposed development, are considered under the Potential Operational Effects section.

- 11.91 With reference to **Figure 11.2**, the proposed development would have direct effects upon the following recorded non-designated heritage remains:
- SLR44 – The recorded extent of the field system and ridge and furrow associated with Carim Cottage;
 - SLR12 – Carim Lodge, a farmstead dating to the post-medieval/modern;
 - SLR53 – An area outlined on the HER as previously identified as having a lithic scatter of prehistoric findspots; and
 - SLR6 – Buffer of the potential prehistoric stone circle, truncated currently by Sheriffmuir Road.
- 11.92 SLR44 is a post-medieval agricultural system comprising of a farmstead, field system and ridge and furrow remains. It is post-medieval in date although it could originate from the medieval period. A turf covered access track already exists in the west side of the asset, approaching Carim Lodge (SLR12). The proposed access track would improve and widen the existing track and would truncate a section of the field system within the west extent of the asset. The asset is considered to be of generally low heritage significance. As only a small portion of the asset would be truncated by the proposed access track, the significance of the asset would be eroded to a very minor extent, and as such the proposals would have a very low adverse magnitude of impact, resulting in a negligible significance of effect.
- 11.93 SLR12 comprises the remains of an L shaped farmhouse and small enclosure, visible on the 1st edition OS map (1866, Perthshire Sheet CXXVI). The ruins of the building still exist as earthworks and segments of walls. The proposed access track runs to the east, within the polygon of the asset, where potential enclosures or material remains may still exist. The remains of the asset are considered to be of low heritage significance. As only a small portion of the asset would be truncated by the proposed access track, the significance of the asset would be eroded to a very minor extent and as such would have a very low adverse magnitude of impact, resulting in a negligible significance of effect.
- 11.94 Any potential post-medieval archaeological remains associated with the post-medieval to modern settlements, would likely comprise removed boundaries, enclosures and drainage ditches. They are considered to be of low heritage significance, and with the predicted low adverse magnitude of impact, the resulting significance of effect would be negligible.
- 11.95 SLR53 is not an area of recorded archaeological features, but produced a number of archaeological finds, including a carved stone ball and lithics, dating approximately to the Neolithic – Bronze Age. The proposed access track bounds with the polygon recorded on the HER, and therefore there is some potential for the access track construction to overlap with the area of Neolithic to Bronze Age material findspots. Whilst no archaeological features are predicted to remain, some materials may yet be found within the soils in this area. These materials, out of context from archaeological features and stratified deposits, would be considered of low to moderate heritage significance depending on their condition and typology, and as such the proposals would have a very low adverse magnitude of impact resulting in a negligible to low significance of effect.
- 11.96 SLR6 is a stone circle known as Wester Biggs, located along the existing Sheriffmuir road. The polygon outlined on the HER record is currently truncated by the road, and the proposals include widening the road further into the polygon. The widening of the road would cause direct impacts upon archaeological features associated with the stone circle, as the asset has not previously been investigated or its extent and date ascertained. Whilst the asset comprises a potential prehistoric stone circle, typically considered of high significance, the remains of the asset are no longer discernible compared to their

recording in 1967 once forestry plantations had been cleared. Whilst the asset has likely been highly disturbed, it still has the potential to provide archaeological information which would contribute to our understanding of the prehistoric landscape within the Ochil Hills, and therefore would be considered of medium significance. The widening of the existing track would be considered to cause a medium adverse magnitude of impact, and result in a very minor significance of effect.

Proposed Mitigation

- 11.97 For the post-medieval assets of an agricultural nature (SLR44 and SLR12), it is proposed that a watching brief is conducted along any groundbreaking construction activities within the extent and vicinity of these assets to ascertain and identify the extent, character and condition of post-medieval structural and remains such as structures, boundaries, field enclosures and cultivation remains which may be within the footprint of groundworks.
- 11.98 For construction activities which would remove soils within the vicinity of SLR53, it is suggested that a watching brief is conducted over this area to identify any materials or items which would be of interest. If a high number of these are identified within the soils, stripped topsoil may be collected and put through a micro-finds process such as dry sieving of sediments through mesh.
- 11.99 The widening of the track within the polygons of the stone circle (SLR6) will require mitigation in the form of a strip, map and sample within the area of the proposed track widening or a wider evaluation trench beyond the extent of the construction activities to ensure any remains are recorded appropriately prior to construction.
- 11.100 All mitigation measures would be outlined in a Written Scheme of Investigation which would be approved by the relevant authority, being the Perth and Kinross Council.

Residual Effects

- 11.101 The completion of the archaeological mitigation programme outlined above would acknowledge direct adverse impact upon archaeological remains. Any adverse effect caused to buried remains as a result of ground disturbance during construction would be offset to some degree by the benefits provided through the information gained during the archaeological investigation and reporting process. Any impacts identified in relation to buried archaeological remains should be considered in this context.

Potential Operational Effects

Ardoch, Roman Military Camp (SM1601)

- 11.102 The monument is located on the north east edge of Braco and comprises of a multiphase military camp dating between the 1st and 2nd centuries. Pre-dating this camp within its vicinity are prehistoric assets including a barrow, between the Roman road and north east corner of the northernmost marching camp, and Grinnan Hillfort approximately 0.6km to the south west is (SM3088). Ardoch fort comprises a series of superimposed forts, a substantial annexe, a series of temporary camps and a signal station. Three phases of occupation are shown in the fort with substation rampart and ditch defence, standing to heights of 2m across the five ditches and comprises of four gates still visible. The earliest 1st century fort was larger than the later overlaid forts which replaced it, containing timber buildings and likely being associated with the outermost ditches. The remains of five marching caps have also been identified through a combination of field evidence and aerial photography. The remains of a signal station are located on the east rampart of the

130-acre marching camp, approximately 0.6km north-north east of the fort, and a stretch of Roman road survives as a slight causeway running north east which connected the fort to Camelon Roman fort (SM1746) to the south and Bertha Roman fort (SM2403) at modern Perth. Also forming part of the Roman landscape around the fort is;

- Shielhill Roman Signal Station (SM3871), approximately 0.2km north;
- Shielhill Roman Signal Station (SM3897), approximately 1.1km north;
- Kaims Castle Roman Fortlet (SM1607), approximately 2km north;
- Strageat Mains Roman fort (SM1614) approximately 8km north;
- Innerpeffray Wood Roman Camps (SM3775) approximately 8.6km north; and
- Arduie Roman Signal Station (SM90331) approximately 12.3km north east.

- 11.103 Situated over Black Hill, the fort is located approximately 0.05km north east of Braco. Strategically positioned on a slight rise of 154m AOD between the Ochil Hills which lie approximately 1.7km to the south east and the range of Creg Beinn nan Eun to the west. These upper hill landscapes form natural defensive barriers in which the Romans utilised, and controlled the valleys between them, defending the accessible corridor within Strathallan. The monument overlooks Strathallan situated above the Allan Water which runs north east – south west, approximately 1.6km to the south of the fort. The monument is strategically placed to overlook the confluence of Allan water and its tributary, the River Knaik, and having control of all movements navigating north or south through Strathallan, forming a defensive corridor through the primary, central route into and from Scotland's central belt.
- 11.104 At present, there are a number of modern elements in the landscape around and inside the fort, most notably the presence of the A822 and rural tracks which truncate the fort, from which traffic can be heard from within the boundary of the monument. There is also a rural building approximately 10m to the south of the fort with a walled enclosure, and woodland blocking outward views to the southeast. Lying 50m to the south west is the town of Braco, as well as the built environment there is also the dual carriageway of the A9 which can be heard from the monument. Beyond this within the Ochil Hills is the Burnfoot Wind Farm where five turbines can be seen from the monument according to the wirelines, although the woodland to the southeast blocks these views whilst in the south east area of the fort, where the earthworks are most prominent.
- 11.105 The proposed development would introduce thirteen visible turbines approximately 7.5km to the south east of the asset (**Figure 11.3g**). Due to the distance of the proposed turbines, they would cause a minor intrusion within views toward the south east. There would be no visible turbines in views on the approach from the south to the asset. Thirteen turbines would be present within peripheral views to the south east along the northern approach of the Roman road. Thirteen turbines would also be present within south east facing views from the asset to the Ochil Hills across the entire scheduled area according to the wireline visualisation (**Figure 11.3g**) and ZTV analysis (**Figure 11.1**). These turbines would be seen next to the existing Burnfoot Wind Farm to the east of the proposed development. Whilst the wireline indicates that these existing turbines would be visible from the asset, they were not visible during the setting assessment due to wooded areas (**Technical Appendix 11.2**, Photograph 5), taken in January when vegetation was at a minimum.
- 11.106 Whilst the proposed development would be visible from the monument, many of the factors which contribute to the significance of the asset would remain, primarily, its archaeological and historic interests. Furthermore, contributing factors to the setting of the

monument and its significance would not be impacted, such as its intangible relationship with other monuments which it relates to as per paragraph 11.102. The proposed development is placed outside of the line of visibility between the associated monuments, and would not impact intervisibility between them. The main approach along the A822 to the monument on foot from the west would remain intact with zero visibility of the proposed development. The ability to appreciate the scheduled area from the roadside would also remain intact along the A822. Furthermore, the views and appreciation of the relationship with the waterways around the monument would remain intact.

- 11.107 The main impact upon the monument's setting, which contributes to its significance, is the introduction of the proposed development upon the Ochil Hills, which forms part of a strategic natural barrier for the asset. Whilst the proposed development would be visible, the ability to understand, appreciate and experience the topographical positioning of the monument would remain. However, the introduction of these turbines would cause an element of distraction in the ability to experience and appreciate this positioning. As such it is considered that this would give rise to a **low adverse magnitude of impact** which would result in a **minor adverse significance of effect**. This is not considered significant in EIA terms.

Sheilhill Roman Signal Station (SM3871) and Shielhill Roman Signal Station (SM3897)

- 11.108 The two signal stations are located approximately 0.2km (SM3871) and approximately 1.1km (SM3897) to the north east of Ardoch Roman Military Complex (SM1601), based along the Roman road between Ardoch Roman Camp (SM1601) and Kaims Castle Roman Fortlet (SM1607). Both towers are now located within agricultural field systems and are non-extant along the Roman road.
- 11.109 The southernmost tower (SM3871) is not identifiable above ground, located approximately 0.3km south of the A833. It was first identified during excavations in 1972 – 1973. Following excavations in 1996, it was established that the tower would have been timber with a footprint of approximately 13m², indicated by the remaining post-holes, with a sub rectangular double ditches in the typical Roman 'V' style with the entrance on the eastern side from the Roman road. It is located on a natural rise, which overlooks the land to the south. Its position would have provided the tower with additional elevation which would contribute toward its ability to function as a signal tower.
- 11.110 The northern most tower (SM3897), also not identifiable above ground, is located approximately 10m to the south of the A822. Aerial photographs and the resistivity survey in 1996 shows that the tower is located within a double-ditched enclosure, approximately 24m wide, with the entrance to the east and facing the Roman road to the south east. The tower is located atop a natural mound which provides views from to the east, south and west from the ground. It would have been built upon the natural mound in order to provide it with additional elevation, contributing towards its ability to function as a signal tower.
- 11.111 The Roman road would have been part of both stations functional context, as they would have passed signals between Roman military infrastructure along the route, particularly Ardoch Roman Camp (SM1601) and Kaims Castle Roman Fortlet approximately 0.85km north east (SM1607).
- 11.112 The landscape comprises field enclosures with rural single-track roads, isolated farmsteads and the A833 to the north, which is very present within the setting of both of the towers, primarily due to the associated noise pollution.
- 11.113 The proposed development would be located approximately 8.5km and approximately 9km to the south east of the two signal towers, with the bare earth ZTV analysis indicating

that all turbines have potential to be visible from the assets, set within the Ochil Hills (**Figure 11.1**).

- 11.114 With reference to the section above, no contributing aspects of either asset's setting would be affected by the proposals. The setting of the signal towers focuses on the Roman road and the communication they would have provided between Roman military infrastructure. The two assets comprise part of a longer chain of signal stations along this road, with views between the towers being key to how these towers functioned. The development of wind turbines within the Ochil Hills would cause no impacts to the ability to understand, appreciate and experience the setting of these signal stations and how they would have contributed toward the functioning of communication along the pathways between Roman forts and developments.
- 11.115 Overall, whilst the turbines would be visible from the assets, the ability to interpret both the position of the signal towers within the landscape, their relationships to one another, Ardoch Roman Fort (SM1601) and Kaims Castle Roman Fortlet (SM1607), and their intended views and function along the Roman road as part of the wider military infrastructure, would remain intelligible. No magnitude of impact is predicted, and therefore the proposed development would result in a **nil significance of effect**.

Grinnan Hill Fort (SM3088)

- 11.116 Grinnan Hillfort is a defensive and domestic settlement dating from the Bronze Age to the Iron Age (800BC – 400AD). The fort occupies a D-shaped hill ridge located to the southwest of Braco, forming a circular core area on the west side of the ridge surrounded and defended by ramparts and ditches, both of which are visible on the north and east ends of the ridge. There is a potential entrance on the east side where the slope is gentle, although residential housing now prevents access from this direction. The fort measures approximately 90m by 85m, with ditches measuring approximately 8m wide and 1.5m high at the north end and approximately 25m long and 0.7m high at the east end. The Keir Burn forms another natural defence at the bottom of the west slopes.
- 11.117 The asset's setting comprises the ridge upon which it is constructed and the wider flat landscape of Strathallan. The steep slopes on the south side of the hillfort provided a natural defence, whilst the north and northeast slopes were used for accessibility for the occupants. Its defensible position, with wide views across Strathallan, would have enabled the occupants to control movement through Strathallan. Strathallan would have been one of the more accessible, desirable travel corridors orientated north-south within the wider region, between the Ochil Hills to the southeast and Glenlíchorn and Slymaback to the northwest. The River Knaik, approximately 0.3km to the east and Keir Burn directly to the west, would have provided further natural defences as well as a water supply, meeting the Allan Water approximately 1.3km to the south, which could be used for travel, trade and wider communication with other settlements.
- 11.118 The fort is one of a number of prehistoric forts within the region, with Orchill Fort (SM3605) approximately 4.5km to the north east and Cecilmount fort (SM7585) and Brookfield House Fort (SM7584) approximately 6.5km to the east. Whilst these forts are not visible to one another, the Roman road may have been based upon previous prehistoric route ways, which both Grinnan Hillfort and Orchill Fort are proximate to, providing potential links and communication between these forts, and the latter two forts may have been in connection through the Allan Water. This indicates that these forts may have comprised a wider complex of connected prehistoric defensive and domestic settlements.

- 11.119 There is a high level of modern development present along the north boundary of the designated area of the asset, with housing bounding the north side of the hillfort, and modern housing in east and southeast facing views from the asset, located at the bottom of the defensive slopes. There are also turbines present within the views toward the Ochil Hills within the Burnfoot Wind Farm sites.
- 11.120 The proposed development would be located approximately 7.4km to the south east of the asset, set within the Ochil Hills. The bare-earth wireline (**Figure 11.3b**) indicates that 12 turbines would be visible from the asset. These turbines, considering the distance, would have a minor presence within views to the southeast of the asset.
- 11.121 With reference to the section above, the proposed development would affect a single aspect of the asset's setting. Whilst the turbines would be visible within views of the Ochil Hills from the asset in addition to the more east turbines within the Burnfoot Wind Farm development (**Figure 11.3b**), the contribution of the Ochil Hills towards the asset's setting as a natural defensive geological feature within the overall views of the valley to the south of the asset would remain intact. The presence of the turbines would not be considered to dominate the views to the south east to such a degree that would erode the contribution that this aspect of setting makes to the asset's significance. The ability to understand, appreciate and experience all other aspects of the asset's setting in views from the upper topography of the asset would remain intact, including its defensive and controlling position within the valley of Strathallan.
- 11.122 The approach from the east would also not be affected as there is no visibility of the turbines or the Ochil Hills (being located behind in these views). The natural features including water courses which form part of the defensive nature of the asset, and the intangible relationships with the wider prehistoric asset would also remain unaffected.
- 11.123 Overall, the turbines would cause no magnitude of impact upon the asset's setting resulting in a **nil significance of effect**.

Orchill Fort, fort 450m NNE of Orchill (SM3605)

- 11.124 The asset comprises the remaining earthworks of a prehistoric fort, occupying approximately 1 hectare, located on a small hill along a number of undulating hill rises on the south edge of an east-west ridge line, overlooking lower slopes to the south. It is located approximately 0.38km to the north of Orchil House, approximately 1km to the south east of the A833 and approximately 1.03km south east of the Kaims Castle Roman Fortlet (SM1607).
- 11.125 The fort has three parallel ramparts facing north, utilising steep slopes formed by burns on the south east, south and west sides as natural defences. Crawford (1937)⁷ identified two stone-lined trenches within the ramparts which could have held wooden palisades, although forestry plantations have since removed these features and reduced the appearance of the ramparts since this recording.
- 11.126 The south and west side of the hill has steep natural slopes formed by a burn which form both defensive features but also form higher view points for wide views to the south. These wide views toward the south allowed observation and control of the landscape. Three unnamed tributaries merge to the southwest and south of the fort and continue to the southeast, forming a shallow valley which the fort takes advantage of as a defensive

⁷ <https://canmore.org.uk/event/802486>

feature. The gentle slopes to the north are controlled by the ramparts, but also enable a controlled approach.

- 11.127 Whilst Orchil Fort and Grinnan Hillfort (SM3088) do not have visibility with one another, the Roman road which passes proximate to both hillforts may have been based upon a previous prehistoric route way, which would place these two hillforts near a route of communication and indicate a potential association, which contributes towards our ability to further understand the assets.
- 11.128 The fort is located within an area of grazing land, left overgrown and has been evidently used for forestry previously. There are very few modern aspects which detract from the asset's setting, with only the presence of Orchil House within south facing views and its associated rural landscape and managed land.
- 11.129 The proposed development would be located within the Ochil Hills approximately 8.75km to the south east of the fort. The bare earth ZTV analysis indicates that all 13 turbines would have potential visibility of the turbines within the hill range. However, due to the distance, the proposed turbines would have a very limited intrusion and presence within views to the south of the asset toward the Ochil Hills.
- 11.130 Considering the above section, the proposed development would not affect any contributing aspect of the asset's setting. Setting elements which contribute to the significance of the asset comprise its position overlooking the shallow valley to the south and west and extensive views south which would remain. Whilst the Ochil Hills form the backdrop of views to the south, they are at such a distance to not inform the intelligibility of the controlling and defensive position of the fort, nor form part of the defensive natural boundary for the fort's controlled area. The presence of turbines within views of the Ochil Hills will therefore not affect the contributing aspects of the asset's setting.
- 11.131 Overall, the ability to understand, experience and appreciate the asset within its setting would remain unchanged. Overall, the proposals would cause a **no magnitude of impact** upon the asset's setting, and therefore cause a **nil significance of effect**.

Rhynd, Enclosed Settlement 600m ENE of (SM7596)

- 11.132 The monument comprises the remains of a prehistoric domestic and defensive pear-shaped enclosure measuring approximately 40m by approximately 70m and visible as a series of upstanding banks with a central mound and building remains, with the entrance into the settlement likely from the north east.
- 11.133 The asset is located upon a mound within low-lying moorland at approximately 110m AOD, within a relatively flat area. The flat area is positioned to the north of the Allan Water, and to the east and west the flat area is enclosed by ridges approximately 15m high. Historically, the Upper and Lower Rhynd Reservoirs, approximately 0.3km to the north, formed a burn. The position of the asset would have provided the occupants with a centrally positioned defensive mound within a flat area for agricultural, providing surrounding views, with the ridges forming natural defensive barriers. All approaches to the asset from the Allan Water to the south, over the ridges, and across the flat landscape would be visible and controllable by the settlement. The access to the Allan Water would have provided the occupants with access to a water source but also trade and communication, potentially associating the asset with the wider prehistoric landscape, with larger defensive settlements at Grinnan Fort (SM3088) to the west and Cecilmount Fort (SM7585) and Brookfield House Fort (SM7584) to the east.

- 11.134 The proposed development would be located approximately 6.25km away, within the Ochil Hills to the south east of the asset. As seen in **Figure 11.3a**, 11 of the turbines would be visible from the asset.
- 11.135 Considering the asset's contributing aspects of setting set out above, views to the Ochil Hills where the proposed turbines would be situated would not affect the asset's setting. The contributing aspects of the asset's setting are contained to the Allan Water to the south, the mound on which the asset is built and the flat lowland surrounding the mount, and the ridges which form a defensive ridge to the east and west. The Ochil Hills, whilst forming the backdrop to views south, do not contribute to the asset's setting.
- 11.136 The approach from the north east, facing south west upon the approach, would have turbines visible, at most, within the periphery of views to the south-south east. Any views of the turbines would not share the same direction of focus upon views toward the asset. The location of the turbines within the upland landscape would also remove them from the same viewsheds which focus upon the Allan Water to the south from the asset.
- 11.137 Overall, the introduction of turbines within views of the Ochil Hills from the asset would not affect the contributing aspects of the asset's setting nor how it is understood, appreciated and experienced within this setting. Any views of the turbines to the south east in views to the asset from the north west would not be considered to compete or intrude within views along the approach to the asset or whilst within the area of the Scheduled Monument.
- 11.138 Considering the distance of the turbines and the lack of intrusion on any of the asset's contributing setting, it is not predicted that the turbines would intrude on the ability to understand, appreciate, and experience the asset. Overall, there is **no predicted magnitude of impact**, resulting in a **nil significance of effect**.

Braco Garden and Designed Landscape (GDL00067)

- 11.139 The asset comprises the historic 19th century designed landscape containing parkland, a walled garden, woodland walks and the following Category B Listed Buildings:
- Nether Braco Farmhouse (LB5802);
 - Braco Sawmill (LB5805); and
 - Braco Castle (LB5804).
- 11.140 The estate was once owned by the medieval Bishops of Dunblane, and later owned by the Montrose Grahams in the 17th and 18th centuries. The remnant estate mostly comprises the grounds laid out by its then owner, George Killie McCallum, in the 19th century. The parkland is both a designed landscape for recreational purposes but also has been in use for economic purposes, primarily agriculture and the sawmill along Keir Burn and artificially cut water streams.
- 11.141 The estate makes use of water courses to form boundaries, with the River Knaik to the east and Keir Burn to the south, and tributaries to the River Knaik along the north. Much of the estate comprises field boundaries attributing to the estate's economic land use, managed historically by the Nether Braco Farmhouse (LB5802). The bands of woodland along the south, west, east and north boundaries and larger parcels of woodland, divide up the parkland within the north of the estate proximate to Braco Castle. To the north of Nether Braco Farmhouse, Braco Castle and the walled garden to the west are provided a separate space within the park, with tree banding and managed gardens in contrast to the surrounding agricultural fields.
- 11.142 There are two approaches into the estate from the south as seen on the 1783 Stobie's map 1866 Perthshire Sheet CXVII map; from Ardoch Bridge to the south east travelling

along the River Knaik and another from the Church and school within Braco to the south. Both approaches merge when reaching Nether Braco Farmhouse and continue north to Braco Castle. To the south east of the farmstead, along the central drive, the elevated hills within the estate provide views outside of the estate to the south over Braco village, with the Ochil Hills forming the skyline and backdrop to the views. The presence of the village of Braco, including the major A822 road which passes through the village, is prominent in south views from the estate, including in views toward the Ochills. These views include modern developments within the village and noise from the traffic. According to the bare earth wireline (**Figure 11.3a**), there are also six turbines of the Burnfoot Wind Farm development visible, five of which include turbine hubs.

- 11.143 The proposed development would be located approximately 7.7km to the south east of the asset within the site, situated within the Ochil Hills. According to **Figure 11.3a**, 13 turbines would have potential visibility from within the extent of the designated area of the asset, except along the north edge of the Keir Burn and lower slopes of the Knaik River to the east. Due to the distance to the proposed development, the scale of the turbines would be less intrusive within views south west, but 11 of the 13 turbine hubs would be visible, and the turbines would be a prominent feature within views toward the Ochil Hills.
- 11.144 With consideration of the above section, a single aspect of the asset's setting would be affected. The turbines would be visible in views south toward the Ochil Hills on the rises within Braco Estate, and along the south approach and exit. These views to the Ochil Hills are experienced in a particular area of the approach through Braco Estate in the south, and only upon the exit southward. The visibility of the thirteen turbines would be a dominating feature within this southward frame of view toward Ochil Hills, and would detract from the ability to appreciate and experience this aspect of the asset's setting, although the ability to understand the intended view along the approach would remain intact.
- 11.145 In other areas of the park, views toward the Ochil Hills are not the focus, using woodland banding to separate the agricultural, timber and recreational areas of the park. The aspects of setting which contribute to how they are experienced would be preserved, including the open green spaces, enclosed land used for agriculture, areas of woodland, the use of water courses for walkways and the lumber activities, and Braco Castle and the gardens to the west.
- 11.146 Due to the effect upon a single frame of view of one contributing aspect of the asset's setting, the **magnitude of impact** upon the asset by the proposed development would be considered **very low**, resulting in a **very minor adverse significance of effect**.

Sauchie Tower (SM629)

- 11.147 Sauchie Tower is a scheduled monument comprising of a 15th century medieval tower house, ancillary buildings, enclosure wall and remains of a 17th century house. Sauchie tower was originally built between 1430 and 1440 by James Schaw of Sauchie, who was the Comptroller of the royal household in the 1470's and captain of Stirling Castle in 1489. The tower house still exists as a four-storey standing building in a rectangular plan with a polygonal slab-roof cap-house.
- 11.148 The monument is situated approximately halfway up the south slope from the River Devon, and currently situated within woodland to the north, east and west, and a road to the south adjacent to the Devon Tower House farmhouse. Its position would have enabled it to observe and control all approaches along the north region of the Forth Valley aligned east to west, particularly along the north and south sides of the River Devon to the north, which forms a natural defensive boundary to the north of the tower. The Ochil Hills form a

natural boundary to the asset's controlled region to the north, and form the backdrop of views upon the south approach to the tower, from which it currently does not afford views of the tower due to woodland.

- 11.149 Sauchie Tower is one of several late medieval to early post-medieval defensible houses in the region, including Clackmannan Tower (scheduled monument number SM90073), Alloa Tower (LB20959), Blairlogie (listed building number LB10461) and Plean Tower (LB13859). These towers are distributed along the Forth Valley, except Plean Tower located to the south of the River Forth. They form a chain of towers along the valley between the River Forth and the Ochil Hills.
- 11.150 The proposed development would introduce wind turbines approximately 5.3km to the north of the asset, comprising views of between 1 to 3 turbine tips (**Figure 11.1**). The wireline produced (**Figure 11.3f**) demonstrates that two turbine tips would be visible from the asset's south approach, within north views toward the tower.
- 11.151 Upon the approach from the south of the tower from the upper slopes, the two visible turbine tips would be visible to a very minor degree in a bare earth scenario. These turbines would be within the same viewshed as the tower, but their presence would be indiscernible within these views toward the tower from the south due to the vegetation surrounding the tower. The presence of these turbines would not compete with the focus and views toward the tower from the upper topography to the south, nor between the tower and any other tower houses within the Forth Valley, and would barely impose upon any views of the Ochil Hills within the backdrop.
- 11.152 The minor visibility of up to two visible turbine tips situated behind the backdrop of the Ochil Hills within north facing views toward tower would not be considered to cause any **magnitude of impact**. All other aspects of the asset's setting would also be entirely preserved. Therefore, there would be a **nil significance of effect**.

Alloa Tower (LB20959)

- 11.153 Alloa Tower is a Category A Listed Building located within the south east area of Alloa. The building consists of a 15th century tower house, with 16th to 18th century alterations, comprising four storeys with a crenelated parapet walk on the rooftop. The tower's earliest known occupants were the Erskine Family, initially by the 6th Earl of Mark, John Erskine, the leader of the 1715 Jacobite Rising.
- 11.154 The landscape in which the tower was constructed comprises a relatively flat valley floor, approximately 0.7km to the north of the River Forth, with the rising hills (Ochil Hills) approximately 5km to the north. This would have afforded the tower views and control over much of the surrounding Forth Valley and the potential approaches and routes by the river or through the Forth Valley.
- 11.155 Alloa Tower is one of several late medieval to early modern defensible houses in the region, including Clackmannan Tower (SM90073), Sauchie Tower (SM629) and Blairlogie (LB10461). These towers are distributed along Forth Valley, forming a chain of towers along the valley floor between the River Forth and the Ochil Hills which would have controlled the region during the medieval to post-medieval period.
- 11.156 The tower now stands within a park comprising lawn spaces and tree lined paths heading northwest from the front of the tower and west. The stable block (LB20960) associated with the demolished 19th century Alloa House is located to the east, and modern residential housing to the south. To the north is a Tesco superstore, and the Clackmannanshire Council office building to the north west. Stone walls and vegetation

prevent many of the views outward of the park around the tower toward these modern developments.

- 11.157 The proposed development would introduce seven visible turbines approximately 8.3km to the north of the asset (**Figure 11.3d**). However, due to the built environment of Alloa, it is unlikely that the turbines would be visible from the ground-level of the tower and its surroundings. This includes the approach to the tower and points of appreciation available around the grounds of the tower (**Technical Appendix 11.2**, Photographs 1 – 4). However, the asset's setting is best appreciated from the tower's rooftop walk and views to the River Forth and along the Forth Valley, which contributes to how it is understood, appreciated and experienced. The views from the rooftop from Alloa tower would have views of seven turbines, including three visible hubs. Considering the distance of these turbines from the asset, these turbines would be a relatively minor presence within views to the north of the tower.
- 11.158 Considering the above section, the turbines would not affect a part of the asset's contributing aspects of setting within the north facing views from the rooftop walk. The tower is positioned to focus upon and control the River Forth and the south region of the Forth Valley. Whilst the Ochil Hills form the backdrop of views to the north of the Forth Valley, they do not form part of the asset's contributing aspects of setting, and therefore the presence of turbines within these views would not affect the ability to understand, experience or appreciate the tower's controlling, defensive position within its setting. The intangible relationship between Alloa Tower and other tower houses within the valley would remain unchanged.
- 11.159 The change within the asset's setting would therefore cause **no magnitude of impact**, resulting in a **nil significance of effect**.

Clackmannan Tower (SM90073)

- 11.160 Clackmannan Tower comprises a 14th century tower house with alterations dating from the 15th to 17th centuries. It was built by a member of the Bruce family, descendants of Robert the Bruce, after the land was gifted to the family by King David II. The Bruce family owned the asset until the 18th century. Initially the tower house was only two storeys, comprising a house, and later raised to the existing height and the L-plan with a crenelated parapet on the roof. The footings of the forecourt wall and traces of a defensive ditch to the east of the tower, aligned north to south, still survive.
- 11.161 The tower is situated centrally on the King's Seat Hill, approximately 53m AOD, which is part of a ridge aligned east to west spanning approximately 0.2km. This position provides the tower with natural steep defences to the north and south, and surrounding views of any approaches to the hill and tower, as well as movements along the River Forth. The tower is located approximately 0.3km to the south of the Black Devon, a watercourse which passes to the north, west and south of the asset, before joining the River Forth, forming another natural defensive boundary surrounding the asset's defensive sides. The approach to the asset is from the east, from the town of Clackmannan. The hill ridge on which the tower is located slopes up gently from this east side, providing access to the tower and its front entrance in the east of the tower, through the courtyard and past the defensive ditch. The extent of Clackmannan is present to the east of the asset, at the bottom of the slope which forms the approach to the asset. The tower is also located approximately 2km to the east of Alloa Tower, and likely had associations as well as with the other tower houses within the valley.
- 11.162 The proposed development would introduce six visible turbines, situated within the Ochil Hills, approximately 9km north of the asset. The bare earth wireline produced (**Figure**

11.3c) shows the six turbines visible from the King's Seat Hill, to the north of the tower at ground level, including three turbine hubs.

- 11.163 These turbines would be visible along the approach to the east of the tower, and around the vicinity of the tower upon King's Seat Hill with the exception of south of the tower. Due to the distance, these turbines would have a minor presence behind the skyline of the Ochil Hills to the north.
- 11.164 Considering the above section, the turbines present within views behind the Ochil Hills but would cause no effects upon the contributing aspects of the asset's setting. The ability to understand, appreciate and experience that asset's setting in its defensive and controlling position over the surrounding valley and views toward the River Forth, as well as its group value with the other tower houses within the Forth Valley, would remain unchanged.
- 11.165 Overall, the proposals would not affect asset's contributing aspects of setting. The proposed development would cause **no magnitude of impact**, resulting in a **nil significance of effect**.

Stirling Castle (SM90291)

- 11.166 Stirling Castle is a scheduled monument comprising a historically defensive, later royal, medieval castle located at around 128m AOD. The castle dates from at least the 12th century, with the earliest certain reference concerning the endowment of a chapel within an existing castle at Stirling by King Alexander I between 1105 and 1115, though it's strong defensive position within a key routeway in Central Scotland suggests this location may have been occupied far longer.
- 11.167 Situated on a volcanic outcrop, approximately 80m above the valley floor, on the south side of the River Forth, the castle is strategically positioned to view and control the crossroads of Central Scotland. Its location was essential for military purposes, controlling the most downstream crossing point of the River Forth and overseeing movement through the valley. Views from the castle demonstrate its role as a political and military stronghold, with strategic vistas to the north, east, south and west, providing insight into its historical context. Most importantly, its position controlled the primary north-south land route across the River Forth until the 19th century, the most defendable gateway into the north of Scotland.
- 11.168 The castle's use changed throughout the mid to late post-medieval period, with its defensive and controlling views of the surrounding landscape becoming more of an aesthetic, impressive feature of a royal castle. Aspects of these views include the River Forth, the views along the valleys, and views to the Gargunnoch Hills in the backdrop of the west views. The castle's architecture was adapted to appreciate the landscape particularly to the west, overlooking the Royal Gardens (SM90288 and GDL00241) and the Royal Park (CA218), from approximately the 16th century. Whilst the castle was not initially positioned for these aspects, as it was first located for its defendable position, these aspects have become a part of how the overall existing castle is understood, experienced and appreciated through its later use.
- 11.169 A number of modern developments have encompassed the lower ground to the north, east and south, comprising the overall city of Stirling, visible from the castle. Turbines from Earlsburn Wind Farm are also visible 10.3km to the south west. However, the views over this built environment and beyond still contribute to the strategic positioning of the castle.
- 11.170 The proposed development would be located within the Ochil Hills approximately 11km to the north east of the asset. According to the bare earth wireline produced (**Figure 7.28**),

two turbine tips would be visible in views north east from the castle's east esplanade. The two turbine tips in the visualisation would be present to a such a minor degree in views behind the Ochil Hill skyline that they would be almost indiscernible.

- 11.171 The presence of these two turbine tips within the backdrop of views toward the Ochil Hills do not compete with the focus and views from Stirling Castle over the River Forth and its valley, nor intended views from the castle which contribute to the significance of its setting. The ability to still understand, experience and appreciate the views from Stirling Castle over the approaches and lowland crossings from the north, east, south and west, and its control over these routes and River Forth crossing, would remain entirely unaffected.
- 11.172 The three turbine tips visible above the sky line of the Ochil Hills would therefore **not be considered to cause any magnitude of impact**. Therefore, there would be a **nil significance of effect**.

Potential Decommissioning Effects

Embedded Measures

- 11.173 The landscape would be reinstated to its original state following decommissioning.

Potential Effects

- 11.174 There would be no negative post operational effects upon the setting or significance of any assets within 10km, as the landscape would be returned to its original state. There would be no direct effects on any assets as there would be no new ground works during this stage.

Residual Post-Operational Effects

- 11.175 There would be no residual effects upon setting resulting from the decommissioning of the proposed development.

Cumulative Effects

- 11.176 Cumulative effects have been considered with regard to any wind farm developments that are 50m to blade tip height or greater, and developments that are:
- Consented (but not constructed) or the subject of valid but currently undetermined planning or S36 applications; and
 - within 15km of any nationally important heritage assets that are included in the heritage assessment for the proposed development.
- 11.177 A cumulative effect is considered to occur when there is a combination of:
- asset or group of assets due to changes resulting from the development subject of assessment; and
 - An impact on the same asset or group of assets resulting from other development (consented or proposed).
- 11.178 If an asset or group of assets have no predicted impacts resulting from the development subject of assessment (the proposed development), then there can be no cumulative effect on these assets.

11.179 **Chapter 5** of the EIA Report sets out the cumulative wind farm context surrounding the site. **Table 11-7** sets out the wind farms included in the cumulative assessment, and consists of only one wind farm development which has been identified as meeting the above criteria for inclusion in the cumulative assessment – Strathallan Wind Farm (phase 2). Craighead Wind Farm and Brunt Hill Wind Farm were considered for inclusion, however, were too distant (in excess of 15km) to the assets included in the heritage assessment for the proposed development.

Table 11-7: Other Wind Farms Involved in the Cumulative Impacts Assessment

Wind Farm	No. of Turbines	Tip height (m)	Status	Reason for Inclusion
Strathallan Wind Farm (phase 2) (15/01484/FLM)	4 built (phase 1), 5 more consented (phase 2)	93	Operational (phase 1) / Consented (phase 2)	Within 15km of the nationally important heritage assets SM1601 and GDL00067. Both of which the proposed development is assessed as having an impact on.

11.180 No impact is predicted on the following heritage assets as a result of the proposed development, and as such (see paragraph 11.178) are also assessed as having no cumulative impact:

- Shielhill Roman Signal Station (SM3871) and Shielhill Roman Signal Station (SM3897);
- Grinnan Hill Fort (SM3088);
- Orchill Fort, fort 450m NNE of Orchill (SM3605); and
- Rhynd, Enclosed Settlement 600m ENE of (SM7596);
- Sauchie Tower (SM629);
- Alloa Tower (LB20959);
- Clackmannan Tower (SM90073); and
- Stirling Castle (SM90291).

11.181 The following heritage assets are predicted to experience impacts as a result of the proposed development, and are within 15km of Strathallan Wind Farm (phase 2), and so have been assessed further for potential cumulative impacts.

Ardoch, Roman Military Camp (SM1601)

11.182 SM1601 is described and assessed in paragraphs 11.102 to 11.107. The operational Strathallan Wind Farm (phase 1) is located approximately 3.5km to the north west of the asset and comprises of four operational turbines and a further five consented turbines. The wind farm is predicted to have an adverse effect upon the asset although it is not considered to be significant. The presence of Strathallan Wind Farm to the north and the proposed development to the south would not be within the same viewshed, nor affect the same aspects of the asset's setting. Whilst both developments would be visible from the asset in two opposite viewsheds, it would not be considered to accumulate a further impact than that predicated in paragraph 11.107.

Braco Garden and Designed Landscape (GDL00067)

- 11.183 GDL00067 has been described and assessed in paragraphs 11.139 to 11.146. The operational Strathallan Wind Farm (phase 1) is located approximately 2km to the north west of the asset boundary. The proposed development is predicted to have a very minor significance of effect upon the asset. The Strathallan Wind Farm is predicted to have a minor-moderate adverse significance of effect upon the asset, however this would not be considered significant in EIA terms.
- 11.184 Due to the Strathallan Wind Farm and the proposed development being in opposite directions from the asset, and being visible in separate viewsheds, it is not considered that these developments would cause a cumulative effect upon the asset's setting. The proposed development would therefore not be considered to have any further impacts than that predicted in paragraph 11.146.

Statement of Significance

- 11.185 This assessment has considered data from a diverse range of sources in order to identify any heritage assets which may be affected by the proposed development. The potential effects upon known and potential archaeology within the site which could be affected during construction have been assessed, and mitigation proposed. The cumulative and residual effects have been considered in line with the methodology set out in paragraphs 11.40 to 11.51, respectively.

Construction Effects

- 11.186 Four assets have been identified within the site which would have potential to be truncated during the construction through the widening or construction of tracks within the site. These comprise SLR44, SLR12, SLR53 and SLR6, and their associated remains, outlined in paragraph 11.91.
- 11.187 The proposed development would cause a negligible significance of effect upon SLR44 and SLR12 and SLR53 and a minor significance of effect upon SLR6. Mitigation in the form of watching briefs, soil processing and archaeological evaluation have been proposed in paragraphs 11.97 to 11.100 in regard to each asset and the construction activities which are likely to cause direct impacts to them.
- 11.188 The proposed mitigation would not prevent the significance of impact that the construction would be expected to cause to SLR 44, SLR12, SL53, and SLR6 however it would aim to offset it by preserving the archaeological remains by record and contributing to our understanding. The full scope of mitigation would be agreed with Perthshire and Kinross Council, as the mitigation would take place within their border.

Operational Effects

- 11.189 The assessment included ten assets which were scoped in to identify any indirect effects to their significance as a result of change within their setting by the proposed turbines. The assets are set out below in **Table 11-8**.
- 11.190 The assessment identified that two assets would be subject to very minor significant effects and a minor significant effect upon one asset. This is due to the turbines being present within the backdrop of the Ochil Hills, which form part of the landscape setting for these assets.
- 11.191 Overall, the proposed development is compliant with relevant policy and guidance, including the National Planning Framework 4 (NPF4), Historic Environment Policy for

Scotland (HEPS) and the relevant Local Development Plans (Clackmannanshire Development Plan (2024), Perth and Kinross Local Development Plan (2019) and The Stirling Statutory Development Plan (2023)).

Table 11-8: Summary of Statement of Significance

Cultural Heritage Asset	Magnitude of Impact	Significance of Effect	Mitigation Proposed	Residual Effects
Construction Phase				
SLR44	A small area of the asset's field system is to be truncated by the proposed access track - Low Adverse	Very Minor	Watching Brief	Direct significant impacts would be permanent from the construction phase. Mitigation would offset the adverse impacts to a degree by the benefits provided through information gained during the mitigation strategies.
SLR12	Partial truncation / associated remains truncated proximate to the recorded area polygon - Low Adverse	Very Minor	Watching Brief	
SLR53	Potential materials extending from the outlined polygon may be impacted by the proposed access track - Very Low Adverse	Negligible	Soil Processing	
SLR6	The widening of the existing track would intrude marginally further into the asset's polygon outlined on the HER - Medium Adverse	Minor	Archaeological Evaluation	
Operational and Maintenance Phase				
Sheilhill Roman Signal Station (SM3871)	None	Nil	N/A	N/A
Sheilhill Roman Signal Station (SM3897)	None	Nil	N/A	N/A

Cultural Heritage Asset	Magnitude of Impact	Significance of Effect	Mitigation Proposed	Residual Effects
Ardoch Roman Military Camp (SM1601)	Low Adverse	Minor	N/A	N/A
Grinnan Hill Fort (SM3088)	None	Nil	N/A	N/A
Orchill Fort (SM3605)	None	Nil	N/A	N/A
Rhynd Enclosed Settlement (SM7596)	None	Nil	N/A	N/A
Braco (GDL99967)	Very Low Adverse	Very Minor	N/A	N/A
Sauchie Tower (SM629)	None	Nil	N/A	N/A
Alloa Tower (LB20959)	None	Nil	N/A	N/A
Clackmannan Tower (SM90073)	None	Nil	N/A	N/A
Stirling Castle (SM90291)	None	Nil	N/A	N/A
Decommissioning Phase				
Sheilhill Roman Signal Station (SM3871)	None	Nil	N/A	N/A
Sheilhill Roman Signal Station (SM3897)	None	Nil	N/A	N/A
Ardoch Roman Military Camp (SM1601)	Low Beneficial	Minor	N/A	N/A
Grinnan Hill Fort (SM3088)	None	Nil	N/A	N/A
Orchill Fort (SM3605)	None	Nil	N/A	N/A
Rhynd Enclosed Settlement (SM7596)	None	Nil	N/A	N/A

Cultural Heritage Asset	Magnitude of Impact	Significance of Effect	Mitigation Proposed	Residual Effects
Braco (GDL99967)	Very Low Beneficial	Very Minor	N/A	N/A
Sauchie Tower (SM629)	None	Nil	N/A	N/A
Alloa Tower (LB20959)	None	Nil	N/A	N/A
Clackmannan Tower (SM90073)	None	Nil	N/A	N/A
Stirling Castle (SM90291)	None	Nil	N/A	N/A

References

Perth and Kinross Adopted Local Development Plan (LDP2) (2019)

Clackmannanshire Local Development Plan (August 2015)

Stirling Local Development Plan (2018)

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

Historic Environment Scotland (2016b). Scotland's Listed Buildings 2016.

Historic Environment Scotland (2016c). Scotland's Scheduled Monuments 2016.

Scottish National Heritage and Historic Environment Scotland (2018). Environmental Impact Assessment Handbook: Guidance for competent authorities, consultation bodies, and others involved in the Environmental Impact Assessment Process in Scotland.

Historic Environment Scotland (2019a). Historic Environment Policy for Scotland May 2019.

Historic Environment Scotland (2019b). Designation Policy and Selection Criteria.

National Library of Scotland (Accessed 2024); <https://maps.nls.uk/>.