

CFA ARCHAEOLOGY LTD

The Old Engine House
Eskmills Business Park
Musselburgh
East Lothian
EH21 7PQ

Tel: 0131 273 4380

Fax: 0131 273 4381

email: info@cfa-archaeology.co.uk

web: www.cfa-archaeology.co.uk

Author	George Mudie MA FSA Scot MifA
Illustrator	
Editor	
Commissioned by	SSE Renewables Ltd
Date issued	January 2010
Version	
OASIS Reference	cfaarcha1-74330
Planning Application No.	
Grid Ref	NT 040 530

This document has been prepared in accordance with CFA Archaeology Ltd
standard operating procedures.

Harrows Law Wind Farm: Cultural Heritage Assessment

12 Cultural Heritage and Archaeology

Introduction

- 12.1 This section considers the likely effects on cultural heritage interests of the construction and operation of the Proposed Development. The study has been undertaken by CFA Archaeology Ltd (CFA) and has been informed by information provided by Historic Scotland and by West of Scotland Archaeology Service (WoSAS).
- 12.2 Cultural heritage resources include:
- Scheduled Monuments and other archaeological features;
 - Listed Buildings and other buildings of historic or architectural importance;
 - Conservation Areas and other significant townscapes; and
 - Gardens and Designed Landscapes and other significant historic landscapes.
- 12.3 Archaeology is defined as the study of the past by means of the material remains of human activities left behind, be they visible monuments, buried sites or portable antiquities. Cultural heritage is a more encompassing concept embracing historic buildings, Conservation Areas and other elements of the historic environment. Resources potentially include features dating from the earliest Holocene human occupation of Scotland, approximately 10,000 years ago, through to 20th century buildings and townscapes.
- 12.4 This scope of this topic overlaps with the Landscape and Visual Assessment (Chapter 7, particularly in the consideration of the settings of Scheduled Monuments (SMs), Listed Buildings, Conservation Areas and Gardens and Designed Landscapes. It should be noted however that the emphasis of the cultural heritage and landscape and visual assessments is not necessarily the same and the assessment findings as regards particular receptors may vary.
- 12.5 The specific objectives of the cultural heritage study were to:
- identify the cultural heritage baseline within the Proposed Development study area as well as key receptors within 15 km of the Proposed Development for SMs, Listed Buildings, Conservation Areas and Gardens and Designed Landscapes;
 - assess the Proposed Development site in terms of its archaeological and historic environment potential;
 - consider the potential and predicted effects of the construction and operation of the Proposed Development on the cultural heritage resource; and,
 - propose measures, where appropriate, to mitigate any predicted adverse effects
 - identify residual effects.
- 12.6 Figure 12.1 depicts the Proposed Development, together with the locations of archaeological sites and monuments identified by the study within the Proposed Development study area.

- 12.7 Figures 12.2 and 12.3 show the proposed wind farm in its landscape context together with the locations of key receptors in the surrounding landscape that are predicted to have intervisibility with one or more turbines. See also Chapter 7 (Landscape and Visual Impact).
- 12.8 A gazetteer of identified sites in the study area is included as Appendix 12.1 and a table of key external receptors in Appendix 12.2.

Scope of Assessment

Project interactions

- 12.9 Any ground-breaking activities associated with the construction of Proposed Development features (such as turbines, crane hard-standings, access tracks, cable routes, compounds, etc) have the potential to disturb or destroy features of cultural heritage interest. The creation and extension of borrow pits to extract building materials could have similar direct and adverse effects. In addition, other construction activities, such as vehicle movements, soil and overburden storage and landscaping, also have the potential to cause adverse direct effects on the cultural heritage.
- 12.10 The presence of development features close by may also have indirect effects on the setting of sites of cultural heritage interest within the Proposed Development study area. Given their height wind turbines and, to a lesser extent, anemometer masts have the potential to cause indirect visual effects over a wide area. In particular, there is potential for the development to be present in views of and from SMs, Listed Buildings and other cultural heritage sites and areas. This may affect their settings.

Study area

- 12.11 The Proposed Development would occupy an area of ground to the west of the A70 near Tarbrax, between Henshaw Hill, in the north, and Weather Hill in the south. The extent of the detailed study area is shown on Figure 4.1.
- 12.12 Designated sites (SMs and Listed Buildings), and non-designated sites (Conservation Areas and Gardens and Designed Landscapes) within 15 km of the Proposed Development study area are included in the assessment, in relation to the ZTV.

Scoping and consultation

- 12.13 The consultation responses to the scoping report of particular relevance to the cultural heritage are summarised in Table 12.1.

Table 12.1. Cultural Heritage Issues - Raised During Scoping for the 2005 Harrows Law Proposal		
Consultee	Consultee comment	ES Response
South Lanarkshire Council 24/05/2004	Identified Little Sparta as a renovated landscaped garden designed by the artist, Ian Hamilton Findlay. Suggested that Ian Hamilton Findlay and the Scottish Arts Council be included in the consultation list.	See Chapter 7 Landscape and Visual. As there is no visibility of the Proposed Development from Little Sparta, it is not considered in this Cultural Heritage and Archaeology assessment.
South Lanarkshire Council 24/05/2004	Noted that there are a number of archaeological sites present in the development area (as defined for the 2005 application) and that consequently a programme of specific investigations may be necessary. Recommended that WoSAS be consulted.	WoSAS contacted. Consultation letter sent to WoSAS 27/09/2004.
Historic Scotland, 25/06/2004	Identified two SMs wholly or partly within the Scoping Report site boundary (2005 application) (4212, Greens Moor long cairn and 4295, Burngrange long cairn).	SMs no longer within Proposed Development site boundary as a result of re-design post the 2005 application.
Historic Scotland, 25/06/2004	Identified four SMs from which the wind farm would be in a prominent position within their landscape settings (3370, Dunsyre Hill cairn; 3371, Dunsyre Hill field systems; 4662, Kersewell Mains cairn; and, 4663, Kersewell Mains cairn).	Taken into account in this chapter, see Assessment Methodology (Section 12.31 – 12.60).
SNH 26/05/2004	Requested assessment through site visits and, if necessary, photomontages of the development in the landscape.	Taken into account in this chapter, see Assessment Methodology (Section 12.31 - 60).
West Lothian Council 27/05/2004	Stated that cumulative impacts would be extremely important for the setting of cultural heritage sites.	Cumulative impacts addressed in Landscape and Visual Amenity Chapter (Chapter 7).
Scottish Executive 07/09/2004	Identified Little Sparta and Harburn House as requiring particular consideration in respect of potential indirect effects on their setting.	Taken into account in this chapter, see Assessment methodology (Section 12.31 - 60) and covered in Landscape and Visual Amenity Chapter (Chapter 7).
Scottish Executive 07/09/2004	Identified Little Sparta as GDL listed in the Inventory.	Taken into account in this chapter, see Assessment Methodology (Section 12.31 - 60) and covered in Landscape and Visual Amenity Chapter (Chapter 7).

12.14 Following redesign of the wind farm layout (post 2005 application) to take account of the comments received on the 2005 application, a meeting was held with WoSAS on 23 July 2009. The purpose of that meeting was to discuss the implications of the new layout for archaeological interests in light of the comments expressed in the South Lanarkshire Committee Report (04 July 2006) (Refer to

Technical Appendix 2.2). As a result of the meeting WoSAS indicated that they would have no objection to the revised scheme on the basis of its impact on the setting of the Horse law NSRs. WoSAS could not however comment on the issue of the settings of the SMs or LBs, which judgement lies with Historic Scotland (meeting minutes 23 July 2009).

- 12.15 A key concern in the representations made to the Committee was the potential impact on the setting of Little Sparta; a garden and designed landscape listed in the Inventory of Gardens and Designed Landscapes in Scotland. The issue was raised by Scottish Natural Heritage (para 6.10) and by private representation (para 7.1(a)). The current design has taken these concerns into account and addressed them in developing the layout of the Proposed Development.
- 12.16 In its response to the 2005 application Historic Scotland (02 September 2005) stated that they had no comment to make on its findings. No further direct consultation has been undertaken with regard to the present redesigned layout. A stakeholder meeting and presentation was held in Lanark on 10 November 2009 at the offices of SNH. Historic Scotland was invited to the meeting and had nominated a representative. In the event, Historic Scotland did not send a representative nor did they provide any reason for their non-attendance.

Policy Context

Legislation and National Planning Policy Guidance

SCHEDULED MONUMENTS AND OTHER ARCHAEOLOGICAL FEATURES

- 12.17 Under the Ancient Monuments and Archaeological Areas Act 1979 (hereafter, 1979 Act) the Scottish Ministers are required to compile and maintain a Schedule of monuments considered to be of national importance. The statutory consent of the Scottish Ministers is required before any works are carried out which would have the effect of demolishing, destroying, damaging, removing, repairing, altering, adding to, flooding or covering up a Scheduled Monument (SM). Effects of proposed development works upon the setting of a SM form an important consideration in the granting or refusal of planning consent to carry out development works. Further information on development control procedures relating to SMs is provided in Scottish Planning Policy 23, Planning and the Historic Environment (SPP 23) and Planning Advice Note 42, Archaeology (PAN 42). The Scottish Ministers' strategic policies for the historic environment are set out in Scottish Historic Environment Policy (SHEP) document.
- 12.18 Historic Scotland holds non-statutory registers (NSR) of those sites likely to be of national importance. The WoSAS Historic Environment record (HER) holds an archive of NSR sites, in which 'Code C' is considered to be 'almost certainly of national importance' and 'Code V' is 'probably of national importance'.
- 12.19 Archaeological sites and monuments without statutory protection are curated by the local planning authority. SPP 23 and PAN 42 provide national planning policy guidance and advice on the treatment of this resource. PAN 42 advises that the principle that should underlie all planning decision-making is preservation of cultural resources, in situ where

possible, and by record if destruction cannot be avoided. It is recognised in the document that preservation may not always be possible, and where damage is unavoidable various mitigation measures may be proposed.

LISTED BUILDINGS

12.20 Under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (hereafter, 1997 Act), the Scottish Ministers are required to compile a list of buildings of special architectural or historic interest. Such buildings are classified into Categories A, B and C(s), in decreasing order of importance. Sustainable development is the principle underlying Government policy towards the historic environment. The Scottish Ministers are required to have special regard for the desirability of preserving listed buildings or their settings and any features of special architectural or historic importance they possess. Government policy and guidance is also provided in SPP 23 and Scottish Historic Environment Policy document. These documents stress that sustainable development is the principle underlying Government policy towards the historic environment, securing preservation of the historic environment whilst accommodating and remaining responsive to present day needs. Additional guidance on the treatment of listed buildings is provided in Historic Scotland's 'Managing change in the Historic Environment Guidance Notes'.

CONSERVATION AREAS

12.21 Under the 1997 Act, areas of special architectural or historic interest can be designated as Conservation Areas, the character or appearance of which it is desirable to preserve or enhance. Planning authorities are required to consider planning applications affecting the appearance, character or setting of Conservation Areas.

GARDENS AND DESIGNED LANDSCAPES

12.22 The effect of a proposed development on a designated Garden or Designed Landscape listed in the Inventory of Gardens and Designed Landscapes in Scotland or its Supplements (Inventory; published by Historic Scotland) is a material consideration in the determination of a planning application, although the designation is non-statutory in effect. Under the provisions of the Town and Country Planning (General Development Procedure) (Scotland) Order 1992 (1992 Order), planning authorities must consult The Secretary of State for Scotland (now Scottish Ministers, following devolution) on any proposed development that may affect a site contained in the Inventory. Further details are published in SPP 23, in the Scottish Historic Environment Policy (SHEP) document and in the Memorandum.

Regional and Local Planning Policy Guidance

INTRODUCTION

12.23 The Proposed Development lies within the planning area covered by the Structure Plan for Glasgow and the Clyde Valley (2006). The Local Plan covering the area is that for South Lanarkshire (2009). Full details of all planning policies relevant to this development proposal can be found in Chapter 6 (Planning Policy Context) of the ES. Those relevant to cultural heritage assets are summarised below.

GLASGOW AND THE CLYDE VALLEY JOINT STRUCTURE PLAN 2006

- 12.24 The Glasgow and the Clyde Valley Joint Structure Plan 2006 recognises the need to protect and enhance environmental resources including landscapes of international, national and regional importance and the historic environment, including archaeology.
- 12.25 Under Schedule 7 (Strategic Environmental Resources), Scheduled Monuments and other archaeological sites and landscapes, Listed Buildings, World Heritage Sites, Conservation Areas and the locations identified in the Inventory of Gardens and Designed Landscapes are identified as Strategic Environmental Resources. These are protected by Strategic Policy 7 which states that there shall be a presumption against any proposals which could have a significant adverse effect upon these resources.
- 12.26 Strategic Policy 9 (Assessment of Development Proposals) states that in order to accord with the Structure Plan the location of the development must be appropriate in terms of the need to safeguard the environmental resources listed in Schedule 7 or identified in Local Plans (SP 9B iv). It goes on to state that appropriate provision by the developer will be required for the excavation and recording of archaeological sites where preservation cannot be achieved (SP 9C vii).

SOUTH LANARKSHIRE LOCAL PLAN 2009

12.27 The South Lanarkshire Local Plan 2009 aims to promote the continued growth and regeneration of South Lanarkshire by seeking sustainable economic and social development within an improved urban and rural environment (vol I, p19). Key tasks for the Local Plan are the protection of the natural environment and built heritage whilst balancing their protection with the need to provide land for development (vol I, section 9.3). Policy ENV 4 sets out the principal policy by which the built environment will be protected. Table 9.1 presents a hierarchy of built heritage sites and the associated policies. Volume II of the Local Plan contains detailed policies and the protection of the cultural heritage within the Local Plan area.

- 12.28 Scheduled Monuments and archaeology are protected under Policy ENV 23, which states that scheduled monuments and other identified nationally important archaeological resources shall be preserved in situ and within an appropriate setting. Developments which have an adverse effect on scheduled monuments or the integrity of their setting shall not be permitted unless there are exceptional circumstances. All other archaeological resources shall be preserved in situ wherever feasible. The Council will weigh the significance of any impacts on archaeological resources and their settings against other merits of the development proposals in the determination of planning applications. The developer may be requested to supply a report of an archaeological evaluation prior to determination of the planning application. Where the case for preservation does not prevail, the developer shall be required to make appropriate and satisfactory provision for archaeological excavation, recording, analysis and publication, in advance of development.
- 12.29 Listed Buildings are protected under Policy ENV 24, which states that development affecting a listed building or its setting shall, as a first principle, seek to preserve the building and its setting, or any features of special architectural interest which it has. The layout, design,

materials, scale, siting and use of any development shall be sensitive to, and respect the character and appearance of, the listed building and its setting.

- 12.30 Conservation Areas are dealt with under Policy ENV 25, under the terms of which development and demolition within a conservation area or affecting its setting shall preserve or enhance its character and be consistent with any relevant conservation area appraisal or management plan that may have been prepared for the area. The design, materials, scale and siting of any development shall be appropriate to the character of the conservation area and its setting..
- 12.31 Gardens and Designed Landscapes are protected under Policy ENV 28, which requires that development affecting Historic Gardens and Designed Landscapes shall protect, preserve and enhance such places and shall not impact adversely upon their character, upon important views to, from and within them, or upon the site or setting of component features which contribute to their value.

Assessment Methodology

Overview

- 12.32 The approach to this assessment has incorporated the following iterative stages: baseline survey and sensitivity assessment; development layout design incorporating avoidance mitigation; impact prediction; effects evaluation, impact offset or reduction mitigation where required, residual effects evaluation.
- 12.33 This assessment was conducted in accordance with the Institute for Archaeologists Code of Conduct (IfA 2006) and Standard and Guidance for Archaeological Desk-based Assessment (IfA 2001).

Baseline assessment

DESK SURVEYS

- 12.34 Up-to-date information (July 2009) was obtained on the locations of cultural heritage sites with statutory protection and non-statutory designations either within or in the vicinity of the Proposed Development site. Historic Scotland provided digital data on SMs, LBs and GDLs. The locations of Conservation Areas were identified from the relevant Local Plans.
- 12.35 Information on known archaeological sites and monuments within the Proposed Development area was obtained from the NMRS and from the WoSAS HER (July 2009). Data was provided in digital GIS format.
- 12.36 First Edition Ordnance Survey maps and other early maps held by the Map Library of the National Library of Scotland were examined, to provide information on sites of potential archaeological significance and on historic land-use development. The National Archives of Scotland map collection database was searched for any archive maps pertaining to the assessment area.
- 12.37 An assessment was made of vertical aerial photograph collections held by The Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS). Sorties dating from 1946, 1949 and 1988 were available for examination.
- 12.38 The Scottish Palaeoenvironmental Database (<http://xweb.geos.ed.ac.uk/~ajn/spad>) was consulted to determine if any palaeoenvironmental studies had been undertaken within or close to the study area.

- 12.39 Bibliographic references were consulted to provide background and historical information. Information was sought at the NMRS library.

FIELD SURVEY TECHNIQUES

- 12.40 A reconnaissance field survey was undertaken across the Proposed Development study area shown on Figure 4.1, during 2004 in advance of the 2005 application. No new field survey was undertaken in connection with this redesigned submission as the whole of the Proposed Development site had been covered by the previous field survey. The fieldwork was conducted in order to:
- assess the presence/absence, character and baseline condition of the sites, monuments and landscape features identified by the desk-based assessment;
 - identify any further features of cultural heritage interest not detected from the desk-based studies;
 - assess the topography and geomorphology of the Proposed Development study area for its potential to contain buried remains of other archaeological sites and features.
- 12.41 Site locations were recorded using a hand-held GPS. The grid references thus provided are accurate within approximately 10m.

EXTERNAL RECEPTORS IMPACT ASSESSMENT

- 12.42 Given their heights, turbines and meteorological masts may be visible over a wide area thereby potentially affecting the wider landscape settings of cultural heritage sites and monuments.
- 12.43 Planning Advice Note 45 (PAN 45; Revised 2002): Renewable Energy Technologies notes that: *“visual effect will be dependent on the distance over which a wind farm may be viewed, whether the turbines can be viewed adjacent to other features, different weather conditions, the character of the development and the landscape and nature of the visibility”*.
- 12.44 Figure 8 in PAN 45 provides an assessment of the general perception of a wind farm in an open landscape as follows:
- at distances greater than 15 km a wind farm will generally be only seen in very clear visibility as a minor element in the landscape;
 - between 5-15 km it will be only prominent in clear visibility – seen as part of the wider landscape;
 - between 2-5 km it will be relatively prominent; and
 - at distances of less than 2 km it is likely to be prominent.
- 12.45 Taking account of these factors sites with statutory protection in the wider landscape have been assessed within the following maximum radii:
- 0 -15 km - Scheduled Monuments, Category A and B Listed Buildings, Conservation Areas and Gardens and Designed Landscapes.
 - Category C(S) Listed Buildings outside the Proposed Development study area are excluded from detailed assessment because, although in some cases they may be intervisible with Proposed Development components, their settings are considered to be

limited to their immediate environs, and they are considered not to have long distance landscape views as an essential element in their function.

- 12.46 Appendix 12.2 lists those external receptors that would have partial or full views of the wind turbines as constructed, within the search areas defined above. It is recognised, however, that the ZTV model is a coarse predictive tool, based as it is on bare-earth surface topography and maximum blade tip heights, and takes no account of obstructions to inter-visibility caused by existing forestry and other vegetation; or by buildings or other man-made features. The effects identified by this assessment, based upon the ZTV, should therefore be treated as a maximum and it is likely that in practice the effects would be lesser than those predicted. The locations of those receptors predicted by the ZTV map to be inter-visible with at least one turbine are shown on Figures 12.2 – 12.3.
- 12.47 There are many more cultural heritage features with statutory protection present within the defined 15km study radius, but they are not assessed as the ZTV indicates that there would be no view of the proposed wind turbines from their locations. These sites are omitted from the list of receptors in Appendix 12.2 and they are not shown on Figures 12.2 – 12.3. Of note, as there is no visibility of the Proposed Development from Little Sparta, it is not considered within this assessment.
- 12.48 Technical Appendix 12.2 lists the predicted significant adverse effects of the Proposed Development on key external receptors derived from an assessment of the ZTV map. All identified effects are indirect, temporary and reversible in nature, and would arise during the construction phase and persist throughout the operational phase of the wind farm.

Effects evaluation

EFFECT CLASSIFICATION

- 12.49 The types of effects of the Proposed Development on cultural heritage interests are assessed in the following categories:
- Direct: where there would be a physical effect on a site caused by the Proposed Development. Direct effects may be caused by a range of activities associated with the construction of Proposed Development features. Construction activities may include ground-disturbing excavations for turbine foundations, cable trenches, access roads and borrow pits. In addition, vehicle movement and soil and overburden storage may produce irreversible effects upon archaeological features. Direct effects on cultural heritage features are normally adverse, permanent and irreversible.
 - Indirect: where the setting of a site may be affected. Indirect effects may relate to new development reducing views to or from cultural heritage features with important landscape settings, may result from increased noise or vibration, or may cause increased fragmentation of the historic landscape and the loss of connection between its component parts. Such effects are likely to occur during the construction phase of the development and persist throughout the operational phase.
 - Uncertain: where there is a risk that the works may impinge on a site, for example where it is not clear where the location or boundaries of a site lie or where the baseline condition of a site cannot be established satisfactorily.

- 12.50 Potential effects, direct and indirect, have been assessed in terms of their longevity (permanent / temporary (long- or short-term)), reversibility and nature (beneficial / neutral / adverse).
- Beneficial effects are those that contribute to the value of a cultural heritage site through enhancement of desirable characteristics or the introduction of new, positive attributes. In terms of cultural heritage, beneficial effects include those that add to an appreciation of the cultural heritage site and/or its setting.
 - Neutral effects occur where the development can be accommodated comfortably by the receiving environment while neither contributing to nor detracting from the value of the cultural heritage site. In terms of cultural heritage, neutral effects arise from the fact that in general wind farms are permeable developments that do not significantly disrupt an appreciation of the landscape and skylines, particularly for the views from cultural heritage sites that lie at some remove from the Proposed Development. All neutral effects are considered to be not significant.
 - Adverse effects are those that detract from the value of a receptor through a reduction in, or disruption of, valuable characterising components or patterns, or the introduction of new inappropriate characteristics. In terms of cultural heritage, adverse effects include those that detract from an appreciation of a cultural heritage site and/or its setting, or compromise views to or from the site.

RECEPTOR IMPORTANCE

- 12.51 The importance of cultural heritage resources is assessed principally according to the criteria published in SHEP and SPP 23.
- 12.52 The main thresholds of archaeological importance defined in SPP 23 are sites of national importance, protected by statute, and sites with non-statutory designations of regional or local importance.
- 12.53 Sites of national importance comprise those sites protected by scheduling under the 1979 Act, and sites of “schedulable quality”. Scheduling is an ongoing process and not all sites of “schedulable quality” are currently scheduled (see Section 12.15 above).
- 12.54 Sites of Regional and Local Importance are those that do not merit scheduling but which have significance within a regional or local context. This may, for example, apply to their importance to regional or local history, or they may be the only local example of a monument type. A final category in Table 12.3, sites of Lesser Importance, covers those archaeological or historic environment features that are of little intrinsic cultural heritage value and the find-spots of artefacts now removed.
- 12.55 Listed Buildings are categorised according to their relative importance (1997 Act; Section 1; SHEP) Category A Listed Buildings are of national or international importance, Category B buildings are of regional or more than local importance, and Category C(S) structures are of local importance.
- 12.56 Gardens and Designed Landscapes contained within the Inventory are considered to be nationally important.

12.57 Table 12.2 summarises the relative importance of key cultural heritage resources.

Importance	Site types
International/National	World Heritage Sites Scheduled Monuments Sites of schedulable quality (NSR sites – codes C and V) Category A listed buildings Inventory status Gardens & Designed Landscapes Outstanding Conservation Areas
Regional	Archaeological sites and areas of distinctive regional importance Category B listed buildings Conservation Areas
Local	Archaeological sites and areas of local importance Category C(s) listed buildings Unlisted buildings and townscapes of some historic or architectural interest
Lesser	Other archaeological sites find spots

IMPACT MAGNITUDE

12.58 Magnitudes of impact are assessed in the categories high, medium, low and imperceptible, and are described in Table 12.3.

Level of magnitude	Definition
High	Major impacts fundamentally changing the baseline condition of the receptor, leading to total or major alteration of character or setting.
Medium	Moderate impacts changing the baseline condition of the receptor materially but not fundamentally, leading to partial alteration of character or setting.
Low	Minor detectable impacts which do not alter the baseline condition of the receptor materially.
Imperceptible	A very slight and barely distinguishable change from baseline conditions, approximating to the “no change” situation.

EFFECTS SIGNIFICANCE

12.59 Table 12.4 combines these criteria to provide an assessment of whether an effect is considered to be significant or not significant as required by the Environmental Impact Assessment (Scotland) Regulations 1999.

Magnitude ▼	Significance of Effect			
High	Minor	Moderate	Major	Major
Medium	Negligible	Minor	Moderate	Major
Low	Negligible	Negligible	Minor	Minor ¹
Imperceptible	Negligible	Negligible	Negligible	Minor
Importance ►	Lesser	Local	Regional	National

12.60 In terms of requirements of the EIA Regulations the following determinations have been made:

- For cultural heritage sites within the Proposed Development area, changes to baseline conditions of sites of lesser importance are all considered to be not significant. For sites of regional and local importance, direct moderate and major changes to baseline conditions are considered to be significant effects.
- For cultural heritage sites subject to indirect effects arising from visual intrusion of elements of the Proposed Development upon their setting, effects on sites of local importance are considered to be not significant. For sites of regional and national importance, high and medium magnitude changes to baseline conditions are considered to be potentially significant effects.
- At distances greater than 10 km, the indirect, visual effects of the wind farm on the settings of sites of national and regional importance are judged to be neutral.
- All low magnitude effects are considered to be not significant.

Limitations of assessment

12.61 The vegetation cover of the Proposed Development study area has had an impact on the feasibility of identifying archaeological features during field survey. Areas covered in dense heather and peat bog proved particularly problematic for identifying low-relief features.

Baseline Conditions

Context

12.62 This section considers the known cultural heritage resource within and in the vicinity of the Proposed Development.

12.63 Thirty six sites have been identified within the Proposed Development study area boundary (Figure 12.1). These include lithic scatters, areas of prehistoric clearance cairns and associated field systems, likely to be of Bronze Age date; a variety of sites which are associated with agricultural and rural settlement activity of medieval and later date; and the remains of a 20th century military firing range.

¹ A non-material change to baseline conditions cannot by its nature lead to a significant effect. A significant effect arises from a material change to baseline conditions. This distinction explains why this particular significance assessment finding is not ‘moderate’

12.64 Numbers in brackets in the following text refer to site numbers annotated on Figures 12.1 – 12.3, listed in Table 12.5, and detailed in Appendices 12.1 and 12.2.

Designations

12.65 There are no scheduled monuments within the study area, but there are three sites that are included on the Non-Statutory Register of Schedulable Monuments (NSR) and classified as being probably (code V) of national importance. These lie in the southern part of the study area and, for the purposes of the assessment, are treated as scheduled sites (i.e. they are considered to be of national importance).

12.66 A total of 61 SAMs (six of which are also listed buildings – one Category A and five Category B), 11 other Category A Listed Buildings and 101 other Category B Listed Buildings, three Historic Gardens and Designed Landscapes and four Conservation Areas lie within 15km of the Proposed Development site and are potentially intervisible with Proposed Development features. There are a further 11 HGDLs within 30km of the Proposed Development that are potentially intervisible with the Proposed Development features.

The Proposed Development Study Area

INTRODUCTION

12.67 Fifteen of the sites identified within the Proposed Development study area are recorded in the NMRS, of which 14 are also recorded in the SMR. The SMR also provided records of five sites not yet included in the NMRS. One site was identified from historic maps and one possible site from examination of vertical aerial photographs.

12.68 Fourteen sites not yet recorded in either the NMRS or SMR were identified through field survey in 2005.

12.69 Appendix 12.1 contains details of the sites identified by the study within the Proposed Development study area and an indication of the relative importance of each. The following sections describe and discuss the sites by period and function or type. All reference numbers relate to the referencing in Technical Appendix 12.1 and 12.2.

PREHISTORIC SITES

Introduction

12.70 Nineteen sites of prehistoric or possible prehistoric date have been identified during the assessment, all of which are of local, regional or national importance. The sites are predominantly related to farming and settlement activity and include scatters of flint tool-making waste and piles of stones created during clearance of the land for cultivation. At least one certain and three possible burial mounds are also present. The majority of these features probably belong to the prehistoric period, when the climate was more temperate and cultivation and settlement on what is now marginal land were possible.

Lithic scatters

12.71 Three lithic scatters have been identified in a fairly tight group on the south-eastern slopes of Black Birn (12, 13 and 15) and five others are recorded nearby (93, 94, 107, 108 and 111). Their presence

was detected due to ploughing of small fields for turnip cultivation in this area. A small, squat flint flake found at 13 is likely to be of later prehistoric date (possibly Bronze Age). Similar squat flakes were recovered from 15, but this larger assemblage also contained two blades and some possible microliths, which may indicate a Mesolithic or Neolithic component, although no patination was evident on any of the pieces. Two other lithic find-spots (93 and 94) contained material of a similar, Early Neolithic date. This material may be associated with other buried archaeological remains. A further lithic scatter (112), close to the Darby Burn at South Tarbrax, and two others (109 and 110), found in close association with groups of small cairns, suggests a strong possibility that additional similar or associated sites are likely to be present within the Proposed Development area.

Field systems

12.72 The assessment has identified four areas of prehistoric field systems and cairns (99, 105, 109 and 110), all located in the southern part of the Proposed Development study area at Lingy Knowe. Most of the cairns are well-preserved under a thin covering of heather and grass are part of a wide distribution of such features in this general area at the southern end of the Pentland Hills and part of an extensive relict prehistoric landscape.

MEDIEVAL OR LATER RURAL SETTLEMENT, LAND MANAGEMENT AND ASSOCIATED SITES

Enclosures

12.73 A possible square enclosure was identified through examination of aerial photographs (19) but was not found during field survey; possibly due to the nature of the dense tussocky grass and heather vegetation cover. A possible sheepfold (100) and a sub-rectangular enclosure (103) are located on Lingy Knowe close to the A70 road.

Routeways

12.74 A trackway (74), which appears on the first edition OS map of 1864 (but not on Forrest's map of 1816), crosses the southern part of the site on a north-west to south-east alignment, extending from the A70 in the west to Little Sparta at the eastern end. It is now marked as a public right of way and is probably an historic routeway.

Miscellaneous

12.75 An area of former peat-cutting was identified on Shields Rig (98). Another possible area of peat cutting (20), consisting of two amorphous U-shaped cuttings with central water-filled channels, was also identified, but this could equally well be an area of quarrying or a natural feature.

12.76 A small sub-rectangular hollow of indeterminate function (14) was identified during an earlier field survey (Dunwell, 1994). It was not identified during field survey for the current project and may have been destroyed by ploughing in this area or it may simply be too vestigial to show clearly under the vegetation conditions at the time of the survey. A shepherd's cairn (16) is located on the summit of Harrows Law. The remains of a substantial field bank (92) were identified to the north of the Adder Burn, close to South Tarbrax Farm. In this same general area, close to the A70 are two clearance cairns, a short section of old trackway and

a small quarry (95). A further field clearance cairn (104) is recorded close to the A70 near Dykefoot Farm.

QUARRIES AND INDUSTRIAL SITES

12.77 Seven stone quarries were identified and recorded during the field survey. Six are bowl-shaped, circular or oval scoops with one entrance and undulating floors where spoil has been deposited (22, 91, 96, 101, 102 and 106). These range in size from c.3m to c.30m in diameter and were probably excavated for material to construct drystone walls and other field boundaries. One rectangular quarry pit (11) is probably modern.

MODERN SITES

12.78 On Twin Laws, two identical upright wrought iron frameworks (18) were identified on either side of a broad gully. They are 1.2 m high and the posts are U-shaped in section with opposing circular holes 20 cm from the top. This pair of structures is the remains of a wartime aerial target range. A substantial concrete building (21) on the summit of Seat Hill is a WWII observation post associated with the range (18).

12.79 Modern grouse butts are a common feature across this landscape and have not been recorded, but two structures, which are possible early examples of grouse butts, were recorded. One (75) consisted of a well-built circular turf and stone bank defining an open area c.4m in diameter, which was open to the north. A small square drystone structure (10) was identified attached to the remains of a drystone boundary wall, into which it appears to have been originally built. The site is listed on the SMR as a building, but its small size and remote location attached to a boundary wall suggest that it may be an early grouse butt. A sheepfold (97), depicted on modern OS maps but not on the OS 1st Edition map, was not visible on the ground and no trace of its former position was detected by the field survey.

CONCLUSIONS: LANDSCAPE ISSUES

12.80 Several key areas of archaeological remains were identified during the assessment.

12.81 In the area around South Tarbrax and close to the Adder Burn, to the west of the Proposed Development there are several records of lithic scatters (92, 93, 94, 112). Two additional lithics find-spots were identified by the present study (12-13) close to the north bank of the Adder Burn. These new sites were both found in areas which had been recently ploughed, and it is considered that there is a high probability that others exist elsewhere in the vicinity. The NMRS records that there are numerous further records of lithic find-spots in the vicinity of the Proposed Development: to the West, around South Tarbrax and Dykefoot Farms (107, 108); to the South, around Newbigging and Weston Farm; and to the East, around the Salla Burn. There are also numerous burial cairns of Neolithic and Bronze Age date in the surrounding area.

12.82 In the southern part of the study area, field clearance cairns (99, 105, 109, 110) representing the remains of prehistoric field systems have been recorded at Lingy Knowe. Also in this area is a large enclosure (100), latterly possibly used as a stock enclosure but which may be an enclosure of earlier date, perhaps of prehistoric origin.

12.83 Taken together the presence of lithic scatters and field systems of prehistoric date suggest that there is a high potential for the presence of additional, buried remains of archaeological significance within the Proposed Development area.

External receptors

12.84 There are 63 SMs (including three which are also listed buildings – one category A and three category B listed); 24 NSR sites; 12 other category A and 107 other category B Listed Buildings; one Garden / Designed Landscape; and four Conservation Areas within 15km of the Proposed Development site that are potentially intervisible with proposed wind turbines. There are many more cultural heritage features with statutory protection present within the wider landscape around the Proposed Development, but the ZTV indicates that they would not be intervisible with the proposed wind turbines.

12.85 The list of SAMs and NSRs, provided in Appendix 12.2, shows that there are numerous prehistoric funerary, or ritual monuments, forts of probable prehistoric or Early-Historic date and sites of prehistoric settlement present within a 15 km radius of the proposed turbines. There are also Roman military sites, defensible settlements of early historic and medieval date and enclosures or earthwork sites of undetermined function and sites of more recent periods, including former coal mining. A scan of the NMRS also identified at least 16 find-spots of lithics and stone tools within approximately 10km of the southern half of the Proposed Development.

12.86 The Listed Buildings, Gardens and Designed Landscapes, and Conservation Areas are all of medieval or later date and provide an additional range of features relevant to an appreciation of the time depth of the settlement of this landscape.

12.87 From the available records it is clear that the wider landscape within which the Proposed Development would sit has been the focus for settlement since at least the Neolithic period and contains numerous significant archaeological sites from many periods.

Modifying influences

12.88 The current land-use of the area is largely as sheep pasture and grouse moorland. These activities alone are unlikely to have any significant damaging effect on the cultural heritage sites and features recorded. However, small areas of ploughing for turnip and oat cultivation are present in the northern third of the Proposed Development study area and these have revealed the presence in the area of lithic scatters, turned up by ploughing. Areas of small conifer (Christmas tree) planting are also present, and there has been recent excavation of drainage channels in many places and the construction of moorland access tracks. All of these activities have the potential to damage or destroy vestigial and fragile archaeological remains both now and in the future.

Summary

12.89 Thirty-six sites have been identified within the Proposed Development study area. These include areas of later prehistoric field systems, prehistoric lithic scatters, and areas of probable medieval or later settlement and enclosure.

Effects Evaluation

Basis of assessment

DEVELOPMENT CHARACTERISTICS

- 12.90 The Proposed Development will consist of 17 turbines, two anemometer masts, connecting access roads and buried cables, which would mainly follow the same alignments, a construction compound and laydown area, an electrical sub-station and two borrow pits. A detailed description of the Proposed Development is provided in Chapter 4 Description of Development.
- 12.91 Any ground-breaking activities associated with the construction of Proposed Development features (such as turbines bases and crane stances, access tracks, cable routes, etc) have the potential to disturb or destroy features of cultural heritage interest. The creation and extension of borrow pits to extract road construction materials could have similar direct effects. In addition, other construction activities, such as vehicle movements, and soil and overburden storage have the potential to cause adverse direct effects on the cultural heritage. The presence of development features may also have indirect effects on the setting of sites of cultural heritage interest.
- 12.92 Through an iterative design process, the layout presented in this ES takes account of comments received from statutory consultees following the submission of the 2005 application. In particular, the current layout takes into account concerns raised by WoSAS with respect to the impact on the settings of cultural heritage sites and features in the near vicinity, as far as is practical within the constraints imposed by other environmental and engineering interests.
- 12.93 No additional effects are expected during the decommissioning and post decommissioning stages of the wind farm, assuming that the same road infrastructure is used for the dismantling and removal of the built features of the Proposed Development.

ASSUMED DESIGN, MANAGEMENT AND MITIGATION MEASURES

- 12.94 SPP 23 and PAN 42 provide national planning policy guidance and advice on the treatment of the cultural heritage resource. PAN 42 indicates that the principle that should underlie all planning decision-making is preservation of cultural resources, in situ where possible, and by record if destruction cannot be avoided. It is recognised in the document that preservation may not always be possible, and where damage is unavoidable various mitigation measures may be proposed. Proposed mitigation measures are described in further detail below.

Effects on sites within the Proposed Development study area

- 12.95 The assessment of predicted effects was carried out with reference to the design layout shown on Figure 4.1. Using the assessment criteria detailed in Section 12.48 -59 above, Table 12.5 lists the predicted effects of the Proposed Development on cultural heritage sites identified within the study area as indicated on Figure 12.1. No effects are predicted in relation to 31 of the 36 sites identified as a result of the embedded avoidance mitigation incorporated into the Proposed Development layout; only those sites for which effects have been predicted are listed in Table 12.5.
- 12.96 Direct effects are predicted in relation to two sites of lesser importance.
- 12.97 Indirect effects are predicted in relation to three NSR sites deemed to be of national importance.

Table 12.5. Predicted effects on cultural heritage features within the Proposed Development study area.

Ref No (Fig 12.1)	Site	Effect type	Site importance	Effect magnitude	Significance of effect
96	Quarry pits	d, a, p, ir	Lesser	High	Minor
98	Peat cutting	d, a, p, ir	Lesser	Imperceptible	Negligible
99	Field clearance cairns	i, a t, r	National (NSR)	Low	Minor
100	Enclosure (possibly prehistoric)	i, a t, r	National (NSR)	Low	Minor
105	Field clearance cairns	i, a t, r	National (NSR)	Low	Minor

Key – d, direct; i, indirect; a, adverse; p, permanent; t, temporary; ir, irreversible; r, reversible

DIRECT EFFECTS

- 12.98 The proposed site access track would follow the route of an existing moorland access track from its junction with the A70 Edinburgh to Lanark road. Upgrading work would result in the loss of two small quarry pits (96) adjacent to the existing track. The effect would be of high magnitude and minor significance.
- 12.99 An area of relict peat cutting (98) coincides with the location of the borrow pit (BP 1) on Shields Rig and is likely to receive a direct, adverse and permanent effect from the operation of the borrow pit. The peat cutting covers an area approximately 40m square on the north side of the existing estate track at this location and is of lesser importance. The proposed operation of the borrow pit on Shields Rig would impinge on the northeastern part of the peat cuttings. The predicted magnitude of effect is assessed as being low, on the basis that the only part of the relict peat cuttings would be affected and the loss of this feature (which is of lesser cultural heritage interest) would be of minor significance.

MITIGATION MEASURES

- 12.100 The predicted direct effects on two quarry pits (96) and an area of peat cutting (98) would be non-significant and it is envisaged that no mitigation would be required in respect of these sites.

INDIRECT EFFECTS

- 12.101 Three NSR sites, consisting of two groups of prehistoric field clearance cairns (99, 105), and a possible prehistoric enclosure (100) have been identified within the southern part of the Proposed Development study area, on the slopes of Lingy Knowe. The clearance cairns are part of a well-preserved relict prehistoric field system covering the south and west slopes of Horse Law with an open aspect to the south and west across the floodplain of the North Medwin river (a tributary of the River Clyde). These sites collectively lie within an area that is

used for the commercial growing of Christmas trees. Whilst the individual features have been preserved within the planting, they are to some extent visually isolated from each other and their original setting has been modified accordingly.

12.102 The proposed wind turbines would occupy the higher ground to the north of this group of sites; the closest turbine being approximately 2 km north of the group (Figure 12.1). A wireframe visualisation provided from the location of Site 100 (Appendix 12.3 Figure 12.4; 11169 – Seat Hill sheepfold (possible) and small cairns) provides a representative view from this location, which shows that the hubs of 11 turbines and the blade tips of six others would be visible beyond the near horizon formed by the shoulder of Seat Hill. Applying the methodology for the assessment of impact on setting (see Table 12.5) the impact on the setting of this group of features is assessed as being of low magnitude, resulting in an effect of minor significance.

12.103 Although the turbines would be partly visible beyond the skyline from this location, WoSAS has expressed to view that the separation distance is sufficient to mitigate the visual impact on the setting of this and other NSR sites in the vicinity.

MITIGATION MEASURES

12.104 During the design stages for the proposed wind farm the sensitivity of the archaeologically significant remains around Horse Law has been recognised and, following consultation with WoSAS, the present layout has been designed to minimise the impact on this group of sites and those associated sites to the south, around Horse Law (see wirelines Figures 12.4 and 12.5). This change in the design of the wind farm has been recognised by WoSAS (Consultation meeting 23 July 2009) as reducing the impact to an acceptable level.

POTENTIAL EFFECTS

12.105 The recorded presence of lithic scatters in proximity to the Adder and Darby Burns (12, 13, 15, 93, 94, 107, 108, 111 and 112) and lithics find-spots and field clearance cairns (99 and 105) and an enclosure of probable prehistoric date (100) on Lingy Knowe has highlighted the potential for the discovery of other, hitherto unknown prehistoric sites within the Proposed Development study area.

MITIGATION MEASURES

12.106 It is considered probable that there are buried remains awaiting discovery elsewhere within the Proposed Development area. It is therefore proposed that mitigation measures would be undertaken to ensure that any such remains are recorded. The measures could include:

- further field walking at the locations of development features;
- test pitting along proposed access tracks and at turbine and borrow pit locations;
- trial trench evaluations; and/or
- further archaeological responses as appropriate including archaeological monitoring and/or watching briefs.

12.107 All mitigation proposals would be agreed in advance with WoSAS, presented for approval by the planning authority in one or more Written Schemes of Investigation (WSIs), and carried out prior to and during the construction of the proposed development, as appropriate. The WSIs would make

provision for appropriate post-excavation analyses and dissemination of the results of the mitigation works, as well as for archiving of the project materials and records.

12.108 Taking into account the proposed mitigation, the impact of the proposed wind farm on the archaeological resource would be offset by the recovery of archaeological information on any sites or features that cannot be preserved in situ. The resulting residual effect on the archaeological resource is therefore assessed as being not significant.

Effects on key external receptors

12.109 The assessment of predicted effects on external receptors was carried out in the following manner:

- The lists of sites with statutory protection (SMs, LBs and GDLs) within 32km of the preliminary assessment area (NT 05 52) provided by Historic Scotland was compared with the blade tip ZTV model, provided by SLR Consulting.
- Sites lying within 15 km of the turbine layout shown on Figure 12.1 and predicted to be intervisible with one or more turbines were identified using the blade tip ZTV. Sites beyond 15km of proposed turbines are considered to receive a non-significant effect as PAN 45 indicates that beyond 15 km a wind farm would be seen only in clear visibility as a minor element of the landscape. Those sites with no predicted visual link to the proposed turbine layout were excluded from further consideration.
- At distances greater than 10 km, the indirect, visual effects of the construction of the wind farm on sites of national and regional importance are judged to be neutral and the magnitude of effect to be imperceptible. PAN 45 indicates that at such a distance a wind farm would only be prominent in clear visibility and seen as part of the wider landscape. Such effects are considered to be non-significant.
- A judgement was then made as to whether or not individual sites can be considered to have a setting issue in respect of the nature of the Proposed Development, based on whether long-distance landscape views are either integral to the site's original function or are appropriate to an understanding of the site or an appreciation of the its current landscape location.

12.110 Using the assessment criteria set out above (12.29 – 12.59), the final column in Appendix 12.2 provides a summary of the predicted effect of the proposed wind farm on the settings of the nationally and regionally important cultural heritage sites within 15 km and that have a predicted view of the proposed turbines, based on the ZTV.

12.111 None of the predicted effects are considered to be significant.

SCHEDULED MONUMENTS AND NSR SITES

12.112 Thirty-eight SMs would receive effects on their settings that are judged to be potentially adverse in nature. Twenty-one of those effects would be of low magnitude and minor significance. Twenty-five SMs would receive effects that are judged to be neutral in nature and of imperceptible magnitude.

12.113 Ten NSR code C sites would receive effects on their settings that are judged to be potentially adverse in nature. Four of these are considered to be of low magnitude and six

of imperceptible magnitude. Fifteen NSR code V sites would receive effects on their settings that are judged to be potentially adverse; 11 of low magnitude and four of imperceptible magnitude.

12.114 The nearest SMs and NSR sites to the proposed wind farm include a group of related monuments to the south of the wind farm, between Wester Yardhouses, in the west, and Dunsyre Hill, to the east. The group (Figure 12.2) includes burial monuments (of Neolithic and Bronze Age date) and hut-circles and field systems of later prehistoric date. These monuments occupy the south facing slopes at the southern end of the Pentland Hills, overlooking the broad valley of the South Medwin and the River Clyde and are associated, constituent parts of a prehistoric archaeological landscape. The nearest proposed turbines would be more than 2 km from the closest archaeological monuments (those on Lingy Knowe -11169, 11173 and 11174; ES refs 99, 100 and 105) and WoSAS has accepted that the effect on the setting of the group of monuments as a whole would be not significant. The turbines would be partially visible beyond the skyline from some of the individual sites (see wirelines – Figures 12.4 and 12.5) although in one case, the cairn (11049) on summit of Horse Law (wireline – Figure 12.5 b), the whole wind farm would be visible .

LISTED BUILDINGS

12.115 Twelve category A listed buildings would receive effects on their settings that are judged to be neutral in nature; all are considered to be of imperceptible magnitude and minor significance.

12.116 One hundred and seven category B listed buildings would receive effects on their settings judged to be neutral in nature. One of these, on the Black Law Covenanters monument (643) is judged to be of low magnitude and minor significance (see viewpoint 8 in the Landscape and Visual Assessment; chapter 7); all others are judged to be of imperceptible magnitude and negligible significance.

CONSERVATION AREAS

12.117 Three conservation areas would receive effects on their settings considered to be neutral in nature and not significant. Viewpoint 17 shows the visibility of the proposed turbines from Carnwath, the nearest conservation area to the Proposed Development.

GARDENS AND DESIGNED LANDSCAPES

12.118 There is only one Garden / Designed Landscape within 15 km of the Proposed Development from which there are predicted views of the proposed wind turbines.

12.119 Harburn House is approximately 6 km to the north of the Proposed Development and the ZTV indicates that there are theoretical views of up to 17 turbines from within the boundary of the site. The Inventory records that Harburn is completely enclosed by woodland belts; as a result of which views out to the surrounding landscape are very much restricted. The main (north) approach to the house is contrived and laid out to take advantage of the natural topography so that there are only occasional views of the house in its parkland setting; as one progresses, they disappear before arrival at the east front. The south drive enters the estate from the B7008 at Harburnhead and leads across the south park, to the east of the woodland garden, to arrive at the east front of the house. Harburn House is oriented with views from the principal, front, elevation being to the southeast, over parkland dotted with mature trees, while the rear elevation provides views north-westwards over a small lake and tree dotted parkland. Taking the setting and orientation of the house and the limited

scope for views outwards from the policies into account, the predicted effect on the setting of Harburn House GDL is judged to be of imperceptible magnitude and minor significance.

12.120 Little Sparta is a sculpture garden designed by the renowned Scottish artist Ian Hamilton-Finlay which lies approximately 4km to the south of the nearest turbine. The turbines would not be visible from the garden, thereby avoiding any visual impact on its setting. Views from within and around the gardens at Little Sparta towards the proposed turbines would be entirely screened by the intervening topography. Further discussion of this site can be found in the Landscape and Visual Assessment (Chapter 8).

Cumulative Effects

12.121 Cumulative effects on the cultural heritage resource result from changes to the baseline setting of the resource caused by the proposed development at Harrows Law in conjunction with other developments that occurred in the past, present or are likely to occur in the foreseeable future (cf Landscape Institute 2002, 85).

12.122 There are 14 additional wind farms within a 30km radius of the proposed Harrows Law development (Figure 12.6). These are Auchencorth Moss (18 turbines), Birniehill (3 turbines, submitted), Black Law (62 turbines, operational), Black Law extension (23 turbines submitted), Bracco (3 turbines, submitted), Glenkerie (11 turbines, consented), Greendykeside (2 turbines, operational), Greengairs (9 turbines, consented), Hartwood (12 turbines, submitted), Lochhead (3 turbines, under construction), Lochhead extension (2 turbines, submitted), Muirhall (6 turbines, consented), Pates Hill (7 turbines, under construction) and Tormywheel (15 turbines, consented). Five of these: Black Law and Black Law extension (85 turbines), Muirhall, Pates Hill and Tormywheel lie within the 15km viewshed of the Harrows Law proposal (Figure 12.6) and it is in combination with one or more of these that cumulative impacts are most likely to arise. Cumulative ZTV maps were provided in GIS format and have been used to determine where receptors listed in Appendix 12.2 as being intervisible with the Harrows Law proposal would also have theoretical intervisibility with one or more of these other developments. This data is tabulated in Appendix 12.3

12.123 Cumulative 360° wirelines were provided by the Landscape and Visual consultants (SLR Consulting Ltd) from four key receptor locations: Dunsyre Cairn & field system (3370); Harwood House (14215); Kersewell Mains Cairn (4663); and Westeryardhouses cairn (11231), in order to demonstrate the visibility of the Harrows law turbines viewed together with the other wind farms in the vicinity. These receptors were selected on the basis that they are amongst those sites expressly identified by Historic Scotland and WoSAS as requiring assessment for impacts on their settings; they are also representative of the views that would be obtained from other, nearby sites and monuments. Cropped versions of these (180° view angle) are presented in Figures 12.7 - 12.8.

12.124 The cumulative wireline from Dunsyre Cairn & field system (3370) shows that 13 of the 14 other wind farms would be visible from that location within a 360° arc of view. The closest of these, other than Harrows law, would be Muirhall (6 turbines), 7.5 km distant (Figure 12.7a). The cumulative visual impact is assessed as being of low magnitude and minor significance.

- 12.125 The cumulative wireline from Harwood House (14215) shows that two of the 14 other wind farms (Muirhall and Pates Hill) would be visible from that location within a 40° arc of view towards the southwest. The nearest (Pates Hill, 7 turbines) would be 5.3 km distant (Figure 12.7b). The cumulative visual impact is assessed as being of imperceptible magnitude and minor significance.
- 12.126 The cumulative wireline from Kersewell Mains Cairn (4663) shows that two of the 14 other wind farms (Muirhall and Glenkerie) would be visible from that location within a 360° arc of view. The closest of these, other than Harrows law, would be Muirhall, 5 km to the north northwest (Figure 12.8a). Glenkerie would be 21 km distant, to the south southeast. The cumulative visual impact is assessed as being of imperceptible magnitude and minor significance.
- 12.127 The cumulative wireline from Westeryardhouses cairn (11231) shows that eight of the 14 other wind farms would be visible from that location within a 360° arc of view. The nearest (Muirhall) would be 3.1 km distant (Figure 12.8b). The cumulative visual impact is assessed as being of low magnitude and minor significance.
- 12.128 The cumulative assessment concludes that the addition of the Harrows Law wind farm to a landscape that contains 5 other wind farms within 15 km (including Black Law and Black Law extension, 85 turbines), would not significantly alter the baseline setting of cultural heritage resources identified by this study.

Summary

- 12.129 Thirty-six sites of cultural heritage interest have been identified by the assessment within the boundary of the Proposed Development area depicted on Figure 12.1, using a range of desk-based sources, consultations and a field reconnaissance survey. No significant effects have been predicted on these sites. It is considered probable that additional, buried and unrecorded remains of archaeological interest, especially of prehistoric date, survive within the Proposed Development area. A programme of mitigation works would be proposed in a WSI and agreed with the local authority to ensure that any such sites were recorded.
- 12.130 Two hundred and twelve key cultural heritage receptors have been identified within 15km of the Proposed Development, including a range of Scheduled Monuments and Listed Buildings. In no case would the settings of these receptors be affected significantly by the construction and operation of the proposed wind farm.
- 12.131 Cumulative visual impacts have been assessed and it is concluded that there would be no significant adverse effects on the settings of any of the key cultural heritage receptors arising from the proposed Harrows Law when considered together with other wind farms (operational, consented and submitted) in the wider area.
- 12.132 No significant residual effects are anticipated in relation to cultural heritage interests and the development proposals are considered to conform to the aims of national, regional and local planning policy as regards cultural heritage.

References

Aerial photographs

Sortie	Frames	Date	Scale	Lib ref
106G/Scot/UK 84	3105-3107 4104-4108	10.05.1946	1:10,000	B155
541/A/468	4131-4126 3133-3128	26.04.1949	1:10,000	B264
106G/Scot/UK 77	4173-4169 3181-3177	10.05.1946	1:10,000	B8
51388	056, 058	10.06.1988	1:24,000	C273
51488	180, 182	14.06.1988	1:24,000	C274

Historic maps

- Forrest W (1816) The County of Lanark from actual survey
- Ordnance Survey First Edition (1853) Lanarkshire. Sheet 16: 6" to 1 mile
- Ordnance Survey First Edition (1864) Lanarkshire. Sheet XXI: 6" to 1 mile
- Roy W (1747-54) A Military Survey of Scotland: Sheet 06/05
- Ross C (1722-1806) A map of the shire of Lanark
- Thomson J (1832) Northern part of Lanarkshire

Bibliography

- RCAHMS (1978) Lanarkshire: an Inventory of the Prehistoric and Roman Monuments.
- The Statistical Account of Scotland 1791-99 Vol 1 337 Parish of Dunsyre.
- Tweeddale Local Plan 1996 Para 6.1 (List of Conservation Areas).
- Upper Clydesdale Local Plan 1996 Para 6.6 (List of Conservation Areas).
- West Lothian Local Plan 2001 Para 4.36 (List of Conservation Areas)

12 CULTURAL HERITAGE AND ARCHAEOLOGY

Appendix 1 Sites within proposed wind farm site boundary

Ref No (Fig 12.1)	NMRS No / HER No	NGR	Source	Class	Description / baseline	Importance
10	51220	NT 0496 5462	HER; Field survey	Building: Grouse butt (possible)	The HER records a building at this location. Field survey (CFA 2004) identified the remains of a small, square drystone walled structure measuring 1.5m by 1.5m built into a drystone boundary wall. The structure may be an old grouse butt.	Local
11		NT 0496 5462	Field survey	Quarry	Field survey (CFA 2004) identified a modern rectangular quarry measuring 30m long east - west by 10m wide and 2m deep.	Lesser
12	51221	NT 0477 5377	HER	Lithic scatter	The HER records that worked chert and quartz was recovered over an area of approximately 2000m ² , around the head of a spring at NT 0477 5377 (marked as 'cistern' on Ordnance Survey maps).	Local
13		NT 0496 5380	Field survey	Lithic findspot	Field survey (CFA 2004) discovered a single flint flake in an area recently ploughed and planted with a turnip crop. This find-spot lies slightly to the northeast of lithic scatter (15).	Local
14	NT05SW 76 / 19052	NT 049 538	NMRS; HER	Indeterminate remains (hollow)	The NMRS records a sub-rectangular hollow, measuring 6m by 2m by 0.2m deep; date and function unknown as recorded during field investigation as part of an environmental assessment for a proposed windfarm site (Dunwell 1994). This field survey could not re-locate this feature. The general area in which the site was originally found has been ploughed in recent years and a number of small informal fields planted with turnips and oats have been established.	Unknown
15		NT 0500 5375	Field survey	Lithic scatter	Field survey (CFA 2004) discovered a concentration of flint knapping debris covering an area approximately 10m in diameter in an area that had been lightly ploughed or harrowed and planted with turnips. The assemblage contains a few possible blades and is of possible Mesolithic/Neolithic date.	Local
16	NT05SE 10 / 19051	NT 0548 5305	NMRS; HER	Shepherd's cairn	The NMRS records a shepherd's cairn situated on the summit of Harrows Law. This is one of six shepherd's cairns recorded in the area during field investigation as part of an environmental assessment for a proposed windfarm site (Dunwell 1994) (others noted on NT05SE 6-9). The cairns are composed of stacked piles of large stones and measure up to 2m across and 1m high. None is indicated on the 1st Edition Ordnance Survey coverage of 1864, although some are present on the 2nd Edition Ordnance Survey coverage of 1912, suggesting that these monuments are of no great antiquity.	Local
18		NT 0398 5226 NT 0399 5231	Field survey	Firing range target framework	Field survey (CFA 2004) identified two identical wrought iron framework structures situated on either side of a broad gully on Twin Laws. Each comprises an upright U channel 1.2m high with opposing circular holes 35mm in diameter 20cm from the top. The local landowner advises that these posts are the remains of the support framework for a military firing range target associated with the observation post on Seat Hill (21).	Local
19		NT 040 520	Aerial photos	Enclosure (possible)	A possible square enclosure is visible on 1946 vertical aerial photos. Field survey (CFA 2004) could find no visible remains on the ground in this area.	Local
20		NT 0369 5194	Field survey	Quarry (possible) / peat cuttings (possible)	Field survey (CFA 2004) identified 2 amorphous U-shaped cuttings each 20m long by 10m wide and 1m in depth with a central drainage channel. These features are possibly quarries or peat cuttings.	Lesser
21		NT 0369 5181	Field survey	Observation post	A square building is shown on modern ORDNANCE SURVEY maps. Field survey recorded a rectangular concrete building, 8m long north – south by 7m wide and c.3.5m high, currently used as a stock shelter. The local landowner advises that this structure was built as a WWII observation post for a military firing range of which (18) is the support framework.	Local
22		NT 0490 5220	Field survey	Quarry	Field survey identified a roughly oval bowl-shaped quarry, 10m long east – west by 8m wide and 1.5m in depth with an entrance to the south.	Lesser
74		NT 0267 5130 – 0512 4900	Ordnance Survey 1st Edition; Field survey	Trackway	This track is marked on the Ordnance Survey 1st Edition map running from Stonypath to the A70 and beyond. The track does not appear on Forrest's map of 1816, although an adjoining track (not depicted on the Ordnance Survey 1st Edition) running along the Westruther Burn from Burngrange in the south-west does.	Local

Ref No (Fig 12.1)	NMRS No / HER No	NGR	Source	Class	Description / baseline	Importance
75		NT 0359 5285	Field survey	Grouse Butt (possible)	Field survey (CFA 2004) identified the remains of circular Grouse Butt 4m in diameter comprising a circular turf and stone bank 1m wide by 0.4m high. The bank is an incomplete circle with an opening to the north and the Darby Burn.	Local
91		NT 0279 5123	Field Survey	Quarry	Field survey (CFA 2004) located an excavated oval hollow measuring 8m east - west by 4m wide and 2m deep alongside a track (30).	Lesser
92	19053	NT 0380 5361	Field Survey	Field Bank	Field survey (CFA 2004) located a substantial linear turf bank running south from a modern field boundary fenceline. The extent of the bank was not determined, as it extends southwards well outside the survey area. At its junction with the modern fenceline the bank is 2.5m wide and up to 0.7m high. The bank is not visible underlying the modern fence, but a ditch is present on the east side of the fence. It is possible that the bank may have originally have followed the modern fence alignment.	Local
93	NT05SW 82 / 40841	NT 036 537	NMRS; HER	lithics find-spot	The NMRS records that a small collection of prehistoric flints was found by members of the Lanark and District Archaeological Society through field-walking in a small field opposite the farm of South Tarbrax. Early Neolithic flints were recovered including a small blade, an arrowhead tip and a large damaged arrowhead. A piece of worked cannel coal was also found.	Local
94	NT05SW 83 / 40840	NT 038 538	NMRS; HER	lithics find-spot	The NMRS records that a small collection of prehistoric flints was found by members of the Lanark and District Archaeological Society through field-walking in a field adjacent to the main Edinburgh road which had been recently planted for grass. Most of the recovered artefacts are of flint with only a couple of pieces of worked quartzite being found. A small leaf-shaped arrowhead of calcined flint was discovered along with a scraper. The only other object of interest is a flake off a polished stone axe. These items fit well into the Neolithic period.	Local
95		NT 0367 5390	Field survey	Clearance cairns; Quarry; Track;	Field survey (CFA 2004) identified two clearance cairns (one measuring 6m by 4m by 0.6m high and the other 3m by 2.5m by 0.5m high) and a small quarry pit. Close by is a short section of farm track, 3m wide and revetted with stone on its east side, which passes through a field gate.	Lesser
96		NT 0383 5368	Field survey	Quarry pits	Field survey (CFA 2004) identified two small quarry pits adjacent to an existing track. One measures 7m by 7m by 1m deep and the other 6m by 4m by 1m deep.	Lesser
97		NT 0390 5377	Modern Ordnance Survey map	Sheepfold (site of)	A sheepfold is depicted on modern Ordnance Survey map coverage but is not shown on the Ordnance Survey 1st Edition map. No remains of the sheepfold were identified by the field survey.	Lesser
98		NT 0429 5372	Field survey	Peat cutting	Field survey (CFA 2004) identified an area of peat cutting covering an area approximately 40m by 40m and up to 1m deep.	Lesser
99	NT05SW 9 / 11174	NT 025 517	NMRS; HER;	Field clearance cairns	The NMRS records that a survey by RCAHMS in 1976 identified the remains of an earthen barrow, preserved as a circular grassy mound 4.6m in diameter and 0.3m high, enclosed by the intermittent traces of a ditch about 0.6m wide and 0.1m deep, lying approximately 550m east-northeast of the point where the road crosses the Boston Burn. Also recorded were at least fifteen small cairns, oval or round on plan, which measure from 2.4m to 4.6m across and seldom over 0.3m in height.	National [NSR code V]
100	NT05SW 4 / 11169	NT 0271 5178	NMRS; HER; Aerial photos;	Enclosure (possibly prehistoric)	The NMRS and HER record a large circular earth-and-stone banked enclosure, 42.0m in diameter with an internal ditch defined by reeds. The bank is 3.0m broad 0.5m high. In places a stone wall has been built on to the inside of the bank, but appears later than the original. It is this stone wall that had lead earlier authorities to consider the site to be a sheepfold of no great antiquity.	National [NSR code V]
101		NT 0276 5172	Field survey	Quarries	Two quarry scoops were identified by field survey approximately 40m southeast of an enclosure (100). One, at NT 0278 5173 measures 9m in diameter. The other at NT 0274 5171 measures 10m by 12m. Both lie close to the enclosure (100) and may have been used in the construction of its drystone wall.	Lesser
102	NT05SW 85 / 40715	NT 0270 5158	NMRS; HER; Field survey	Quarries (possible)	The NMRS records several probable quarries, two of which may have been associated with the construction of the nearby enclosure (NT05SW 4). Field survey identified two quarry pits close to the enclosure (100), at NGR NT 0275 5172, which may be those mentioned above. The largest measures 16m by 12m by 1m deep, the smaller is c.9m in diameter and 1m deep.	Lesser
103	50874	NT 0238 5201	HER; Field survey	Enclosure	Field survey identified the remains of a small enclosure adjacent to a dump of large stone blocks. The enclosure is roughly oval in form, built of drystone walls and has two compartments. The enclosure measures 12m long E-W by 8m wide overall, between walls c.1.5m wide and up to 0.4m high. The	Local

Ref No (Fig 12.1)	NMRS No / HER No	NGR	Source	Class	Description / baseline	Importance
					small eastern compartment is 3m wide by 8m long. There appears to be an entrance in the north wall.	
104	11172	NT 0294 5284	HER	Field Clearance Cairn	The HER records that in gently sloping moorland 740m east of Dykefoot farmhouse, and just over 40m southeast of the A70 road from Edinburgh to Carnwath there is a grass-grown stony mound which is circular on plan and measures about 5.2m in diameter and 0.5m in height. It is situated in pasture land which appears to have been cultivated in comparatively recent times and although possibly a cairn it is more likely to be a field clearance heap.	Local
105	NT05SW 8 / 11173	NT 0260 5232	NMRS; HER;	Small Cairns	The NMRS and HER record that an archaeological survey was carried out on c 61ha of land to the east of the A70, around 6 miles northeast of Carnwath in 2000. The survey confirmed the existence of a known group of six irregular stony mounds ranging from 2.5m to 4.0m in diameter and with a maximum height of 0.4m is situated in pasture land which appears to have been formerly cultivated (NT05SW 08). They are probably field clearance heaps rather than burial cairns. There is no evidence of lynchets or field banks.	National [NSR code V]
106	NT05SW 78 / 19054	NT 0347 5357	NMRS; HER;	Quarry	The NMRS and HER record a stone quarry measuring c 15m across by c 2.5m deep; bounded to the east by an upcast bank c 1m high. Probably recent in origin.	Lesser
107	NT05SW 83 / 22326	NT 0363 5366	NMRS; HER;	Lithic Scatter; Leaf-shaped Arrowhead	The NMRS and HER record that members of the Lanark and District Archaeological Society walked over a field adjacent to the main Edinburgh road which had recently been planted for grass. Most of the recovered artefacts are of flint with only a couple of pieces of worked quartzite being found. A small leaf-shaped arrowhead of calcined flint was discovered along with a scraper. The only other object of interest is a flake off a polished stone axe. These items fit well into the Neolithic period.	Local
108	NT05SW 82 / 22327	NT 0351 5352	NMRS; HER;	Lithic Scatter; Arrowheads; Cannel Coal	The NMRS and HER record that members of the Lanark and District Archaeological Society walked a small field opposite the farm of South Tarbrax. A small collection of prehistoric flints was found in the field, no worked quartz was found. The flints included a small blade, an arrowhead tip, and a large damaged arrowhead. The date of the assemblage is early Neolithic. Apart from the flints a piece of worked cannel coal was found.	Local
109	NT05SW 93 / 50875	NT 0250 5206	NMRS; HER;	Cairns; Lithic scatters	A survey of the area of upland rough pasture across the road from Dykefoot Farm was undertaken by the Lanark & District Archaeological Society. The land had been ploughed for the planting of Christmas trees. Prior to the ploughing a survey of the area had been conducted by Headland Archaeology (DES 2000, 85 - compartment 2). A variety of cairns were found, plus the ruins of one farmhouse as well as several flint/chert scatters.	Local
110	NT05SW 94 / 50876	NT 0235 5202	NMRS; HER;	Cairns; Lithic scatters	A survey of the area of upland rough pasture across the road from Dykefoot Farm was undertaken by the Lanark & District Archaeological Society. The land had been ploughed for the planting of Christmas trees. Prior to the ploughing a survey of the area had been conducted by Headland Archaeology (DES 2000, 85 - compartment 2). A variety of cairns were found, plus the ruins of one farmhouse as well as several flint/chert scatters.	Local
111	NT05SW 98 / 52393	NT 04599 53985	NMRS; HER;	Lithic	The SMR records the find-spot of a piece of worked grey chert. Reported by Lanark and District Archaeological Society (2004)	Local
112	NT05SW91	NT 035 530	NMRS	Lithic scatter	Pre-afforestation fieldwalking in May 2002, over fields which had been ploughed in preparation for planting, identified a localised lithic scatter at the head of a spring. A Mesolithic or Neolithic date is likely, although diagnostic artefacts were lacking.	Local

Appendix 2 External receptors within 15 km of proposed wind farm

Ref No	Site Description	Status	Importance	Easting	Northing	No of Turbine Tips Visible (max)	Distance to nearest Turbine (km)	Effect type	Impact Magnitude	Significance of Effect
1138	Camp Wood, Roman camp N of Cleghorn Station	SM	National	291123	646098	17	15.0	i, n, t, r	Imperceptible	Minor
1139	Castledykes, Roman fort, Corbiehall	SM	National	292909	644192	17	14.4	i, n, t, r	Imperceptible	Minor
1145	Carnwath Golf Course, motte	SM	National	297467	646624	17	9.3	i, a, t, r	Imperceptible	Minor
1153	Harperrig, cairn, East Cairn Hill	SM	National	312151	659580	5	8.2	i, a, t, r	Imperceptible	Minor
1165	Camilty Hill, enclosure, Harburn	SM	National	304922	659360	17	4.7	i, a, t, r	Low	Minor
1172	Kaimes Hill, fort	SM	National	313126	666590	14	14.1	i, n, t, r	Imperceptible	Minor
1193 / 47559	Cairns Castle	SM / Cat B	National	309037	660507	1	6.8	i, a, t, r	Imperceptible	Minor
1207 / 18441	Murieston Castle, Wester Murieston, West Calder	SM / Cat B	National	305015	663480	17	8.8	i, a, t, r	Imperceptible	Minor
1213	Dalmahoy Hill, fort	SM	National	313636	666938	11	14.7	i, n, t, r	Imperceptible	Minor
1933	Camilty Hill, Roman fortlet, Castle Greg	SM	National	305027	659243	17	4.5	i, a, t, r	Low	Minor
2307 / 5093	Newbigging market cross	SM / Cat A	National	301522	645920	17	7.2	i, a, t, r	Imperceptible	Minor
2393	Terrace Wood, cultivation terraces	SM	National	316251	647012	1	12.3	i, n, t, r	Imperceptible	Minor
2607	Bizyberry Hill, fort & Wallace's Well	SM	National	304802	639359	17	13.0	i, n, t, r	Imperceptible	Minor
2615	Wester Yardhouses, souterrain 180m WNW of	SM	National	300428	650797	17	4.6	i, a, t, r	Imperceptible	Minor
2652	Hillhead, earthwork 1220m NNW of	SM	National	297526	641677	17	12.9	i, n, t, r	Imperceptible	Minor
2653	Hillhead, earthwork 930m N of homestead moat	SM	National	297923	641428	17	12.9	i, n, t, r	Imperceptible	Minor
2654	Wilsontown Ironworks	SM	National	295192	655183	17	9.4	i, a, t, r	Imperceptible	Minor
2668	Castle Hill, fort 550m WSW of Candybank	SM	National	306506	641182	3	11.3	i, n, t, r	Imperceptible	Minor
2708	North Muir, Nether Cairn	SM	National	310533	650371	5	5.7	i, a, t, r	Low	Minor
2728	Romanno Mains, two barrows 550m SE of	SM	National	317537	647983	9	13.0	i, n, t, r	Imperceptible	Minor
2729	Romanno Mains, four barrows 910m ESE of	SM	National	318001	648046	11	13.4	i, n, t, r	Imperceptible	Minor
2730	Romanno Mains, barrow 910m SE of	SM	National	317860	647828	11	13.4	i, n, t, r	Imperceptible	Minor
2738	Wether Law, cairn	SM	National	319464	648377	17	14.6	i, n, t, r	Imperceptible	Minor
2840	Henderland Hill, fort	SM	National	314958	645977	15	11.7	i, n, t, r	Imperceptible	Minor
2905	Blyth, cairn 1050m NNW of	SM	National	312841	646749	12	9.5	i, a, t, r	Imperceptible	Minor
2938	Pyked Stane, cairn, Pyked Stane Hill	SM	National	312297	641096	17	13.4	i, n, t, r	Imperceptible	Minor
2939	Stirkfield, settlements and cultivation remains 1300m ESE of	SM	National	311473	640472	3	13.6	i, n, t, r	Imperceptible	Minor
2955	Whiteside Hill, fort & enclosure	SM	National	316819	646121	17	13.2	i, n, t, r	Imperceptible	Minor
2980	Harperrig, cairn, West Cairn Hill	SM	National	310729	658401	5	6.4	i, a, t, r	Low	Minor
2990	Blyth Hill, fort	SM	National	312432	645756	14	9.9	i, a, t, r	Imperceptible	Minor
3007	Bryland, fort 640m SE of	SM	National	312440	643375	16	11.7	i, n, t, r	Imperceptible	Minor
3010	Bordland Rings, fort, Bordlands Hill	SM	National	315605	646333	12	12.1	i, n, t, r	Imperceptible	Minor
3069	Newmill, enclosures SW of	SM	National	311542	646152	12	9.0	i, a, t, r	Imperceptible	Minor

Ref No	Site Description	Status	Importance	Easting	Northing	No of Turbine Tips Visible (max)	Distance to nearest Turbine (km)	Effect type	Impact Magnitude	Significance of Effect
3236	Shaw Hill, cairn	SM	National	311479	645629	7	9.3	i, a, t, r	Imperceptible	Minor
3369	Whitewellbrae Wood, henge 60m E of NE corner	SM	National	303008	645781	17	6.8	i, a, t, r	Low	Minor
3370	Dunsyre Hill, cairn	SM	National	307106	648951	14	4.1	i, a, t, r	Low	Minor
3371	Dunsyre Hill, field systems	SM	National	307341	648988	2	4.1	i, a, t, r	Imperceptible	Minor
3825	Castledykes, Roman camps to W, N & E of Roman fort	SM	National	292594	644641	17	14.5	i, n, t, r	Imperceptible	Minor
3909 / 701	Couthally Castle, Carnwath	SM / Cat B	National	297163	648184	17	8.7	i, a, t, r	Imperceptible	Minor
4212	Greens Moor, long cairn, cairns and field system NW of Kersewell Mains	SM	National	302187	649459	15	3.9	i, a, t, r	Low	Minor
4540	Calla, broch 650m S of	SM	National	299108	648846	17	6.7	i, a, t, r	Low	Minor
4645	Ewe Hill, barrows 750m NE of Biggarshiels Farm	SM	National	304914	640595	17	11.8	i, n, t, r	Imperceptible	Minor
4662	Kersewell Mains, cairn 1400m ENE of	SM	National	302335	648837	15	4.3	i, a, t, r	Low	Minor
4663	Kersewell Mains, cairn 1400m E of	SM	National	302417	648428	15	4.6	i, a, t, r	Low	Minor
5671	Kirkton, old parish church 400m ESE of Kirkton Mains, Bathgate	SM	National	298998	668158	17	14.8	i, n, t, r	Imperceptible	Minor
6194	Corston Hill, cairn	SM	National	308739	663542	17	9.5	i, a, t, r	Imperceptible	Minor
6254	Five Sisters, shale bing SE of Mid Breich	SM	National	300902	664018	17	10.3	i, n, t, r	Imperceptible	Minor
7254 / 14212	Old West Calder Church, West Calder	SM	National	301768	663091	17	9.1	i, a, t, r	Imperceptible	Minor
9684	Haywood, deserted mining village	SM	National	297459	654658	17	7.1	i, a, t, r	Imperceptible	Minor
9700	Tashieburn, horse engine platform 50m NE of	SM	National	296123	654725	17	8.5	i, a, t, r	Imperceptible	Minor
11200	Carstairs Mains, Roman temporary camp 750m SE of	SM	National	294770	644239	17	12.9	i, n, t, r	Imperceptible	Minor
11201	Kersewell Mains, cairn 450m NE of	SM	National	301348	648654	12	5.1	i, a, t, r	Low	Minor
11203	Windygates, hut-circle 385m NNW of	SM	National	300189	648569	17	6.0	i, a, t, r	Low	Minor
11210	West Harwood, burial mound 720m SSE of	SM	National	301700	659800	17	6.2	i, a, t, r	Low	Minor
11230	Hare Law, cairn 730m SSE of Wester Yardhouses	SM	National	300643	649905	17	4.8	i, a, t, r	Low	Minor
11231	Wester Yardhouses, cairn 630m S of	SM	National	300467	649980	17	5.0	i, a, t, r	Low	Minor
11232	Craigiehall, hut-circle 630m ESE of	SM	National	300381	649760	17	5.1	i, a, t, r	Low	Minor
11233	Wester Yardhouses, hut-circle 470m SSE of	SM	National	300589	650149	17	4.8	i, a, t, r	Low	Minor
11234	Cleugh House, bell pits and inclined plane 130m SSW of	SM	National	295367	654037	17	9.1	i, n, t, r	Imperceptible	Minor
11236	Wester Yardhouses, hut-circles and cairns 270m SSW of	SM	National	300365	650357	17	4.9	i, a, t, r	Low	Minor
11245	Crosswood, cairn 750m SE of	SM	National	305951	656920	7	2.3	i, a, t, r	Low	Minor
11280	Calla Doone, hut-circle 500m ESE of	SM	National	300041	648795	17	6.0	i, a, t, r	Low	Minor
11284	Waulkmill, cairn 310m SE of	SM	National	301418	649003	12	4.8	i, a, t, r	Low	Minor
10998	Easton / Mid Hill / West Water Long Cairn	NSR code C	National	308280	649650	1	4.2	i, a, t, r	Imperceptible	Minor
11000	Mid Hill / Easton Field-system; Small Cairns; Lynchets; Cairns	NSR code C	National	308200	649690	1	4.1	i, a, t, r	Imperceptible	Minor
11043	Horse Law Cairn	NSR code C	National	304650	649070	3	3.3	i, a, t, r	Imperceptible	Minor
11049	Horse Law Cairn	NSR code C	National	303670	649780	17	2.8	i, a, t, r	Low	Minor
11052	Horse Law Small Cairns	NSR code C	National	304600	649050	2	3.3	i, a, t, r	Imperceptible	Minor
11064	Horse Law Small Cairns	NSR code C	National	304500	649350	3	3.0	i, a, t, r	Imperceptible	Minor

Ref No	Site Description	Status	Importance	Easting	Northing	No of Turbine Tips Visible (max)	Distance to nearest Turbine (km)	Effect type	Impact Magnitude	Significance of Effect
11161	Westruther Burn Cairn; Small Cairns, Field Bank	NSR code C	National	302810	650220	7	2.9	i, a, t, r	Low	Minor
11161	Westruther Burn Cairn; Small Cairns, Field Bank	NSR code C	National	302720	650170	8	3.0	i, a, t, r	Low	Minor
11161	Westruther Burn Cairn; Small Cairns, Field Bank	NSR code C	National	302750	650070	9	3.1	i, a, t, r	Low	Minor
4879	Wester Yards - Hare Law / Easteryardhouse Hill Cairn (possible); Small Cairns; Enclosure (possible); Corn-drying Kiln	NSR code V	National	301400	651000	17	3.7	i, a, t, r	Low	Minor
11015	Easton-Medwyn Water Enclosure	NSR code V	National	308190	649650	1	4.1	i, a, t, r	Imperceptible	Minor
11060	Horse Law Cairn	NSR code V	National	304810	649040	2	3.3	i, a, t, r	Imperceptible	Minor
11146	Lawhead Small Cairns	NSR code V	National	303450	655150	5	1.6	i, a, t, r	Low	Minor
11149	Easton-Medwin Water Cairn; Small Cairns	NSR code V	National	308620	651050	7	3.7	i, a, t, r	Low	Minor
11149	Easton-Medwin Water Cairn; Small Cairns	NSR code V	National	308900	650200	7	4.3	i, a, t, r	Low	Minor
11150	Easton-Medwin Water Small Cairns	NSR code V	National	308550	650250	5	4.0	i, a, t, r	Imperceptible	Minor
11159	Horse Law Cairns; Small Cairns; Enclosures	NSR code V	National	303100	650300	10	2.7	i, a, t, r	Low	Minor
11160	Corse Law Barrows (possible)	NSR code V	National	301980	650500	17	3.4	i, a, t, r	Low	Minor
11168	Westruther Burn Cairn	NSR code V	National	302400	650030	16	3.4	i, a, t, r	Low	Minor
11169	Seat Hill Sheepfold (possible)	NSR code V	National	302690	651770	17	2.2	i, a, t, r	Low	Minor
11170	Corse Law Field Clearance Cairns	NSR code V	National	301950	650550	17	3.4	i, a, t, r	Low	Minor
11173	Lingy Knowe Small Cairns	NSR code V	National	302580	652280	17	2.0	i, a, t, r	Low	Minor
11174	Lingy Knowe Field Clearance Cairns	NSR code V	National	302510	651750	1	2.3	i, a, t, r	Imperceptible	Minor
12402	Greens Moor Cairn; Small Cairns	NSR code V	National	302570	649300	14	3.8	i, a, t, r	Low	Minor
692	Carnwath, St Mary's Church	Category A Listed	National	297542	646411	15	9.4	i, n, t, r	Imperceptible	Minor
694	Carnwath, Main Street, Cross	Category A Listed	National	297923	646401	15	9.1	i, n, t, r	Imperceptible	Minor
712	Carstairs House	Category A Listed	National	294176	644333	2	13.3	i, n, t, r	Imperceptible	Minor
7419	Blackburn House	Category A Listed	National	300088	665608	17	12.0	i, n, t, r	Imperceptible	Minor
7419	Blackburn House, West Pavilion	Category A Listed	National	300057	665603	17	12.1	i, n, t, r	Imperceptible	Minor
7419	Blackburn House, East Pavilion	Category A Listed	National	300106	665631	17	12.1	i, n, t, r	Imperceptible	Minor
14144	Mid Calder, Main Street, Mid Calder Parish Church	Category A Listed	National	307372	667323	2	12.8	i, n, t, r	Imperceptible	Minor
14156	Linnhous	Category A Listed	National	306234	662962	9	8.3	i, n, t, r	Imperceptible	Minor
15177	Lamancha, Sundial	Category A Listed	National	319954	652238	2	14.1	i, n, t, r	Imperceptible	Minor
51254	Brucefield Church Hall	Category A Listed	National	294837	664983	11	14.6	i, n, t, r	Imperceptible	Minor

Ref No	Site Description	Status	Importance	Easting	Northing	No of Turbine Tips Visible (max)	Distance to nearest Turbine (km)	Effect type	Impact Magnitude	Significance of Effect
51254	Brucefield Church	Category A Listed	National	294857	665021	11	14.6	i, n, t, r	Imperceptible	Minor
51254	Brucefield Church Hall	Category A Listed	National	294832	665010	11	14.6	i, n, t, r	Imperceptible	Minor
639	Carwood House	Category B Listed	Regional	303829	640100	8	12.3	i, n, t, r	Imperceptible	Negligible
643	Black Law, Covenanters' Grave	Category B Listed	Regional	307856	652202	13	2.6	i, n, t, r	Low	Minor
645	Medwynbank Sawmill	Category B Listed	Regional	309827	649777	3	5.3	i, n, t, r	Imperceptible	Negligible
651	94 Covington Road	Category B Listed	Regional	297717	639174	17	15.0	i, n, t, r	Imperceptible	Negligible
651	92 Covington Road	Category B Listed	Regional	297721	639163	0	15.0	i, n, t, r	Imperceptible	Negligible
651	90 Covington Road	Category B Listed	Regional	297723	639157	0	15.0	i, n, t, r	Imperceptible	Negligible
671	Auchterhead Muir, Darnead-Lin, Covenanters Monument	Category B Listed	Regional	290116	655310	5	14.5	i, n, t, r	Imperceptible	Negligible
674	Braehead, Main Street, Church	Category B Listed	Regional	295250	650595	17	9.5	i, n, t, r	Imperceptible	Negligible
675	Kersewell House	Category B Listed	Regional	300801	647220	13	6.5	i, n, t, r	Imperceptible	Negligible
676	Kersewell House, Walled Garden Including Pheasantry	Category B Listed	Regional	300833	647190	17	6.5	i, n, t, r	Imperceptible	Negligible
695	Carnwath, The Manse	Category B Listed	Regional	297602	646303	15	9.4	i, n, t, r	Imperceptible	Negligible
697	Carnwath, 78 Main Street	Category B Listed	Regional	297990	646415	15	9.1	i, n, t, r	Imperceptible	Negligible
697	Carnwath, 76 Main Street	Category B Listed	Regional	297985	646417	15	9.1	i, n, t, r	Imperceptible	Negligible
697	Carnwath, 74 Main Street	Category B Listed	Regional	297976	646416	15	9.1	i, n, t, r	Imperceptible	Negligible
698	Carnwath, 99 Main Street, New Bush Inn	Category B Listed	Regional	298040	646452	14	9.0	i, n, t, r	Imperceptible	Negligible
700	Carnwath, Main Street, Parish Church	Category B Listed	Regional	297557	646417	15	9.4	i, n, t, r	Imperceptible	Negligible
702	Westshield	Category B Listed	Regional	294569	649302	2	10.6	i, n, t, r	Imperceptible	Negligible
703	Eastshield	Category B Listed	Regional	296008	650001	2	9.0	i, n, t, r	Imperceptible	Negligible
706	Ampherlaw	Category B Listed	Regional	298781	650811	17	6.1	i, n, t, r	Imperceptible	Negligible
706	Ampherlaw, Sundial	Category B Listed	Regional	298778	650792	17	6.1	i, n, t, r	Imperceptible	Negligible
707	Auchengray Church	Category B	Regional	299589	654004	17	4.9	i, n, t, r	Imperceptible	Negligible

Ref No	Site Description	Status	Importance	Easting	Northing	No of Turbine Tips Visible (max)	Distance to nearest Turbine (km)	Effect type	Impact Magnitude	Significance of Effect
		Listed								
710	Cleugh House	Category B Listed	Regional	295472	653982	17	9.0	i, a, t, r	Imperceptible	Negligible
714	Carstairs House	Category B Listed	Regional	293805	645516	17	13.0	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (East Range)	Category B Listed	Regional	294311	644917	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (East Range)	Category B Listed	Regional	294312	644906	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (North Range)	Category B Listed	Regional	294294	644927	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (East Range)	Category B Listed	Regional	294312	644900	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (South Range)	Category B Listed	Regional	294313	644894	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (North Range)	Category B Listed	Regional	294283	644925	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (North Range)	Category B Listed	Regional	294276	644925	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (South Range)	Category B Listed	Regional	294299	644892	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (North Range)	Category B Listed	Regional	294270	644924	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (South Range)	Category B Listed	Regional	294289	644891	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (South Range)	Category B Listed	Regional	294285	644891	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains	Category B Listed	Regional	294290	644881	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (South Range)	Category B Listed	Regional	294278	644890	17	12.9	i, n, t, r	Imperceptible	Negligible
715	Carstairs Mains, Steading (South Range)	Category B Listed	Regional	294272	644889	17	12.9	i, n, t, r	Imperceptible	Negligible
716	Carstairs, 105 Lanark Road	Category B Listed	Regional	293806	646074	7	12.7	i, n, t, r	Imperceptible	Negligible
6713	Bathgate, Blackburn Road, Easter Inch Farmsteading Cottage	Category B Listed	Regional	298874	667382	3	14.2	i, n, t, r	Imperceptible	Negligible
7347	Quothquhan Lodge, Gate Lodge and gatepiers, Kennel	Category B Listed	Regional	299589	641571	17	12.0	i, n, t, r	Imperceptible	Negligible
7349	Yett Farm	Category B Listed	Regional	298716	642710	17	11.4	i, n, t, r	Imperceptible	Negligible
7349	Quothquhan Lodge	Category B Listed	Regional	299231	641382	17	12.3	i, n, t, r	Imperceptible	Negligible

Ref No	Site Description	Status	Importance	Easting	Northing	No of Turbine Tips Visible (max)	Distance to nearest Turbine (km)	Effect type	Impact Magnitude	Significance of Effect
7350	Quothquan Lodge, Gate Lodge and gatepiers, Kennel	Category B Listed	Regional	299589	641571	17	12.0	i, n, t, r	Imperceptible	Negligible
7374	Libberton Parish Church	Category B Listed	Regional	299109	642853	17	11.1	i, n, t, r	Imperceptible	Negligible
7374	Libberton Parish Church, Churchyard	Category B Listed	Regional	299112	642841	17	11.1	i, n, t, r	Imperceptible	Negligible
7375	Libberton House	Category B Listed	Regional	299162	642862	17	11.1	i, n, t, r	Imperceptible	Negligible
7376	Quothquan Church and Churchyard	Category B Listed	Regional	299264	639491	17	14.0	i, n, t, r	Imperceptible	Negligible
7379	Ogscastle	Category B Listed	Regional	303072	644611	17	8.0	i, n, t, r	Imperceptible	Negligible
7380	Libberton, K6 Telephone Kiosk	Category B Listed	Regional	298969	643015	17	11.0	i, n, t, r	Imperceptible	Negligible
7409	Livingston Village, Kirk Lane, Livingston Parish Church	Category B Listed	Regional	303713	666887	17	12.3	i, n, t, r	Imperceptible	Negligible
7410	Livingston Village, Kirk Lane, Livingston Parish Church, Manse	Category B Listed	Regional	303741	666874	17	12.2	i, n, t, r	Imperceptible	Negligible
7413	Livingston Village, Main Street, Livingston Inn	Category B Listed	Regional	303811	666923	17	12.3	i, n, t, r	Imperceptible	Negligible
7414	Livingston Village, River Almond, Livingston Bridge	Category B Listed	Regional	303827	666793	4	12.2	i, n, t, r	Imperceptible	Negligible
7415	Livingston, Old Toll House	Category B Listed	Regional	302584	667084	17	12.6	i, n, t, r	Imperceptible	Negligible
7417	2 Moss Cottages	Category B Listed	Regional	304825	669343	17	14.6	i, n, t, r	Imperceptible	Negligible
7417	1 Moss Cottage	Category B Listed	Regional	304853	669353	17	14.6	i, n, t, r	Imperceptible	Negligible
7417	3 Moss Cottages	Category B Listed	Regional	304837	669373	17	14.7	i, n, t, r	Imperceptible	Negligible
7418	Newyearfield, Business Park	Category B Listed	Regional	304257	668368	17	13.7	i, n, t, r	Imperceptible	Negligible
7420	Blackburn, River Almond, Bridge	Category B Listed	Regional	298493	665343	17	12.6	i, n, t, r	Imperceptible	Negligible
8328	Kirkurd Parish Church and Churchyard	Category B Listed	Regional	312771	644271	4	11.2	i, n, t, r	Imperceptible	Negligible
8329	Kirkurd Parish Church, Session House	Category B Listed	Regional	312764	644301	1	11.2	i, n, t, r	Imperceptible	Negligible
8330	Kirkurd Parish Church, Gibson-Carmichael Vault	Category B Listed	Regional	312754	644287	4	11.2	i, n, t, r	Imperceptible	Negligible
8336	Castlecraig, Sundial	Category B Listed	Regional	313686	644262	3	11.8	i, n, t, r	Imperceptible	Negligible
8338	Kirkurd, West Mains Farm, North East Stable Range	Category B Listed	Regional	312937	644599	2	11.1	i, n, t, r	Imperceptible	Negligible
8381	Garvald House	Category B	Regional	309876	648986	1	5.8	i, n, t, r	Imperceptible	Negligible

Ref No	Site Description	Status	Importance	Easting	Northing	No of Turbine Tips Visible (max)	Distance to nearest Turbine (km)	Effect type	Impact Magnitude	Significance of Effect
		Listed								
8382	Garvald House, Farm Buildings	Category B Listed	Regional	309816	649273	2	5.6	i, n, t, r	Imperceptible	Negligible
13681	Castlecraig	Category B Listed	Regional	313669	644271	3	11.8	i, n, t, r	Imperceptible	Negligible
14154	Midcalder, Calder House, Steading	Category B Listed	Regional	306987	667088	14	12.5	i, n, t, r	Imperceptible	Negligible
14157	Linnhous, Dovecot	Category B Listed	Regional	306110	663103	17	8.4	i, n, t, r	Imperceptible	Negligible
14158	Causewayend	Category B Listed	Regional	308759	661059	8	7.2	i, n, t, r	Imperceptible	Negligible
14159	Causewayend, Stables	Category B Listed	Regional	308746	661097	11	7.2	i, n, t, r	Imperceptible	Negligible
14160	Brucefield	Category B Listed	Regional	304012	664760	14	10.1	i, n, t, r	Imperceptible	Negligible
14161	Livingston Village, River Almond, Livingston Bridge	Category B Listed	Regional	303827	666793	4	12.2	i, n, t, r	Imperceptible	Negligible
14162	Livingston, Howden House	Category B Listed	Regional	305212	667663	17	12.9	i, n, t, r	Imperceptible	Negligible
14167	Walston House	Category B Listed	Regional	305835	645557	17	6.9	i, n, t, r	Imperceptible	Negligible
14173	Pettinain Church	Category B Listed	Regional	295499	642885	17	13.3	i, n, t, r	Imperceptible	Negligible
14174	Pettinain Church, Manse	Category B Listed	Regional	295439	642882	17	13.3	i, n, t, r	Imperceptible	Negligible
14175	Westraw	Category B Listed	Regional	294751	642962	17	13.8	i, n, t, r	Imperceptible	Negligible
14175	Westraw House	Category B Listed	Regional	294720	642975	17	13.8	i, n, t, r	Imperceptible	Negligible
14202	Blackburn, River Almond, Bridge	Category B Listed	Regional	298493	665343	17	12.6	i, n, t, r	Imperceptible	Negligible
14209	Loganlea House	Category B Listed	Regional	298281	661968	15	10.0	i, n, t, r	Imperceptible	Negligible
14210	West Calder, 13 - 19 Main Street, Co-Operative Stores	Category B Listed	Regional	301670	663140	14	9.1	i, n, t, r	Imperceptible	Negligible
14211	West Calder, East End, Library	Category B Listed	Regional	301927	663216	16	9.1	i, n, t, r	Imperceptible	Negligible
14213	Harwood Farm	Category B Listed	Regional	301425	662029	16	8.2	i, n, t, r	Imperceptible	Negligible
14215	Harburn House	Category B Listed	Regional	304463	660755	1	6.1	i, n, t, r	Imperceptible	Negligible
14216	Harburn House, Monument	Category B Listed	Regional	304584	660798	14	6.1	i, n, t, r	Imperceptible	Negligible

Ref No	Site Description	Status	Importance	Easting	Northing	No of Turbine Tips Visible (max)	Distance to nearest Turbine (km)	Effect type	Impact Magnitude	Significance of Effect
14217	Harburn House, Stables	Category B Listed	Regional	304417	661003	6	6.3	i, n, t, r	Imperceptible	Negligible
14218	Harburn House, Dovecot	Category B Listed	Regional	304533	660995	8	6.3	i, n, t, r	Imperceptible	Negligible
14221	Limefield House	Category B Listed	Regional	303444	664334	1	9.8	i, n, t, r	Imperceptible	Negligible
14224	Gavieside Farm	Category B Listed	Regional	302643	665502	16	11.1	i, n, t, r	Imperceptible	Negligible
15176	Lamanca	Category B Listed	Regional	319949	652255	2	14.1	i, n, t, r	Imperceptible	Negligible
15178	Lamanca, Entrance Gateway	Category B Listed	Regional	320198	652060	4	14.4	i, n, t, r	Imperceptible	Negligible
18442	Westfield	Category B Listed	Regional	304476	663876	17	9.2	i, n, t, r	Imperceptible	Negligible
18443	Alderston House	Category B Listed	Regional	304389	666287	1	11.6	i, n, t, r	Imperceptible	Negligible
18444	Alderston House, Dovecot	Category B Listed	Regional	304414	666329	1	11.6	i, n, t, r	Imperceptible	Negligible
18980	Wester Causewayend, Steading, South Range	Category B Listed	Regional	308343	660878	7	6.8	i, n, t, r	Imperceptible	Negligible
18980	Wester Causewayend, Steading, West Range	Category B Listed	Regional	308318	660890	7	6.8	i, n, t, r	Imperceptible	Negligible
18980	Wester Causewayend, Steading, Range Adjacent To House	Category B Listed	Regional	308330	660898	8	6.9	i, n, t, r	Imperceptible	Negligible
18980	Wester Causewayend, Steading, North Range	Category B Listed	Regional	308315	660914	9	6.9	i, n, t, r	Imperceptible	Negligible
18980	Wester Causewayend	Category B Listed	Regional	308341	660909	8	6.9	i, n, t, r	Imperceptible	Negligible
18980	Wester Causewayend, Steading, North East Range	Category B Listed	Regional	308329	660916	8	6.9	i, n, t, r	Imperceptible	Negligible
19672	Livingston, Bankton Lane, Bankton House	Category B Listed	Regional	306172	665621	5	10.9	i, n, t, r	Imperceptible	Negligible
19677	West Calder Railway Station and Footbridge	Category B Listed	Regional	302004	663379	7	9.2	i, n, t, r	Imperceptible	Negligible
26857	Edinburgh, Balerno, Glenbrook Road, Glenbrook House, Stables	Category B Listed	Regional	314658	666142	1	14.7	i, n, t, r	Imperceptible	Negligible
49089	Auchenhard House, Summerhouse	Category B Listed	Regional	299600	663187	2	10.2	i, n, t, r	Imperceptible	Negligible
49089	Auchenhard House, Gatepiers	Category B Listed	Regional	299534	663516	15	10.5	i, n, t, r	Imperceptible	Negligible
49185	Auchenhard Farmhouse	Category B Listed	Regional	299577	663229	11	10.2	i, n, t, r	Imperceptible	Negligible
	Biggar	CA (outstanding)	National	304058	637837	7	14.6	i, n, t, r	Imperceptible	Minor
	Livingston Village	CA	Regional	303844	666930	17	12.3	i, n, t, r	Imperceptible	Negligible

Ref No	Site Description	Status	Importance	Easting	Northing	No of Turbine Tips Visible (max)	Distance to nearest Turbine (km)	Effect type	Impact Magnitude	Significance of Effect
	Mid Calder	CA	Regional	307472	667410	17	12.9	i, n, t, r	Imperceptible	Negligible
	Carnwath	CA	Regional	297934	646431	17	9.1	i, a, t, r	Low	Minor
	Harburn House	GDL	National	304402	660973	17	6.3	i, a, t, r	Imperceptible	Negligible

Key: i, indirect; a, adverse; n, neutral; t, temporary; r, reversible; SM, scheduled monument; CA, conservation area; GDL, garden and designed landscape

Appendix 3 Cumulative Assessment Table

Ref No	Site Description	Status	Distance to Harrows law turbines (km)	No of other wind farms visible
1138	Camp Wood, Roman camp N of Cleghorn Station	SM	15.0	5
1139	Castledykes, Roman fort, Corbiehall	SM	14.4	5
1145	Carnwath Golf Course, motte	SM	9.3	5
1153	Harperrig, cairn, East Cairn Hill	SM	8.2	13
1165	Camilty Hill, enclosure, Harburn	SM	4.7	10
1172	Kaimes Hill, fort	SM	14.1	5
1193	Cairns Castle	SM / Cat B	6.8	2
1207	Murieston Castle, Wester Murieston, West Calder	SM / Cat B	8.8	7
1213	Dalmahoy Hill, fort	SM	14.7	4
1933	Camilty Hill, Roman fortlet, Castle Greg	SM	4.5	10
2307	Newbigging market cross	SM / Cat A	7.2	3
2393	Terrace Wood, cultivation terraces	SM	12.3	1
2607	Bizzyberry Hill, fort & Wallace's Well	SM	13.0	14
2615	Wester Yardhouses, souterrain 180m WNW of	SM	4.6	6
2652	Hillhead, earthwork 1220m NNW of	SM	12.9	3
2653	Hillhead, earthwork 930m N of homestead moat	SM	12.9	6
2654	Wilsontown Ironworks	SM	9.4	4
2668	Castle Hill, fort 550m WSW of Candybank	SM	11.3	10
2708	North Muir, Nether Cairn	SM	5.7	1
2728	Romanno Mains, two barrows 550m SE of	SM	13.0	2
2729	Romanno Mains, four barrows 910m ESE of	SM	13.4	0
2730	Romanno Mains, barrow 910m SE of	SM	13.4	3
2738	Wether Law, cairn	SM	14.6	11
2840	Henderland Hill, fort	SM	11.7	2
2905	Blyth, cairn 1050m NNW of	SM	9.5	0
2938	Pyked Stane, cairn, Pyked Stane Hill	SM	13.4	14
2939	Stirkfield, settlements and cultivation remains 1300m ESE of	SM	13.6	4
2955	Whiteside Hill, fort & enclosure	SM	13.2	1
2980	Harperrig, cairn, West Cairn Hill	SM	6.4	13
2990	Blyth Hill, fort	SM	9.9	0
3007	Bryland, fort 640m SE of	SM	11.7	3
3010	Bordland Rings, fort, Bordlands Hill	SM	12.1	1
3069	Newmill, enclosures SW of	SM	9.0	1
3236	Shaw Hill, cairn	SM	9.3	2

Ref No	Site Description	Status	Distance to Harrows law turbines (km)	No of other wind farms visible
3369	Whitewellbrae Wood, henge 60m E of NE corner	SM	6.8	3
3370	Dunsyre Hill,cairn	SM	4.1	13
3371	Dunsyre Hill,field systems	SM	4.1	1
3825	Castledykes, Roman camps to W, N & E of Roman fort	SM	14.5	5
3909	Couthally Castle,Carnwath	SM / Cat B	8.7	6
4212	Greens Moor,long cairn,cairns and field system NW of Kersewell Mains	SM	3.9	4
4540	Calla,broch 650m S of	SM	6.7	7
4645	Ewe Hill,barrows 750m NE of Biggarshiels Farm	SM	11.8	13
4662	Kersewell Mains,cairn 1400m ENE of	SM	4.3	2
4663	Kersewell Mains,cairn 1400m E of	SM	4.6	2
5671	Kirkton,old parish church 400m ESE of Kirkton Mains,Bathgate	SM	14.8	8
6194	Corston Hill, cairn	SM	9.5	10
6254	Five Sisters,shale bing SE of Mid Breich	SM	10.3	7
7254	Old West Calder Church, West Calder	SM	9.1	8
9684	Haywood, deserted mining village	SM	7.1	5
9700	Tashieburn, horse engine platform 50m NE of	SM	8.5	4
11200	Carstairs Mains, Roman temporary camp 750m SE of	SM	12.9	0
11201	Kersewell Mains, cairn 450m NE of	SM	5.1	2
11203	Windygates, hut-circle 385m NNW of	SM	6.0	8
11210	West Harwood, burial mound 720m SSE of	SM	6.2	4
11230	Hare Law, cairn 730m SSE of Wester Yardhouses	SM	4.8	9
11231	Wester Yardhouses, cairn 630m S of	SM	5.0	8
11232	Craigiehall, hut-circle 630m ESE of	SM	5.1	8
11233	Wester Yardhouses, hut-circle 470m SSE of	SM	4.8	7
11234	Cleugh House, bell pits and inclined plane 130m SSW of	SM	9.1	0
11236	Wester Yardhouses, hut-circles and cairns 270m SSW of	SM	4.9	7
11245	Crosswood, cairn 750m SE of	SM	2.3	1
11280	Calla Doone, hut-circle 500m ESE of	SM	6.0	6
11284	Waulkmill, cairn 310m SE of	SM	4.8	2
10998	Easton / Mid Hill / West Water Long Cairn	NSR code C	4.2	0
11000	Mid Hill / Easton Field-system; Small Cairns; Lynchets; Cairns	NSR code C	4.1	0
11043	Horse Law Cairn	NSR code C	3.3	5
11049	Horse Law Cairn	NSR code C	2.8	8
11052	Horse Law Small Cairns	NSR code C	3.3	5
11064	Horse Law Small Cairns	NSR code C	3.0	3
11161	Westruther Burn Cairn; Small Cairns, Field Bank	NSR code C	2.9	1

Ref No	Site Description	Status	Distance to Harrows law turbines (km)	No of other wind farms visible
11161	Westruther Burn Cairn; Small Cairns, Field Bank	NSR code C	3.0	1
11161	Westruther Burn Cairn; Small Cairns, Field Bank	NSR code C	3.1	1
4879	Wester Yardhouses - Hare Law / Easteryardhouse Hill Cairn (possible); Small Cairns; Enclosure (possible); Corn-drying Kiln	NSR code V	3.7	5
11015	Easton-Medwyn Water Enclosure	NSR code V	4.1	0
11060	Horse Law Cairn	NSR code V	3.3	5
11146	Lawhead Small Cairns	NSR code V	1.6	6
11149	Easton-Medwin Water Cairn; Small Cairns	NSR code V	3.7	0
11149	Easton-Medwin Water Cairn; Small Cairns	NSR code V	4.3	0
11150	Easton-Medwin Water Small Cairns	NSR code V	4.0	0
11159	Horse Law Cairns; Small Cairns; Enclosures	NSR code V	2.7	1
11160	Corse Law Barrows (possible)	NSR code V	3.4	6
11168	Westruther Burn Cairn	NSR code V	3.4	1
11169	Seat Hill Sheepfold (possible)	NSR code V	2.2	6
11170	Corse Law Field Clearance Cairns	NSR code V	3.4	6
11173	Lingy Knowe Small Cairns	NSR code V	2.0	5
11174	Lingy Knowe Field Clearance Cairns	NSR code V	2.3	6
12402	Greens Moor Cairn; Small Cairns	NSR code V	3.8	1
692	Carnwath, St Mary's Church	Category A Listed	9.4	5
694	Carnwath, Main Street, Cross	Category A Listed	9.1	5
712	Carstairs House	Category A Listed	13.3	0
7419	Blackburn House	Category A Listed	12.0	10
7419	Blackburn House, West Pavilion	Category A Listed	12.1	10
7419	Blackburn House, East Pavilion	Category A Listed	12.1	10
14144	Mid Calder, Main Street, Mid Calder Parish Church	Category A Listed	12.8	8
14156	Linnhous	Category A Listed	8.3	1
15177	Lamancha, Sundial	Category A Listed	14.1	1
51254	Brucefield Church Hall	Category A Listed	14.6	6
51254	Brucefield Church	Category A Listed	14.6	6
51254	Brucefield Church Hall	Category A Listed	14.6	5
639	Carwood House	Category B Listed	12.3	1

Ref No	Site Description	Status	Distance to Harrows law turbines (km)	No of other wind farms visible
643	Black Law, Covenanters' Grave	Category B Listed	2.6	0
645	Medwynbank Sawmill	Category B Listed	5.3	0
651	94 Covington Road	Category B Listed	15.0	2
651	92 Covington Road	Category B Listed	15.0	2
651	90 Covington Road	Category B Listed	15.0	2
671	Auchterhead Muir, Darnead-Lin, Covenanters Monument	Category B Listed	14.5	4
674	Braehead, Main Street, Church	Category B Listed	9.5	8
675	Kersewell House	Category B Listed	6.5	1
676	Kersewell House, Walled Garden Including Pheasantry	Category B Listed	6.5	1
695	Carnwath, The Manse	Category B Listed	9.4	5
697	Carnwath, 78 Main Street	Category B Listed	9.1	5
697	Carnwath, 76 Main Street	Category B Listed	9.1	5
697	Carnwath, 74 Main Street	Category B Listed	9.1	5
698	Carnwath, 99 Main Street, New Bush Inn	Category B Listed	9.0	5
700	Carnwath, Main Street, Parish Church	Category B Listed	9.4	5
702	Westshield	Category B Listed	10.6	1
703	Eastshield	Category B Listed	9.0	1
706	Ampherlaw	Category B Listed	6.1	5
706	Ampherlaw, Sundial	Category B Listed	6.1	5
707	Auchengray Church	Category B Listed	4.9	6
710	Cleugh House	Category B Listed	9.0	5
714	Carstairs House	Category B Listed	13.0	0
715	Carstairs Mains, Steading (East Range)	Category B Listed	12.9	7
715	Carstairs Mains, Steading (East Range)	Category B Listed	12.9	7
715	Carstairs Mains, Steading (North Range)	Category B Listed	12.9	7

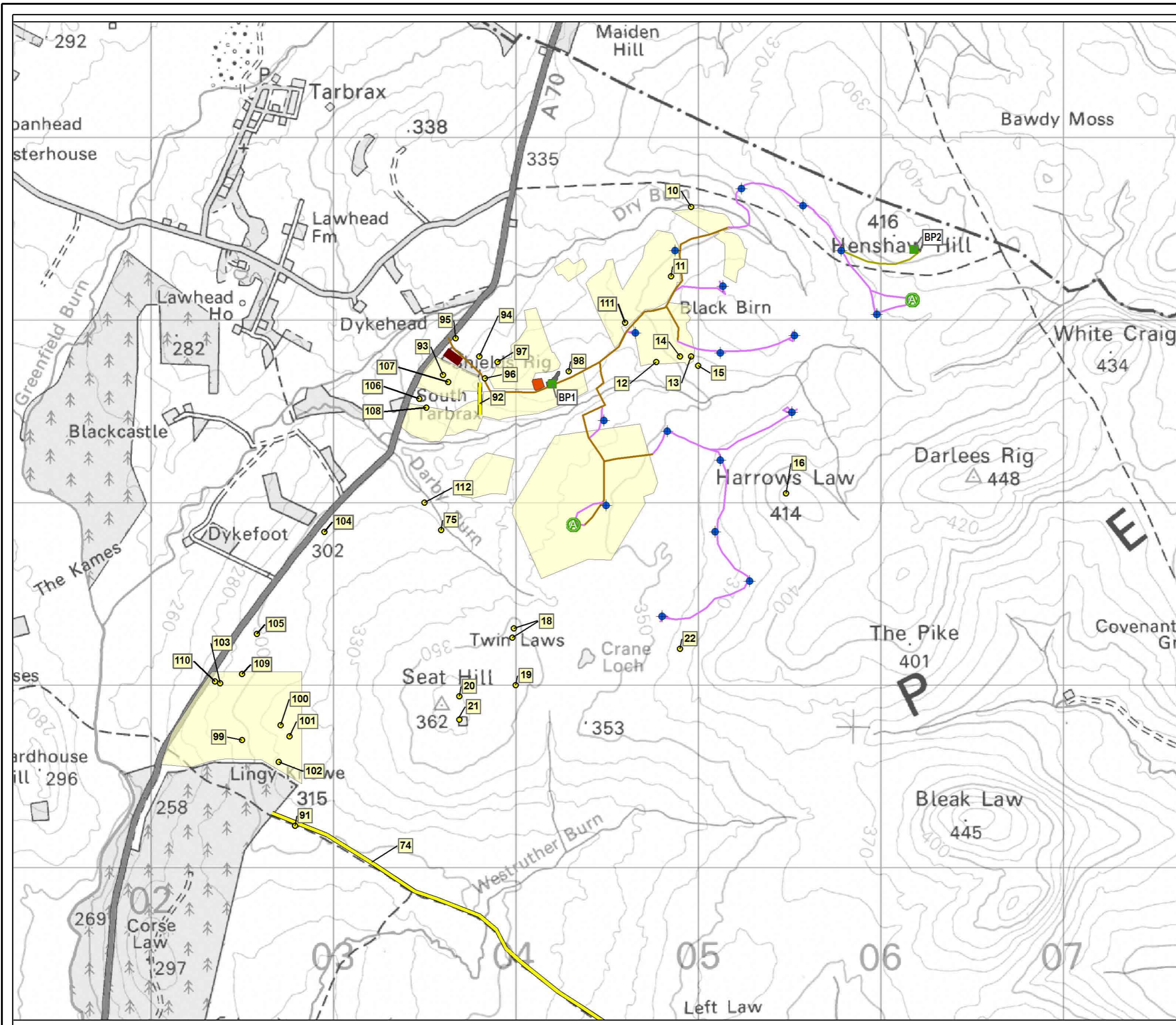
Ref No	Site Description	Status	Distance to Harrows law turbines (km)	No of other wind farms visible
715	Carstairs Mains, Steading (East Range)	Category B Listed	12.9	7
715	Carstairs Mains, Steading (South Range)	Category B Listed	12.9	7
715	Carstairs Mains, Steading (North Range)	Category B Listed	12.9	7
715	Carstairs Mains, Steading (North Range)	Category B Listed	12.9	7
715	Carstairs Mains, Steading (South Range)	Category B Listed	12.9	7
715	Carstairs Mains, Steading (North Range)	Category B Listed	12.9	7
715	Carstairs Mains, Steading (South Range)	Category B Listed	12.9	7
715	Carstairs Mains, Steading (South Range)	Category B Listed	12.9	7
715	Carstairs Mains	Category B Listed	12.9	7
715	Carstairs Mains, Steading (South Range)	Category B Listed	12.9	7
715	Carstairs Mains, Steading (South Range)	Category B Listed	12.9	7
716	Carstairs, 105 Lanark Road	Category B Listed	12.7	3
6713	Bathgate, Blackburn Road, Easter Inch Farmsteading Cottage	Category B Listed	14.2	7
7347	Quothquhan Lodge, Gate Lodge and gatepiers, Kennel	Category B Listed	12.0	8
7349	Yett Farm	Category B Listed	11.4	6
7349	Quothquhan Lodge	Category B Listed	12.3	0
7350	Quothquhan Lodge, Gate Lodge and gatepiers, Kennel	Category B Listed	12.0	8
7374	Libberton Parish Church	Category B Listed	11.1	7
7374	Libberton Parish Church, Churchyard	Category B Listed	11.1	7
7375	Libberton House	Category B Listed	11.1	7
7376	Quothquan Church and Churchyard	Category B Listed	14.0	6
7379	Ogscastle	Category B Listed	8.0	1
7380	Libberton, K6 Telephone Kiosk	Category B Listed	11.0	7
7409	Livingston Village, Kirk Lane, Livingston Parish Church	Category B Listed	12.3	2
7410	Livingston Village, Kirk Lane, Livingston Parish Church, Manse	Category B Listed	12.2	2
7413	Livingston Village, Main Street, Livingston Inn	Category B Listed	12.3	3

Ref No	Site Description	Status	Distance to Harrows law turbines (km)	No of other wind farms visible
7414	Livingston Village, River Almond, Livingston Bridge	Category B Listed	12.2	1
7415	Livingston, Old Toll House	Category B Listed	12.6	5
7417	2 Moss Cottages	Category B Listed	14.6	6
7417	1 Moss Cottage	Category B Listed	14.6	6
7417	3 Moss Cottages	Category B Listed	14.7	6
7418	Newyearfield, Business Park	Category B Listed	13.7	8
7420	Blackburn, River Almond, Bridge	Category B Listed	12.6	3
8328	Kirkurd Parish Church and Churchyard	Category B Listed	11.2	1
8329	Kirkurd Parish Church, Session House	Category B Listed	11.2	1
8330	Kirkurd Parish Church, Gibson-Carmichael Vault	Category B Listed	11.2	1
8336	Castlecraig, Sundial	Category B Listed	11.8	1
8338	Kirkurd, West Mains Farm, North East Stable Range	Category B Listed	11.1	0
8381	Garvald House	Category B Listed	5.8	0
8382	Garvald House, Farm Buildings	Category B Listed	5.6	0
13681	Castlecraig	Category B Listed	11.8	1
14154	Midcalder, Calder House, Steading	Category B Listed	12.5	8
14157	Linnhous, Dovecot	Category B Listed	8.4	2
14158	Causewayend	Category B Listed	7.2	9
14159	Causewayend, Stables	Category B Listed	7.2	8
14160	Brucefield	Category B Listed	10.1	8
14161	Livingston Village, River Almond, Livingston Bridge	Category B Listed	12.2	1
14162	Livingston, Howden House	Category B Listed	12.9	9
14167	Walston House	Category B Listed	6.9	7
14173	Pettinain Church	Category B Listed	13.3	6
14174	Pettinain Church, Manse	Category B Listed	13.3	6

Ref No	Site Description	Status	Distance to Harrows law turbines (km)	No of other wind farms visible
14175	Westraw	Category B Listed	13.8	6
14175	Westraw House	Category B Listed	13.8	6
14202	Blackburn, River Almond, Bridge	Category B Listed	12.6	3
14209	Loganlea House	Category B Listed	10.0	5
14210	West Calder, 13 - 19 Main Street, Co-Operative Stores	Category B Listed	9.1	8
14211	West Calder, East End, Library	Category B Listed	9.1	8
14213	Harwood Farm	Category B Listed	8.2	8
14215	Harburn House	Category B Listed	6.1	1
14216	Harburn House, Monument	Category B Listed	6.1	4
14217	Harburn House, Stables	Category B Listed	6.3	0
14218	Harburn House, Dovecot	Category B Listed	6.3	1
14221	Limefield House	Category B Listed	9.8	5
14224	Gavieside Farm	Category B Listed	11.1	5
15176	Lamanca	Category B Listed	14.1	1
15178	Lamanca, Entrance Gateway	Category B Listed	14.4	1
18442	Westfield	Category B Listed	9.2	8
18443	Alderston House	Category B Listed	11.6	5
18444	Alderston House, Dovecot	Category B Listed	11.6	5
18980	Wester Causewayend, Steading, South Range	Category B Listed	6.8	10
18980	Wester Causewayend, Steading, West Range	Category B Listed	6.8	10
18980	Wester Causewayend, Steading, Range Adjacent To House	Category B Listed	6.9	10
18980	Wester Causewayend, Steading, North Range	Category B Listed	6.9	10
18980	Wester Causewayend	Category B Listed	6.9	10
18980	Wester Causewayend, Steading, North East Range	Category B Listed	6.9	10
19672	Livingston, Bankton Lane, Bankton House	Category B Listed	10.9	2
19677	West Calder Railway Station and Footbridge	Category B Listed	9.2	8

Ref No	Site Description	Status	Distance to Harrows law turbines (km)	No of other wind farms visible
26857	Edinburgh, Balerno, Glenbrook Road, Glenbrook House, Stables	Category B Listed	14.7	0
49089	Auchenhard House, Summerhouse	Category B Listed	10.2	7
49089	Auchenhard House, Gatepiers	Category B Listed	10.5	7
49185	Auchenhard Farmhouse	Category B Listed	10.2	7
	Biggar	CA (outstanding)	14.6	0
	Carnwath	CA	12.3	5
	Livingston Village	CA	12.9	3
	Mid Calder	CA	9.1	8
	Harburn House	GDL	6.3	0

Key: SM, scheduled monument; CA, conservation area; GDL, garden and designed landscape



Key

- Borrow Pit
- Anemometer
- Turbine Locations
- Substation (100m x 50m)
- Existing Track
- New Track
- Temporary Track
- Existing Quarry
- Construction Compound
- Cultural Heritage Site
- Cultural Heritage Site (Linear)
- HER Event Area







Scale 1:20,000 @ A3






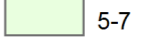




Figure 12.1
Cultural Heritage Sites

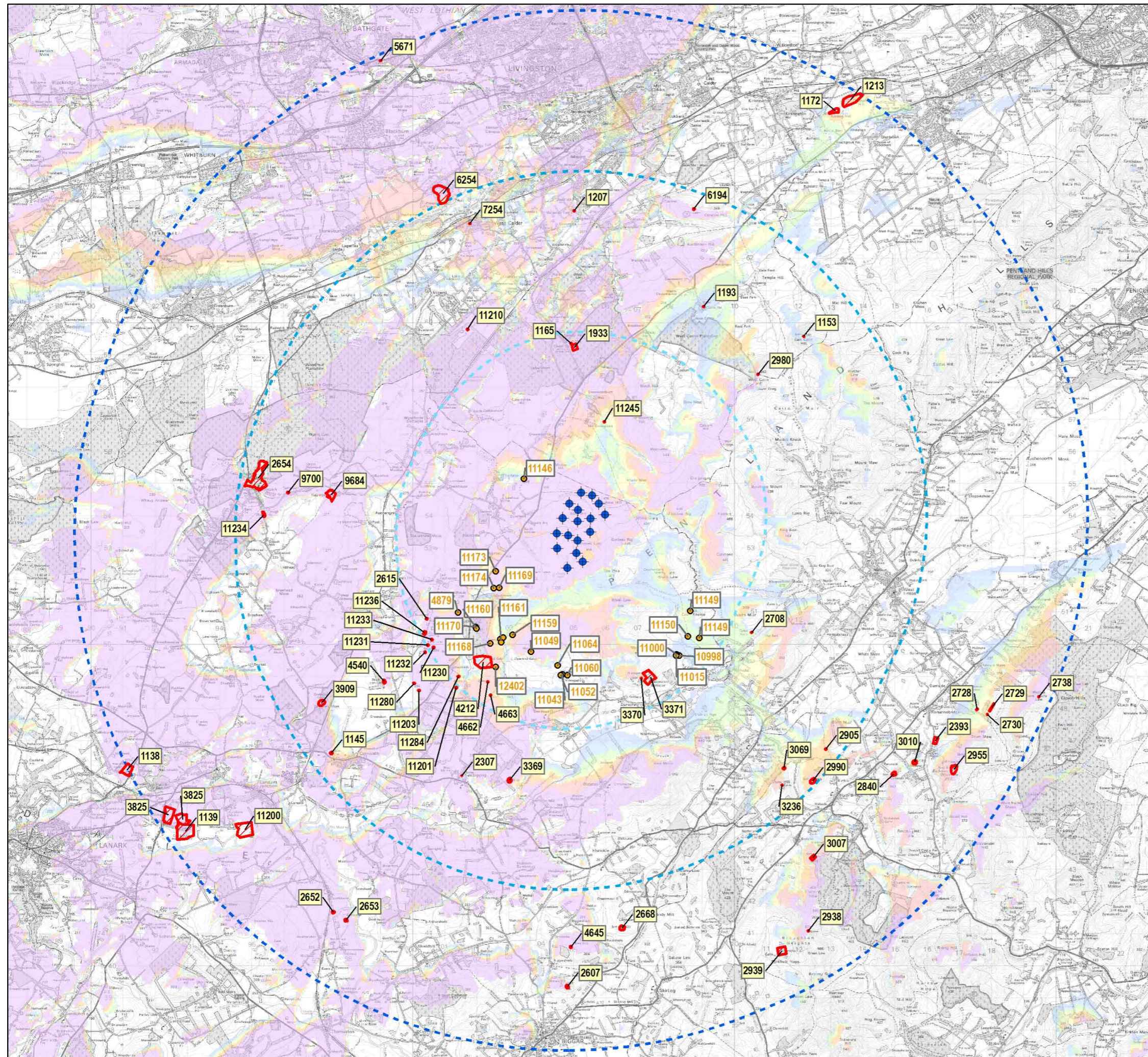
**Harrows Law Windfarm
Environmental Statement**

Key

-  Turbine Location
-  5km Buffer
-  10km Buffer
-  15km Buffer
-  Scheduled Monument
-  NSR Site

Number of Turbines Visible at Blade Tip Level

-  0
-  1-2
-  3-4
-  5-7
-  8-10
-  11-13
-  14-16
-  17

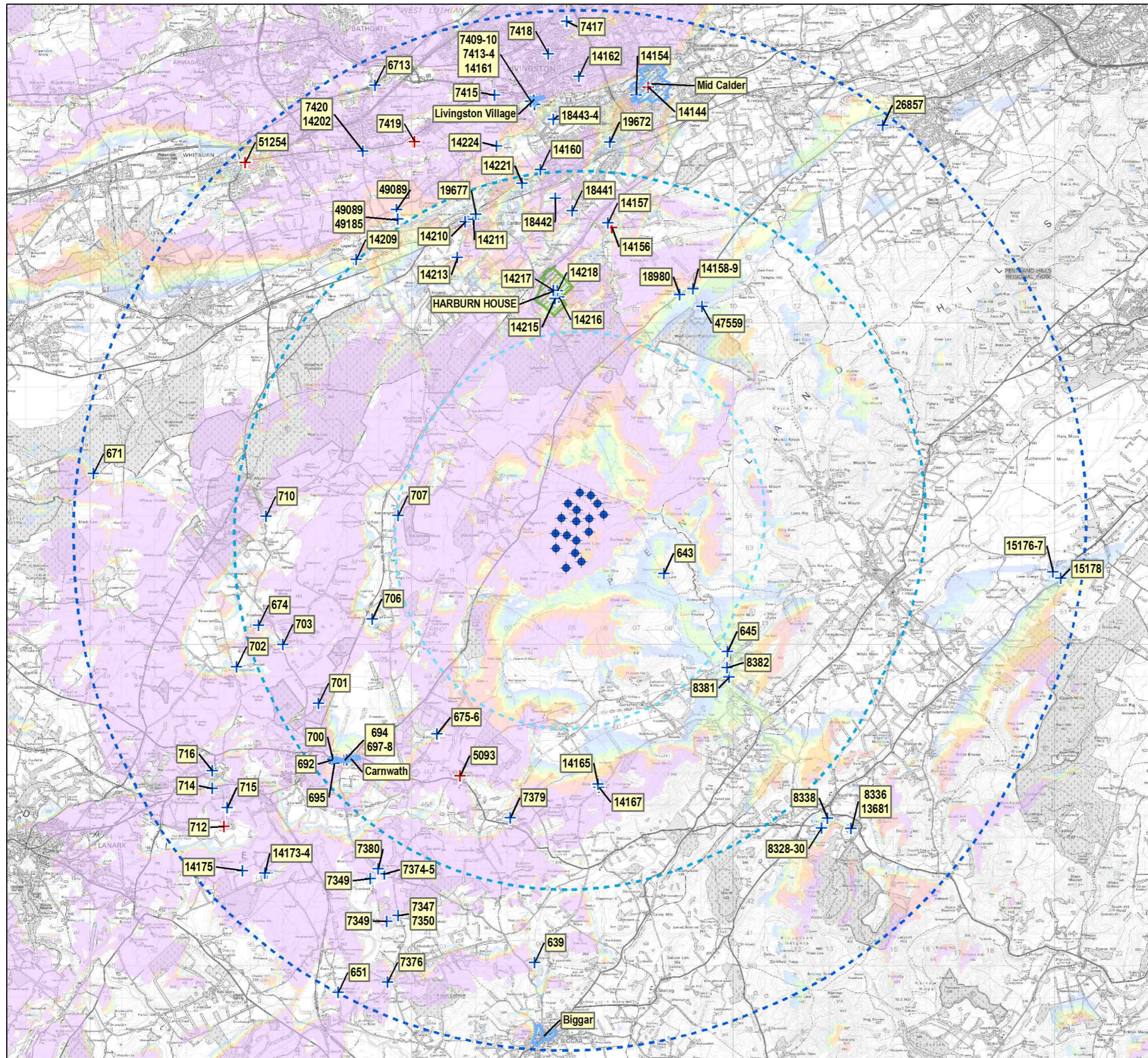


Scale 1:120,000 @ A3



Figure 12.2
Scheduled Monument and NSR Sites

**Harrows Law Windfarm
Environmental Statement**



Key

- Turbine Location
 - 5km Buffer
 - 10km Buffer
 - 15km Buffer
 - A Listed Building
 - B Listed Building
 - Conservation Area
 - Garden and Designed Landscape
- Number of Turbines Visible at Blade Tip Level
- | | |
|--|-------|
| | 0 |
| | 1-2 |
| | 3-4 |
| | 5-7 |
| | 8-10 |
| | 11-13 |
| | 14-16 |
| | 17 |

Scale 1:120,000 @ A3



Figure 12.3
**Listed Buildings, Conservation Areas
and Garden and Designed Landscapes**
**Harrows Law Windfarm
Environmental Statement**

Key

Note: each wireline is constructed with a 90 degree view angle

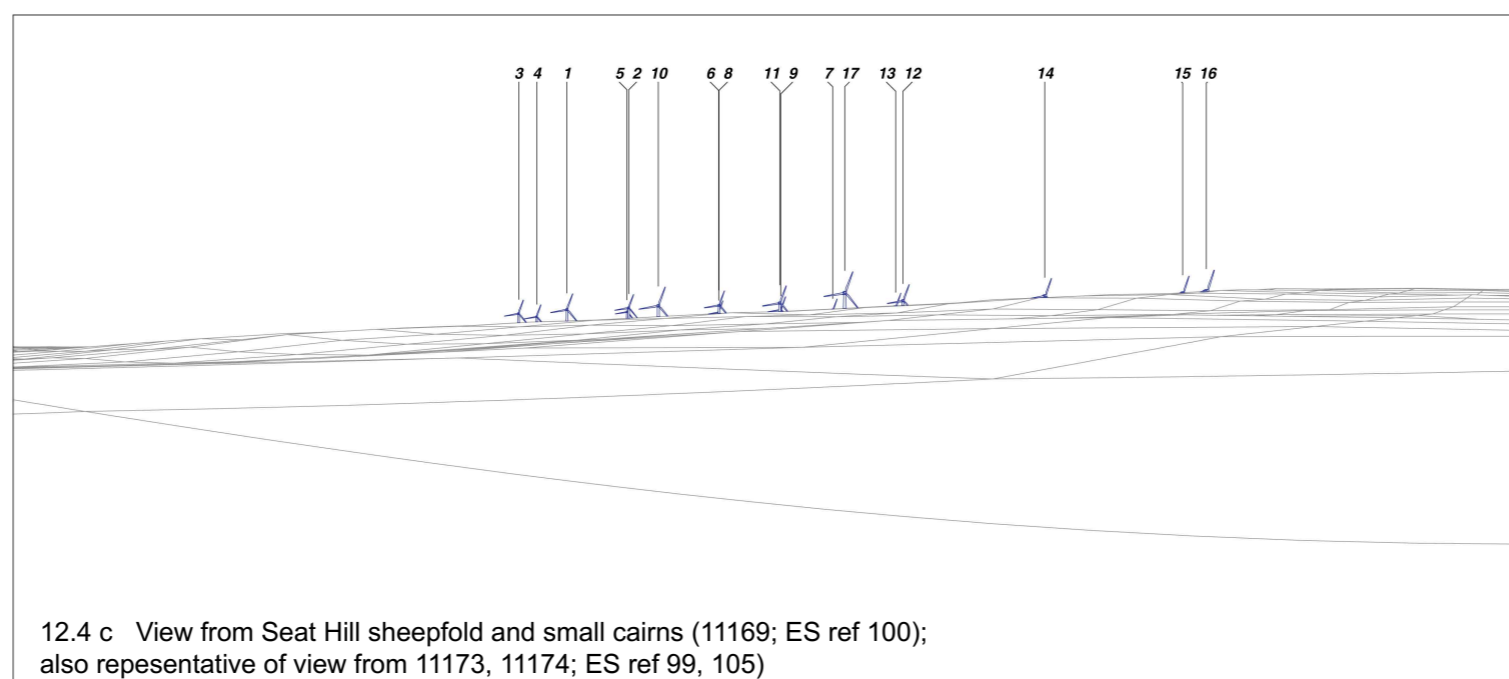
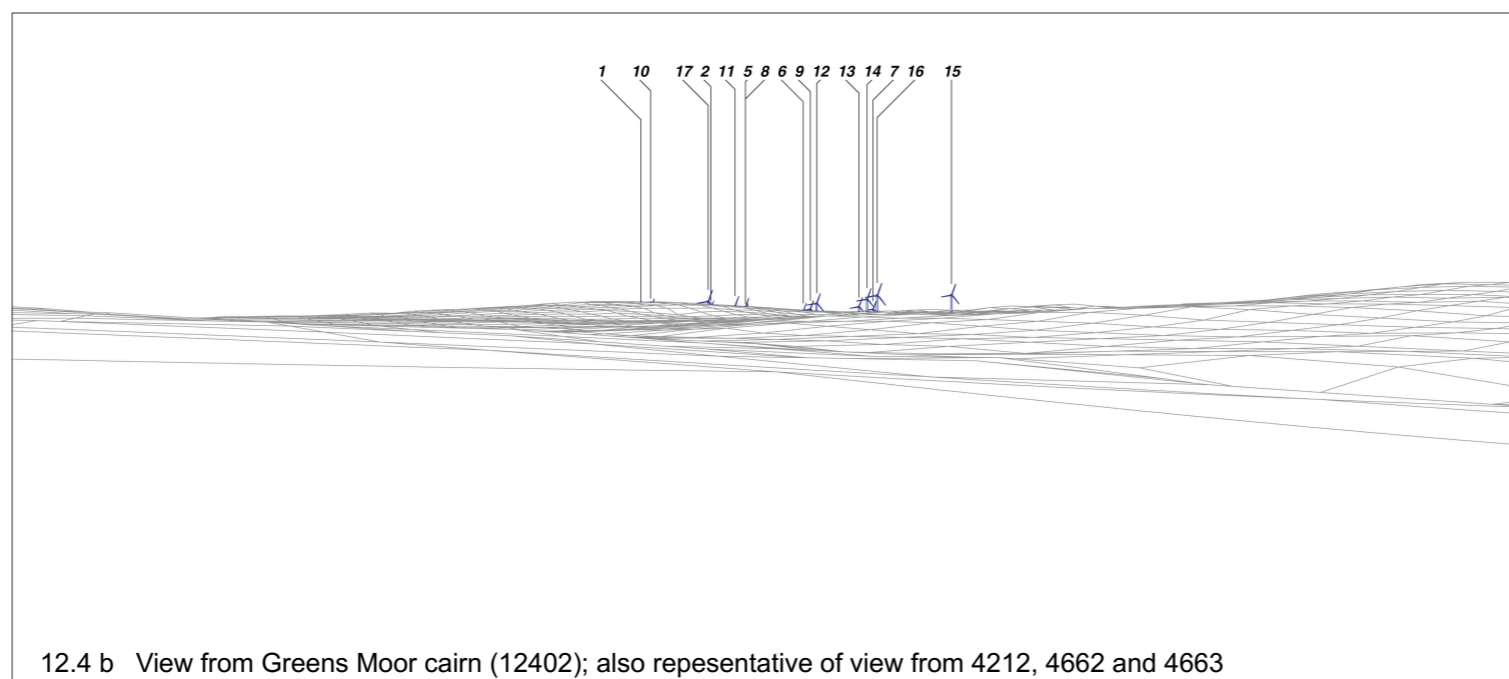
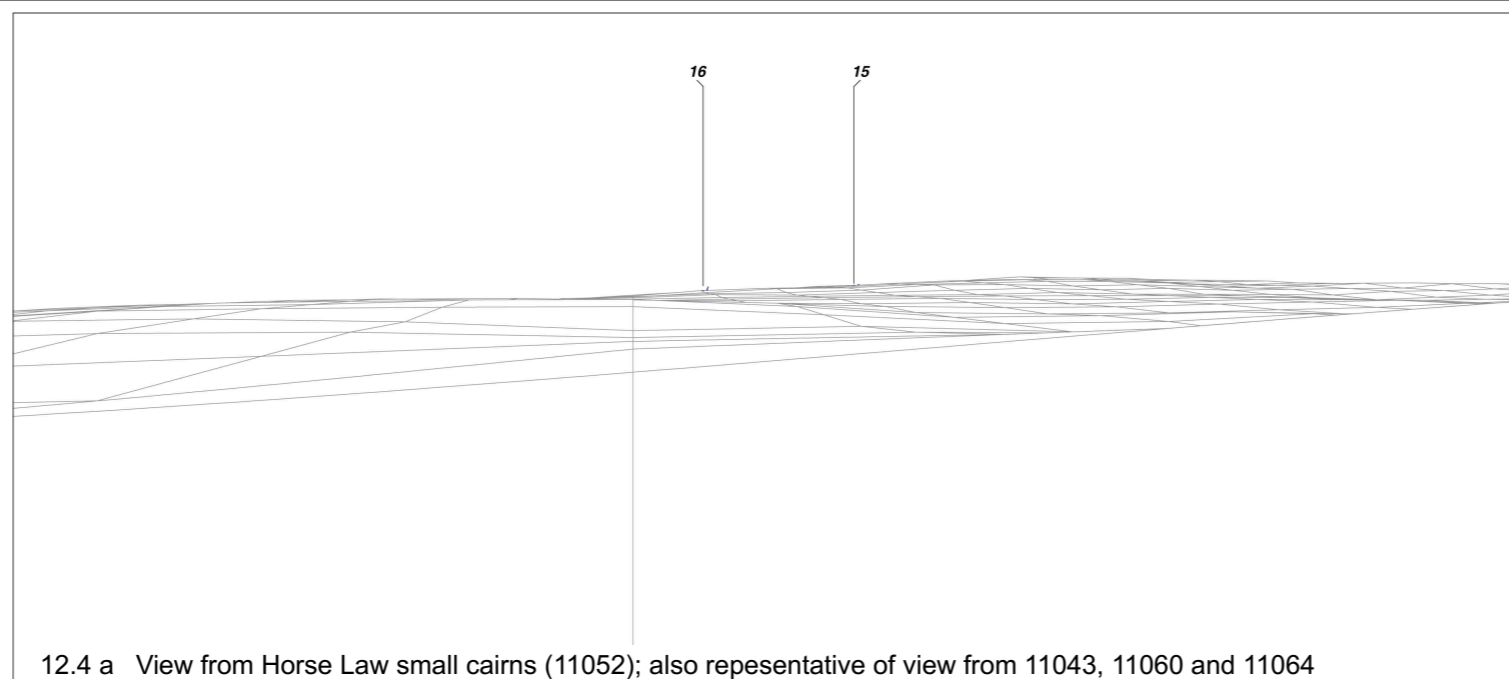


Figure 12.4

Wirelines 1 of 2

Key

Note: each wireline is constructed with a 90 degree view angle

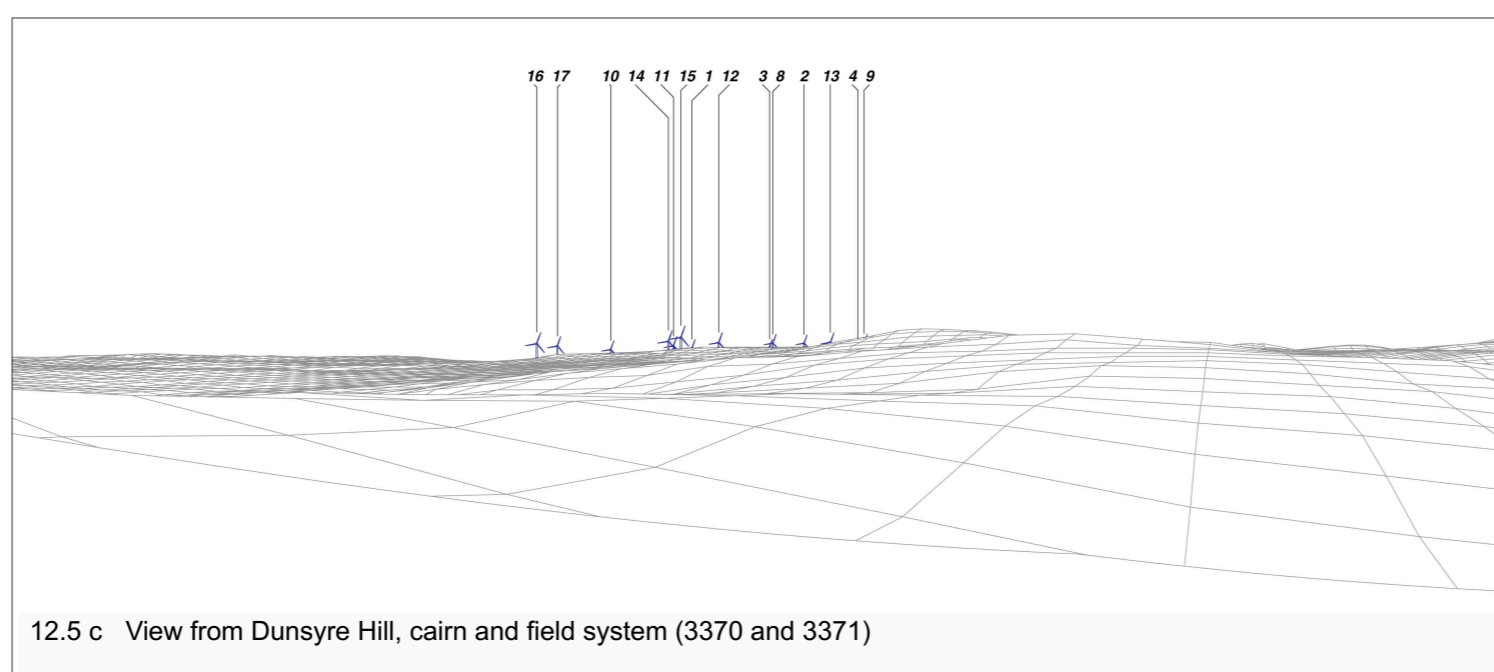
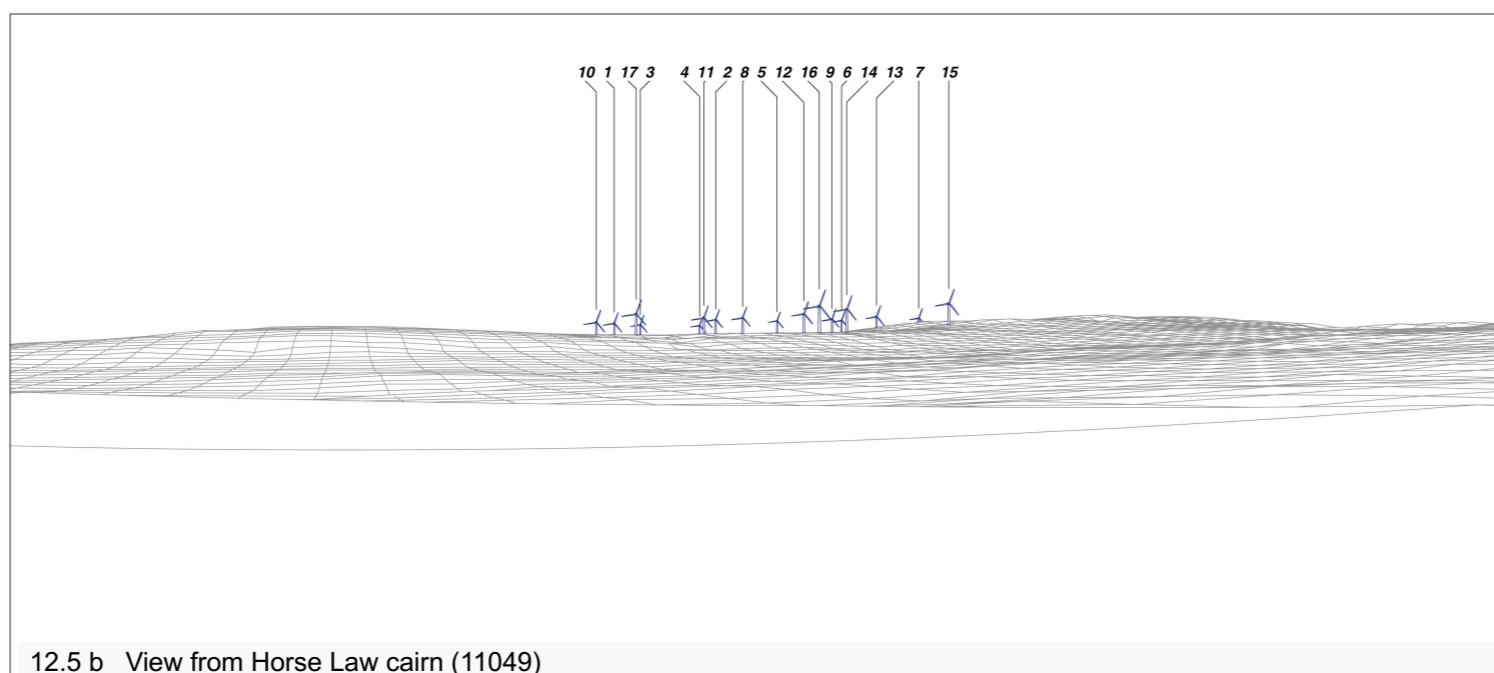
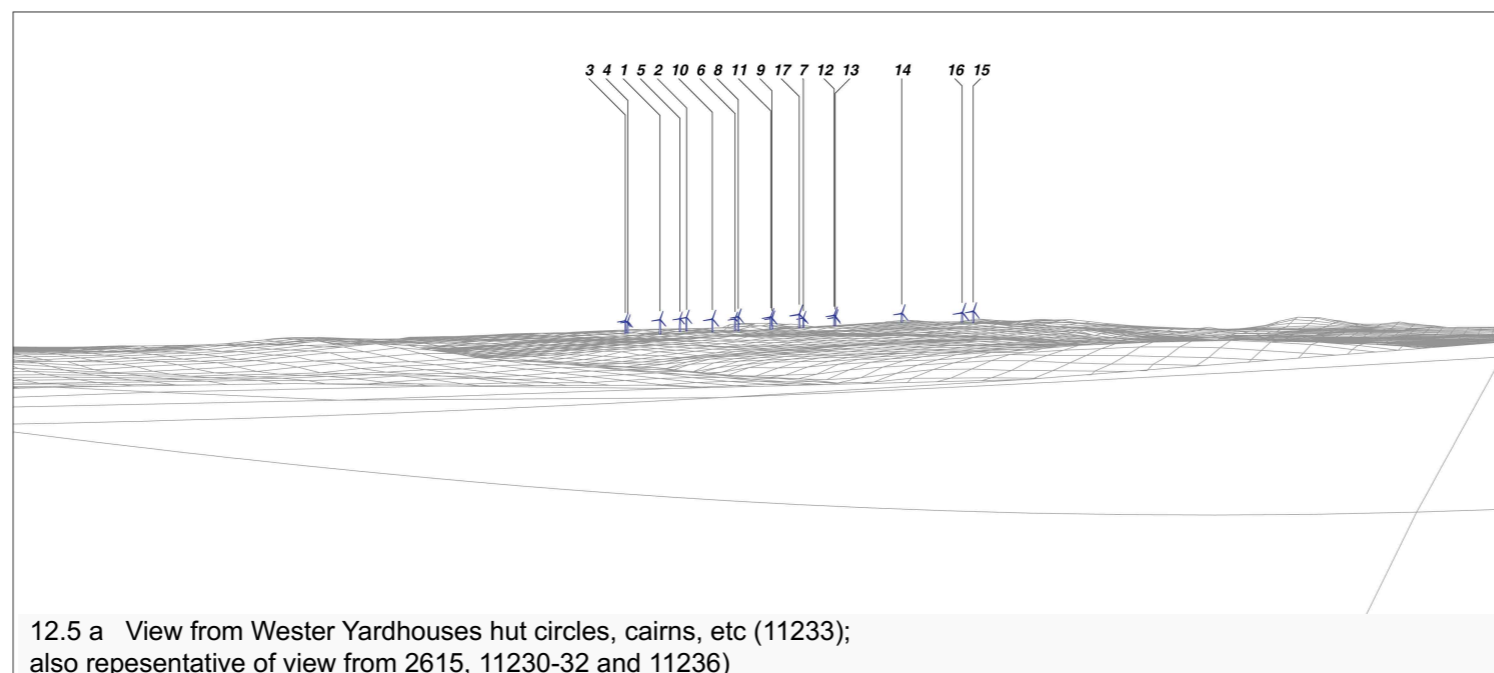







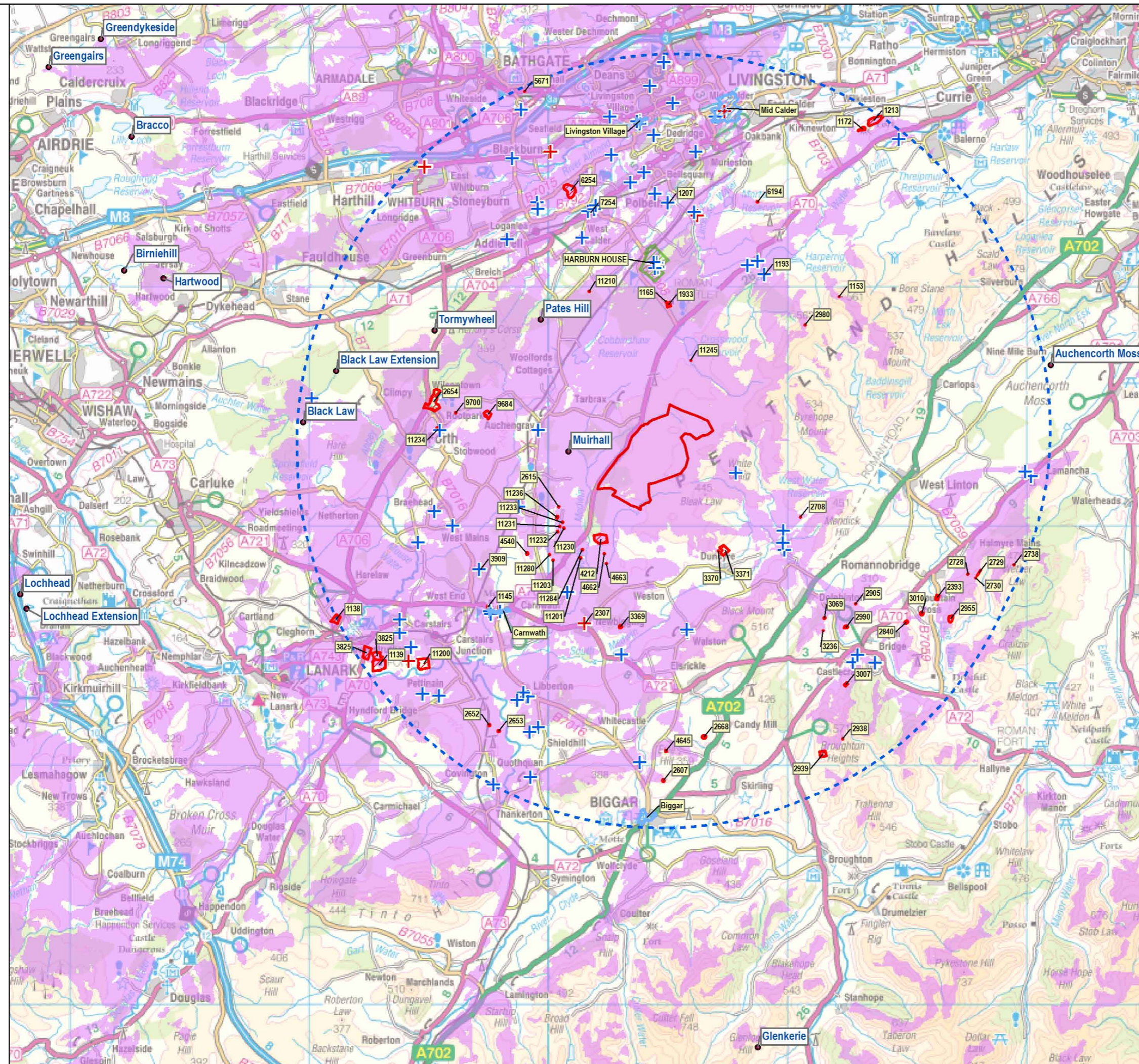


Figure 12.5
Wirelines 2 of 2

Key

-  Scheduled Monument
-  Listed Building Category A
-  Listed Building Category B
-  Garden and Designed Landscape
-  15km Buffer
-  Number of Turbines Visible at Blade Tip Level
1 - 17
-  Cumulative wind farms within 30km



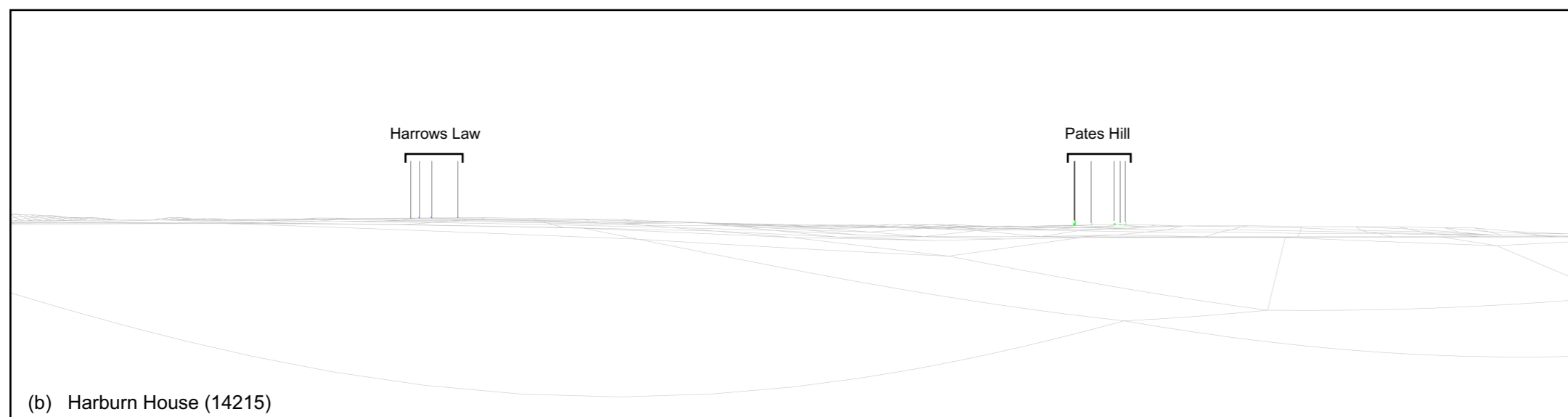
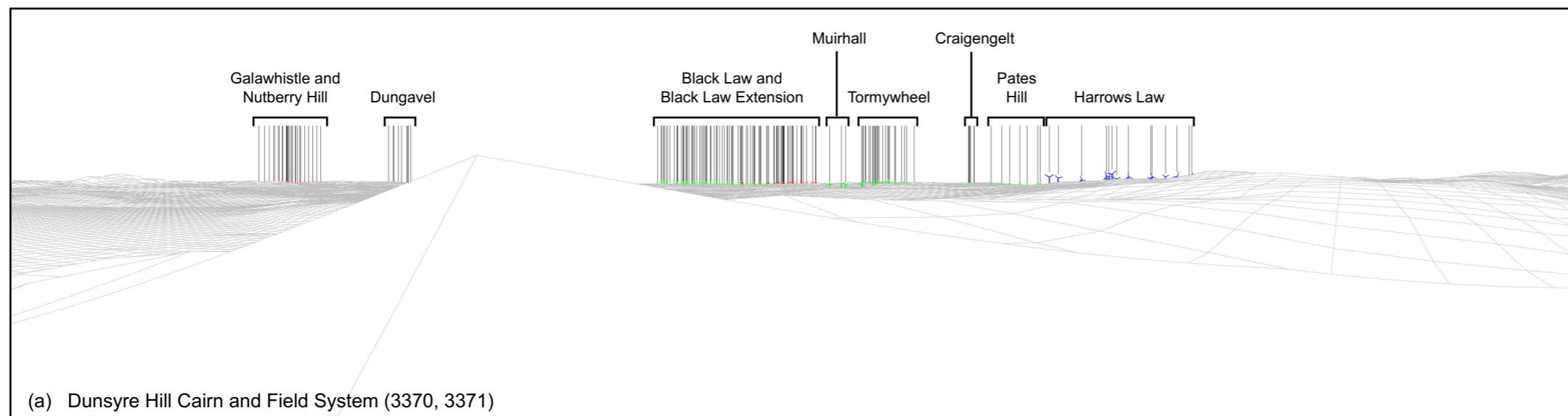
Scale 1:160,000 @ A3



Figure 12.6
Listed Buildings, Conservation Areas and Garden and Designed Landscapes
Harrows Law Windfarm Environmental Statement

Key

Note: each wireline is constructed with a 180 degree view angle



Scale: Not to Scale



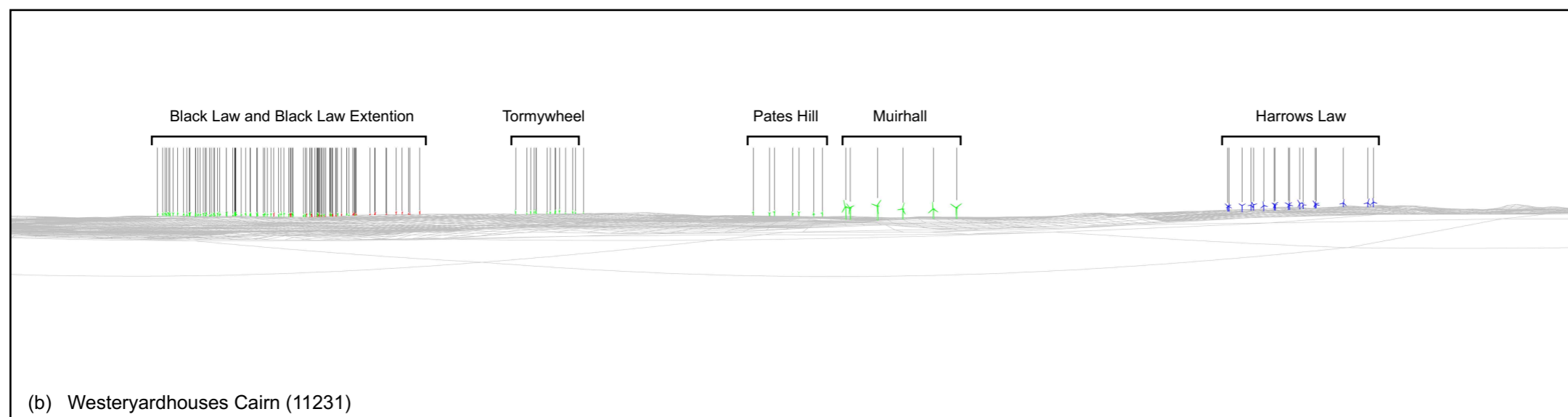
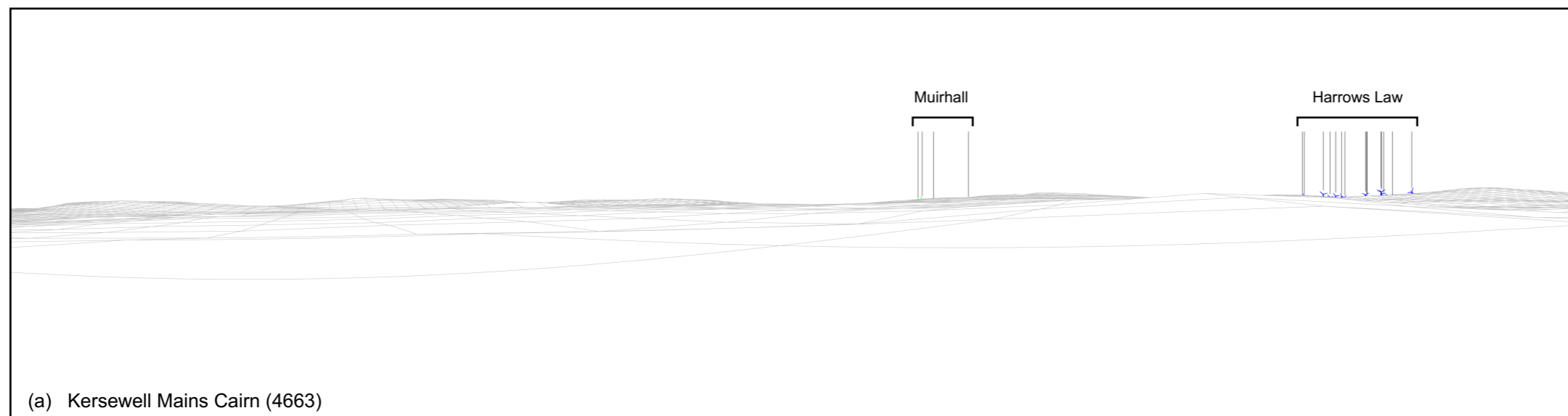
Figure 12.7

Wirelines

**Harrows Law Windfarm
Environmental Statement**

Key

Note: each wireline is constructed with a 180 degree view angle



Scale: Not to Scale



Figure 12.8

Wirelines

**Harrows Law Windfarm
Environmental Statement**