

10 Historic Environment

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10 Historic Environment

10.1 Executive Summary

- 10.1.1 The Historic Environment of the site was assessed as part of the Environmental Impact Assessment (EIA) submitted for the Consented Development. However, changes anticipated by the Revised Development meant that it was necessary to re-appraise the impact upon the Historic Environment. These changes include a reduction in turbine numbers; an increase in turbine heights; and a re-design of the turbine layout.
- 10.1.2 The assessment consulted readily available archaeological, historical and published records identifying the presence of 22 Historic Environment assets within the site boundary. These are predominantly related to historical agricultural exploitation of the landscape, although the presence of a small settlement unrecorded on any historic maps is potentially significant. No new sites were identified in addition to those addressed for the Consented Development. The gazetteer for the Consented Development was checked and updated as required.
- 10.1.3 The design of the Revised Development was formulated with the baseline information from the Consented Development readily available. As such, direct impacts upon Historic Environment resources within the site have been limited. However, it is anticipated that site works will directly impact upon three Historic Environment assets, and suitable mitigation measures have been proposed to ensure these sites are adequately recorded during the construction process.
- 10.1.4 The archaeological potential of those areas of the site undisturbed by coal extraction has been graded as “fair to good”. As such an archaeological watching brief will be maintained during all ground breaking works in those areas of the site which can be shown to have been undisturbed by 20th century coal extraction.
- 10.1.5 The assessment found three sites impacted indirectly by the Revised Development, although two of these comprise essentially the same site.
- 10.1.6 Re-organisation of site infrastructure has resulted in little change with regards to direct impacts on identified sites. While different sites will now be affected, the Revised Development has resulted in one additional site directly impacted by site infrastructure, although the scale of the impact upon a further site has been reduced.
- 10.1.7 A Heritage Trail has been designed to offset any residual impact from the Revised Development on monuments in the Middle Study Area.

10.2 Introduction

- 10.2.1 This chapter considers the potential impacts of the Revised Development on the archaeology and cultural heritage of the area, hereafter known as the Historic Environment. The assessment was compiled using a range of collated information and datasets provided primarily by Historic Environment Scotland (HES) and The West of Scotland Archaeology Service (WoSAS). WoSAS maintain the Sites and Monuments Record (SMR) for, and act as Archaeological Advisers to, South Lanarkshire Council (SLC).
- 10.2.2 In 2012 a preliminary Desk Based Assessment (DBA) was completed as part of an earlier phase of the project. This document comprehensively assessed the Historic Environment within, and immediately adjacent to, the proposed site boundary.
- 10.2.3 When the EIA for the Douglas West and Dalquhandy DP Renewable Energy Project (the Consented Development) was submitted in 2015, a Historic Environment Chapter was included as part of this submission. This chapter was prepared in cognisance of a new turbine layout and a different site boundary from that addressed in 2012.

- 10.2.4 As part of the current submission, the proposed increase in turbine height from a maximum of 131m to 149.9m necessitated a re-design of the turbine layout and a re-appraisal of the potential impact upon the Historic Environment baseline.
- 10.2.5 The current chapter has been prepared using both the 2012 DBA and particularly the 2015 EIA chapter as the basis for the assessment. The contents of these earlier surveys have been checked, revised and updated as required.
- 10.2.6 This assessment uses readily available archaeological, historical, archival and published records to create a baseline survey for the Historic Environment of the Revised Development. This information was then used to establish if there would be any impact from the Revised Development, whether direct or indirect, upon these known features. To assess the impact upon the setting of the monuments, a combination of research, wireframes and Zones of Theoretical Visibility (ZTV) are used. In order to assess any cumulative effect, consideration is also given to other existing, consented and proposed wind farms in the area.

10.3 Legislation, Policy and Guidelines

- 10.3.1 This chapter was prepared with reference to all relevant statutory and planning frameworks for the Historic Environment.
- 10.3.2 The United Kingdom Government adheres to the European Convention on the Protection of the Archaeological Heritage (Revised) known as the 'Valetta Convention'. Article 2 requires that States who are signatories of the Convention must institute "*a legal system for the protection of the archaeological heritage*" (European Union, 1992). Article 4 requires provision for the "*the conservation and maintenance of the archaeological heritage, preferably in situ*" (European Union, 1992).
- 10.3.3 In Scotland, primary planning guidance comprises National Planning Framework for Scotland 3 (NFP3); Scottish Historic Environment Policy Statement 2016; Scottish Planning Policy (SPP, 2014) and Planning Advice Note 2/2011 (PAN2) at national level and the Glasgow and Clyde Valley Strategic Development Plan and the South Lanarkshire Local Development Plan at the Regional and Local Level.

Legislation

- 10.3.4 Relevant legislation and guidance documents have been reviewed and considered as part of this Historic Environment assessment. Of particular relevance to this assessment are:
- Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (amended 2011);
 - Ancient Monuments and Archaeological Areas Act 1979 (amended 2011); and
 - Town and Country Planning (Scotland) Act 1997;
- 10.3.5 Relevant Historic Environment assets that are protected by statutory legislation include:
- Scheduled Monuments;
 - Listed Buildings; and
 - Conservation Areas.

Planning Policy

- 10.3.6 Chapter 5 sets out the planning policy framework that is relevant to the EIA. The policies set out below include those from the South Lanarkshire Local Development Plan (2015). This section also considers the relevant aspects of Scottish Planning Policy (SPP), Planning Advice Notes and other relevant guidance. Of relevance to the Historic Environment assessment presented within this chapter, regard has been had to the following policies:

National Policy

- National Planning Framework for Scotland (NPF3) (2014) is intended to guide Scotland's development to 2030, setting out strategic development priorities to support the Scottish Government in order to create *"sustainable economic growth"* (The Scottish Government, 2014). The Framework provides strategic spatial policy context for decisions and actions by the Government and its agencies; planning authorities are required to take the framework into account when preparing development plans, and it is a material consideration in the determination of planning applications (The Scottish Government, 2014). One of the main elements of the spatial strategy is to *"conserve and enhance Scotland's distinctive natural and cultural heritage, and continue to safeguard internationally protected sites"* (The Scottish Government, 2014). The Scottish Government is committed to supporting *"the conservation and promotion of the historic environment as an irreplaceable resource, a reflection of Scotland's cultural identity and a key feature of its appeal as a tourist destination"* (The Scottish Government, 2014).
- Historic Environment Scotland Policy Statement (2016) updates and replaces the Scottish Historic Environment Policy 2011. The Policy Statement sets out the principles under which Historic Environment Scotland fulfils its regulatory and advisory roles, providing a framework that informs a range of organisations who have a place in managing the historic environment. The policy statement is a material consideration in the planning system and both guides and informs decision making for local authorities and others.
- Scottish Planning Policy (SPP) (2014) provides a framework for the protection, conservation and enhancement of the Historic Environment and its setting. The framework establishes (number 33) that the planning system should *"promote the care and protection of the designated and non-designated historic environment"* whilst enabling *"positive change in the historic environment which is informed by a clear understanding of the importance of the heritage assets affected"* (The Scottish Government, 2014). Historic Environment resources include statutory and non-statutory designations, as defined in SPP.
- Planning Advice Note (PAN) 2/2011 advises that, in determining planning applications, planning authorities should take into account the relative importance of archaeological sites. It also notes that in determining planning applications that may impact archaeological features or their setting, planning authorities may have to balance the benefits of development against the importance of archaeological features. The desirability to preserve a monument (whether Scheduled or otherwise) is a material consideration and the objective should be able to ensure the protection and enhancement of monuments by preservation in situ, or in an appropriate setting. When preservation in situ is not possible, recording and/or excavation followed by analysis and publication of results may be an acceptable alternative.

Regional and Local Policy

- Glasgow and the Clyde Valley Strategic Development Plan (GCVSDP) (2012) replaced the Glasgow and Clyde Valley Joint Structure Plan (2006), but includes no specific policies pertaining to the Historic Environment.
- South Lanarkshire Local Development Plan (SLLDP) (2015) is the main policy document used to determine planning applications within South Lanarkshire Council. Relevant policies within the proposed SLLDP include:
 - Policy 1: Spatial Strategy;
 - Policy 10: New Retail/Commercial Proposals;

- Policy 15: Natural and Historical Environment; and
- Policy 19: Renewable Energy.

Guidance

10.3.7 Recognisance has been taken of the following best practice guidelines and guidance:

- Chartered Institute for Archaeologists (CIfA) Code of Conduct (CIfA, 2014);
- Standard and Guidance for Historic Environment Desk-Based Assessment (CIfA, 2014); and
- Managing Change in the Historic Environment: Setting (Historic Scotland, 2010).

10.4 Consultation

10.4.1 Scoping and consultation was sought from relevant authorities and organisations. These are outlined in Table 10.1.

Table 10.1 - Summary of Scoping and Consultation Responses for Historic Environment

Consultee	Response	Comment
Historic Environment Scotland (HES)	<p>The initial consultation was directed to Historic Scotland (HS), the precursor to HES following the completion of an earlier proposal.</p> <p>HS confirmed in their official response (Scoping Opinion 10 May 2012) that the project was unlikely to have a direct impact upon heritage assets within their remit.</p> <p>HES confirmed this response remained valid on 12 July 2017 and reiterated an EIA should include a thorough assessment of the turbines' effects on nearby heritage assets, with particular attention paid to:</p> <ul style="list-style-type: none"> • Douglas, St Bride's Chapel – Scheduled Monument; • Douglas, St Bride's Chapel (Church) – Category A Listed Building; • Douglas, Monument to James, Earl of Angus – Category A Listed Building; and • Thorril Castle – Scheduled Monument <p>HES recommend a ZTV is used as a basis for selecting sites where impacts are likely to be highest.</p> <p>These assessments are to include cumulative impacts resulting from the development in combination with other</p>	<p>ZTVs were used to assess which sites could be impacted by the development.</p> <p>Wireframes and photomontages, including cumulative wireframes, have been used to inform the assessment. Assessment of potential effects on the nearby heritage assets requested by HES is provided in Section 10.6 of this chapter. Wireframes and photowires have been provided from St.Bride's Chapel, the Earl of Angus Monument and Thorril Castle (refer to Figures 10.4 - 10.6).</p>

Consultee	Response	Comment
	existing, granted and proposed developments in the local area.	
West of Scotland Archaeology Service (WoSAS) as Historic Environment advisers to South Lanarkshire Council	<p>WoSAS provided a response to the Scoping Report consultation on 27 April 2012. Following changes to the scheme WoSAS confirmed on 28 June 2017 that this earlier response remained relevant to the current application.</p> <p>WoSAS stated they would expect a comprehensive DBA which should assess specifically noted sources as a minimum.</p> <p>This would be supplemented by a walkover survey completed by an appropriately qualified professional archaeological contractor.</p>	<p>An archaeological walkover survey of the site was undertaken during an earlier phase of the project and completed in 2012. A follow-up site visit was undertaken on 13 March 2015.</p> <p>The DBA/Historic Environment assessment has met the criteria and methodology outlined in the scoping response as expected by WoSAS.</p>

10.5 Assessment Methodology and Significance Criteria

10.5.1 The assessment of the Historic Environment around the Revised Development was detailed and comprehensive in order to provide an accurate baseline and ensure the Historic Environment assets identified were carefully assessed for significance.

Consultation

Historic Environment Scotland

10.5.2 Consultation with Historic Scotland (HS - predecessor of HES) in respect of this project was initially undertaken on 20 April 2012. The HS response of 10 May 2012 (Table 10.1 and Appendix 4.2) indicated that the proposals were unlikely to have a direct impact on heritage assets within their remit.

10.5.3 HS requested thorough assessment be undertaken for four key Historic Environment assets in the vicinity of the site. These are discussed below (paragraphs 10.6.17 and 10.6.18)

10.5.4 HS were contacted again on 23 March 2015 regarding the Consented Development. In response to the re-consultation, HS they confirmed that the 2012 consultation response remained valid (refer to Appendix 4.4).

10.5.5 For the Revised Development, HES were consulted on 28 June 2017. They confirmed on 12 July 2017 that the existing consultation remained valid (refer to Appendix 4.4).

West of Scotland Archaeology Service

10.5.6 As part of the initial scheme for the site which was proposed by previous developers, WoSAS provided a response to the Scoping Report on 27 April 2012 (Table 10.1 and Appendix 4.2). In this response WoSAS established the standard at which any DBA would be set and the resources it would access as a minimum.

10.5.7 WoSAS requested the completion of an archaeological walkover survey in order to assess those sites identified in the DBA, but also to examine the site for previously unrecorded archaeology. This survey was to be completed by an appropriately qualified archaeological contractor.

10.5.8 Further discussions were held with WoSAS on 13 March 2015 and confirmed via email on 27 March 2015 (refer to Appendix 4.4) to ensure the response provided in 2012 remained valid.

- 10.5.9 As with the Consented Development, discussions were held with WoSAS to ensure the WoSAS response to the 2012 application remained permissible for the Revised Development. This was confirmed via a phone conversation on 28 June 2017.

Study Area

- 10.5.10 Historic Environment sites have been identified and assessed within three distinct and clearly defined areas (refer to Figure 10.1).
- An Inner Study Area corresponding with the boundaries of the Consented Development, and wholly encompassing the Planning Application boundary for the Revised Development (see Figure 10.2). This is an irregular area of approximately 2.35 km². A large portion of the Inner Study Area has been subject to large scale opencast coal mining (see Figure 3.1). Any sites encountered within the boundaries of the Revised Development have the potential to be directly impacted. All known and newly identified sites are shown in the Gazetteer in Appendix 10.1.
 - A Middle Study Area extending for approximately 5 km beyond Inner Study Area (see Figure 10.3). Information here was collated for all Nationally and Regionally Important Historic Environment sites (archaeological or built heritage) including Scheduled Monuments (SMs), Category A and Category B Listed Buildings and Conservation Areas. Sites listed on the HS database of Gardens and Designed Landscapes were also included.
 - An Outer Study Area extending beyond the Middle Study Area up to 20 km. Assessment was primarily based on the ZTV through which the theoretical visibility of the turbines could be seen. This was assessed against sites of International and National Importance in order to identify those upon which there could be an impact upon their setting.

Desk Study

- 10.5.11 A DBA is designed to identify Historic Environment assets within the defined Study Areas from available sources. In line with the consultation provided by WoSAS, the DBA accessed a number of sources to formulate the Historic Environment baseline.
- The South Lanarkshire Council SMR as maintained by WoSAS provides a comprehensive list of all sites as recorded within the Council boundaries.
 - The National Monuments Record of Scotland (NMRS) as maintained by HES provides information as to the character and condition of the Historic Environment assets. The NMRS contains details on more than 300,000 Historic Environment sites.
 - HES databases of designated Historic Environment assets including Listed Buildings; Scheduled Monuments (and monuments proposed for scheduling); Conservation Areas; the Inventory of Gardens and Designed Landscapes; and the Inventory of Battlefields.
 - Relevant Local and Structure Plans.
 - Vertical stereo aerial photographic coverage as held by the National Collection of Aerial Photography (NCAP) at HES. These were supplemented by an analysis of readily available aerial images provided by online platforms. The list of aerial images consulted can be viewed in Section 10.12.
 - Maps as held by the Map Library of the National Library of Scotland (NLS) were consulted including both early, pre-Ordnance Survey (OS) maps and superseded Ordnance Survey maps. A list of maps consulted can be viewed in Section 10.12.

- Bibliographic references and early parish accounts were assessed, in particular the Old and New Statistical Accounts of Scotland (OSA and NSA respectively) and the Ordnance Gazetteer of Scotland.
- 10.5.12 The above sources provided the core of the DBA, supplemented where appropriate by further record searches.
- The Historic Land Assessment Data for Scotland (HLAMap) as held by HES was assessed to provide information as to the historic land use and character of the Revised Development.
 - Appropriate, readily available online resources, such as:
 - www.aircrashsites-scotland.co.uk – a website working to record the existence of all military and civil air crash sites across Scotland; and
 - www.parksandgardens.org – the UK’s leading online resource for Parks and Gardens.
- 10.5.13 The assessment completed for the Consented Application provided the base upon which to complete the present study. This existing assessment was updated as required based on the most recent versions of the SMR, NMRS and relevant HES databases.

Site Visit

- 10.5.14 A two day walkover survey of the site was completed in June 2012. The site was traversed systematically by a team of two archaeologists walking in transects to gain comprehensive coverage.
- 10.5.15 The walkover was designed to visit and record each Historic Environment asset identified during the DBA. It was also designed to ensure comprehensive coverage of the Revised Development, identifying any previously unknown archaeological or historical features which could be affected by the Revised Development.
- 10.5.16 The site boundary for the initial walkover survey encompassed both the boundary for the Consented Development and that for the Revised Development. As such, all areas of the site were visually assessed, including the southern area where no infrastructure was planned as part of the Consented Development, but in which turbines are now being placed in the Revised Development. However, the walkover survey concentrated on the areas of the site which had not undergone extensive disruption through mining in the late 20th century. It is accepted that the surface extraction of coal will have removed all traces of previous archaeological or historical assets in those parts of the site.
- 10.5.17 Another site visit was completed on 13 March 2015. This followed alterations to the boundary and layout of the Revised Development. This site visit confirmed the condition of the Historic Environment assets and their locations in relation to proposed site infrastructure. The second site visit confirmed the findings of the initial survey.

Assessment of Potential Effect Significance

Assessment Methodology

- 10.5.18 Potential effect significance was determined with respect to the sensitivity of the baseline conditions and the predicted magnitude of change. As described in detail below, this assessment was undertaken separately for direct effects (e.g. damage or severance) and indirect effects (i.e. changes to the historic environment setting owing to visual intrusion).
- 10.5.19 Sites were assigned a level of importance and sensitivity on a scale of 'less than local' to 'international', as shown in Table 10.2. This was established on the basis of statutory designation and/or assessed cultural heritage importance.

Table 10.2 – Historic Environment Importance and Sensitivity

Importance/Sensitivity	Site Type
International/High	World Heritage Sites
National/High	Scheduled Monuments Category A Listed Buildings Sites in the Inventory of Gardens and Designed Landscapes Sites in the Inventory of Battlefields Some undesignated sites assessed as being of national importance
Regional/Medium	Category B Listed Buildings Non Inventory Battlefield Sites Non Inventory Historic Gardens and Designed Landscapes Conservation Areas Some undesignated sites assessed as being of regional importance
Local/Low	Category C(s) Listed Buildings Some undesignated sites assessed as being of local importance Unlisted Buildings of local interest
Less than Local/Negligible	Compromised sites already badly damaged, destroyed or those whose historic value is too minor for inclusion in a higher class

- 10.5.20 World Heritage Sites are afforded international protection under the UNESCO World Heritage Convention, with Scheduled Monuments nationally protected under the ‘Ancient Monuments and Archaeological Areas Act 1979’. The ‘Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997’ provides for the designation of Category, A, B and C(s) Listed Buildings which are considered to be of national, regional and local importance respectively.
- 10.5.21 Inventory Gardens and Designed Landscapes (GDLs) are assessed as being of national importance and Conservation Areas are assessed as being of regional importance. This follows discussion with HES on previous assessments.
- 10.5.22 Many sites important to the Historic Environment are not currently afforded any statutory protection through designation. For the purposes of assessment, these undesignated sites were assigned a level of importance using professional judgement and consultation where appropriate, supported by review of criteria outlined in Historic Environment Scotland Policy Statement (2016) for the designation of monuments.

Direct Effects

- 10.5.23 Direct effects may be caused by a range of activities during the construction phase of the Revised Development, including ground disturbing excavations for building foundations; access tracks; storage and compound areas; and cable and service trenches. Damage can also be caused by machine movement over vulnerable sites or temporary soil storage. Direct effects on Historic Environment features are normally adverse, permanent and irreversible. The significance of predicted direct effects (i.e. physical disturbance) (Table 10.4) was determined considering the ‘importance’ and ‘sensitivity’ of the archaeological resource affected (Table 10.2), and the magnitude of change (Table 10.3).

Table 10.3 – Definitions of Magnitude of Change

Magnitude	Criteria
Major	Disturbance to much of the known or estimated area of the site; major impacts fundamentally changing the baseline condition of the asset, leading to total alteration or removal of character.
Moderate	Disturbance to a larger part of the known or estimated area; moderate impacts altering the baseline condition leading to a partial alteration of character.
Minor	Disturbance of the known or estimated area of the site; minor impacts which do not significantly alter the baseline condition or character.
Negligible	Minor impacts that are detectable that do not change the baseline condition or character.

10.5.24 The assessment of the significance of effect was further adjusted as appropriate using professional experience to consider the relative importance of the specific parts of the archaeological site that would be affected. For instance, an effect which is of ‘major’ magnitude in terms of the area of the archaeological site affected may nevertheless only affect peripheral features, while a ‘moderate’ magnitude effect may affect the core of an archaeological site. Other qualitative factors considered include potential severance of linked features; nature of the severed linkage; the amount of stratigraphy which would be disrupted; and the overall effect on the historic integrity of the site.

10.5.25 Any effect of moderate significance or above is considered significant in terms of EIA regulations.

Table 10.4 – Significance of Effects Matrix

Sensitivity/ Importance of Receptor	Magnitude of Change			
	Major	Moderate	Minor	Negligible
High	major	major	moderate	minor
Medium	major	moderate	minor	negligible
Low	moderate	minor	negligible	negligible
Negligible	minor	negligible	negligible	negligible

Indirect Effects

10.5.26 HS discuss the setting of a monument in their “*Managing Change in the Historic Environment; Setting*” document. This guidance remains pertinent under HES. HS define the setting of a monument or building as:

“the way in which the surroundings of a historic asset or place contribute to how it is experienced, understood and appreciated. Monuments, buildings, gardens and settlements were not constructed in isolation. They were often deliberately positioned with reference to the surrounding topography, resources, landscape and other monuments or buildings. These relationships will often have changed through the life of a historic asset or place.

Setting often extends beyond the immediate property boundary of a historic structure into the broader landscape” (Historic Scotland, 2010, 3)

10.5.27 The setting of a historic asset can incorporate a range of factors, not all of which will apply to every case. These include:

- current landscape or townscape context;
- visual envelope, incorporating views to, from and across the historic asset or place;

- key vistas, framed by rows of trees, buildings or natural features that give an asset or place a context, whether intentional or otherwise;
- the prominence of the historic asset or place in views throughout the surrounding area;
- character of the surrounding landscape;
- general and specific views including foregrounds and backdrops;
- relationships between both built and natural features;
- aesthetic qualities;
- other non-visual factors such as historical, artistic, literary, linguistic, or scenic associations, intellectual relationships (e.g. to a theory, plan or design), or sensory factors; and
- a ‘Sense of Place’: the overall effect formed by the above factors.

10.5.28 Those sites in the defined Study Areas were assessed and a degree of importance established based upon context, archaeological experience, and the type of monument. This information was used in conjunction with a selection process including ZTV mapping, wireframes and photomontages to identify historic environment assets that may receive/have indirect setting effects arising from/as a result of the Revised Development. Their sensitivity to indirect visual effects (on their setting) was separately determined according to the definitions in Table 10.5.

Table 10.5 – Sensitivity of Historic Environment Assets to Effects on Setting

Sensitivity of Receptors	Definition
High	Sites of national importance that are visually prominent and whose setting contributes significantly to their importance; hidden or partially visible sites of national importance whose location and topographical context aid our understanding of their form and function.
Medium	Sites of regional importance that are visually prominent and whose setting contributes significantly to their importance; hidden or partially visible sites of regional importance whose location and topographical context aid our understanding of their form and function.
Low	Sites of local importance whose landscape setting contributes significantly to their importance.
Negligible	Sites whose landscape setting is of negligible importance.

10.5.29 The magnitude of change on the setting of Historic Environment assets was assessed according to established principles and criteria set out in published guidance, Managing Change in the Historic Environment: Setting (Historic Scotland, 2010).

10.5.30 There are three stages to assessing the potential impact upon the setting of a Historic Environment asset and these are:

- Stage 1: Identify those assets that might be affected by the Revised Development;
- Stage 2: Define the setting of the Historic Environment asset by establishing how the surroundings contribute to the ways in which the Historic Environment asset or place is understood, appreciated and experienced; and
- Stage 3: Assess how any perceived changes would impact upon the setting of that asset.

- 10.5.31 Once Stage 1 and Stage 2 were completed, effects on setting were assessed using ZTV mapping and professional judgement. Wireframes were created for sensitive monuments to indicate the potential visibility of the turbines from these specific heritage assets. The use of wireframes and ZTVs represent a worst-case scenario assessment, as it assumes no intervening ground cover or screening, such as woodland or other buildings.
- 10.5.32 As with direct effects, the significance of effects on setting was determined taking into account the importance of the resource affected, and the magnitude of change on the setting. For each heritage asset, key viewpoints were taken into consideration including where appropriate; entrances; specific points on approaches; routeways; associated farmland; other related buildings; monuments; and natural features. Table 10.6 illustrates the matrix of importance used to determine the significance of effect on setting.

Table 10.6 – Definition of Significance of Effects on Setting

Magnitude/ Sensitivity	Major	Moderate	Minor	Negligible	None
High	major	major	moderate	minor	none
Medium	moderate	moderate	minor	negligible	none
Low	minor	negligible/minor	negligible	negligible	none

- 10.5.33 As per the assessment of direct effects, effects on setting assessed as moderate or greater are generally considered significant in the context of EIA Regulations.

Requirements for Mitigation

- 10.5.34 Mitigation to reduce or offset the impact upon a Historic Environment asset may be required where the significance of effect is identified as greater than negligible.
- 10.5.35 Forms of mitigation vary depending upon whether the impact upon the feature is direct or indirect.

Assessment of Residual Effect Significance

- 10.5.36 Analysis of the significance of effect will have identified those sites where mitigation is required. However, even when the recommended mitigation is undertaken to offset against the impact of the development, residual impacts may remain.
- 10.5.37 Professional judgement will be followed to ascertain the extent of any residual impacts following the implementation of mitigation measures.

Limitations to Assessment

- 10.5.38 This assessment has been detailed and comprehensive. The results are presented in accordance with consultation responses received by HES and WoSAS.
- 10.5.39 However, it remains possible that previously unrecorded archaeological deposits will survive in the parts of the Revised Development site that have not been previously disturbed by surface mining. The presence of these cannot be adequately quantified other than through the balance of probability.
- 10.5.40 Assessing the magnitude of change on sites was undertaken through photomontages, wireframes, ZTV's and site visits. These combine to provide a comprehensive picture as to how the Revised Development would affect any Historic Environment assets. However, it must be noted, both ZTVs and wireframes provide an idealised picture of the landscape, free from the existence of buildings, vegetation and other landscape features which may block the view of the turbines from specific features. Both ZTVs and bare-earth wireframes provide a worst-case scenario of the Revised Development.

10.6 Baseline Conditions

General

- 10.6.1 The locations and extents of heritage sites and features identified within the Inner and Middle Study Areas are shown on Figure 10.2 and 10.3 respectively. Details of all sites identified within the Outer Study Area are available in Table A10.3 of Appendix 10.1. Detailed information on the character and baseline conditions of the Inner and Middle Study Areas is also provided in the Gazetteer in Appendix 10.1, Tables A10.1 and A10.2. Numbers shown in parentheses in the following text refer to site numbers provided on Figures 10.2 and 10.3 and in the Gazetteer (Appendix 10.1).
- 10.6.2 Each site potentially affected by the Revised Development will be discussed below following a general assessment of the landscape.

Landscape

- 10.6.3 The Historic Environment of the Revised Development and the immediate landscape was analysed through the Historic Land-use Assessment (HLA) project, maps held by NLS and other resources. HLA uses a variety of information strands to record the land use activities from periods in the past.
- 10.6.4 The general landscape of the local area is today dominated by opencast coal extraction, but essentially comprises upland rough grazing crossed by watercourses and occupied by sporadic farming settlements.
- 10.6.5 The first record of land use in and around the Revised Development is recorded from the medieval period. Large areas of the southern parts of the site are noted as being exploited for medieval/post-medieval settlement and agriculture. As a marginal area, such remains may survive undisturbed.
- 10.6.6 Even in the 17th and 18th centuries, the northern half of the site is identified as being quarried on a small scale for coal. This is also true of large parts of the Middle Study Area, indicating a coal mining tradition with long history. Map regression (in particular William Roy's Military Survey of c.1750) shows the existence of pre-improvement cultivated land in this period. Several small settlements and fermtouns (small, localised settlements associated with agricultural exploitation of the land) are in and around the site of the Revised Development, with HLA recording the presence of rectilinear fields and farms in the southern part of the site.
- 10.6.7 A Designed Landscape is also established around Douglas Castle to the east of the Revised Development.
- 10.6.8 In the 19th century the site is dominated by rough grazing and agricultural improvement with bands of 20th century coniferous plantations appearing across the landscape. Coal mines are still being worked, but a number of quarries, limekilns and lime workings are also visible. These are predominantly to the north of the Revised Development.
- 10.6.9 By the late 20th century, the Dalquahandy Opencast Mine operated across much of the area to the north-east of Douglas and included the northern and central parts of the Revised Development site. At one point the largest opencast coal mine in Europe, this development had a significant impact upon the landscape of the area, including the re-routing of the Poniel Water. As shown in Figure 3.1, this opencast coal extraction covered much of the northern, and central part of the Revised Development site. This area is now archaeologically sterile. Any features identified in this area through the DBA will have been removed or compromised by the coal extraction.

Inner Study Area

Designated Sites

- 10.6.10 There are no designated sites within the Inner Study Area.

Non-Designated Sites

- 10.6.11 A total of 22 confirmed, non-designated sites were identified within the Inner Study Area using the methodology outlined in paragraphs 10.5.11 to 10.5.14 above. Where sites were newly discovered names were assigned based on the nearest topographical feature. This is indicated through the assessment by the presence of a question mark in parenthesis.
- 10.6.12 Of the 22 non-designated sites identified within the Inner Study Area none were identified as of high importance or significance. Five sites were identified as of medium importance; six as of low importance and a further 11 categorised as of negligible significance (refer to Appendix 10.1).

Unknown Archaeological Sites – Statement of Archaeological potential

- 10.6.13 A large portion of the Inner Study Area has been disturbed by 20th century coal extraction (refer to Figure 3.1). Although Historic Environment assets were identified within this area, these would have been removed by the mining and no sites of Historic Environment interest will survive within this part of the Revised Development.
- 10.6.14 Although predominantly rough grazing and grassland the southern part of the site retains “fair to good” potential for the survival of a pre-improvement agricultural landscape associated with the settlements and fermtouns recorded by William Roy c.1750.
- 10.6.15 The western arm of the site contains Historic Environment assets of varying significance. This area has “good” potential for the survival of archaeological remains.

Middle Study Area

- 10.6.16 The Middle Study Area extends up to 5 km from the Inner Study Area boundary. All Nationally and Regionally Important, designated sites within this area are discussed below. Scheduled Monuments and Category A Listed Buildings are considered of national, or high importance. Category B Listed Buildings and Conservation Areas are of regional, or medium importance. These classifications can be viewed in Table 10.2.

Scheduled Monuments

- 10.6.17 There are two Scheduled Monuments within the Middle Study Area.
- St. Bride’s Chapel, Douglas, Site (23) (SM: 90265) – A church is reputed to have existed on the site in the 12th century, but the present remains are likely to have been constructed around the end of the 14th century. Dismantled in 1781, the choir was restored in 1878 and contains many tombs, effigies and carved stonework relating to the Douglas family. The clock tower between the choir and the remains of the north arcade is reputedly a gift from Mary Queen of Scots and the oldest working clock in Scotland. Site (23) lies within the historic village of Douglas (NGR: NS 83518 30966 and is also protected as a Category A Listed Building (see paragraph 10.6.18 below).
 - Thorril Castle, NNE of Parkhead, Site (24) (SM: 5425) – Thorril Castle is mentioned in the description of Douglas parish in the OSA compiled in the late 18th century and today comprises remains of a group of three structures. The Scheduled Area is of irregular shape, measuring 60 m west to east by 100 m north to south and defined by the features on the ground. Three buildings are clearly discernible, surviving to a height of between 0.5 – 2.0 m.

A large rectangular structure occupies much of the south side of the site, missing its eastern wall which has likely slipped into the nearby Parkhall Burn. This building is located alongside two further structures to the immediate north-west and north-east respectively, both of which clearly contain internal compartments. The site lies c.450 m north northeast of Parkhead, centred on NGR: NS 86379 30991.

Research and assessment by the Historic Scotland scheduling team suggested that at least one of the structures can be dated to the 16th or 17th centuries, possibly the small peel tower or bastle house (fortified farmhouse).

Category A Listed Buildings

10.6.18 There are two Category A Listed Buildings within the Middle Study Area.

- James Earl of Angus Monument, Douglas, Site (25) (LB: 1457) – A bronze statue of James, Earl of Angus erected in 1892 commemorating the 200th anniversary of the raising of the Cameronian regiment. Located at NGR: NS 83467 30995, the statue faces the landscape from which the regiment was mustered.
- St. Bride’s Chapel (Church), Douglas, Site (26) (LB: 1490) – St. Bride’s Chapel (Church) is also protected as a Scheduled Monument (refer to paragraph 10.6.17 above). The Listing of the site protects the fabric of the building from alteration.

Category B Listed Buildings

10.6.19 There are 16 Category B Listed buildings within the Middle Study Area. Of these, seven lie within the village of Douglas itself and as such these sites have been grouped together as Site (27).

- Category B Listed Buildings within the village of Douglas, Site (27) – The village of Douglas has origins in the medieval period and has a number of buildings protected as Listed. The majority of these are Category C Listed Buildings, but seven of these are category B Listed Buildings. Due to their similarities and proximity, these seven sites were categorised together as Site (27). On the whole these buildings are dateable to the 19th century, although the Sun Inn on Douglas Main Street was built in 1621, St Sophia’s Episcopal Church is dated to 1706 and Douglas Parish Church was originally constructed in 1781.
- Happendon Lodge Site (28) – Happendon Lodge is located to the north-east of the Revised Development adjacent to the M74 and B7078 (NGR: NS 85262 33591). Happendon Lodge is dateable to 1851 and was designed by the architect William Burn.
- New Mains, Douglas, Site (29) – New Mains is an estate complex on the A70 to the east of Douglas. The complex is dateable to 1838 and located at NGR: NS 84806 31396.
- Poniel Old Bridge, Site (30) – Poniel Old Bridge is to the north-east of the Revised Development (NGR: NS 85303 35188) and is an early 19th century single segmental-span bridge that once serviced the main route between Carlisle and Edinburgh. It is today on the Buildings at Risk Register.
- Auchlochan Bridge, Site (31) – Site (31) is a single arch bridge spanning the River Nethan (NGR: NS 81031 37708) and dateable to c.1790.
- Folkerton Mill Rigside, Site (32) – Folkerton Mill remains in use today but has been dated to the early 19th century. Site (32) lies on the edge of the Middle Study Area to the north-east of Douglas (NGR: NS 85704 35909) and is reputed to have been built over the site of an earlier mill.
- Birkhill House, Site (33) – The core of Birkhill House is dateable to the 18th-19th centuries, but the date stone shows 1692, indicating an earlier origin. Site (33) lies to the north of Douglas (NGR: NS 83859 35602).
- Statue, West Town, Site (34) – A stone sculpture of Colonel Robertson of Hallcraig by Robert Forrest was moved to this site (NGR: NS 82800 33800) IN 1929. It was originally created c.1815.
- Castle Mains, Site (35) – Mid 18th century two storey and attic, three bay coursed rubble house located at NGR: NS 86025 32720.
- Konisberg & Ptarmigan Cottage, Uddington Village, Site (36) – Site (36) is a mid-19th century single storey cottage (NGR: NS 86300 33300).

- Wolfcrooks Bridge, Site (37) – A single span, segmental-arched bridge over the Poniel Water (NS 86586 36109), with a small flood-relieving arch to north. Dated 1826.

Conservation Areas

- 10.6.20 There is one Conservation Area within the Middle Study Area. The Douglas Conservation Area, Site (38), encompasses the heart of the medieval village and has been identified for protection by South Lanarkshire Council. A number of the Category B Listed Buildings under Site (27) are encompassed by the Conservation Area, as well as Site (23), Site (24), Site (25) and Site (26).
- 10.6.21 As Sites (23) and (26) comprise the same site, the two are considered together through much of the following assessment.

Outer Study Area

- 10.6.22 The Outer Study Area, between 5 km and 20 km, was assessed through use of a ZTV in order to identify any designated, nationally important sites which could be adversely impacted by the Revised Development. These sites are not listed here but provided in Table A10.3 of the Gazetteer (Appendix 10.1).
- 10.6.23 Assessment of nationally important sites within the Outer Study Area using a combination of cross referencing via ZTV and web based programmes such as Google Earth and StreetView demonstrated that none of these were affected by the Revised Development. Sites within the Outer Study Area are therefore scoped out from further assessment.

10.7 Potential Effects

- 10.7.1 Potential effects on the Historic Environment assets identified are discussed below under the three different phases of the Revised Development.

Construction

- 10.7.2 The physical impact arising from turbine and infrastructure construction has the potential to impact upon archaeological deposits, monuments, and historic structures; and to alter the buried environment of archaeological deposits. This may result in accelerated rates of deterioration and consequential removal of deposits. Effects during the construction phase are generally within the Inner Study Area.
- 10.7.3 Direct impacts upon the historic environment resource from construction activities have the potential to be substantial and have an adverse effect unless effectively mitigated.
- 10.7.4 The results of the study undertaken for the Consented Development, along with the updated DBA, have been incorporated into the iterative design process of the layout for the Revised Development. This input was important in ensuring the least possible impact upon identified Historic Environment assets (see paragraph 10.8.2).
- 10.7.5 The magnitude of change was defined by a correlation of the proposed construction and site infrastructure with the locations of the sites on the ground. Using Table 10.4 to cross reference the ‘sensitivity/importance’ assigned to each site and the magnitude of change, allowed the ‘significance’ of effect (without mitigation) to be ascertained (Table 10.7).

Table 10.7 – Significance of Direct Effect on Sites Identified within the Inner Study Area during the Construction Phase

Site	Name	Impact	Sensitivity	Magnitude	Significance
1	Unknown, Longhill Burn (?)	No direct impact	negligible	negligible	negligible
2	Unknown, Alder Burn (?)	Area cut by access track to Turbine 11	negligible	moderate	negligible
3	Unknown, Broadlea Burn (?)	No direct impact	negligible	negligible	negligible
4	Unknown, Alder Burn (?)	Cut by the access track to Turbines 10, 11, 12 and 13	low	minor	negligible
5	Poniel Water	No direct impact upon visible structures	medium	negligible	negligible
6	Brackenside	No direct impact	medium	negligible	negligible
7	Unknown, Poniel Water (?)	No direct impact	low	negligible	negligible
8	Unknown Poniel Water (?)	No direct impact upon known cairns, although infrastructure impedes upon wider area as defined by SMR	low	negligible	negligible
9	Unknown, Alder Burn (?)	No direct impact	low	negligible	negligible
10	Poniel Water	No direct impact	negligible	negligible	negligible
11	Brackenside	No direct impact	negligible	negligible	negligible
12	Arkney Hill	No direct impact	negligible	negligible	negligible
13	Alder Burn	No direct impact	negligible	negligible	negligible
14	Alder Burn	No direct impact	negligible	negligible	negligible
15	Brackenside	No direct impact	low	negligible	negligible
16	Unknown, Longhill Burn (?)	No direct impact	low	negligible	negligible

Site	Name	Impact	Sensitivity	Magnitude	Significance
17	Erking Hill/ Erkney Hill	No direct impact	medium	negligible	negligible
18	Stand Burn/ Standburn	No direct impact	medium	negligible	negligible
19	Aller Burn/ Alderburn	Located in area of main road junction and site infrastructure. Exact location unknown. Site was likely removed by quarrying.	medium	negligible	negligible
20	Alderburn	No direct impact. Site was likely removed by quarrying.	negligible	negligible	negligible
21	Lang/Langhill	No direct impact. Site was likely removed by quarrying.	negligible	negligible	negligible
22	Brackenside	Site impacted by the construction of Turbine 2, associated crane pad, and the access track for Turbine 1	negligible	moderate	negligible

10.7.6 Table 10.7 shows that the careful design of the Revised Development around the Historic Environment assets means that in the main, the significance of effect on these assets is **negligible**.

10.7.7 Four sites (Site (2), Site (4), Site (19) and Site (22)) will be physically impacted by the construction of the site infrastructure. However, Sites (2), (4) and (22) are of low and negligible archaeological sensitivity/importance and the significance of impact for each is classified as **negligible**.

10.7.8 Site (19) is recorded on William Roy's Military Survey of c.1750 and as such the location of the monument is more difficult to pinpoint accurately. Aerial images from 1990 (Figure 3.1) as well as site assessment has indicated that this area was disturbed by the 20th century opencast mine, being used as a coal stocking pad with associated settlement lagoons. Therefore, it is considered likely that any archaeological features no longer survive and as such any impact is considered **negligible**. However, it is notable that the general location of Site (19) lies within the densest area of site infrastructure works, with the access road, main junctions and site compounds/infrastructure all being constructed in this area. While considered unlikely, should any archaeological remains survive, mitigation measures will be put in place to ensure these are adequately recorded.

10.7.9 Site infrastructure will be developed in close proximity to a number of sites, predominantly in the north-west corner of the Revised Development. Although no direct impact is anticipated, the potential for inadvertent damage to these sites due to construction activity remains. This is particularly a consideration in relation to Site (5). The full extent of Site (5) is unknown and although the site infrastructure has been designed to avoid visible remains, it is possible archaeological

deposits could survive in the wider area. Mitigation measures will be put in place (see paragraph 10.8.4 below) to ensure the protection of such sites during construction.

- 10.7.10 Although the magnitude of impact upon identified sites has been assessed and the magnitude of impact accepted as **negligible**, it is important to note that the site retains the potential for unrecorded archaeological remains to be disturbed during construction work. While all avenues have been explored to adequately record the Historic Environment of the Inner Study Area, the results have shown that those areas of the site which have survived the mining operations have good potential to retain previously unrecorded sub-surface archaeological deposits. This is discussed further in paragraph 10.8.6.

Operation

Potential Beneficial Effects

- 10.7.11 A beneficial impact of the Revised Development could be an increased awareness of the Historic Environment assets in the immediate vicinity of the site through the development of plans for a Heritage Trail linking Coalburn and Douglas through the site. The Revised Development will involve re-use of the former industrial coal extraction site as well as the internal road network, in order to facilitate the operation of the Revised Development. The proposal to develop a Heritage Trail in the local area (see paragraph 10.8.19) is likely to increase public access to the Historic Environment assets in and around Douglas and Coalburn. Further details on the proposed Heritage Trail can be found in Appendix 3.1.

Potential Adverse Effects

- 10.7.12 The primary (potentially adverse) effect of the Revised Development during operation will be the visual impact upon the setting of any Historic Environment assets.
- 10.7.13 Historic Environment assets cannot be replaced and as such any change to their condition or setting has the potential to have an adverse effect on their value and requires consideration. It is important to understand how historic monuments relate to their surroundings, and how any change to these surroundings may affect them.
- 10.7.14 The magnitude of change was initially defined primarily by a correlation of the ZTV with the locations of the sites on the ground. This information was combined with an assessment of the original setting and history of each site, and a final magnitude of change was reached through professional judgement. The setting of each monument and discussion as to the significance of effect is covered under paragraph 10.7.17.
- 10.7.15 The ‘sensitivity/importance’ of each site was defined by its statutory designation. Table 10.6 was used to cross reference the ‘sensitivity/importance’ of each site and the magnitude of change, which allowed the significance of effect (without mitigation) to be ascertained (Table 10.8).

Table 10.8 - Significance of Effects on the Setting of Sites Identified within the Middle Study Area before Implementation of Mitigation or Discussion of Severity of Impact

Site	Name	General distance from nearest turbine	Sensitivity	Magnitude	Significance
23	Douglas, St Bride’s Chapel/Church	1.7 km	high	negligible	minor
24	Thorril Castle, Bastle House 450 m NNE of Parkhead	4.1 km	high	none	none
25	Douglas, Monument to James, Earl of Angus	1.7 km	high	negligible	minor

Site	Name	General distance from nearest turbine	Sensitivity	Magnitude	Significance
26	Douglas, St. Bride's Chapel/Church	1.7 km	high	negligible	minor
27.01	Douglas, Springhill	1.7 km	medium	negligible	negligible
27.02	Douglas, 38 Ayr Road, Earlston	1.7 km	medium	negligible	negligible
27.03	Douglas, Douglas Arms Hotel	1.7 km	medium	negligible	negligible
27.04	Douglas, Bell's Wynd, St. Sophia Episcopal Church	1.7 km	medium	negligible	negligible
27.05	Douglas, Village Parish Church	1.7 km	medium	negligible	negligible
27.06	Douglas, 74 Main St Sun Inn	1.7 km	medium	negligible	negligible
27.07	Douglas, 11 Addison Drive, Mansefield	1.7 km	medium	negligible	negligible
28	Happendon Lodge	2.9 km	medium	negligible	negligible
29	Douglas, New Mains	2.5 km	medium	negligible	negligible
30	Poniel Old Bridge	3.7 km	medium	negligible	negligible
31	Auchloch Bridge	4.65 km	medium	negligible	negligible
32	Folkerton Mill, Rigside	4.6 km	medium	negligible	negligible
33	Birkhill House	3.2 km	medium	negligible	negligible
34	West Town, Statue	1.1 km	medium	none	none
35	Castle Mains	3.5 km	medium	negligible	negligible
36	Konisberg, Ptarmigan Cottage, Uddingston Village	3.8 km	medium	negligible	negligible
37	Wolfcrooks Bridge	5.3 km	medium	none	none
38	Douglas	1.7 km	medium	negligible	negligible

10.7.16 Table 10.8 shows that of the 16 Historic Environment assets identified within the Middle Study Area only three (Sites 23, 25 and 26) show potential to have their setting impacted during the operation of the Revised Development. Of these, Sites 23 and 26 refer to different parts or designations on the same monument and can be considered together. Of the remainder, the impact of the Revised Development was found to be **not significant**.

The Setting of the Sites and the Effect of the Revised Development

10.7.17 The setting, magnitude of change and significance of effect applied to each of the sites in Table 10.8 is discussed below:

- **St. Bride's Chapel/Church, Douglas, Sites (23) and (26)** – Protected as both a Scheduled Monument (SM 90265) and a Category A Listed Building (LB 1490), St. Bride's Church and Chapel lies in the heart of the historic village of Douglas.

St. Bride's sits on a slight prominence, surrounded by an historic graveyard. Much of the view to the west and north-west towards the Revised Development is masked by a large number of managed trees and foliage growing within the cemetery itself and directly adjacent.

St. Bride's Chapel is important not simply as an historic monument, but as an integral part of the historic village of Douglas. Whilst the Church in its earliest form predates the surrounding village, the medieval character of this area of Douglas undoubtedly now provides the context for the site. Whereas it once would probably have stood in a rural setting, historic structures now tightly delineate the cemetery to the south-west, north-east and over the Main Street to the south-east. Situated on a slight prominence at the edge of the town, the views to and from the Church were likely to have been important when the site was chosen as a place of worship. However, as the village has developed around the church boundaries, this setting has changed to an equally significant urban one. It is no longer possible to view the church on approach unless in close proximity. It is now to the village of Douglas that the Chapel is focused, an important contribution to the medieval character of the village. It is the immediate setting of St. Bride's Chapel that is important in understanding and appreciating the site, not the wider landscape to the west and north-west.

The graveyard surrounding the church and chapel enhances the 'sense of place' character of the site and illustrates the time depth of the monument. This atmospheric setting is achieved by surrounding trees, providing a physical and visual enclosure for the monument. Continuing to function as a place of worship, the general character of the site is introspective and reflective, rather than focused on a wider landscape association.

In addition to the trees planted on and around the graveyard, the forestry plantation known as the Long Plantation (142ha of mixed woodland) borders the south east side of the Revised Development cresting the high ground between the site and St. Bride's Chapel, masking the wider view. The Long Plantation screens the turbines to a degree from Site (23/26) (refer to Figure 10.4). The Long Plantation is a mixed plantation which contains many mature trees (Scots Pine, Downy Birch etc) within the forest which are not commercial crop. It is understood that Long Plantation was planted by the Earl of Angus around the late 19th Century to screen the Lanark to Muirkirk railway line (which ran along the south eastern boundary of the site) from Douglas Castle and the village of Douglas. Long Plantation is today owned by Douglas and Angus Estate and the Estate's Forest Plan (July 2012) was reviewed as part of this assessment. The Forest Plan confirms that there are no proposals to clear fell the Long Plantation but there are plans for localised thinning and felling of parcels of commercial crop within the forest over the next 20 years which will then be replanted.

On the whole the wider view is screened by the proximity of managed vegetation in the foreground, although it is possible to move within the cemetery and get a clearer view through the tree cover towards the Revised Development. However, it is clear that the tree and dense planting around the Church has become an integral part of the monument itself and its setting. It is assumed that the current vegetation screening will be maintained and will therefore help to screen and ensure the continued character and setting of the monument. The future plans for Long Plantation have been reviewed and explained above.

All thirteen turbines of the Revised Development will be theoretically visible from St Bride's Church and Chapel based on a worst case, bare earth scenario. Of these, four will only have the tips of the blades visible, while nine others are visible from hub height. This latter number

corresponds with the number of hubs theoretically visible towards the Consented Development, while one more turbine blade will be visible from the site looking towards the Revised Development as opposed to the Consented Development.

Due to the screening effect of distant dense tree plantations and more immediate dense vegetation, the magnitude of change caused by the Revised Development on St Bride's Church and Chapel has been assessed as negligible, resulting in a **minor** significance of effect.

- **Thorril Castle, NNE of Parkhead, Site (24) (SM: 5425)** – The situation and setting in antiquity of Thorril Castle would have been central to the decision to build the castle at this location. Sited on an area of level ground at the junction of the Byrecleuch and Parkhall Burns. In addition to the castle, there are further archaeological structures clearly visible on the higher ground to the east.

The existing setting of the site is one that has been significantly compromised by modern development and today it is very difficult to appreciate the site in its original setting. The M74 motorway is located immediately adjacent to the site and material upon which this was constructed infringes upon the edge of the scheduled area. To the immediate east a high voltage power line runs alongside the motorway.

The assessment of wireframes (Figure 10.6) and the ZTV has demonstrated that no turbines will be visible from Thorril Castle and the significance of effect has therefore been assessed as **none**.

- **James Earl of Angus Monument, Douglas, Site (25) (LB: 1457)** - The curtilage of the statue is a small, irregularly laid out, managed garden, bounded by spear-head iron railings. Buildings border the garden to the east, south and south-west, while a large copse of trees lies to the west/northwest. These trees, in effect, screen views towards the Revised Development site and contribute to the sheltered ambience of the fenced garden.

Clearly the setting of the statue on the edge of Douglas was an important factor in the decision to place it there. The Earl of Angus is portrayed overlooking the low ground and rolling hills from which the Cameronian regiment was mustered. His finger points down the valley to the north from which many recruits surely came. This important view northwards will remain unaffected by the Revised Development.

When the statue was erected in 1892, it would have sat, as today, on the periphery of the medieval village of Douglas. However, the direct setting or curtilage of the monument was originally much larger, with the statue standing in greater isolation, accessed by a sweeping path from Crabtree Street to the north-east.

Subsequently the immediate landscape around the monument has become more formalised, with structures built very close on the southern side, encroaching upon the original curtilage of the monument. To the west, a large industrial building has been constructed infringing further upon the site.

The immediate landscape to the north and north-east of the development remains essentially unchanged since the late 19th century.

The developments around the monument since it was erected mean that it is now not possible to view the statue from any distance, apart from views across the playing fields and Douglas Water Valley to the north. The turbines of the Revised Development will lie to the west of the monument and thus not impinge upon this sole surviving viewshed of the statue.

The bare-earth wireframe shows seven turbine hubs theoretically visible over Curley Brae to the north-east. This view represents a worst case scenario with no intervening vegetation and is unchanged from the number of turbine hubs visible for the Consented Development. The

combined wireframes and photomontages (Figure 10.5) reveal that an additional four blade tips would be visible, although this would only be the case from parts of the garden surrounding the monument which are not screened by immediate vegetation adjacent. Indeed, in two cases (T3 and T4) only the very tip is visible on the bare earth wireframe. This number too, corresponds with the Consented Development. Across most of the area around the monument, no or very few blades would be visible as the Long Plantation and immediate vegetation screens the site, although two turbine hubs are visible above the Long Plantation. Further, there are no long term plans to clear fell the woodland as noted above.

The proposed turbines on the high ground to the west of the monument are therefore likely to be largely screened from the site as it is maintained at present.

Due to the screening of the immediate vegetation and distant belts of trees, allied to views from the southern and eastern fringes having already been compromised, the magnitude of change has been assessed as negligible resulting in a **minor** significance of effect.

- **Douglas Village, Site (27)** – The medieval village of Douglas contains seven Category B Listed Buildings recorded together as Site (27). Each of these sites lies within an urban setting. This setting is crucial to an understanding of these buildings and in many cases, is little altered from when they were constructed. The earliest of the Category B Listed Buildings dates from 1621, with several of the others dateable to the mid-19th century. In each of these cases, the physical fabric of the area in which the structure was built has materially changed very little. These buildings were constructed to look inwards, into an urban environment as opposed to outwards into the landscape.

The ZTV identified that the Revised Development would in theory be visible from each building. However, this represents a worst case scenario, and ignores the urban setting of the buildings and the likelihood of the view towards the turbines being blocked by neighbouring buildings, trees and vegetation.

Therefore, it is considered that the Revised Development would have a **negligible** effect on the grouped monuments comprising Site (27).

- **Happendon Lodge, Site (28)** – This Category B Listed Gatehouse is dated to 1851 and was built to provide a grand access to the grounds of the nearby Castle.

When first constructed, the landscape around and setting of Happendon Lodge would have been notably different. Situated at a significant meeting of roads, the building was surrounded by woodland.

Today this setting is totally compromised. The Lodge lies in close proximity to a service station and is conjoined to the wider service station complex. The M74 motorway lies immediately to the west and the old A74 to the east. The view to the west towards the Revised Development is screened by the banking and vegetation of the motorway. Very little of Happendon Lodge's original setting survives.

The Revised Development is unlikely to be visible, but regardless it is assessed as having a **negligible** effect upon the setting of Site (28).

- **New Mains, Douglas, Site (29)** – New Mains steading was built in 1838 on the edge of the wider Douglas designed landscape. The site sits within its own copse of woodland trees and faces to the north-east and Douglas Castle.

There is unlikely to be any direct visual link with the Revised Development due to the proximity of trees within the site's curtilage and the presence of the Long Plantation.

The Revised Development would therefore have a **negligible** effect upon the setting of Site (29).

- **Poniel Old Bridge, Site (30)** – Poniel Old Bridge once formed part of the original Edinburgh to Carlisle coach road. It is of early 19th century date, but in poor condition. The road itself is now little more than a farm track, with such a large bridge now appearing out of place in an agricultural setting.

The setting of Poniel Old Bridge has changed significantly since it was constructed. What was once an important thoroughfare is now little more than an unused farm track. Views from the bridge were never important to its setting, while its alignment to the north-east and south-west means that the Revised Development to the west would not be visible from the principle views as the bridge is crossed.

The Revised Development would have a **negligible** effect upon the setting of Site (30).

- **Auchlochan Bridge, Site (31)** – The setting of Auchlochan Bridge has altered little since it was constructed in the 1790s. The bridge remains in use by modern traffic and lies within deep, mature tree cover in a similar manner to that shown on the 1st edition OS maps.

While the ZTV indicates that the turbines are likely to be visible from Auchlochan Bridge, this represents the bare earth, worst case scenario. The extent of vegetation cover; distance between the monument and the nearest Turbine (c. 4.6 km); and the low lying nature of Site (31) make it highly unlikely that the wind farm and Auchlochan Bridge will be intervisible. As such the impact of the Revised Development on the site has been assessed as **negligible**.

- **Folkerton Mill Rigside, Site (32)** – Folkerton Mill sits in a slightly sunken location on the north bank of the Poniel Burn. Dateable to the early 19th century, and possibly earlier, the setting of the mill is already compromised by the proximity of a busy road to the west, electricity cables overhead and a line of pylons nearby.

The site lies nearly 4.5 km from the nearest turbine and any visual effect upon the setting of this monument will be **negligible**.

- **Birkhill House, Site (33)** – Today Birkhill House is somewhat run down, although it retains many elements of the original setting when it was constructed in the 18th-19th centuries. The OS 1st edition 6 inches to the mile map shows Birkhill set within mature woodland. This woodland survives and has enlarged considerably since the 19th century.

The primary views from Birkhill House are to the north west to south east, with the alignment of the building running south west to north east. Were the mature woodland not in place, the main views to and from the House would not be compromised by the presence of the turbines.

While the ZTV indicates that the turbines will be visible from Site (33), these will be masked by thick vegetation and the turbines would not impact upon the primary views to and from the site. Considering these factors, the significance of effect upon Site (33) from the Revised Development is therefore considered **negligible**.

- **Statue, West Toun, Site (34)** – This statue was first erected at Hallcraig in 1815. It was subsequently moved to Ayrshire in 1861, and to the present location in 1929. The statue is important as a historical work of art and craftsmanship, but is no longer in its original setting. The magnitude of change caused by the Revised Development will be **none**.
- **Castle Mains, Site (35)** – The immediate setting of Castle Mains has changed little since the production of the 1st edition OS map in the mid-19th century, and presumably since the building was constructed in the mid-18th century. The surrounding parkland, dotted with mature trees still survives along with considerable screening by deciduous trees.

The construction of the M74 to the west has largely compromised the wider landscape setting of the building in this direction. The installation of the turbines will have a **negligible** effect upon the setting of this monument.

- **Konisberg & Ptarmigan Cottage**, Uddington Village, Site (36) – Comprises a small collection of houses within a copse of mature woodland and has changed little since the mid-19th century when the Category B Listed Buildings were constructed -.

The village is located in an agricultural setting, close to major roads and the Douglas Water. The infrastructure of the M74 and Junction 12 lies to the west, with a series of large electricity pylons to the east. The installation of the Revised Development, has been assessed as having a **negligible** effect.

- **Wolfcrooks Bridge**, (Site 37) – Wolfcrooks Bridge was constructed over the Poniel Water in 1826 and is inscribed as having been built by James MacGowan.

The ZTV has demonstrated that no turbines will be visible from Wolfcrooks Bridge and the effect of the Revised Development on the setting of this monument has been assessed as **none**.

- **Douglas Conservation Area**, Site (38) – The heart of medieval Douglas is protected by SLC as a Conservation Area. The discussion for Site (27) is relevant. Site (37) is an urban setting, with the emphasis on the style and nature of the surrounding buildings as opposed to the wider landscape. The effect of the Revised Development on the Douglas Conservation Area will be **negligible**.

10.7.18 Mitigation for these sites will be discussed, as required, within Section 10.8.

Decommissioning

10.7.19 After 25 years of operation, the Revised Development will be decommissioned, the turbines dismantled and the ground returned to its original state. Although there is potential for disturbance of historic environment assets during the decommissioning process, this is of **negligible** effect with correct mitigation. Where Historic Environment assets remain intact through the construction process, mitigation put in place during the construction phase should be followed where applicable during decommissioning, i.e. those sites identified should be avoided by plant and delineated by an archaeologist prior to plant coming on site.

10.8 Mitigation

10.8.1 Where the significance of effect on sites is identified as greater than negligible, mitigation may be required to reduce or offset this impact. There are numerous forms which mitigation can take. These are discussed below.

Pre-Development Mitigation

10.8.2 The final site layout of the Revised Development is the product of an extended iterative design process prepared in cognisance of Historic Environment sensitivities and constraints. Historic Environment concerns were identified at an early stage of the assessment and design process, meaning direct impacts were avoided through careful placement of turbines, crane pads and other infrastructure.

10.8.3 This approach was particularly important in the northwest of the Revised Development where turbine placement and infrastructure was dictated by the presence of Historic Environment assets, with the road between T03 and T02 moved south to avoid direct impacts to Site (5).

Mitigation Options on Direct Impacts

Known Sites

- 10.8.4 Sites identified which remain in close proximity to the development will be avoided by careful delineation with an appropriate buffer prior to site work commencing. Such sites will be marked out by professional archaeologists. These buffer zones will be practical, and discussed where necessary in close consultation with WoSAS.
- 10.8.5 Where preservation in situ of known sites is not possible, physical damage caused can be offset by a programme of archaeological investigation and recording.

Previously Unknown Sites

- 10.8.6 This Historic Environment chapter comprises a comprehensive and detailed assessment, accessing all available sources to provide an indication of past settlement and use of the Revised Development area. However, it remains possible that previously unknown and buried archaeological deposits could be damaged or compromised during construction. As discussed above (see paragraph 10.6.9), a significant proportion of the Revised Development site has been affected by large scale opencast mining (refer to Figure 3.1). This will have removed all traces of archaeological sites and deposits across those areas. The potential for previously unidentified and buried archaeological deposits to survive across the remainder of the site is considered “fair to good”, with the exception of the north-west corner around Turbines 1 to 3, where the density of features recorded means that the archaeological potential of this area is considered “good”.
- 10.8.7 Should such sites be identified during site works, archaeological recording and/or excavation will be required if avoidance is not possible. The scope of such work will be agreed between the Applicant, the archaeological contractor and WoSAS at the earliest opportunity.

Mitigation Options on Indirect Impacts

- 10.8.8 The primary concern of indirect impacts is the effect on the setting of a monument. Where possible, mitigation should seek to reduce the impact on the setting through:
- Micro-siting or moving the site infrastructure, primarily the turbines, in order to reduce the visual impact upon a monument; and/or
 - Reducing the height of the turbines.
- 10.8.9 Mitigation options were discussed and implemented where possible as part of the planning stage for the Revised Development, whilst balancing the requirement of project viability in the new subsidy-free environment.
- 10.8.10 Further mitigation is also proposed through the development and promotion of a local Heritage Trail using interpretation along new paths created by the Revised Development and existing pathways to increase public awareness and promote the heritage assets of the local area (refer to paragraph 10.8.19 below).

Proposed Mitigation

Mitigation during Construction

- 10.8.11 The volume and density of archaeological features recorded in those areas of the site which have not previously been disrupted by 20th century open-cast mining is notable. As such, the likelihood of previously unrecorded archaeological deposits surviving is considered “fair to good” (paragraph 10.8.6).
- 10.8.12 To offset any potential damage to unrecorded sub-surface archaeological deposits, an archaeological watching brief will be maintained during all ground breaking works across areas of the site undisturbed by the 20th century mining operations. The watching brief will ensure that any damage to recorded features is subject to appropriate levels of mitigation, while allowing for the

identification of any previously unrecorded archaeological sites and ensuring these are appropriately recorded during site works.

- 10.8.13 The extent of the disruption caused by the opencast mining operations can be fairly accurately defined from opencast excavation models and historic aerial photography. It appears that some areas, particularly around Turbine 4, were not as intensively disturbed as other parts of the site north of the access road and may retain some archaeological potential. The need to maintain a watching brief around Turbine 4 will be at the discretion of the appointed archaeological contractor following discussions with the Applicant and WoSAS where necessary.
- 10.8.14 This is also true of any works around Site (19) and the proposed site compounds and facilities. It is anticipated that these areas were disturbed by the opencast mine works, but the exact location of Site (19) cannot be pinpointed, and it will be necessary to confirm that these areas have been disturbed before agreeing that no watching brief is required north of the existing access track in this area.
- 10.8.15 Those sites which it is anticipated will be directly impacted by the Revised Development (Sites (2), (4), (19) and (22)) will be subject to appropriate levels of recording prior to, and during removal.
- 10.8.16 All identified sites within the Revised Development area which are in close proximity to site works (such as Sites (5), (6), (8), (10) and (11)) will be carefully cordoned off and delineated to ensure avoidance during construction. Such delineation will also include those unaffected areas of sites which are already directly impacted by construction, such as the wider areas of Site (4). This process will be undertaken by qualified heritage professionals.
- 10.8.17 No work will commence on site until a Written Scheme of Investigation (WSI) outlining the standards and methodology to be adhered to by the chosen archaeological contractor has been submitted to, and approved in writing by, WoSAS and SLC.

Mitigating the Impact on Setting

- 10.8.18 Table 10.8 has shown that there will be few Historic Environment assets within the wider landscape affected by the Revised Development.

General mitigation – Heritage Trail

- 10.8.19 The limited potential for impact upon the setting of the monuments in and around Douglas will be further offset by the development of a Heritage Trail facilitated through the Revised Development. This is intended to re-connect the villages of Douglas and Coalburn, increase visitors to both villages, raise awareness of the area's historical and archaeological heritage and will have an overall beneficial impact for the community (refer to Chapter 13).
- 10.8.20 The history of coal extraction and industry in the Douglas and Coalburn area is long. The Dalquhandy Opencast Mine operated between 1988 and 2004 and at one point was the largest opencast site in Europe. Prior to the development of the Mine, the landscape in the northern part of the Revised Development was quite different, with small coal workings and collieries of varying ages alongside the small settlements and fermtouns that had developed sporadically from the medieval period. Many of these (such as Sites (17) - (21)) lay within the limits of the Revised Development. All are now no longer visible, with all traces of Sites (20) and (21) almost certainly removed by the coal extraction.
- 10.8.21 The Heritage Trail concept has been developed in consultation with The Douglasdale Recreation, Environmental, Access and Leisure (REAL) Group, the Greenways Trust of Coalburn, as well as both the Community Councils of Douglas and Coalburn. It is designed to be of benefit to the local community, linking/improving existing path networks (see Appendix 3.1), but for the purposes of this chapter, the focus on the heritage of Douglas and the surrounding area is important.
- 10.8.22 Working in conjunction with the local community and adjoining landowners, proposals are for a total of 16 points of interest to be promoted and discussed along the route of the trail. It is proposed that the route itself will pass through the village of Douglas and the sites therein, and it is expected that the development of the Trail will increase visitors to Douglas and raise awareness of the Historic

Environment. The Revised Development has committed to funding an interpretation panel at each of the 16 points of interest. Leaflets about the Heritage Trail would also promote the medieval character of Douglas and the existence of St Bride's Chapel/Church.

- 10.8.23 One of the major themes of the Heritage Trail will be the continuation of the energy legacy and the Historic Environment assets, settlements and farmhouses lost through mining. The baseline study work completed as part of proposals for the Consented Development has highlighted these hamlets within the Inner Study Area, but also revealed the existence of a further, previously unrecorded settlement – Site (5). Alongside a large cairn, Site (6), this settlement would not have been discovered had the baseline survey for the Consented Development not been undertaken. These sites will be included as part of the Heritage Trail, outlining what is known about them and the importance of archaeological assessment during the planning of the Revised Development.

10.9 Residual Effects

- 10.9.1 There will be residual effects on the setting of monuments where the monuments share intervisibility with the turbines. However, the assessment has shown this overall to be **negligible** and the mitigation proposed will suitably offset this impact where identified. This is true of all monuments except for St Bride's Chapel (Sites (23/26)) and the Earl of Angus Monument (Site 25), which have both been identified as experiencing a **minor** impact upon setting.

10.10 Cumulative Assessment

Assessment

- 10.10.1 EIA Regulations require consideration of cumulative impacts, which are those impacts resulting from incremental changes caused by other past, present or reasonably foreseeable actions together with the Revised Development. Broadly, there are two types of cumulative impact:
- Combined effects of individual impacts, for example noise, dust and visual impacts, from one development on a particular receptor; these are termed Type 1 cumulative impacts.
 - Impacts from several developments, which individually might be insignificant, but when considered together could result in a significant cumulative impact; these are termed Type 2 cumulative impacts.
- 10.10.2 To assess Type 2 cumulative impacts, other development proposals need to be at a committed stage in order for an appropriate level of certainty and scheme information to be available. Development proposals can therefore only be assessed in combination with other development proposals that are further ahead in the consenting/implementation process.

Cumulative Developments

Adjacent Developments

- 10.10.3 Potential effects on Historic Environment assets are determined through consideration of the effects on each individual site. A cumulative effect arises when a site would be affected by more than one development or proposal. If considered in isolation, these developments may not have a significant adverse effect on a monument, but taken collectively this can change.
- 10.10.4 Cumulative effects are considered for wind farm developments currently in the planning system as well as those that are permitted or operational. Primary consideration is given to those that lie up to 5 km from the Revised Development.
- 10.10.5 There are a number of proposed developments in the vicinity of the site, and those that are at a committed stage must be assessed for their cumulative effects with the Revised Development and will be considered during this assessment.
- 10.10.6 The SLC Wind Database (June 2017) was assessed alongside detailed scrutiny of the SLC online planning portal to identify proposed, consented and operational developments in the vicinity of the

Revised Development. This study has shown that there are several large wind farms within 5 km of the Revised Development. Large wind farm developments are defined as those with four or more turbines.

- 10.10.7 A plan of cumulative developments (Figure 3.3) shows these to be predominantly clustered to the west and south of the Revised Development. The Revised Development sits on the eastern edge of a wind farm cluster that includes:
- The consented Dalquhandy Wind Farm (0.35 km from the nearest turbine);
 - The operational Hagshaw Hill Wind Farm and Hagshaw Extension (0.84 km from the nearest turbine);
 - The operational Nutberry Wind Farm (2.83 km from the nearest turbine);
 - The operational Galawhistle Wind Farm (3.23 km from the nearest turbine); and
 - The consented Cumberhead Wind Farm (2.12 km from the nearest turbine).
- 10.10.8 There are also a number of smaller turbines in this area. These include:
- A 2 turbine development (1 operational) at Hazelside Farm (1.34 km from the nearest turbine).
- 10.10.9 EIA Regulations require adequate mitigation to be in place to mitigate or offset impacts upon Historic Environment assets. Each of the wind farm developments relevant to cumulative assessment will have gone through this process to the satisfaction of WoSAS and HES, suitably mitigating the impact.
- 10.10.10 The addition of the Revised Development to this cluster west of Douglas has the potential to have a cumulative impact upon the setting of monuments which share intervisibility with the site.

The Wider Landscape

- 10.10.11 The Revised Development will be lower lying than the existing Hagshaw Hill Wind Farm and Hagshaw Extension. These turbines lie on the high ground around Hagshaw Hill and Common Hill which has a maximum height of c.463 m. The Galawhistle, Nutberry, Hazelside and Cumberhead Wind Farms sit at a slightly lower, yet broadly similar elevation. The highest positioned turbine of the Revised Development is Turbine 12, which will sit at an elevation of >315 m.
- 10.10.12 With the exception of Site (31), all of the monuments discussed in the assessment lie generally to the east of the Revised Development. As a result, the primary consideration will be the visual impact looking west from these sites towards the Revised Development.
- 10.10.13 In the wider landscape it is unlikely the addition of the Revised Development to the wind farm concentration west of Douglas will have a significantly adverse cumulative impact. Situated on comparably low lying ground, views generally from the east towards the west would be unlikely to see the Revised Development highlighted against the skyline.
- 10.10.14 Although unlikely, should turbines be visible against the skyline from these monuments they will be against a background which is already compromised by the presence of the operational Hagshaw Hill Wind Farm complex; the Galawhistle Wind Farm; Nutberry Wind Farm and Hazelside Farm Turbines at the very least. Approval of Cumberhead Wind Farm and Dalquhandy Wind Farm (on the adjoining part of the former Dalquhandy Opencast Mine) will almost certainly add these developments to the viewshed.
- 10.10.15 The placement of the Revised Development on the eastern edge of the existing and consented wind farms would allow the wind farm developments generally to be viewed as one site, rather than a collection of independent and visually separated developments.
- 10.10.16 As such, the cumulative impact of the Revised Development on the sites within the wider landscape is considered **negligible**.

The Immediate Landscape - Douglas

- 10.10.17 The impact upon the setting of those monuments within Douglas is important:
- St Bride’s Chapel/Church, Site (23) & (26);
 - James, Earl of Angus Monument, Douglas, Site (25);
 - Category B Listed Buildings within the town of Douglas, Site (27); and
 - The Douglas Conservation Area, Site (38).
- 10.10.18 As discussed in paragraph 10.7.17, the setting of Site (23/26) is inward and reflective. Oblique views of some of the Hagshaw Hill turbines are presently visible from the parts of the grounds, but for the reasons explained in paragraph 10.7.17, there would be no cumulative effect caused by the Revised Development. The overall magnitude of change upon Site (23/26) remains **minor**.
- 10.10.19 In respect of the Earl of Angus Monument Site (25), Hagshaw Hill Wind Farm is visible on the horizon, to the south-west, as are the Hazelside Farm turbines. However, as has been shown in paragraph 10.7.17, the current vegetation cover will largely screen views of the Revised Development turbines from the monument, and the principal views from Site (25) towards the north will remain intact. A minor increase in the cumulative impact is noted, but not considered significant enough to re-classify the overall impact from **minor**.
- 10.10.20 The Category B Listed buildings within are all within and around the Douglas Conservation Area and the two sites (27) and (38) are considered together. The urban, inward looking setting of the monuments which comprise Site (27/38) means that many of the turbines will not be visible from within Douglas. This is also true of the existing and proposed developments, and any cumulative impact is considered to remain **negligible**.

Conclusion

- 10.10.21 The discussion of the monuments above has shown that the cumulative effect of the Revised Development is considered to be **negligible**.

10.11 Summary

- 10.11.1 This chapter considered the potential impacts of the Revised Development on the Historic Environment and was prepared with reference to all relevant legislation, policy and guidelines.
- 10.11.2 In order to inform the Revised Development, a baseline study was undertaken using all readily available information sources within the set parameters of Inner, Middle, and Outer Study areas. Sources accessed included HES databases of protected Historic Monuments, SLC’s SMR, the NMRS, maps held by NLS and aerial images held by NCAP. The DBA was supplemented by a comprehensive walkover survey of the Inner Study Area in order to identify any previously unknown Historic Environment assets.
- 10.11.3 The baseline study identified 22 sites within the Inner Study Area, and a further 16 sites with potential to be affected by the Revised Development within the Middle Study Area. No sites in the Outer Study Area were affected by the Revised Development.
- 10.11.4 A correlation of the information retrieved in the baseline study with the layout of the Revised Development identified a number of possible impacts. Early engagement with consultees, the completion of the Historic Environment assessment for the Consented Development and consideration of potential effects allowed site infrastructure to be carefully plotted in order to reduce these impacts.
- 10.11.5 It is anticipated that four recorded sites ((2), (4), (19) and (22)) will be directly impacted by development to some degree. The volume and density of archaeological sites noted during the baseline study means that the likelihood of previously unrecorded archaeological deposits surviving across those areas unaffected by mining is considered “fair to good”. To mitigate against this, an archaeological watching brief will be maintained during all ground breaking works affecting those

areas, predominantly south and west of the existing access track. In areas around Turbine 04 and Site (19), the extent of the watching brief will be at the discretion of the appointed archaeological contractor in consultation with the Applicant and WoSAS where required.

- 10.11.6 Those Historic Environment sites which have been identified near proposed site infrastructure will be clearly delineated by an archaeological professional prior to site works commencing. This will ensure their protection from disturbance during the construction phase.
- 10.11.7 In conjunction with similar operational, consented and proposed developments in the local area, there will be no significant cumulative impact caused by the Revised Development.
- 10.11.8 Although the study has shown that overall the effect upon identified sites will not be significant, some residual impacts will remain where the turbines are visible. A Heritage Trail has been designed to offset any residual impact upon the setting of monuments within the vicinity of the Revised Development.

Table 10.9 – Summary Table of Residual Effects

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect		Comparison with the Consented Development
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse	
During Construction / Decommissioning						
Sites (1, 3, 6 -16) – No direct impact	Negligible	Neutral	N/A	Negligible	Neutral	No material difference. There are 13 sites which will not be directly impacted by the Revised Development. This compares with 15 sites which would not be directly impacted by the Consented Development, although this total includes Sites (17) and (18) which have been regraded as their exact location is unknown (below).
Site (5) - Potential direct impact: Located near proposed infrastructure works	Minor	Adverse	Sites delineated and marked prior to excavation works to avoid damage	Negligible	Neutral	No material difference.
Sites (2, 4 and 22) - Direct impact: Cut by site infrastructure	Minor	Adverse	An archaeological watching brief will be maintained during all ground breaking works in the vicinity of these monuments. This will ensure these are adequately	Negligible	Adverse	Three sites will be directly impacted by the Revised Development. This compares to two for the Consented Development as

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect		Comparison with the Consented Development
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse	
			recorded prior to, and during, any disruption. Those areas of the affected sites which will remain unaffected by development will be appropriately delineated to avoid unnecessary disturbance.			infrastructure now impacts upon Site 2. The impact upon Site 4 is likely to be less for the Revised Development as only one of the two recorded enclosures will be directly affected.
Sites (17 and 18) – Potential direct impact. Exact location of these sites is unknown	Minor	Adverse	An archaeological watching brief will be maintained during all ground breaking works across the southern part of the site, ensuring that any direct impact upon these monuments will be identified and adequately recorded.	Negligible	Adverse	No material difference.
Site (19) – Potential direct impact. Exact location of site is unknown, although this area was likely disturbed by coal extraction	Minor	Adverse	During site works associated with the installation of the site compounds, an archaeological watching brief will be maintained should this area be shown to be undisturbed.	Negligible	Adverse	No material difference.
Sites (20 and 21) – No direct impact: Although exact location is unknown, sites likely	Negligible	Adverse	It is almost certain these areas have been compromised by coal extraction. However, the Contractor will be issued with guidance and a toolbox talk about	Negligible	Neutral	No material difference.

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect		Comparison with the Consented Development
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse	
removed by coal extraction			how to react should archaeological remains be encountered during works in this area of the site.			
Direct impact: Potential for damage to previously unrecorded features	Moderate	Adverse	An archaeological watching brief will be maintained during all ground breaking works across those areas of the site unaffected by opencast mining. This will ensure any previously unrecorded archaeological deposits are identified and recorded.	Minor	Adverse	No material difference. The potential for damage to unrecorded archaeological deposits remains the same for both the Revised Development and the Consented Development.
During Operation						
Site (23/26) - Indirect impact: St Bride's Chapel /Church	Minor	Adverse	Continued presence of vegetation both within the curtilage of the monument, and on the Long Plantation between the monument and the Revised Development. Residual impact offset by promoting the monument as part of the Heritage Trail being developed.	Minor	Adverse	Nine turbine hubs are theoretically visible from both the Consented and the Revised Development. The blades of four turbines will be theoretically visible from the Revised Development, as opposed to three theoretically visible from the Consented Development.

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect		Comparison with the Consented Development
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse	
Site (24, 34 & 37) - No indirect impact/ intervisibility with the Revised Development.	None	Neutral	N/A	None	Neutral	No change.
Site (25) – Indirect impact: Douglas, Monument to James, Earl of Angus	Minor	Adverse	Continued presence of vegetation both immediately adjacent to the monument, and on the Long Plantation between the monument and the Revised Development.	Minor	Adverse	No material difference. Seven turbine hubs and 4 blades will be theoretically visible from both the Consented and the Revised Developments.
Site (27 to 33, 35, 36, and 38): Indirect impact.	Negligible	Neutral	N/A	Negligible	Neutral	No material difference. The Consented Development was theoretically visible from nine sites in the Middle Study Area. The Revised Development will be theoretically visible from ten sites in the Middle Study Area.

10.12 References

Aerial Photography

Aerial photography consulted include:

Sortie	Year	Frames
106/G/UK/0087	1946	3069-3073 & 4069-4071
106G/UK/0083	1946	3345-3350
106G/ UK/087	1946	6033-6035 & 6066-6068
106G/UK/0083	1946	6142-6144
82/0932	1954	0004-0009 & 0032-0037
58/3262	1959	0075-0080
OS74-168	1974	066-067
OS74-170	1974	162-164
ASS/516/88	1988	136-138
ASS/610/89	1989	228-229
ASS/621/89	1989	162-164

Cartographic

Maps consulted during the map regression include:

Cartographer	Year	Map Name (common)
Timothy Pont	1583-1614	Glasgow and the County of Lanark
Joan Blaeu	1654	The nether ward of Clyds-dail and Glasco
Joan Blaeu	1654	The Upper Ward of Clyds-dayl
Herman Moll	1745	The Shire of Clydesdale or Lanerk
William Roy	1747-55	Military Survey of Scotland
Charles Ross	1773	Map of the Shire of Lanark
William Forrest	1816	The County of Lanark from actual survey
John Ainslie	1821	Ainslie's Map of the Southern Part of Scotland
John Thomson, William Johnson	1822	Northern Part of Lanarkshire. Southern Part
Ordnance Survey	1858-64	25 inch to 1 mile Lanark, Sheet XXXVII.11 (with inset XXXVII.12) Lesmahagow
Ordnance Survey	1858-64	25 inch to 1 mile Lanark, Sheet XXXVII.9
Ordnance Survey	1858-64	25 inch to 1 mile Lanark, Sheet XXXVII.16 (Douglas)
Ordnance Survey	1896-7	25 inch to 1 mile Lanarkshire 037.12
Ordnance Survey	1896-7	25 inch to 1 mile Lanarkshire 037.16
Ordnance Survey	1896-7	25 inch to 1 mile Lanarkshire 038.09
Ordnance Survey	1909-10	25 inch to 1 mile Lanarkshire 037.12
Ordnance Survey	1909-10	25 inch to 1 mile Lanarkshire 037.16
Ordnance Survey	1909-10	25 inch to 1 mile Lanarkshire 038.09

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