

**LANDSCAPE AND VISUAL GUIDANCE ON SINGLE AND SMALL
GROUPS OF WIND TURBINE DEVELOPMENTS IN BERWICKSHIRE,
SCOTTISH BORDERS**

FINAL Main Report

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1 INTRODUCTION

1.1 Policy context

The Scottish Government is committed to increasing the amount of electricity generated from renewable sources. The current target is to meet 50% of Scotland's electricity requirement from renewable sources by 2020. Most of this capacity is likely to be met from hydro-electric and on-shore wind power, but in due course there is expected to be a wider range of productive renewable technologies, including off-shore wind power as well as biomass, solar, energy from waste and landfill gas and wave and tidal power.

Most of the energy generated to meet these targets will come from large scale, commercial developments under the Renewables Obligation which requires electricity suppliers to source a specified percentage of their energy from renewable technologies. However, the Government is also keen to encourage communities and small businesses to invest in renewable energy projects. Initiatives such as the Community and Renewable Energy Scheme and the 'Clean Energy Cashbacks', most commonly known as the 'Feed in Tariff' (for generators up to 5 MW) are examples of Government support to encourage the development of these smaller scale initiatives.

Scottish Planning Policy 2010 (SPP) seeks to support the initiatives set out above. It provides for a planned approach to delivering the target through setting the overall policy for preparing spatial frameworks, including the safeguarding of areas designated for their national and international natural heritage value. It gives a clear role to local authorities in relation to local interests and designated areas, in the identification of areas of search for developments over 20MW and in setting policy criteria. It however allows local planning authorities to make the decision whether to provide spatial guidance on wind farms below 20MW. SPP 2010 also recognises that there will be limits to the capacity of some areas to accept the cumulative impacts of multiple wind farm developments.

SPP 2010 expects planning authorities to '*support the development of a diverse range of renewable energy technologies, guide development to appropriate locations and provide clarity on the issues that will be taken into account when specific proposals are assessed*'. They are also expected to clearly set out... '*the factors that will be taken into account in decision making on all renewable generation developments*' within their development plans, or within supplementary guidance.

The Scottish Borders Council sets out its planning policy for wind farms and turbines within Structure plan policy I19 – Renewable Energy and policy I20 – Wind energy developments and consolidated Local Plan policy D4 – Renewable Energy. This is supplemented by Supplementary Planning Guidance (SPG) on Wind Energy for the Scottish Borders, which was approved by The Scottish Borders Council in May 2011. This SPG includes confirmation of the criteria to

be used when addressing planning applications, gives advice on good planning practice, gives further supplementary guidance to consolidated Local Plan Policy D4 – Renewable Energy, lists appropriate conditions which could be used as part of any planning consent and incorporates a spatial strategy which identifies areas of search giving guidance as to where turbines could potentially be supported.

1.2 Study objectives

Although the SPG on Wind Energy gives some design guidance for smaller scale turbine proposals and the spatial strategy identifying areas of search is also of relevance for smaller scale proposals, the thrust of the document is geared more towards larger scale proposals of 20MW or more.

Within this context, the SPG does not specifically address proposals for single and groups of typically 2 or 3 turbines, which is an emerging trend.

Berwickshire is under pressure from these types of proposals, and has arranged of different landscape character types, ranging from the uplands of the Lammermuir Hills, through various foothill or upland fringe landscape types to extensive lowlying farmland and the coast. The majority of single and small group proposals often lie within the lowlying farmland, and are highly visible. The number of applications also indicates that there may be cumulative impacts associated with these proposals, which are also not addressed by the SPG.

As a result this study has been commissioned to inform a Technical Advice Note principally for internal use by planning officers to address these issues.

In brief this study will:

- Undertake a landscape and visual sensitivity assessment for single and small groups of wind turbines within landscape character types in Berwickshire. Figure 1 shows the study area.
- Prepare a written analysis and sensitivity assessment using a clear method which can be replicated, if necessary, across the Scottish Borders Council landscape
- Produce a report which defines clear spatial principles as to what height of turbine would be appropriate, in landscape and visual terms, within the different landscape character types in the study area
- Provide design and siting guidance for use by the Council and applicants to promote good practice in locating and siting individual and small groups of turbines

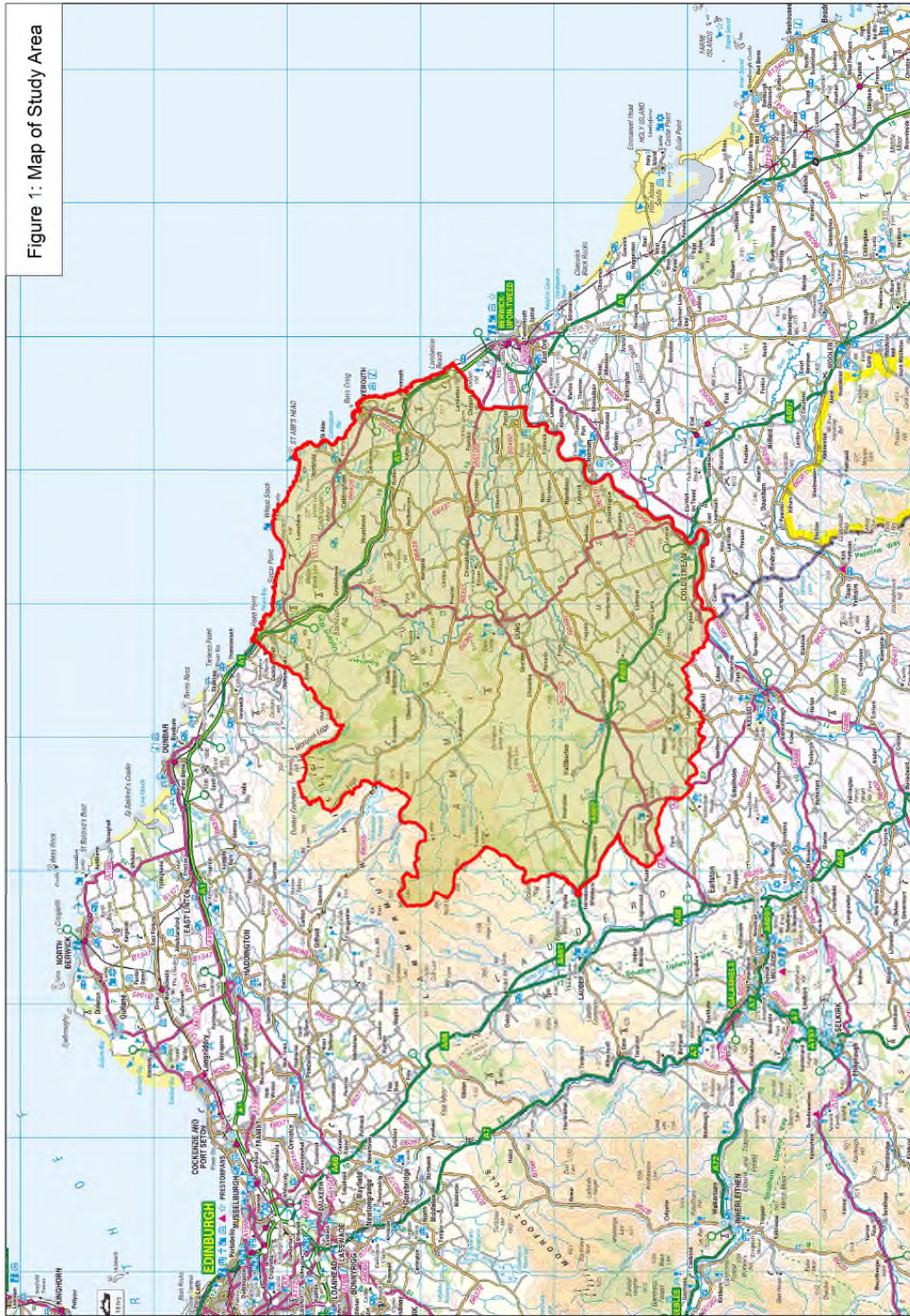


Figure 1: Map of Study Area

1.3 Structure of the report

This Main Study Report sets out the key findings of the wind farm landscape and visual sensitivity assessment for Berwickshire.

This main report initially summarises the methodology adopted for the study and the development typologies considered in the sensitivity assessment. Operational and consented wind farm and turbine developments which form the baseline for the study are then identified. The existing landscape character assessment¹ formed the baseline for the character type sub-divisions used in this study, and comments on further subdivision or amendments to this baseline character assessment are identified in Section 3 of this report.

The landscape and visual sensitivity assessments undertaken for wind farm developments within each of the landscape character types/sub-types are then summarised in this report, along with guidance on cumulative issues by character type, opportunities and constraints and key siting guidance. This main report includes an appendix which sets out the micro-siting guidance for small turbines (>50m to blade tip). This Main Study Report concludes with a summary of key findings and recommendations.

An accompanying Appendix Report contains the detailed assessments of sensitivity undertaken for all the landscape character types, set out in tabular form by identified and agreed criteria.

1.4 How to use the study

The study aims to inform both strategic spatial planning for wind turbine developments and to provide guidance on the appraisal of individual wind turbine proposals. This Main Study Report summarises the landscape and visual sensitivity assessments that have been undertaken and it is therefore essential to also read the more detailed sensitivity assessment tables contained in the Appendix Report when considering individual wind energy developments.

The sensitivity assessments have been undertaken on the basis of defined landscape character types. Landscape character types often have 'fluid' boundaries where a gradual transition can occur between adjacent character types with some similar characteristics. Wind turbines are also tall structures likely to have an influence on adjoining landscape character types. It is therefore recommended that when considering individual proposals, both the landscape character type that the development lies in and immediately adjoining character types are reviewed as wider sensitivities may apply.

This study considers the ability of landscape character types to accommodate wind turbines as a landscape characteristic which can be repeatedly and consistently accommodated across each landscape character type. It does not assess the implications of a 'one off' turbine which may become a single feature

¹ ASH Consulting Group, *Scottish Borders Landscape Assessment*, 1998, Scottish Natural Heritage and Scottish Borders Council.

in the landscape. The recommendations and guidance on capacity for each character type therefore reflect the potential of the landscape to accommodate turbines as a landscape characteristic, either as multiple single features or multiple small groups within the landscape character type.

In terms of guidance, the study indicates that where a landscape character type is identified as being of High or High-Medium sensitivity rating overall for any typology, it is the opinion of the consultants that no scope for that typology can be accommodated in the landscape character type without significant adverse landscape and/or visual effects.

As a result, if a typology assessed as being of High or Medium-High sensitivity is proposed, it is considered the responsibility of the developer to demonstrate how the effects of the proposal on the key constraints and significant adverse effects identified in the sensitivity assessment have been mitigated.

In all cases, the Planning Authority will consider other material factors, unrelated to landscape and visual effects, in the assessment of any planning application.

2 STUDY METHODOLOGY

This study methodology is based on landscape and visual capacity assessment, which uses sensitivity assessment to assess the ability of the landscape character and visual amenity to accommodate changes brought about by new development.

2.1 Background to landscape capacity

Landscape capacity is described as *‘the degree to which a particular landscape character type or area is able to accommodate change without significant effects on its character, or overall change of landscape character type. Capacity is likely to vary according to the type and nature of change being proposed’*²

There is currently no formally agreed approach or methodology for assessing the sensitivity or capacity of different landscapes to wind energy development. Scottish Natural Heritage (SNH) have issued guidance on good practice in landscape capacity studies. More detailed guidance is also provided by SNH in *Siting and Designing Wind Farms in the Landscape* which includes advice on strategic planning for wind farms, and in the *Siting and Design of Single and Groups of Small Turbines in the Landscape* (2012).

Most landscape capacity studies are based on landscape character units and identify key characteristics of each landscape area or type potentially sensitive to any given development. The particular characteristics defined as key sensitivity criteria may change according to the nature of the development being considered, although the methodological approach between studies is generally similar. Visibility and views may be considered as a separate issue or may form part of the assessment of landscape sensitivity as a criterion together with key landscape characteristics.

2.2 Definition of terms

The following definitions of terms apply to this study:

Landscape character

Landscape relates not only to the physical attributes of the land but also to the experience of the receptor. Landscape character is made up of the physical characteristics such as landform, land cover and settlement pattern (which exist whether anyone sees them or not) plus a range of experiential and perceptual responses to that landscape.

Landscape sensitivity

Sensitivity relates to landscape character and how vulnerable this is to change. In this study change relates to wind energy development and any findings on landscape sensitivity are restricted to this. Landscapes may have different sensitivities to other forms of change or development. In this study, sensitivity is assessed by considering the effect of different heights of wind turbine

² Swanick, Carys and Land Use Consultants, *Landscape Assessment Guidance for England and Scotland*, 2002, Countryside Agency and Scottish Natural Heritage.

development on the physical, experiential and perceptual characteristics of landscapes. Landscapes that are highly sensitive are at risk of having their key characteristics fundamentally altered by the wind turbine typology under consideration in the assessment.

Landscape capacity

This relates to how far a landscape can accommodate development without significant adverse impacts on its character. Landscape character and sensitivity are part of this, but in this study capacity also includes an assessment of visual sensitivity. In this study, values in terms of landscape designations, have not been included in the assessments.

2.3 General approach to the study

Our approach to the study has been informed by guidance on the potential impacts and landscape sensitivities associated with wind energy development and on the practical application of methodologies used in recent landscape capacity studies we have undertaken for wind energy development. It has involved the following key tasks:

- Identify the existing, consented and proposed wind farm developments in Berwickshire and within adjoining areas to inform the baseline for this study and understand development trends.
- Review the existing baseline landscape character studies for Berwickshire and adjoining areas and the definition of landscape character types to be used as the basis for the study.
- Identify wind turbine development typologies to be assessed in the study.
- Define and agree the landscape and visual sensitivity criteria to be used in the assessment.
- Undertake field work to assess the sensitivity of different landscape character types to the agreed development typologies using identified sensitivity criteria.
- Develop guidance on the siting of smaller turbines, principally informed by field work undertaken in Berwickshire.
- Provide an overview of landscape and visual sensitivities across the study area and recommendations on strategic landscape and visual considerations.

2.4 Operational, consented and proposed wind farms

A number of wind farm and single turbine developments have been constructed and consented within Berwickshire. These are considered to form part of the baseline landscape and visual character in the study, and have been noted where they occur in the assessments for each character type.

2.5 Baseline landscape character

This capacity study has been informed by the landscape characterisation work set out in the Borders Landscape Assessment (1998) undertaken by the ASH Consulting Group for SNH and Borders Regional Council. Review of this study was undertaken in the field. Very minor revisions were made to the boundaries of some landscape character types, and in addition, a single new character type

was identified. Details of these changes are described in Section 3 of this report.

2.6 Development typologies

2.6.1 *Smaller typologies*

The height of turbines relative to other structures in the landscape is a key consideration in terms of landscape ‘fit’. Different sensitivities come into play once turbines exceed the height of other common landscape features, for example trees and small wood pole lines.

Turbines below 20m height to blade tip have been excluded from the detailed sensitivity assessment undertaken for character types within Berwickshire. This is because turbines of this size can be successfully accommodated within most settle landscapes subject to careful siting and design. Landscape and visual issues associated with turbines of this size are however generally considered within the sensitivity assessments and within the guidance on the siting of smaller turbines contained in Section 22 of this report.

We have categorised smaller turbines as being those under 50m height to blade tip. We have found during our field assessments (and observations of existing smaller turbines in the landscape) that there is a noticeable ‘threshold’ at around 35m height to blade tip where over this height a turbine will quickly become a dominant feature in many lowland/more settled landscapes. Two ‘smaller’ typologies have therefore been assessed in detail in the study based on turbines 20-35m and 35m-50m height to blade tip. These smaller typologies have not been considered in detail within more sparsely populated upland landscapes character types although a brief appraisal of key sensitivities relating to smaller typologies is included in the summary and guidance sections of the sensitivity assessments for these character types.

2.6.2 *Larger typologies*

In terms of larger developments (turbines 50m +) we have principally considered the height of turbine within the sensitivity assessment. We have not specifically considered pre-determined numbers of turbines within the typologies assessed although some indication is given of the likely extent of development that may be accommodated where the sensitivity assessment indicates some capacity within the guidance set out for each landscape character type.

2.7 Summary of development typologies to be considered

We have considered the following development typologies in the study:

Typology	Height to blade tip
Small	20-35m
Small/medium	35-50m
Medium	50-80m
Large	80m+

The study has focussed on assessing the relationship between the height of the turbine and the sensitivity criteria. In undertaking this analysis, single turbines and small groups of up to three turbines have generally been considered as the

preferred study typology. The guidance for each individual landscape character type includes an indication of the numbers of turbines which could be accommodated within each small group cluster within the character type.

In addition, extensions to existing wind farm developments have been considered in the guidance provided within each sensitivity assessment with recommendations given on the appropriate height of turbines and the general extent of development that could be accommodated.

2.8 The sensitivity assessment

The capacity study considers the sensitivity of key characteristics of each landscape character type to different types of wind farm or turbine development. The assessment process uses a range of sensitivity criteria to do this based on key landscape and visual characteristics. The sensitivity assessment combines landscape sensitivity, visual amenity and existing cumulative effects.

2.8.1 Landscape and visual sensitivity criteria

The sensitivity assessment considers the following criteria in assessing the potential effects of wind turbines and associated infrastructure on the landscape character types:

- Landscape context
- Scale and openness
- Landform
- Land cover pattern
- Built environment
- Perceptual qualities
- Visual amenity
- Cumulative effects

A detailed description of the factors considered within the sensitivity assessment is explained in Table 1 below.

Table 1: Sensitivity criteria to be used in the assessment

Sensitivity criteria	Factors considered and relevance of criteria to wind turbines
<i>Landscape context</i>	<p>The role of adjacent character types in contributing to the overall character of the type being assessed. This includes consideration of where adjacent types may provide containment, increase or reduce the experience of scale or complexity or combine to provide a notably scenic whole.</p> <p>Assessment of the potential effects of development on adjacent character types and vice versa. This includes an assessment of inter-visibility.</p> <p>Assessment of the overall geographic extent of the character type.</p> <p>Landscape types that are more closely juxtaposed and</p>

	<p>contrast strongly with surrounding landscapes may be especially sensitive.</p> <p>Landscape types which are large in extent, or which have similar scale or vegetation pattern to neighbouring landscapes may have more scope for larger typologies.</p> <p>Landscape types which are small in extent, especially if different in scale or vegetation pattern to neighbouring types, may be more sensitive in terms of potential impacts on neighbouring landscape types.</p>
Scale and openness	<p>Consideration of the scale of the landscape taking into account the degree of relief, amount of topographical containment, degree of openness and enclosure and the extent of land visible.</p> <p>Identification of areas of containment and factors that create enclosure where scale reduces. Identification of features against which the size of a turbine might be easily referenced.</p> <p>Consideration of how the size of the development might impact on the understanding of scale of the landscape.</p> <p>Assessment of how the development would relate to the scale of the landscape including whether they would be likely to dominate or appear compatible in scale in terms of the relative scale of landform, landscape pattern and individual features, including buildings, in the landscape.</p> <p>Consideration of how development would affect expansiveness and the sense of distance.</p> <p>In general, the larger the scale of the landscape and more open the landscape, the greater the ability to relate to larger development typologies.</p>
Landform	<p>Consideration of the overall topographical shape and the degree of complexity of landform including identification of any distinct 'landmark' features.</p> <p>Assessment of how development, including ancillary works, would impact on or relate to landform and whether it would intrude or detract if close to distinctive landform features.</p> <p>In general the simpler and more gently graded the landform the better the visual relationship with the simple form of turbines. More gentle gradients are also likely to better accommodate the platforms and roads associated with larger turbines.</p>
Landscape pattern	<p>Consideration of the degree of complexity and diversity of land cover pattern (field enclosure, woodlands, water courses and lochs) and whether pattern is strong or distinctly repeated, displays integrity or where it is fragmented.</p> <p>Assessment of the degree of diversity, and the importance of this in informing the distinctiveness of the landscape character.</p>

	<p>Assessment of how development could relate to pattern; whether it would disrupt or dominate strong pattern or undermine well balanced diversity, interrupt or fragment integrity of pattern, fit with areas where pattern is more simple or increase visual confusion where pattern is very fragmented.</p> <p>Consideration of potential effects on landmark features, such as hill top copses, designed landscapes and features, water bodies.</p>
Built environment	<p>Consideration of the pattern, density and character of settlement, its relationship to topography or other natural features and its setting, roads and other built structures.</p> <p>Consideration of historic features and sites and their setting.</p> <p>Assessment of how development might impinge on these characteristics; where there may be scope to attain some visual separation to minimise effects on settlement setting and avoid fragmentation of the pattern of built development and its association with topography or other natural features.</p> <p>Where larger scale industrial buildings and built structures such as pylons, masts and existing wind farms are present, the relationship of additional turbine development to these will be considered.</p> <p>Historic and archaeological features which contribute to landscape character are assessed in terms of any potential effects on setting.</p>
Perceptual qualities	<p>Consideration of the degree of modification by human intervention (such as roads, settlement, forestry, masts and wind turbines), consideration of how development could affect perceptions of naturalness and the degree of tranquillity experienced.</p> <p>Consideration of the sense of remoteness in terms of ease of access or seclusion (in the sense of the degree of containment that can be experienced rather than purely distance from roads and settlement) and whether and how development would alter these perceptions.</p> <p>Identification of landscapes where the number and distinctiveness of archaeological or historic features can give a strong sense of history or 'timelessness'.</p> <p>Identification of opportunities related to more developed and modified landscapes.</p>
Visual amenity	<p>The number of viewpoints (whether well settled and easily accessible, for example, or not) and types of viewpoints and overall visibility of the landscape type.</p> <p>The degree of openness or enclosure which influences visibility, including the amount of screening created by topography and woodland.</p>

	<p>The type of views, including elevated, extensive views which are sustained, framed views to focal points or glimpse views, or views experienced as part of a sequence or as revealed views creating a sense of arrival into the landscape type.</p> <p>The significance of skylines and visual horizons.</p> <p>Key vistas associated with historic landscapes or other features.</p>
<p>Cumulative effects</p>	<p>Consideration of existing operational and consented wind farms or turbines within the landscape character type and in the surrounding area. Identification of any constraints to further development in relation to cumulative visual or landscape effects. This includes consideration of sequential and simultaneous visual effects, as well as height, siting and design considerations informed by the presence of existing wind turbines.</p>

2.8.2 *Site assessment*

Sensitivity assessments were carried on site, drawing on extensive field work. Computer-generated visualisations from relevant Environmental Statements were used, where available, to inform the assessment of potential cumulative visual issues. A number of ‘photo wire’ visualisations illustrating a range of turbine heights from identified viewpoints were also produced to inform the sensitivity assessment in the field.

2.9 Sensitivity levels

We have used a five point scale of ‘scoring’ in the assessment of each sensitivity criterion. This is also adopted in the overall sensitivity ‘scores’ accorded to each landscape character type. This is interpreted in the following table relating to overall sensitivity ratings:

Table 2: Explanation of Sensitivity Ratings

Overall Sensitivity rating	Definition
Low	The development typology relates well to key landscape characteristics and change is able to be accommodated without significant adverse impacts on landscape character or visual amenity.
Medium - low	Some limited sensitivities although there are opportunities to accommodate the development typology in most locations.
Medium	Some key landscape characteristics or aspects of visual amenity are sensitive but there is still some ability to accommodate development in some situations without significant character change or visual impact; the development typology relates to some aspects of landscape character.
High-medium	A number of key landscape characteristics are vulnerable to change. Development would undermine some important defining aspects of landscape character and/or visual amenity.
High	The majority or all of the key landscape characteristics are vulnerable to change. Development would conflict with key aspects of landscape character and visual amenity with widespread and significant adverse impacts likely to arise.

The overall sensitivity level is judged by considering the combined weight of evidence on landscape and visual sensitivity rather than using a numerical scoring system for each sensitivity criterion. We have combined ratings for landscape and visual sensitivities in the assessment to arrive at overall sensitivity ratings for each typology in each landscape character type.

2.10 Cumulative issues and overall capacity assessment

There are two outputs from the assessments in relation to cumulative landscape and visual assessment.

2.10.1 Cumulative effects

We have firstly considered cumulative effects in the sensitivity assessments. This is one of the criteria listed in the detailed sensitivity assessments, and considers the cumulative implications of existing and consented turbines and wind farms within the landscape character type and nearby.

2.10.2 *Potential cumulative issues*

We have also identified potential cumulative landscape and visual issues. These are more speculative potential impacts, and reflect what might happen depending on the number and type of developments which might be introduced into the landscape character type which is the subject of the assessment. These potential issues are listed prior to identifying opportunities and constraints to different development typologies within each landscape character type.

Potential landscape and visual cumulative impacts considered include:

- Change in landscape character – i.e. where an addition to existing and consented wind farms and turbines is likely to result in wind turbines becoming a recognisable and consistent characteristic associated with a specific landscape character type, rather than a one off feature (this may not necessarily be a negative impact);
- Significant alteration to a defining characteristic of that landscape character – i.e. a characteristic which is recognised as contributing to the distinctive identity of the character of a type is likely to be lost or significantly diminished by the addition of one or more wind farms or multiple wind turbines to multiple existing and consented wind farms or turbines;
- Loss of recognisable development pattern – i.e. where wind farms or turbines are introduced into a landscape where existing wind farms or turbines already create a recognisable pattern of development which complements the existing character, but additional development diminishes the integrity and robustness of the pattern leading to fragmentation of landscape character
- Visual dominance – i.e. where wind farms or turbines become a visually dominant feature because of their combined presence as multiple or merged developments affecting a skyline as viewed from a significant viewpoint, or encountered sequentially as a series of focal points from a road or stretch of coast which is a definable journey
- Visual clutter – where different types of turbines, including different heights and styles of design, come together to create a muddled visual distraction from the landscape or key features.

2.11 **Guidance for siting smaller turbines**

Guidance on the siting of wind turbines below 50m height is provided in the study in accordance with the requirements of the brief. This work supplements SNH's published guidance on both the Siting and Designing Windfarms in the Landscape (2009) and the Siting and Designing of Small Scale Wind Turbines of between 15 and 20 metres in height (2012).

3 BASELINE LANDSCAPE CHARACTER

This study uses landscape character types based on the Borders Landscape Assessment (LCA) carried out by ASH consulting group in 1998, in a study commissioned by Scottish Natural Heritage and the Borders Council. This LCA identified 15 landscape character types (LCT) which lie within the Berwickshire study area.

Some of these landscape character types also exist in elsewhere in the Scottish Borders, outwith the Berwickshire study area. The sensitivity assessments undertaken for this study, however, have not taken into account the landscape character types where they appear elsewhere in the Scottish Borders.

3.1.1 *Additional landscape character types*

For the purposes of this study, an additional landscape character type was identified, which has been called Coastal Margin (LCT 31). This is a narrow fringe of land where the particular characteristics of the coast, such as its relationship with the expanse of the sea, the contrasts in scale between intricate coastline and high cliffs and drama associated with the natural processes which foster a sense of wildness, all combine to create a landscape character type which requires a separate sensitivity assessment.

LCT 19, Coastal Farmland, has been split into two separate landscape types, LCT 19 (Coastal Farmland – Coldingham) and LCT 19A (Coastal Farmland Cockburnspath). These areas were assessed as separate types due to their different landscape context and scale and because of the potential for specific cumulative issues to arise in the Cockburnspath area (LCT 19A) in association with existing and consented wind farm development in East Lothian.

As a result of these changes, 17 different landscape character types were assessed in the final study.

3.1.2 *Changes to LCT boundaries*

Small changes have been made to the boundaries of LCT 26 (Pastoral Upland Fringe Valley), LCT 28 (Wooded Upland Fringe Valley) and LCT 30 (Coastal valley). Boundaries were redrawn to include the whole of the valleys, including the upper containing rim, within the revised boundaries of the landscape character types.

The changes made to the original LCTs identified in the Borders Landscape Assessment are listed in Table 3 below.

Table 3 – Alterations to Landscape Character Types

Landscape character type	Comments
LCT 1 – Dissected moorland Plateau (Lammermuir East only)	Boundary as in original Borders Landscape Assessment
LCT 8 – Rolling Farmland	Boundary as in original Borders Landscape Assessment
LCT 9 – Platform Farmland	Small alterations to boundary to accommodate revised boundaries of neighbouring valley types, LVT 28 (Wooded Upland Fringe Valley) and LCT 26 (Pastoral Upland Fringe Valley)
LCT 11 – Grassland with Hills (Knock Hill only)	Boundary as in original Borders Landscape Assessment
LCT 14 – Moorland	Boundary as in original Borders Landscape Assessment
LCT 15 – Lowland with Drumlins	Boundary as in original Borders Landscape Assessment
LCT 16 – Rolling Lowland Margin (Eye Water Lowland only)	Boundary as in original Borders Landscape Assessment
LCT 17 – Lowland Platform	Boundary as in original Borders Landscape Assessment
LCT 19 – Coastal Farmland - Coldingham	LCT 19 split into two separate assessments by area. Boundary as in original Borders Landscape Assessment with changes made to accommodate new LCT 31
LCT 19A – Coastal Farmland-Cockburnspath	LCT 19 split into two separate assessments by area. Boundary as in original Borders Landscape Assessment with changes made to accommodate new LCT 31
LCT 20 – Coastal Pasture	Boundary as in original Borders Landscape Assessment with changes made to accommodate new LCT 31
LCT 21 – Coastal Moorland	Boundary as in original Borders Landscape Assessment with changes made to accommodate new LCT 31
LCT 24 – Upland Valley with Farmland (Upper Whiteadder only)	Boundary as in original Borders Landscape Assessment
LCT 26 – Pastoral Upland Fringe Valley (Eye Water only)	Small alterations to boundary to include upper rim of the valley
LCT 28 – Wooded Upland Fringe Valley (Middle Whiteadder only)	Small alterations to boundary to include the whole of the middle Whiteadder valley
LCT 30 – Coastal Valley	Small alterations to boundary to include upper rim of the valley and changes made to accommodate new LCT 31
LCT 31 – Coastal Margin	New landscape type along the coast

4 SENSITIVITY ASSESSMENT OF LANDSCAPE CHARACTER TYPES

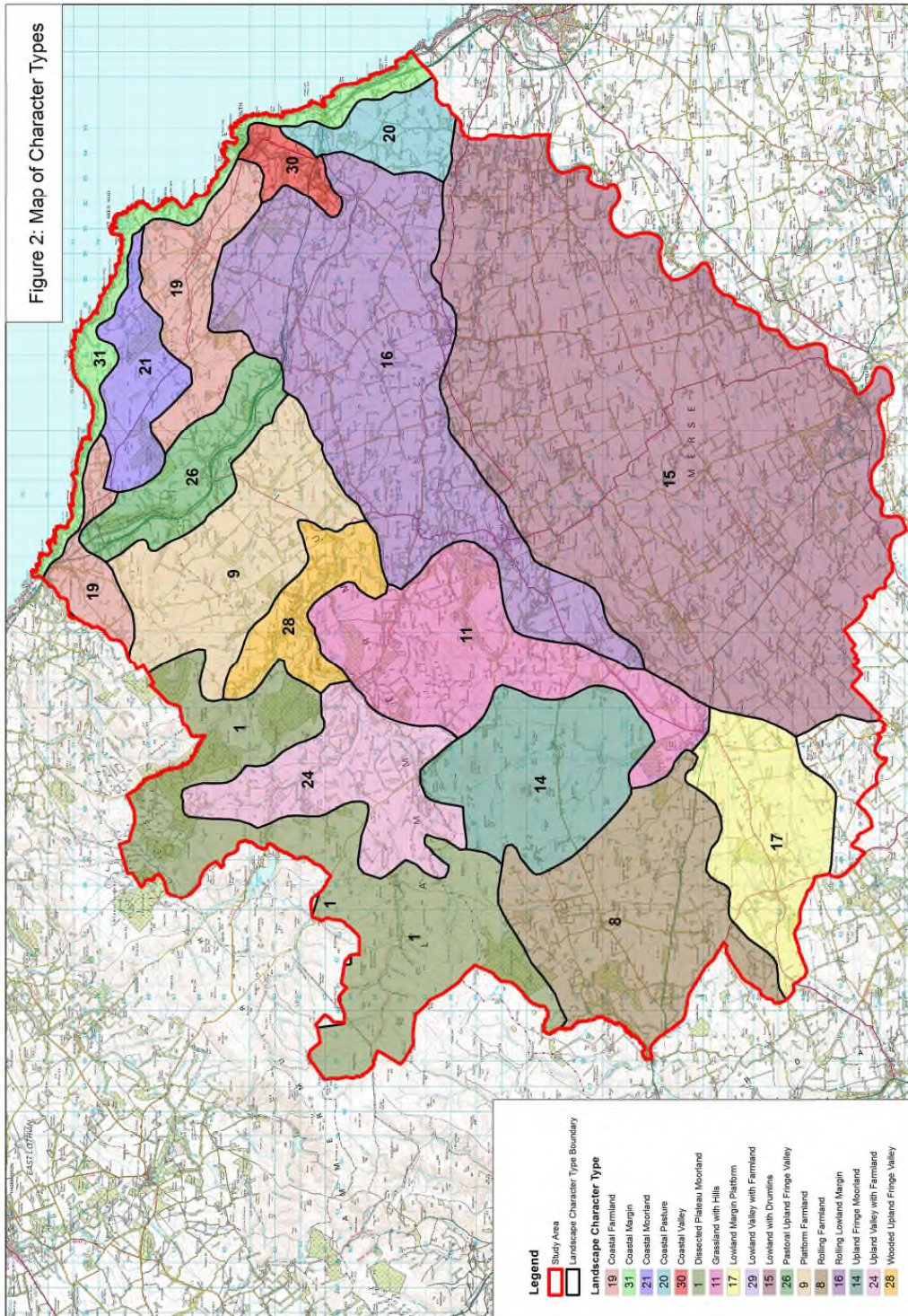
Sensitivity assessments have been undertaken for each character type listed in Table 3 in Section 3 of this report. The sensitivity assessments considers the sensitivity of each character type to four different wind energy typologies, based on the height of the turbines.

An introduction to each landscape character type is set out in the sensitivity assessments that follow. This describes where changes have been made to the characterisation or boundaries of the character types as they were set out in the Borders Landscape Assessment. Operational and consented wind turbine developments, whether located within the landscape character type or in the surrounding area (and clearly visible from the character type which is being assessed) are briefly listed.

A summary of the sensitivity assessment is provided in this Main Report. Tables outlining the sensitivity assessments in detail are contained in a separate Appendix Report. The sensitivity scores outlined in the summary of sensitivity are made on the basis of a five-point scale: High, High-Medium, Medium, Medium-Low and Low. These assessments consider and combine landscape sensitivity and visual sensitivity against a number of criteria including cumulative effects associated with existing and consented wind energy developments. Further detail on the method of assessment is included in Section 2 and 3 of this report.

Potential cumulative issues and key constraints and opportunities to development are set out for each landscape character type and the sensitivity assessment concludes with recommendations related to the scope of capacity and guidance on siting of wind turbine development.

Figure 2 shows an overview of the landscape character types used for this assessment. More detailed maps showing each landscape character type and their immediate context are also provided in the following sensitivity assessments.



5 CHARACTER TYPE 1: DISSECTED PLATEAU MOORLAND

5.1 Introduction

The Dissected Plateau Moorland (1) landscape character type is present in three areas within the Scottish Borders. The eastern section of one of these areas – Lammermuir Plateau – lies within the Berwickshire study area.

This upland landscape character type covers the southern part of the Lammermuir Hills between the Moneynut Edge in the east and the Upper Leader Valley to the west. These uplands also extend northwards into neighbouring East Lothian where they are described as the ‘Lammermuir Plateau’ character type within The Lothians Landscape Character Assessment³.

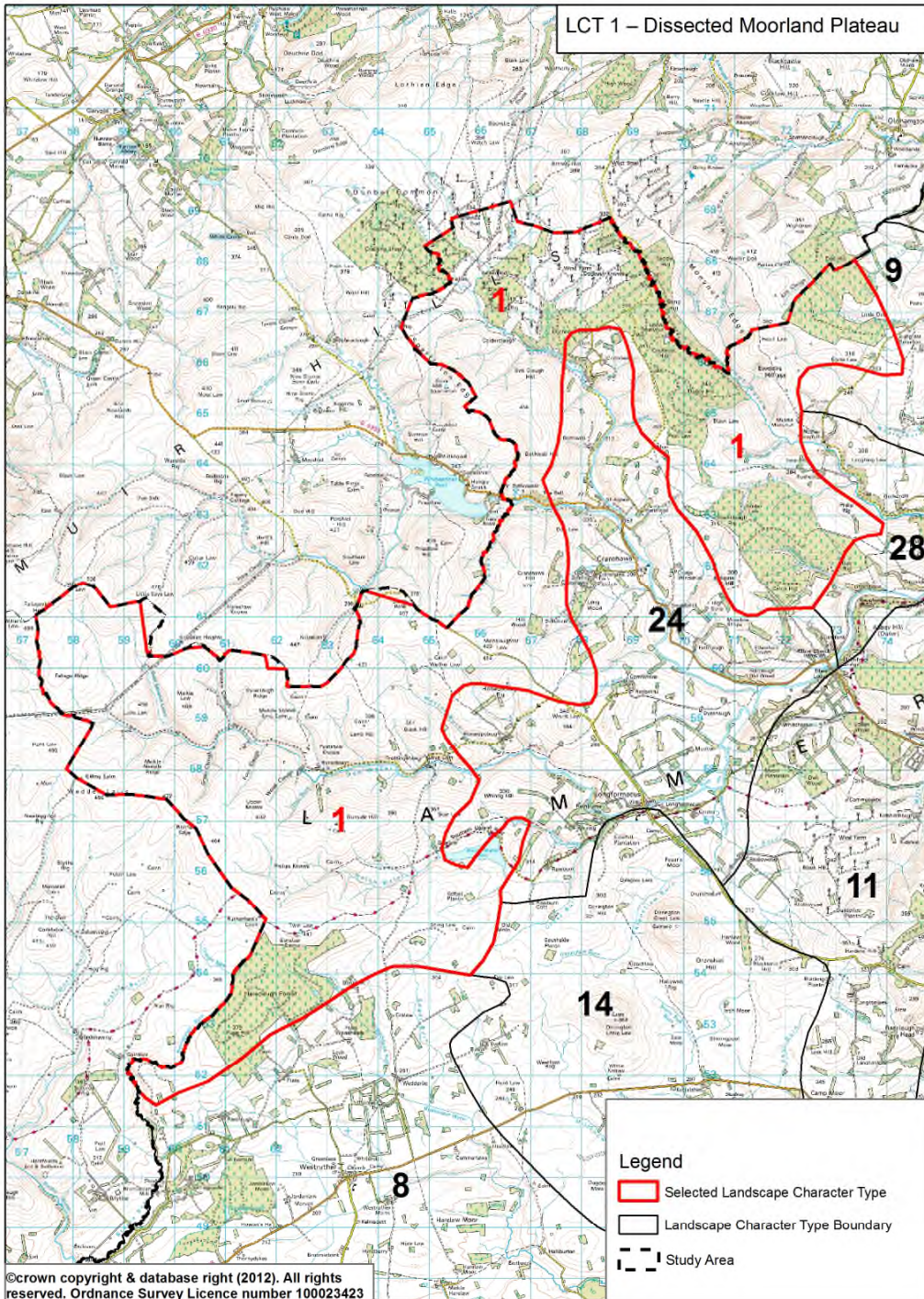
In this sparsely populated upland area, the sensitivity of the landscape to smaller typologies has not been assessed in detail, although a brief appraisal of key sensitivities relating to smaller typologies is included in the summary and guidance section.

5.1.1 *Operational/consented wind farms*

A number of operational and consented wind farms are sited within this character type and the similar ‘Lammermuir Plateau’ character type within East Lothian. These include the operational Fallago Rig wind farm (48 turbines, max 125m height to blade tip) which is located in the core of the Dissected Plateau Moorland (1) character type within Scottish Borders, the Crystal Rig 1, 1a, 2 and 2a wind farm (85 turbines, 125m max. height to blade tip) which straddles the East Lothian/Scottish Borders boundary and the Aikengall I wind farm I (16 turbines, 125m height to blade tip), which lies wholly within East Lothian. The consented Aikengall II wind farm (19 turbines, 145m high to blade tip) also lies on the eastern edge of the ‘Lammermuir Plateau’ character type within East Lothian but close to the boundary with Scottish Borders.

The existing Black Hill wind farm (22 turbines at 78m height to blade tip) is located in the ‘Grassland with Hills’ (11) character type and is seen in conjunction with other wind farm developments sited in the ‘Lammermuir Plateau’ from roads and settlements within Scottish Borders. The existing Dun Law (61 turbines between 62.5m and 75m height to blade tip), Toddleburn (12 turbines, 125m height to blade tip and Longpark (19 turbines, 100m height) wind farms are located in the ‘Plateau Grassland’ (2) character type within Scottish Borders to the west of this character type and are likely to be seen in conjunction with the consented Fallago Rig wind farm from the upland area and the Upper Leader Valley.

³ ASH Consulting Group, The Lothians Landscape Character Assessment, 1998, Scottish Natural Heritage



5.2 Summary of sensitivity

This landscape forms an expansive upland plateau with a generally simple landform of broad sweeping ridges but with occasional higher, more defined hills providing landmark features. These uplands are cut by narrow, often deeply incised valleys and smaller more interlocking hills occur at the junction with these valleys and on the outer edges of the upland plateau. Land cover is simple, dominated by grass and heather moorland and with some improved pasture and geometric coniferous plantations on outer hill slopes. It is a sparsely settled landscape although these uplands form the backdrop to more settled valleys and lowlands both within the Scottish Borders and East Lothian (where these uplands extend as the similar 'Lammermuir Plateau' character type). A number of operational and consented wind farm developments are sited within these uplands within both Scottish Borders and adjacent East Lothian.

While the generally large scale and simple landform and landscape pattern of these uplands reduces sensitivity to larger turbine typologies, cumulative effects with substantial operational and consented wind farms within these uplands is a key constraint. There would be a **High-medium** sensitivity to the large typology (turbines 80m+) and to the medium typology (turbines 50-80m).

5.2.1 *Potential cumulative issues*

Opportunities for additional extensions to the existing Crystal Rig wind farm are constrained by the need to accommodate turbines within lower ground contained by the higher landmark feature of Spartleton Edge. The existing Aikengall wind farm is more prominently sited than Crystal Rig and affects the sensitive 'scarp' of Moneynut Edge (and also impacts on sensitive smaller scale diverse foothills and valleys within neighbouring East Lothian). The consented extension, Aikengall II, will accentuate the visual prominence of this development, increasing the extent of turbines visible on the skyline in views from the Upland Valley with Farmland (24) of the Whiteadder valley and also in the east Berwickshire area.

The operational Fallago Rig wind farm is sited within a shallow bowl within the core of this upland plateau and this lessens to a degree its effect on views from the more densely settled lowlands of Scottish Borders and East Lothian. There will be views however from the Rolling Farmland (8). The Longpark, Dun Law and Toddleburn wind farms are visible on the skyline of hills which contain the Upland Valley with Farmland (24) of the Upper Leader Valley.

The following issues may arise in connection with any possible development situated in adjacent landscapes:

- Inter-visibility between turbines situated in this landscape character type and the existing wind farms of Dun Law, Toddleburn and Longpark seen simultaneously and sequentially from the A68 and other roads and settlement within the Upper Leader Valley.

- Cumulative effects of wind farm developments seen from the long distance route of the SUW.
- Inter-visibility with the small-medium turbines sited in more settled landscapes, for example the Rolling Farmland (8) and larger turbines sited on the outer edges of the Dissected Plateau Moorland (1).

5.2.2 *Constraints*

- Potential cumulative effects with the operational wind farms of Crystal Rig, Aikengall I and Black Hill and the wind farms of Fallago Rig and Aikengall II from the B6355 and minor roads and the SUW which traverses this upland plateau but also seen at greater distances from the settled lowlands of the Scottish Borders.
- Cumulative landscape and visual effects of additional development seen in conjunction with the Fallago Rig, Dun Law, Toddleburn and Longpark wind farms on the Upland Valley with Farmland (24) character type of the Upper Leader Valley (and particularly impacts experienced on views from the A68 and settlements within this valley).
- Potential cumulative landscape and visual effects of additional development seen in conjunction with the Crystal Rig, Aikengall I and II, Black Hill and Fallago Rig wind farms on the Upland Valley with Farmland (24) character type of the Upper Whiteadder.
- The narrow small scale incised valleys which cut into the upland plateau where larger turbines seen on skylines would dominate.
- The more complex landform of steep-sided hills and deeply cut valleys on the western edge of these uplands at the transition with the Upper Leader Valley (and the rich archaeology associated with this transitional area).
- Occasional more defined higher hills such as Spartleton Edge, Lammer Law and Meikle Says Law which form 'landmark' features within this upland plateau seen from both Scottish Borders and East Lothian and are also important in containing existing/consented wind farm development.
- The setting of Twin Law Cairns and views from the SUW particularly those to the south over the richly diverse lowland landscapes and distant Eildon and Cheviot Hills.

5.2.3 *Opportunities*

- Less visually prominent lower hills and shallow basins within the core of these uplands where there may be limited opportunities for extensions to existing well-sited development.

5.3 **Guidance for development**

There may be some very limited opportunities for the medium typology (50-80m) to be located in this landscape. Turbines could be sited on gentle hill slopes at the transition with the Rolling Farmland (8) where they would be unlikely to be seen in close proximity to larger turbines within existing and consented wind farm developments sited within the more extensive upland core. They should be sited to avoid intrusion on views from the SUW south across the lowlands of the Scottish Borders and on views to the landmark Twin Law cairns. Turbines should avoid more prominent sections of skyline in views from the Rolling Farmland (8). Turbines towards the lower height band of this typology

would be more likely to reduce impacts on settlement and policy landscapes sited on lower hill slopes in the northern part of the Rolling Farmland (8).

There may be very limited scope for the large typology (turbines 80m+) within this landscape as small extensions to well-sited operational wind farms set within more visually contained topography. Turbines should not be sited on or nearby prominent landmark hills. They should also be set well back from the more sensitive edges of the upland plateau to avoid significant impact on smaller scale settled and diverse valleys (and avoid intrusion on views of the more dramatic central section of the Lammermuir Plateau in views from East Lothian).

The detailed assessment considers larger typologies only. Smaller turbines <50m would have significant cumulative effects with existing and consented wind farm developments sited within the core of this landscape although there may be some limited scope to site them at the transition with the Rolling Farmland (8) and on outer hill slopes where they would not be seen in close proximity with existing and consented developments.



The gently rounded hills of the 'Dissected Moorland Plateau' form a low backdrop and long simple skylines to the settled 'Rolling Farmland' (8) character type.



The pronounced hill of Spartleton Edge is important in visually containing and separating wind farm developments within the eastern Lammermuir Hills.



These uplands often provide a more dramatic edge of steeper slopes to the narrow valleys which extend into the plateau.



Twin Law Cairns provides a key landmark feature seen from the settled farmlands of Berwickshire to the south and is also on the route of the Southern Upland Way

6 CHARACTER TYPE 8: ROLLING FARMLAND (WESTRUTHER PLATFORM)

6.1 Introduction

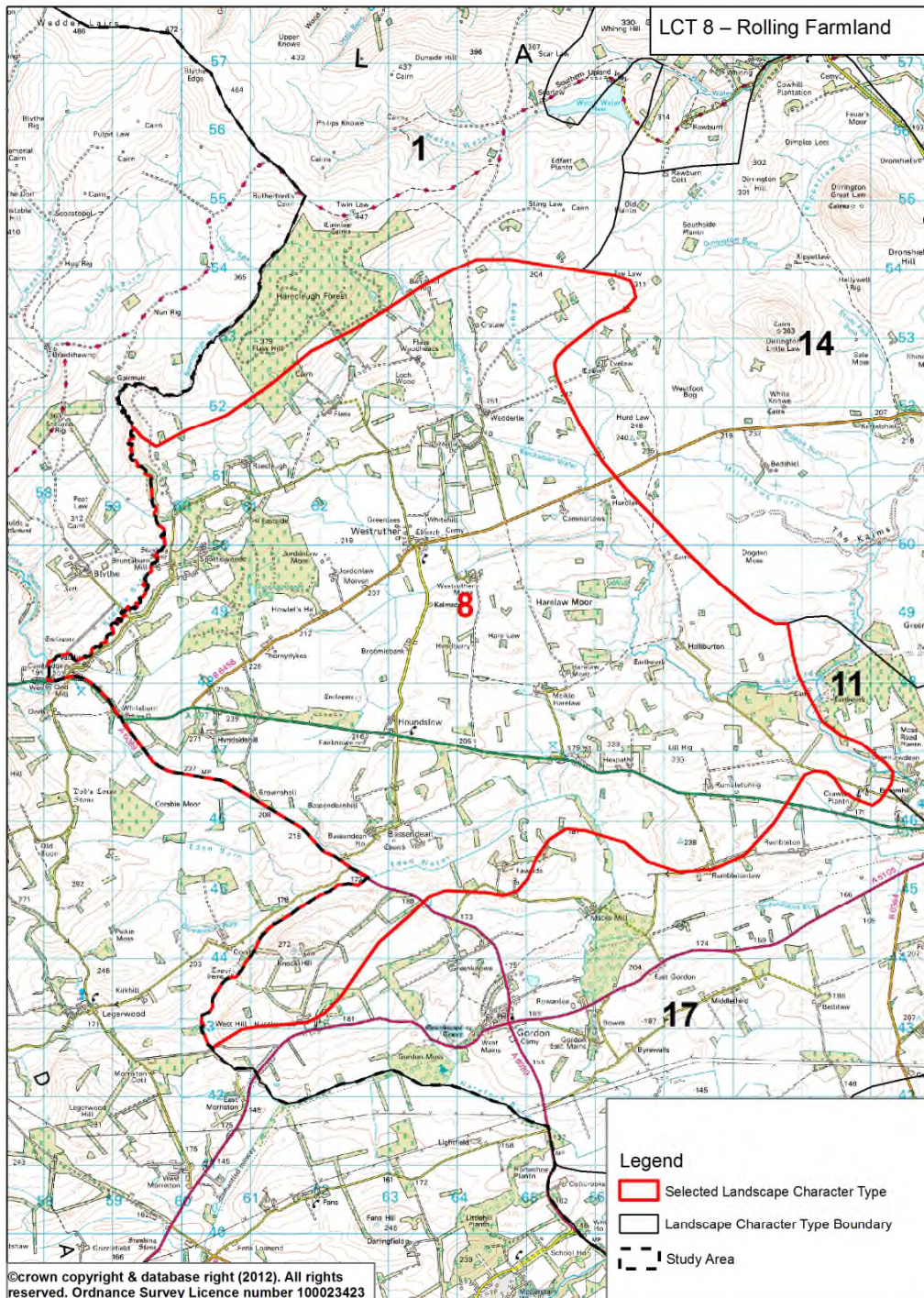
The Rolling Farmland (8) landscape character type is present in five areas within the Scottish Borders. Only one of these areas – the Westruther Platform – lies within the Berwickshire study area.

6.1.1 *Operational/consented wind farms*

No turbine development is located in this character type.

The operational Fallago Rig wind farm (48 turbines, max 125m high) lies approximately 6 km to the north of this character type within the Dissected Plateau Moorland (1).

The operational wind farms of Dun Law (61 turbines between 62.5m and 75m high), Toddleburn (12 turbines, 125m high) and Longpark (19 turbines, 100m high) are visible from the western parts of this landscape character type.



6.2 Summary of sensitivity

The Westruther Platform area of the Rolling Farmland (8) character type forms a broad and open upland fringe landscape. Landform is generally gently undulating with broad ridges and wide shallow valleys although Knock and Boon Hills form more defined landmark hills and a more complex knolly topography is associated with narrow valleys such as Brunta Burn and the Legerwood area. This landscape is well-settled with small settlements and a regular pattern of farms. Shelterbelts and woodlands provide strong enclosure in some areas and semi-natural woodlands and policy features are particularly distinctive in the Spottiswoode, Hynsidehill and Wedderlie areas. More open areas occur on ridges, where wetter pastures fill open valley bottoms and on hill slopes at the transition with the adjacent uplands of the Dissected Plateau Moorland (1). There is no operational wind farm development sited in this landscape although developments in adjacent landscape character types are visible.

The well-settled character of this landscape and its openness increases the sensitivity of visual amenity in relation to larger typologies. There would be a **High** sensitivity to the large typology (turbines 80m+), a **High-medium** sensitivity to the medium typology (turbines 50-80m), a **Medium** sensitivity to the small-medium typology and a **Medium-low** sensitivity to the small typology (35-50m).

6.2.1 Potential cumulative issues

There is no operational wind farm development sited in this landscape. Operational wind farms sited in other character types are however visible from parts of this landscape. Key potential cumulative effects that may arise within the Rolling Farmland (8) are likely to include:

- Inter-visibility between any taller turbines situated in this landscape character type and the operational wind farms of Dun Law, Toddleburn, and Longpark sited within the uplands containing the Upper Leader Valley and seen from settlement and major roads.
- Taller turbines sited on lower hill slopes at the transition with the Dissected Plateau Moorland (1) and therefore seen in close proximity with the operational Fallago Rig wind farm.
- Inter-visibility and sequential views experienced from the SUW which is aligned through the Dissected Plateau Moorland (1).
- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create visual clutter
- High inter-visibility of several turbines from elevated and long views across this landscape from roads and settlement.

6.2.2 Constraints

- Narrow, small scale incised valleys such as Brunta Burn and the Legerwood area which would be dominated by larger typologies.

- Occasional more defined 'landmark' hills such as Boon Hill and Knock Hill and more complex knolly landform and steep slopes often associated with smaller valleys.
- The well-settled nature of this landscape where buildings provide ready scale references increasing sensitivity to larger typologies.
- Extensive policy woodlands within the Wedderlie and Spottiswoode areas and the more diverse land cover pattern of field trees and woodlands found in areas such as Legerwood and Hydsidehill.
- The setting provided by the backdrop of the adjacent Dissected Plateau Moorland (1) to the Wedderlie policies (seen in designed vistas between tree belts) and to large houses and farms on lower hills slopes, for example in the Raecleugh area.
- The openness of this landscape which increases visibility particularly of larger typologies.
- The 'landmark' hills within the adjacent Moorland (14) character type where large turbines sited in the eastern part of the Rolling Farmland (8) could detract from their focus.
- Potential cumulative effects with the operational wind farm of Fallago Rig in the Dissected Plateau Moorland (1) and the existing and consented developments of Longpark, Toddleburn and Dun Law seen from the Upper Leader Valley.

6.2.3 *Opportunities*

- Less settled and more open broad ridges and basins and the more extensively scaled hill slopes at the transition with the Dissected Plateau Moorland (1).

6.3 **Guidance for development**

There are some opportunities for the medium typology (35-50m) to be located in this landscape. Turbines should only be sited on gentle hill slopes at the transition with the Dissected Plateau Moorland (1) and on broader less settled and more open ridges. They should not be sited on, or close to, the more defined hills of Boon Hill and Knock Hill or the smaller scale incised and often more complex landform of the valleys of Brunta Burn and Legerwood and the Blackadder Burn. They should also be sited to avoid intrusion on policy woodlands and designed landscapes and more diverse areas featuring broadleaved woodlands, field trees and small walled pastures.

There are greater opportunities to accommodate multiple single and small groups of the small typology (turbines 20-35m) within this landscape to minimise effects on landscape scale and on views. Turbines should be sited away from more complex landform, prominent hill tops and more diverse areas of woodland and strong field enclosure pattern. Detailed siting and design of smaller typologies should accord with the guidance set out in Section 22 of this report.

No scope for the large and medium typologies (turbines 50m+) has been identified in this assessment for this landscape character type.



Settlement, woodlands and enclosed fields extend high up onto lower hill slopes at the transition with the 'Dissected Moorland Plateau' to the west near the Brunta Burn



A simpler pattern of shelterbelts and more extensive pasture occurs at the transition with the 'Dissected Moorland Plateau' (1) and 'Moorland' (14) LCTs to the east.



Extensive mixed policy woodlands are a feature in the Spottiswoode and Wedderlie areas



This landscape generally has a gently undulating landform with small woodlands and shelterbelts patterning farmland and enclosing farms



Although some broader valley bottoms are open and extensive in places, this landscape is well settled with buildings providing ready scale references



Occasional more pronounced hills provide landmarks within this landscape

7 CHARACTER TYPE 9: PLATFORM FARMLAND

7.1 Introduction

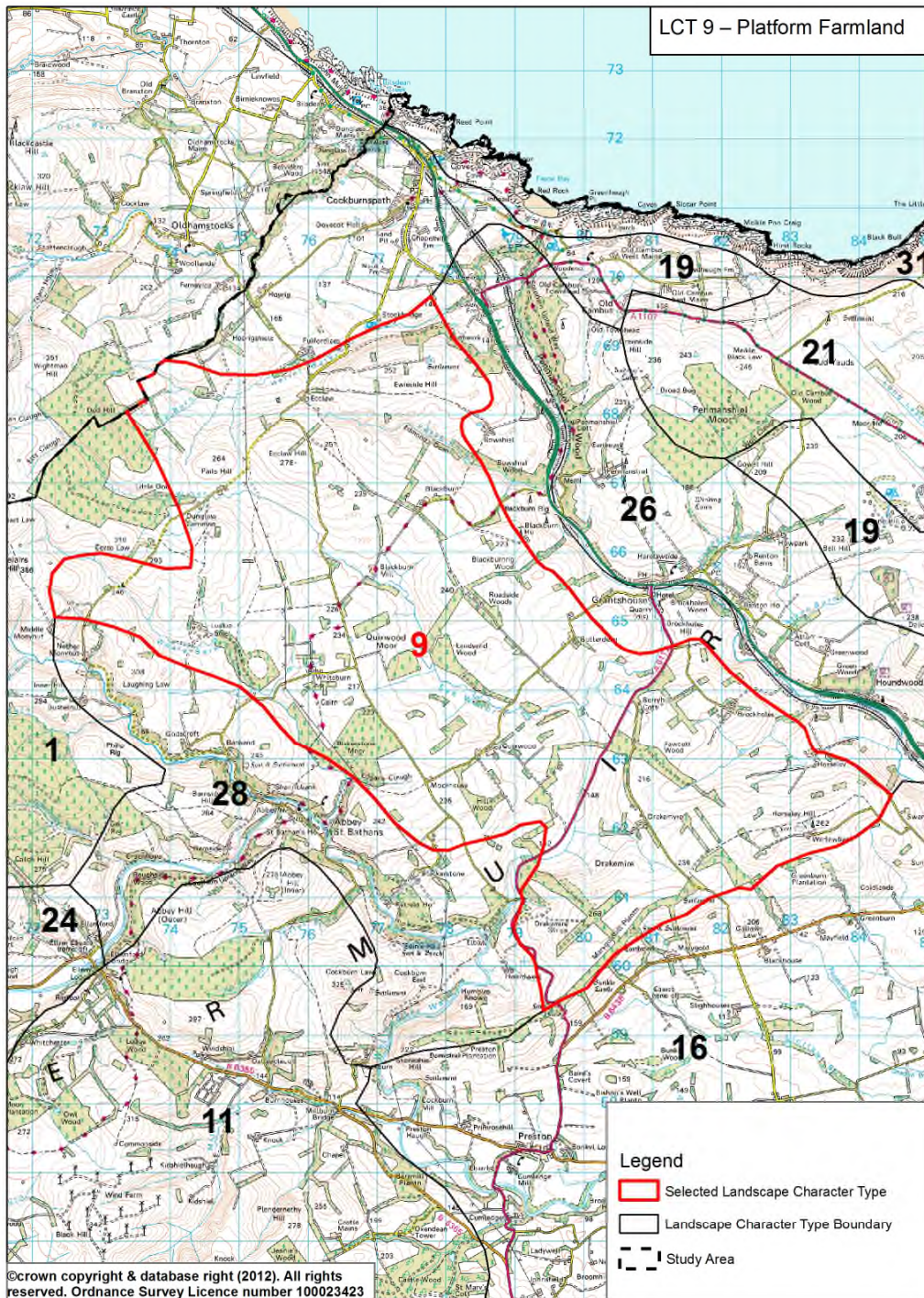
The Platform Farmland (9) landscape character type is only present in one area, the Eye Water area, within the Scottish Borders. The Eye Water area lies within the Berwickshire study area.

7.1.1 Operational/consented wind farm development

The operational Brockholes (3 turbines, 84m high) and the Weirburn developments (2 turbines, 54m high to blade tip) are located in this landscape character type. The consented Quixwood wind farm (13 turbines, 100-115m high) also lies at the core of this landscape.

The operational Drone Hill (22 turbines, 76m high) and Black Hill (22 turbines, 78m high), located in the 'Coastal Moorland' (21) and 'Grassland with Hills' (11) landscape character types respectively, are clearly visible from this landscape. The Aikengall I wind farm (16 turbines, 125m height), which lies within East Lothian, is also visible from this landscape and the consented extension to this development, Aikengall II (19 turbines, 145m high), will significantly increase the visibility of turbines on the uplands which form the north-western backdrop to this character type.

The consented Penmanshiel wind farm (14 turbines, 100 m high), which is located on a ridge on the western edge of the 'Coastal Moorland' (21) above the Eye Water valley, will be prominent across much of the open and elevated landscape of the Platform Farmland (9). The consented developments at Kinegar Quarry (2 turbines, 110m high) and Hoprigshiels (3 turbines, 115m high), located to the north in the 'Coastal Farmland – Cockburnspath' (19a) landscape character type, will also be visible from parts of this landscape.



7.2 Summary of sensitivity

The Platform Farmland (9) landscape character type forms an undulating, elevated plateau raised above lower lying, valley type landscapes, including Pastoral Upland Fringe Valley (26) to the east and Wooded Upland Fringe Valley (28) to the west. This type also forms the prominent containing ridgeline to Rolling Coastal Margin (16) which lies to the south and to the Coastal Farmland – Cockburnspath (19a) to the north. It also marches with a small section of the Dissected Plateau Moorland (1).

The location of this type means that the outer edges form the backdrop and containing landform to the adjacent lowland landscape types and the remaining central core of land is relatively limited in extent.

The landform is gently undulating with long ridges and shallow valleys with occasional steeper slopes containing more pronounced valleys, especially to the south of this type. To the north and south, this type forms important and visually prominent containing ridges for lower lying farmland. Although the undulating plateau is elevated, relief is low, and the scale of the landform is reduced in the valleys and across the plateau as a whole by the vegetation pattern of regular fields separated by numerous shelterbelts and small woodlands. Larger fields extend across the upper slopes and smaller fields lie within the valleys.

Scattered farms and other buildings, including small groups of houses are located across this type. They are sited either within the valleys or along the upper slopes of the ridges, elevated to look over the valleys or wider landscape. Roads are often elevated, revealing panoramic and sustained views, sometimes across the entire extent of the landscape type.

The long, simple broad scale of the ridges, smooth, gently graded topography and ordered landscape pattern offer scope for development. The landscape scale is however reduced by the pattern of vegetation, the containment within the valleys, the enclosure of the landscape created by the woodland pattern and the consistent presence of small scale features, including small groups of houses and farms, increasing sensitivity to larger scale turbines. In addition, the edges of this type are sensitive to development which 'perches above', or overlooks, adjacent small scale valleys and low-lying farmland. The area is visible from a distance and includes skylines which are visually prominent from neighbouring landscapes. It is also widely visible across the landscape type, as there are elevated viewpoints from the public roads, including the A6112. The limited extent of this landscape character type and the large number of operational and consented wind farm/turbine developments with turbines > 80m high, located in this and adjoining landscapes, **severely limits** scope for additional larger turbines to be accommodated.

This landscape character type therefore has a **High** sensitivity to the large (80m +) and medium (50m – 80m) typologies, a **High-medium** sensitivity to the

small-medium (35m – 50m) typology and a **Medium** sensitivity to the small (20m – 35m) typology.

7.2.1 *Potential cumulative issues*

The Platform Farmland (9) landscape character type is fairly limited in extent. A substantial number of operational and consented wind farms and small groups of larger turbines lie within this character type and in the area immediately surrounding this landscape. Of these developments, the Brockholes, Quixwood, Drone Hill, Black Hill, Aikengall I and II, Hoprigshiels, Kinegar Quarry, Penmanshiel and Weirburn wind farms have most potential to incur significant cumulative landscape and visual effects with any additional development. There is little physical separation between these developments when seen in key views and significant cumulative effects are likely to occur in views from sections of the A1 and the A6112, minor roads and settlement within the Platform Farmland (9) and Coastal Farmland (Cockburnspath) (19a) and from Cockburns Law and Edins Hill Fort and Broch.

The consented (but not yet constructed) Quixwood wind farm will dominate the scale of the Platform Farmland (9) although the position of this development at the core of this landscape lessens its impact on surrounding sensitive valleys and also reduces cumulative effects by maximising the spacing with operational wind farms such as Drone Hill and Aikengall in nearby landscape character types. The consented Penmanshiel wind farm will significantly reduce this spacing and will incur significant cumulative impacts where it is seen with other operational and consented wind farms on the skyline in views from the Grantshouse area within the Eye Water valley and from the Cockburnspath area and the coast to the north, often creating a confusing and cluttered image⁴. Any additional development of wind farms/large wind turbines on the outer edges of the Platform Farmland (9) and within other landscape character types, such as the Coastal Moorland (21), the Coastal Farmland (19a) or Dissected Plateau Moorland (1) will further exacerbate these effects.

Key cumulative issues that may arise within the Platform Farmland (9) type are likely to include:

- Cumulative visual impacts from the A1 and A6112 where operational and consented wind farms/turbines are seen simultaneously and sequentially and where additional developments sited on the edges of this, and other close-by landscape character types, would be likely to add to these effects.
- Cumulative visual impacts and clutter associated with inter-visibility between small numbers of smaller turbines and larger wind farms in this and nearby landscape character types.
- Impacts on panoramic, elevated or long views from popular walks such as those to Cockburn Law or Edins Hall Fort and Broch where additional wind farm/turbine development could fill gaps between operational and

⁴ This appraisal has been informed by the visualisations contained in 'Updated Cumulative Assessment at January 2013 – Quixwood Wind Farm' prepared by Open for Banks Group.

consented developments and present a consolidated 'band' of turbines which would dominate views.

- The potential visual confusion which would be likely to occur if any additional large turbines were sited on the northern edge of the Platform Farmland (9) and seen in conjunction with the consented Hoprigshiels and Weirburn developments sited at lower elevations in the 'Coastal Farmland – Cockburnspath (19a) in views from settlements and roads. The consented Aikengall II development, which will be prominent on the skyline formed by the eastern Lammermuir Hills, would contribute to cumulative effects in this area.
- Additional large turbines sited on the eastern edges of this landscape character type which would break the skyline of ridges which contain the Eye Water valley. These would exacerbate significant cumulative effects already associated with the operational and consented developments of Drone Hill, Brockholes, Penmanshiel and Quixwood experienced from the A1 and settlement within this valley.

7.2.2 Constraints

- The relatively low relief of the Platform Farmland (9) which could easily be overwhelmed by very tall structures
- The more contained valleys where the enclosure reduces scale, this sometimes reinforced by even steeper side slopes
- The prominent ridgelines which provide visual containment and backdrop to the neighbouring Rolling Lowland Margin (16), the Pastoral Upland Fringe Valley (26) and Coastal Farmland – Cockburnspath (19a) character types
- The pattern of numerous small woodlands and shelterbelts across this landscape, which increases enclosure and reduces scale
- The small size of farms and other buildings, especially where they appear along the upper slopes, creating recurring features which can be used as scale references in this landscape
- The line of archaeological sites which extend along the southern ridge west from Horseley Hill
- Elevated, panoramic and often sustained views from roads and views from the Southern Upland Way
- The limited extent of this landscape character type and the presence of a large number of operational and consented wind farms and larger wind turbines, located in this and nearby landscape character types, which **severely restricts** scope for additional developments to be successfully accommodated.

7.2.3 Opportunities

- Gently graded, more open, broad slopes, along the upper slopes of the ridges
- The relatively sparse settlement pattern
- Areas of more simple vegetation pattern, including larger fields, or areas where woodlands are less apparent
- Larger buildings, where small turbines can be located to create a small 'development cluster'

- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

7.3 Guidance for development

There is **very limited** scope for the small-medium (35m-50m) typology and **some** increased scope for the small (20m – 35m) development typology to be sited within this character type. The presence of operational and consented wind farms and small groups of larger wind turbines severely restricts opportunities and any additional turbines of this size should be set well away from the Quixwood wind farm to avoid cumulative effects associated with different turbine sizes. Turbines should not be sited on the edge of more prominent skylines seen from adjoining smaller scale landscapes such as the Wooded Upland Fringe Valley (28) and the Pastoral Upland Fringe Valley (26). They should also be sited to avoid significant cumulative impacts with consented developments within the Coastal Farmland – Cockburnspath (19a) to the north of this landscape character type and the Coastal Moorland (21) character type to the east.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features. Micro siting of smaller turbines should follow the guidance set out in Section 22 of this report.

No scope for the large (80m +) and large-medium (50m – 80m) typologies has been identified in this assessment with **cumulative effects considered to be a major constraint**. Scope for extensions to operational and consented development is likely to be severely constrained by the need to restrict impacts on adjoining valleys given the limited extent of this landscape character type and its importance in providing a backdrop or containing 'edge' to these smaller scale and more settled landscapes.



The pattern of shelterbelts and fields extends across the undulating, smooth landform, increasing sense of enclosure and reducing scale



Skyline woodlands are features even within relatively open upland grassland areas



There are views from LCT 9 to Cockburn Law, a prominent landmark hill in nearby LCT 11.



Shallow valleys within this landscape, where relief is low



Within the shallow valleys, the low relief is evident, and the sense of containment is increased by the enclosing topography.



Settlement is often located part way up the slopes and so can be widely visible, forming features which can be referenced against turbines

CHARACTER TYPE 11: GRASSLAND WITH HILLS

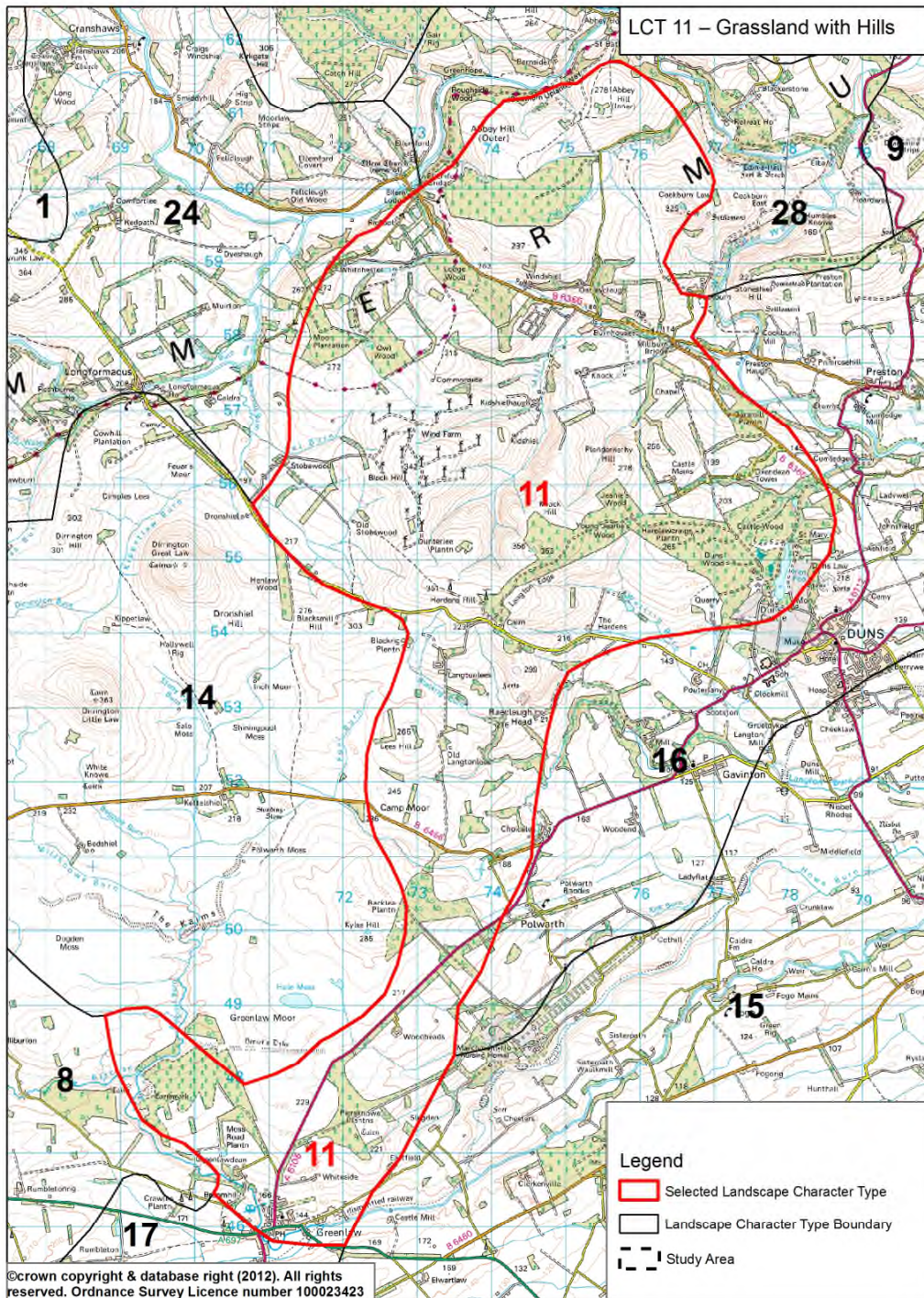
7.4 Introduction

The Grassland with Hills (11) landscape character type is present in five areas across the Scottish Borders. Only one of these areas – the Knock Hill area – lies within the Berwickshire study area.

7.4.1 *Operational/consented wind farm development*

The operational wind farm of Black Hill (22 turbines at 78m height to blade tip) lies within the study area, and a number of turbines less than 30m height to blade tip have received consent.

The operational wind farms of Crystal Rig (85 turbines, 125m max. height to blade tip) and Fallago Rig (48 turbines, max 125m high to blade tip), both located in Dissected Plateau Moorland (1) and the Aikengall I and II wind farm (35 turbines, 125-145m height to blade tip), located in East Lothian, are visible from higher elevations within this character type.



7.5 Summary of sensitivity

The Grassland with Hills landscape character type (11) straddles the upland/lowland transition, and as a result is a very diverse landscape. It lies between seven other landscape types, with Moorland (14) and Upland Valley with Farmland (24) and a short stretch of Rolling Farmland (8) lying to the west and the lowland types of Rolling Lowland Margin (16), Lowland with Drumlins (15) and Lowland Margin Platform (17) to the south and east. The steep sided Wooded Upland Fringe Valley (28) curves around the northern edge of this type. The location of this type means it forms the backdrop to valleys and lowland landscape types and contributes to the setting of Duns. The 'outward facing' slopes of this type are widely visible from neighbouring character types.

The diverse landform ranges from prominent, widely visible 'landmark' hills and broad gentle slopes to narrow cleughs, elongated ridges, steep sided valleys and complex, interlocking topography of varying gradients. The relief is not high, and the scale also varies, with more open, medium-large scale uplands contrasting with narrow enclosed valleys and lowland fringes where landuse pattern reinforces the smaller scale of the landscape. The woodland pattern ranges from larger conifer woodland in the higher elevations to policy woodland, the designed landscape associated with Duns Castle and shelterbelts along the lower slopes. There is a further contrast between the open, unimproved grassland on some of the higher hills and more enclosed field pattern in the valleys.

Clusters of settlement are located along the accessible valleys, with dispersed farms across the lower slopes of the hills. The uplands and less accessible cleughs are not settled. Roads and viewpoints can be elevated, revealing panoramic and sustained views.

The openness and larger scale, areas of smooth topography and gentle gradients and the lack of settlement of the more upland areas within this character type offer some scope for development, although the largest and most appropriate area in terms of scale and topography, has been occupied by Black Hill wind farm. However, the importance of the area as a backdrop to smaller scale surrounding landscape types, the smaller scale and more complex landforms, secluded and narrow valleys and cleughs, the farmed fringes and diverse land use associated with the lower slopes and valleys, the more settled lower slopes and the prominent skyline ridges are all sensitive to turbine development. Apart from farms, settlement is located where visibility is reduced by topography within the contained valleys, but the area is widely visible from elevated, although minor, roads and neighbouring landscape types. There are also likely to be potential landscape and visual cumulative effects with the existing Black Hill wind farm. This landscape character type therefore has a **High** sensitivity to large (80m – 150m) and **High-Medium** sensitivity to further medium (50m – 80m) typologies, a **Medium** sensitivity to the small-medium (35m – 50m) typology and a **Medium-Low** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be more readily accommodated within the farmed areas within this landscape type.

7.5.1 *Potential cumulative issues*

Negative cumulative landscape and visual impacts are most likely to occur in the immediate future if turbines are sited where they visually juxtapose with the existing Black Hill windfarm, or are experienced in sequence with this existing development. In addition, this wind farm occupies the largest area of more open, gently graded uplands within this type – remaining areas are smaller and have a strong relationship as a backdrop to the surrounding lowlands.

There is further potential for cumulative landscape and visual effects to arise in the future if different sizes and types of turbines are located within this type without adopting a consistent and robust approach to siting and design.

Well-sited turbines and the development of a consistent relationship between turbines and the landform or settlement pattern is likely to further minimise potential cumulative impacts.

Cumulative effects can be further minimised if turbines of less than 20m should be sited where they can be associated with farms or buildings to create 'development clusters'. They are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Grassland with Hills (11) type are likely to include:

- Cumulative visual impacts associated with inter-visibility with Black Hill wind farm, either simultaneously or in sequence
- Cumulative visual impacts and clutter associated with inter-visibility between turbines within this character type and turbines located on neighbouring character types which are visible from within this character type – the spacing of wind farm and large turbine developments sited in this and nearby landscape character types will be critical in minimising cumulative effects experienced from key viewpoints such as the A6112 and Cocksburn Law.
- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting in relation to landform
- High inter-visibility of several turbines from panoramic, elevated or long views

7.5.2 *Constraints*

- The relatively low relief which could easily be overwhelmed by very tall structures
- The smaller scale and narrower valleys and cleughs, their steep sides and sense of enclosure

- The prominent ridgeline which forms a widely visible skyline from neighbouring lowland landscape types, including the 'landmark hill' group associated with Hardens Hill and Knock Hill
- The setting of the 'landmark hill' Cockburn Law
- The 'outward facing' slopes which characterise this area, and form the backdrop or containing ridgeline to lower lying valleys and lowlands which surround much of this type
- Its role as a transitional landscape, which forms a 'buffer' between the larger scale uplands to the north (Dissected Upland Plateau) and the lowlands and smaller scale valleys
- The setting of clusters of settlement, Duns and Duns Castle, including the designed landscape
- The diverse pattern of land use, especially the pattern of small woodlands, shelterbelts policy woods, along the lower slopes and in the valleys
- The small size of farms and woodlands, especially along the lower slopes, against which the size of turbines can be easily assessed
- Elevated, panoramic and often sustained views, and views along and across the valleys
- Potential inter-visibility with Black Hill wind farm and wind farms on adjacent landscape types

7.5.3 *Opportunities*

- Gently graded, more open, broad slopes, along the upper slopes of the hills sides
- The relatively sparse settlement pattern
- Areas of more simple vegetation pattern, including more extensive forestry and larger fields
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

7.6 **Guidance for development**

There is some scope for both the small-medium (35m- 50m) typology and the small (20m – 35m) development typology to be sited within this character type. Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of this report.

No scope for the large (80m+) and additional large-medium (50m – 80m) typologies has been identified in this landscape sensitivity assessment.



Black Hill wind farm as seen from Oatleycleugh, illustrating scale of turbine size in relation to smaller scale landscape features and more enclosed valley setting



The landscape becomes more diverse and settled along the lower hill slopes and within the valleys, against a backdrop of upland grassland and forest on the higher hills



Upland areas are more visually simple in vegetation pattern – for example open upland grassland as illustrated here, contrasts with fields and shelterbelts on lower slopes



The valley is the focus for settlement and more intensely farmed land

8 CHARACTER TYPE 14: MOORLAND

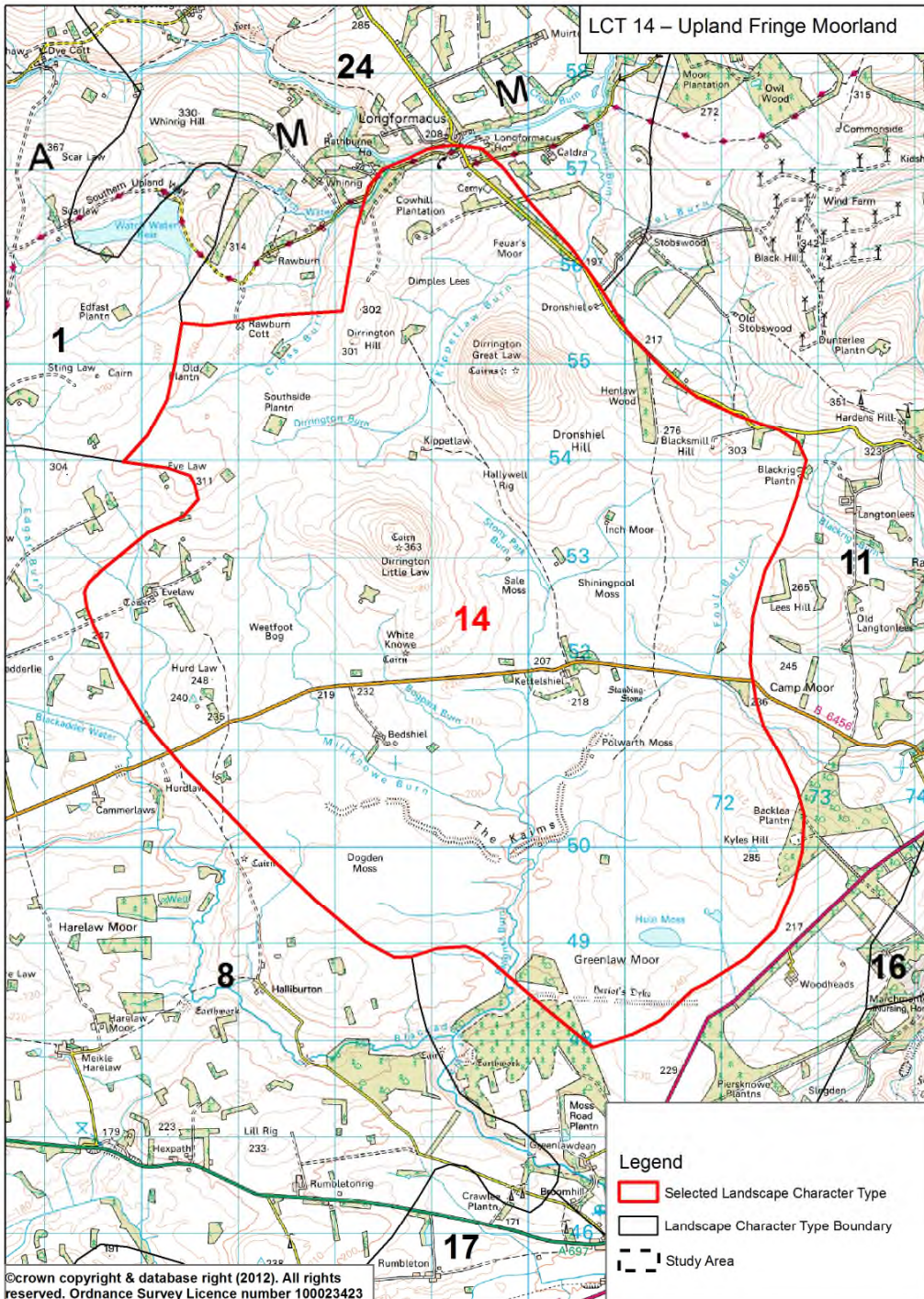
8.1 Introduction

This landscape character type occurs in a single area at Greenlaw Moor.

8.1.1 *Operational/consented wind farms*

No existing or consented turbine development is located in this character type.

The operational Black Hill wind farm (22 turbines, 78m high) is located in the adjacent Grassland with Hills (11) character type. The operational Fallago Rig wind farm (48 turbines, max. 125m high) lies approximately 9 km to the north-west of this character type within the Dissected Plateau Moorland (1) character type. The operational Crystal Rig and Aikengall I wind farms (and the consented Aikengall II wind farm), located in the eastern Lammermuir Hills, are visible from more elevated parts of this character type at distances of around 11km. The Longpark wind farm located to the west of the upper Leader Valley is visible at distances beyond 20km.



8.2 Summary of sensitivity

This open moorland plateau with its 'landmark' hills is unique within the Scottish Borders because of its lowland context and strong contrast with adjacent settled and farmed lowland landscapes. The broad, gently sweeping moorland plateau is simple although drama is present as the steep-sided domed shaped hills of Dirrington Great Law and Little Law rise abruptly from the flat plinth of moor and moss. The Kaims Esker also provides an interesting feature, its snaking, broken ridge standing out amongst more uniform gently undulating moorland. This character type is very sparsely settled with widely dispersed farms located on its fringes. Some semi-improved grassland occurs within these fringes and within more sheltered shallow valleys, although extensive tracts of moss and Scots Pine-studded heather moorland increase the diversity of vegetation cover and contribute to the strong sense of naturalness associated with this landscape. Elevated views over this landscape from the Duns to Longformacus road are striking and close views are also gained from the B6456.

The unusual character of this landscape with its intact expanses of moss and heather moor, small but dramatic 'landmark' hills which punctuate the moor and its strong sense of naturalness increase sensitivity to wind turbine development. There would be a **High** sensitivity to the large, medium and small to medium typologies (turbines >35m high). Sensitivity to the small typology (turbines 20m-35m) would also be **High-medium** over much of this character type as they would appear out of scale within more expansive mosses and moorland areas and would introduce vertical structures into this little modified landscape.

8.2.1 *Potential cumulative issues*

Potential cumulative issues are likely to be limited in terms of smaller typologies due to the very sparsely settled nature of this landscape. The following issues may arise however in connection with any development situated in adjacent landscapes:

- Inter-visibility between the operational and consented Black Hill, Fallago Rig, Aikengall I and II and Crystal Rig wind farms and any additional wind farms sited within the 'Dissected Plateau Moorland' (1) and 'Grassland with Hills' (11) seen from the Dirrington Laws which are accessed by walkers.

8.2.2 *Constraints*

- The unusual qualities of this very sparsely settled and little modified open moorland landscape given its close proximity and strong contrast to more settled and farmed lowland landscapes.
- The hills of Dirrington Great Law and Dirrington Little Law which rise dramatically from the low-lying gently undulating moss and moorland plateau and form landmark features seen across adjoining landscapes.
- The distinctive glacial moraine ridge of The Kaims which snakes across a mossy basin.

- The strong sense of place associated with this landscape including the naturalness of extensive moss and heather moorland which is accentuated by the presence and sounds of moorland and wetland birds.
- Close elevated views of this landscape from the Duns to Longformacus road and the B6456 and from the Dirrington Laws which are accessed by walkers.

8.2.3 *Opportunities*

- Shallow valleys and lower hill slopes, set well away from the landmark Dirrington Laws, where smaller typologies could be sited so they are visually associated with existing buildings.

8.3 **Guidance for development**

There are some very limited opportunities for the small typology (20-35m) to be located in this landscape. Turbines should only be sited on the outer fringes of this landscape and on the lower slopes of shallow valleys where they should be clearly associated with existing farms and other buildings. They should not be sited on or close to the foot of the Dirrington Laws although other less distinctive hills provide opportunities to reduce prominence for turbines sited on lower slopes.

Detailed siting and design should accord with the guidance set out in section 22 of this report.

No scope for the large, medium and small-medium typologies (turbines >35m) has been identified in this assessment.



A sharp division occurs between lowland farmland and the open, Scots pine studded, heather moorland of this character type



Dirlington Great and Little Laws form landmark features rising abruptly from low-lying moorland



This open and expansive landscape has upland characteristics yet is unusual in lying close to more settled lowlands.



This landscape is very sparsely settled with small farms located on raised ground within shallow valleys on the fringes of moorland.



The openness and low-lying nature of this landscape allows extensive views, including those to the distant Cheviots



The snaking ridge of the glacial moraine feature of The Kaims.

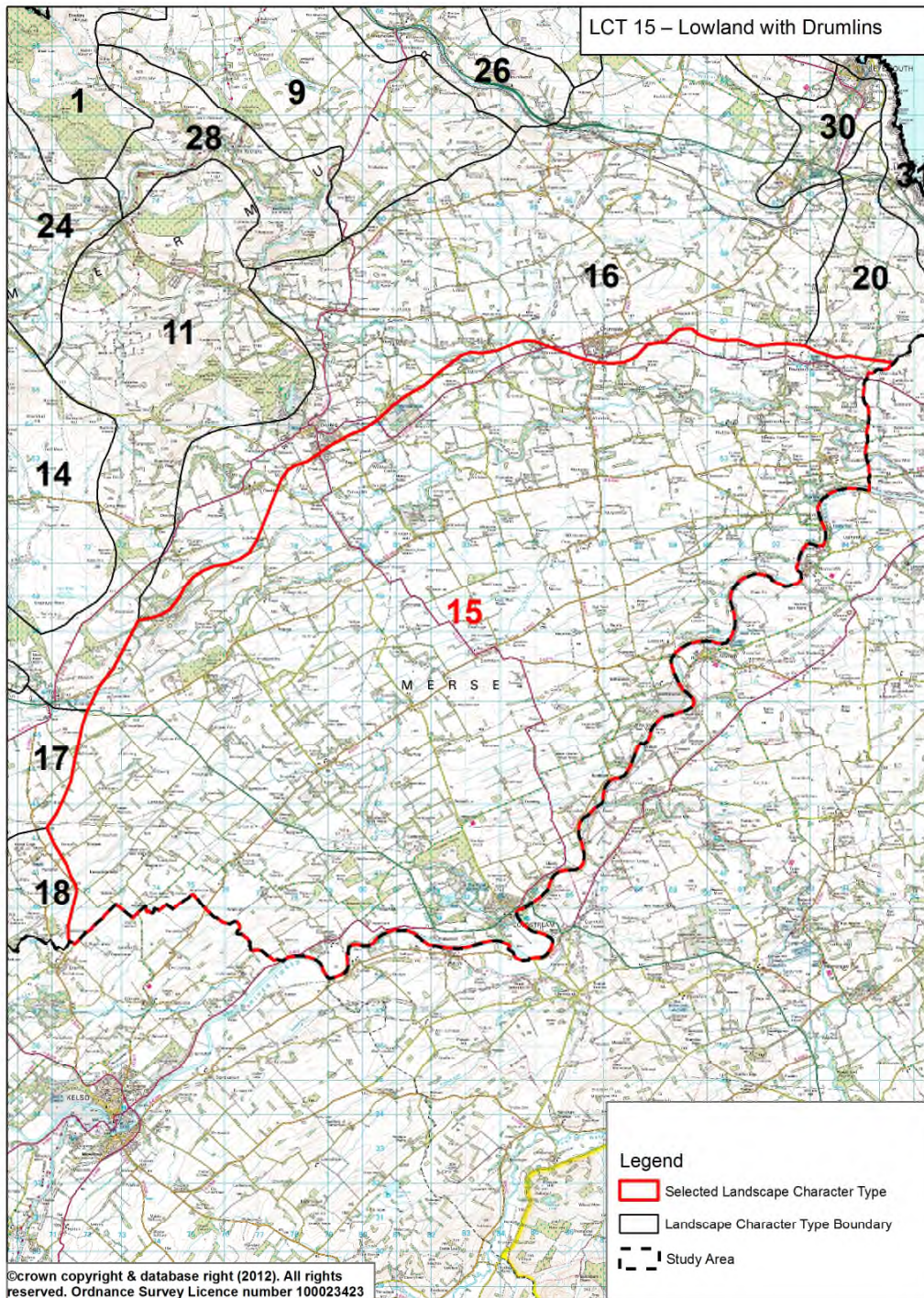
9 CHARACTER TYPE 15: LOWLAND WITH DRUMLINS

9.1 Introduction

The Lowland with Drumlins (15) landscape character type is only present in one area, the Lower Merse, within the Scottish Borders. The Lower Merse area lies within the Berwickshire study area.

9.1.1 *Operational/consented wind farm development*

Consents for two turbines less than 30m in height and one turbines between 31m and 60m in height have been granted within in this character type.



9.2 Summary of sensitivity

The Lowland with Drumlins (15) shares its northern margin with Rolling Lowland Margin (16), and marches with England along its southern edge. Its western boundary lies adjacent to other lowland types – Lowland Margin Platform (17) and Lowland Margin with Hills (18) – as well as the Lowland Valley with Farmland (29) and a short stretch of the Grassland with Hills (11). This landscape is very large in extent, an impression which is reinforced by sharing the pattern of farmed land with some adjacent landscape types. The landform has a very low relief. The long low ridges are long, and parallel, creating even, gently graded undulations with occasional well defined and more contained flat bottomed river valleys, and some areas of more pronounced or complex landform. The pattern of land use reduces the landscape scale, especially as the field pattern is well defined by hedges, hedgerow trees and some small woodlands. This area also has a large number of extensive designed landscapes and historic features.

Settlement varies from towns and villages to farms and short rows of terraced or semi-detached farm cottages. There are areas where settlement is more sparse, and the settlements are connected by an extensive network of roads, including a number of A roads which cross this area. Views from elevated viewpoints can be sustained and panoramic but from many of the roads, views are intermittent, limited by the high hedges.

The large extent of this character type, the sweeping scale of the gently graded landform and occasional more open landscapes where enclosure pattern of trees and hedges is much reduced, as well as the sparse settlement in some areas, combine to create some opportunities for turbines within this landscape. Areas of diverse and well defined land use pattern, prominent landforms, such as low hills, well-defined river valleys and occasional more complex undulations, as well as the setting of settlements, numerous designed landscapes and historic features are all key sensitivities. The recurring presence of features against which the size of a turbine can be assessed is a further sensitivity, as is the widespread visibility that ensures that tall structures are likely to be relatively easily seen. This landscape character type therefore has a **High** sensitivity to large (80m – 140m) typologies, **High-Medium** sensitivity to medium (50m – 80m) typologies, a **Medium** sensitivity to the small-medium (35m – 50m) typology and a **Medium-Low** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be readily accommodated within this farmed landscape type.

9.2.1 *Potential cumulative issues*

There is potential for cumulative landscape and visual effects to occur within this character type if a number of individual or small groups of turbines are constructed across this landscape, although its extent and intermittent visibility are likely to mitigate against impacts in the medium term.

Well-sited turbines and the development of a consistent relationship between turbines and the landform shape or broad settlement pattern is likely to also help minimise potential cumulative impacts.

Cumulative effects can be further minimised if turbines of less than 20m should be sited where they can be associated with farms or buildings to create 'development clusters'. They are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Lowland with Drumlins (15) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting in relation to landform
- Sequential visual impacts experienced when travelling through the landscape, especially on A roads, and well used elevated B roads, and in sequence when travelling through adjoining character types.

9.2.2 *Constraints*

- The low relief which could easily be overwhelmed by tall structures
- The more contained river valleys, smaller scale and more complex landforms and pronounced hills
- The summits and crests of key hills and ridges
- The diverse and consistent vegetation pattern, which is clearly defined by field pattern and hedgerow trees and reduces landscape scale
- The setting of historic and designed landscapes, villages and other settlements
- The visibility of the landscape from elevated viewpoints, including settlements

9.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of features
- Areas of more simple vegetation pattern, where field trees and even hedgerows are more sparse
- The side slopes rather than the crests of ridges
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

9.3 **Guidance for development**

There is limited scope for the small-medium (35m – 50m) and some scope for the small (20m – 35m) development typology to be sited within this character type.

Turbines should avoid convex landforms, and be located on the more open, broader, very gently sloping landform containing natural platforms.

Turbines should also avoid breaching skylines as viewed from key viewpoints, avoid intruding into the setting of historic features and designed landscapes and the setting of buildings and small features.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of this report.

No scope for the large (80m+) and medium (50m – 80m) typologies has been identified in this assessment.



The field pattern, hedges and woodland all combine to increase enclosure and reduce scale across the lowland landscape, despite the sweeping underlying landform.



Farms, including quite large buildings are sometimes located on the low ridgelines



High hedges and treelined roads limit views so that visibility can be intermittent. Trees also feature in designed landscapes, here as an avenue leading to a gatehouse.



River valleys are more contained by landform, and the enclosure reduces the scale of the landscape.



In some areas, the vegetation pattern becomes more sparse and the scale of the landscape increases as land form begins to dominate



Historic landscapes and features – here the striking features at Mungo Walls – are a key characteristic of this landscape type

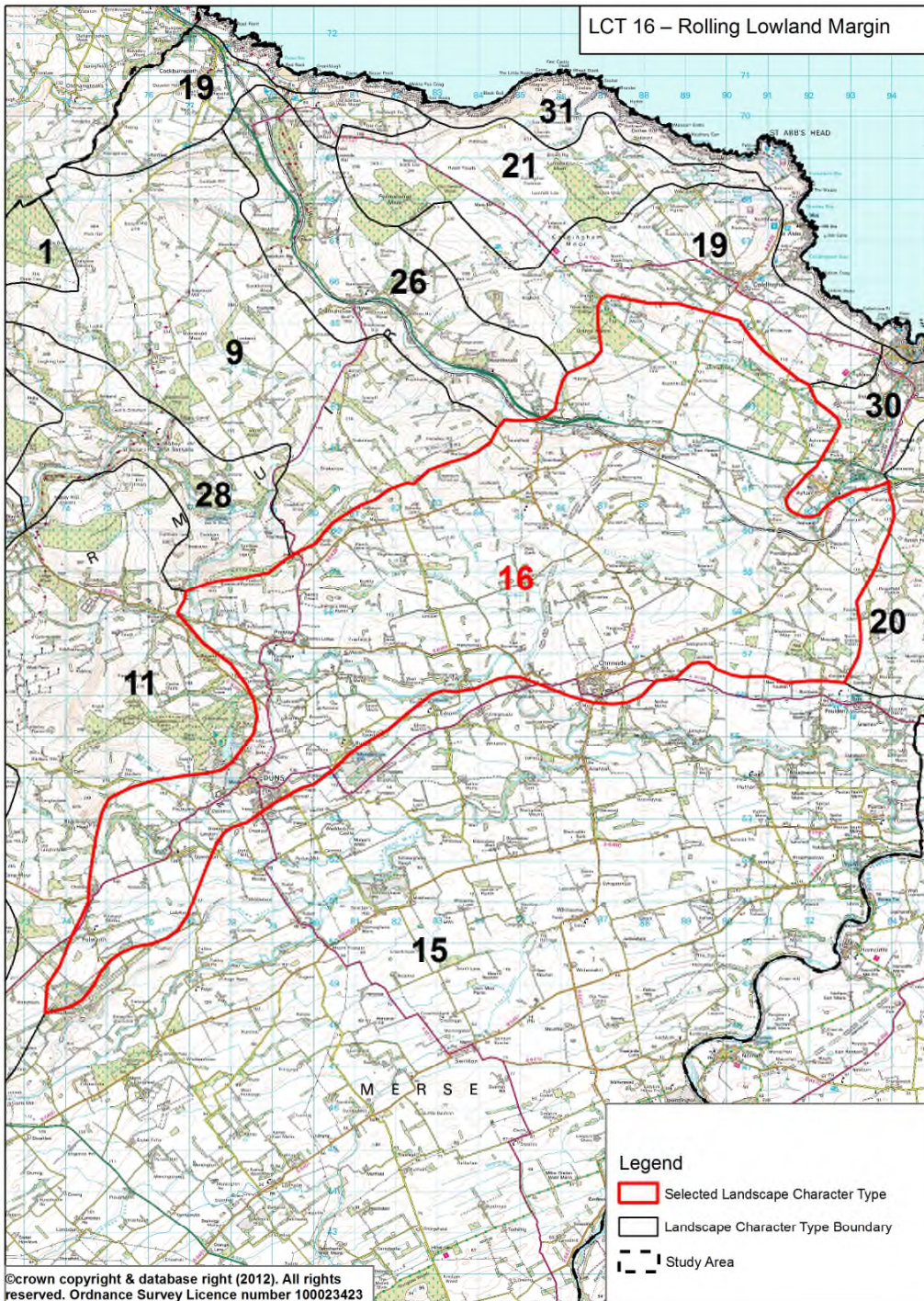
10 CHARACTER TYPE 16: ROLLING LOWLAND MARGIN

10.1 Introduction

The Rolling Lowland Margin (16) landscape character type is present in two areas within the Scottish Borders. Only one of these areas – the Eye Water Lowlands – lies within the Berwickshire study area.

10.1.1 *Operational/consented wind farm development*

Consents for four turbines less than 30m in height and two turbines between 31m and 60m in height have been granted within in this character type.



10.2 Summary of sensitivity

The Rolling Lowland Margin (16) shares its longest boundary with the Lowland with Drumlins (15) to the south. The upland fringe types of Platform Farmland (9) and Grassland with Hills (11) lie to the north west, while Coastal Farmland (19) and Coastal Pasture (20) lie to the east. This type also has short march boundaries with three valley types – Coastal Valley (30), Pastoral Upland Fringe Valley (26) and Wooded Upland Fringe Valley (28). This landscape is large in extent, an impression which is further reinforced by the pattern of broadly farmed land which is shared with adjacent landscape types. The landform has a very low relief. The long low ridges are often curved and convoluted to create more complex landforms, often appearing as a series of ridges, unfolding one behind the other. The northern boundary of this type is a pronounced containing ridge which forms the highest landform, the crest highly prominent. The pattern of land use reduces the landscape scale, although it varies from larger scale and more open arable fields, to smaller fields and more enclosed areas, with tree belts, small woods and the occasional historic landscape.

Settlement varies from towns and villages to dispersed, often large, farms. There are areas where settlement is relatively sparse, although the area supports a network of access routes, including several roads and the east coast railway line. Views are often from elevated viewpoints, and can be sustained and panoramic across the more open areas of landscape.

The large extent of this character type, the more open landscapes where fields are large and enclosure pattern of trees and hedges is much reduced, as well as the sparse settlement in some areas combine to create some opportunities for turbines within this landscape. Areas of smaller scale and more diverse land use pattern, prominent landforms, such as low hills, well-defined river valleys and the prominent containing ridge to the north, as well as the setting of settlements are all key sensitivities. The recurring presence of features against which the size of a turbine can be assessed is a further sensitivity, as is the widespread visibility which ensures that tall structures are likely to be easily seen and widely visible. This landscape character type therefore has a **High** sensitivity to large (80m – 140m) typologies, **High-Medium** sensitivity to medium (50m – 80m) typologies, a **Medium** sensitivity to the small-medium (35m – 50m) typology and a **Medium-Low** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be readily accommodated within this farmed landscape type.

10.2.1 *Potential cumulative issues*

There is potential for cumulative landscape and visual effects to occur within this character type, especially in terms of potential sequential visual impacts when travelling along the A1 or the east coast main line, both of which are 'gateways' to Scotland when travelling from the south. Care should be taken to develop a careful and consistent approach to turbine style and siting along these routes.

Well-sited turbines and the development of a consistent relationship between turbines and the landform shape or broad settlement pattern is likely to further minimise potential cumulative impacts.

Cumulative effects can be further minimised if turbines of less than 20m should be sited where they can be associated with farms or buildings to create 'development clusters'. They are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Rolling Lowland Margin (16) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting in relation to landform
- Sequential visual impacts experienced when travelling through the landscape, especially on A roads, well used elevated B roads and the railway
- The high visibility across this landscape is likely to increase sensitivity to visual cumulative effects

10.2.2 *Constraints*

- The low relief which could easily be overwhelmed by tall structures
- The long northern ridgeline which overlooks this type and where a line of forts and historic sites are located on the immediately adjacent Platform Farmland (9)
- The more contained river valleys, smaller scale and more complex landforms and pronounced hills
- The summits and crests of key hills and ridges
- The areas of relatively small scale and diverse vegetation pattern, where field pattern and hedgerow trees reduce landscape scale
- The setting of historic and designed landscapes, villages and other settlements
- The high visibility of the landscape from elevated viewpoints, including settlements

10.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of features
- The side slopes, rather than the crests of ridges
- Areas of more simple vegetation pattern and more open, less settled landscape
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

10.3 Guidance for development

There is some scope for the small-medium (35m – 50m) and small (20m – 35m) development typology to be sited within this character type.

Turbines should avoid convex landforms and steep prominent slopes, and be located on the more open, broader, very gently sloping landform containing natural platforms.

Turbines should also avoid breaching skylines as viewed from lower elevations, especially the ridge to the north of this area, which is widely prominent. Turbines should also avoid intruding into the setting of key features, including historic sites, and the setting of buildings, and small features.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of this report.

No scope for the large (80m+) and medium (50m – 80m) typologies has been identified in this assessment.



An elevated view (from LCT 11), across LCT 16, showing the pattern of vegetation which is characteristic of the wide valley, and extends up the lower slopes of the surrounding hills



The Whiteadder Valley, where the topography of the shallow valley and woodland combine to create more enclosure and a smaller scaled landscape



On the ridge between LCT 9 and LCT 16, small woodlands are a key feature, and in the more arable landscapes on the undulating plain, the fields can be larger and more open



The ridge between LCT 16 and LCT 9 is a sensitive skyline, dotted with archaeological sites, which provides containment along the long northern edge of LCT 16



Areas of more complex interlocking landform with smaller scale vegetation pattern, including a network of shelterbelts increase enclosure



More simple landscape, with long ridges and less woodland creates a more open landscape

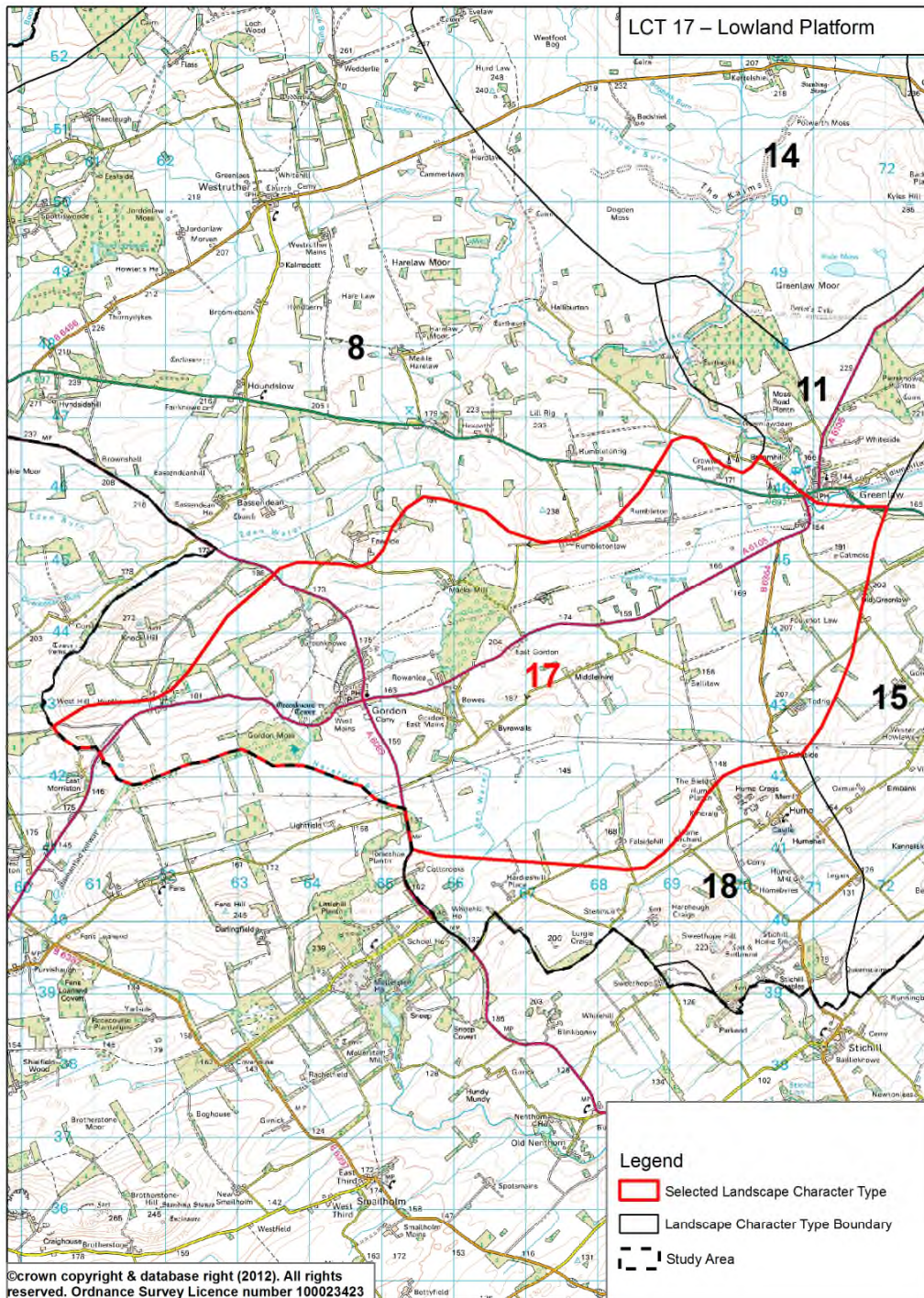
11 CHARACTER TYPE 17: LOWLAND MARGIN PLATFORM

11.1 Introduction

The Lowland Margin Platform (17) landscape character type is only present in one area, the Gordon Platform, within the Scottish Borders. The Gordon Platform area lies within the Berwickshire study area.

11.1.1 *Operational/consented wind farm development*

A consent for only one turbine, which is below 30m in height, has been granted within in this character type.



11.2 Summary of sensitivity

The Lowland Margin Platform (17) lies between the Rolling Farmland (8), to the north and the Lowland Margin with Hills (18) to the south. Its eastern boundary abuts the Grassland with Hills (11) and the Lowland with Drumlins (15). This landscape is narrow and small in extent, although it shares its vegetation pattern with adjacent landscape types. It offers a contrast and also provides the foreground to the landscape of distinct rocky outcrop hills in Lowland Margin with Hills (18). The landform has a very low relief, with more undulating landform in the northern part. In the lowlying drained moss areas, the simple vegetation pattern creates an open landscape which reinforces the broader scale of the land form. The field pattern is marked out by dykes, and is not strongly enclosed, although there are occasional woodlands and shelterbelts. Settlement is dispersed, with farms located on drier ground and the main village of Gordon a focal point for the main A-class roads. Views from elevated viewpoints, including the major roads, are elevated and sustained, with extensive panoramas over this, neighbouring and even more distant character types.

The relative simplicity of the landscape pattern, which allows the broader land form scale to have a stronger influence on landscape character in this area, as well as the relatively gentle topography and scattered settlement all combine to reduce sensitivity to development in this area. However, the low relief, the extensive panoramic views, the small extent of the area and its importance in providing a setting and views to and from the rocky hills in the neighbouring Lowland Margin with hills (18) are key sensitivities. This landscape character type therefore has a **High** sensitivity to large (80m +) typologies, **High-Medium** sensitivity to medium (50m – 80m) and **Medium** sensitivity to small-medium (35m – 50m) typologies, and a **Medium-Low** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be readily accommodated within this farmed landscape type.

11.2.1 *Potential cumulative issues*

There is potential for cumulative landscape and visual effects to occur within this character type if a number of individual or small groups of turbines are constructed across this landscape.

Well-sited turbines and the development of a consistent relationship between turbines and the landform shape or broad settlement pattern is likely to also help minimise potential cumulative impacts.

Cumulative effects can be further minimised if turbines of less than 20m could be sited where they can be associated with farms or buildings to create 'development clusters'. They are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Lowland Margin Platform (17) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting in relation to landform
- Sequential visual impacts experienced when travelling through the landscape, especially on A roads and in sequence when travelling through adjoining character types
- Views across this landscape to other types, which may increase potential for cumulative visual impacts.

11.2.2 *Constraints*

- The low relief which could easily be overwhelmed by tall structures
- The more contained smaller scale and more complex landforms around Gordon
- The summits of ridges and hills and hills
- The setting of the rocky outcrop hills which are a key feature of the neighbouring Lowland Margin with Hills (18) landscape type, and are a focal point of views from this area
- The fine panoramic views from the elevated roads
- The setting of Greenknowe Tower and Hume Castle.

11.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of features, the views to and from Hume castle and the setting of the outcrop hills in neighbouring Lowland Margin with Hills (18)
- Extensive areas of more simple vegetation pattern
- The side slopes, rather than the crests of ridges
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

11.3 Guidance for development

There is limited scope for the small-medium (35m – 50m) and some scope for the small (20m – 35m) development typology to be sited within this character type.

Turbines should avoid convex landforms, and be located on the more open, broader, very gently sloping landform containing natural platforms, away from the setting of the rocky outcrop hills and key historic features.

Turbines should also avoid breaching skylines as viewed from the main roads and settlements, as well as avoid intruding into the setting of key features and the setting of buildings and small features.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and key natural features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of this report.

No scope for the large (80m+) and medium (50m – 80m) typologies has been identified in this assessment.



Castle Hume, on the edge of this LCT, is a striking and prominent feature highly visible across this landscape type. Its setting is sensitive to the siting of turbines



Policy landscape around Greenlaw Tower, which is part of its setting and sensitive to development and turbines



This area is characterised by the wide shallow bowl like landform, with wetland on lowlying areas and small features, including woodland on the skylines.



Small scale hills to the south of in neighbouring LCT 18 are sensitive to large turbine development



Rolling landform is smooth and gradients are gentle, but the relief is low as can be seen by the relative scale of the height of the trees.



The more pronounced hills within LCT 18, on the southern boundary, seen here in the context of the larger scale fields of LCT 17, which nevertheless form part of their setting.

12 CHARACTER TYPE 19: COASTAL FARMLAND (COLDINGHAM)

12.1 Introduction

The Coastal Farmland (19) landscape character type is present in two areas within the Scottish Borders, both of which – Cockburnspath and Coldingham – lie within the Berwickshire study area.

These two areas are considered separately in the sensitivity assessment due to their different landscape context and scale and because of the potential for specific cumulative issues to arise in the Cockburnspath area (19A) in association with existing and consented wind farm development in East Lothian.

This is the assessment for the Coldingham area of Coastal Farmland landscape type (19).

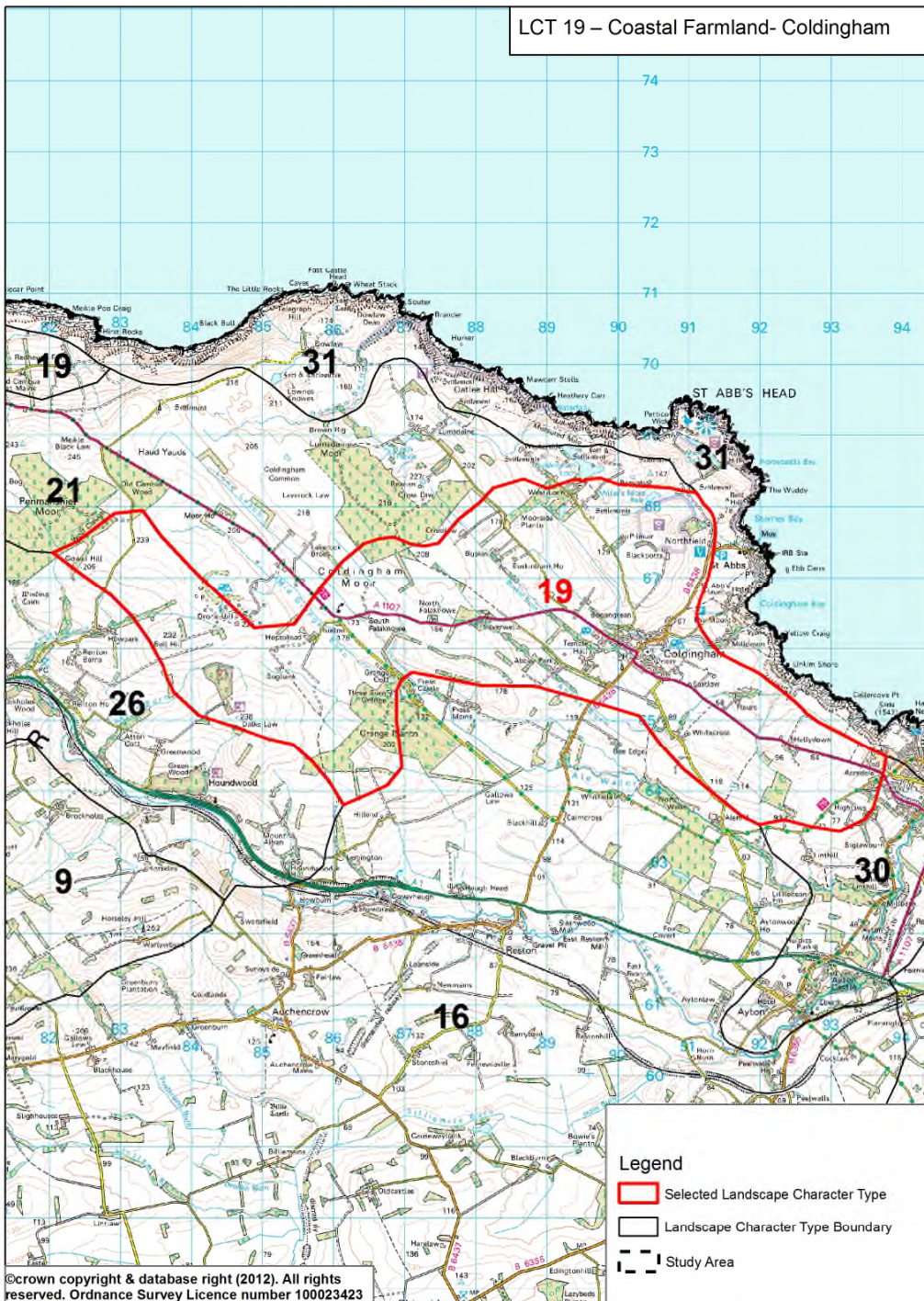
12.1.1 *Operational/consented wind farms*

A number of small turbines <30m high are located in this character. Two of these turbines were noted in the West Loch area during field survey.

A single turbine, between 30m – 60m high is located at Pressmains Farm within the 'Rolling Lowland Margin' (16) but close to the boundary with this character type.

The operational Drone Hill wind farm (22 turbines, 76m high to blade tip) is located within the adjacent Coastal Moorland (21) landscape character type. The consented Penmanshiel wind farm (14 turbines, 100m high to blade tip) and the Moor House turbines (2 turbines, 77.9m to blade tip) are also located in the Coastal Moorland (21) landscape character type.

The operational Brockholes (3 turbines, 84m high to blade tip) and the consented Quixwood wind farm (13 turbines, 100/115m high to blade tip), both located in the Platform Farmland (9) character type, will be visible from more elevated parts of this landscape.



12.2 Summary of sensitivity

The Coastal Farmland (19) has a gently undulating landform of parallel long, low ridges and shallow valleys and more defined softly rolling hills. Smooth pastures are enclosed by a mix of gorse and thorn hedgerows and edged by wind-swept trees, accentuating the coastal aspect of this landscape. It is well settled with dispersed farms, small houses and the historic settlement of Coldingham nestles in a dip between low hills. This landscape lies adjacent to the highly sensitive Coastal Margin (31); the transition marked by a more complex knolly landform and lochans. The higher hill of Dalks Law forms a prominent edge to the 'Pastoral Upland Fringe Valley' (26) to the south-west and partially contains views of the existing Drone Hill wind farm from this valley which accommodates major transport routes.

The close proximity of existing wind farm development within the adjacent Coastal Moorland (21) and the close proximity of the coast increase sensitivity to larger typologies. There would be a **High** sensitivity to the large and medium typologies (turbines >50m). Sensitivity to the small-medium typology (turbines 35m-50m) would be **Medium** and **Medium-low** for the small typology (turbines 20m-35m) reflecting increased opportunities for these smaller typologies to fit better with the scale of this well-settled landscape, to limit intrusion on adjacent highly sensitive landscapes and to be sited to avoid significant cumulative effects with the existing Drone Hill wind farm.

12.2.1 Potential cumulative issues

Potential cumulative issues may include the following:

- Close inter-visibility between operational and consented wind energy developments sited within the 'Coastal Moorland' (21) and any larger turbines sited in this landscape seen from settlement and from key roads including the A1107 designated Berwickshire Coast Route.
- Smaller turbines sited close to the operational Drone Hill and consented Penmanshiel and Moor House wind farms, increasing visual clutter and contrasts of scale/design with larger turbines and affecting the design rationale of these wind farms.
- Larger typologies sited in this settled small scale landscape would be contrary to the established association of turbines >70m with more simple and expansive landscapes.
- Variations in the type and size of single and small groups of small turbines proposed within the landscape type
- Cumulative visual impacts experienced when travelling through the landscape, especially on the A1 where multiple turbine developments located in this and other character types may dominate skylines above the Upper Eye Water valley.

12.2.2 Constraints

- The small to medium scale of this landscape where a regular pattern of settlement, woodlands and enclosed pastures limit scale especially within more contained valleys.
- Higher, more defined hills such as Dalks Hill which form prominent skylines seen from the 'Pastoral Upland Fringe Valley' (26) of the Eye Water Valley which accommodates the A1 and East Coast Railway.
- The operational and consented Drone Hill, Moor House and Penmanshiel wind farms located within the adjacent 'Coastal Moorland' (21) which generally has a simple landform and pattern and large scale. Similar sized turbines located in the Coastal Farmland would dilute the design rationale and clear association with a particular landscape character demonstrated by these developments.
- The proximity of the highly sensitive Coastal Margin (31) where the diverse rugged landform and qualities of wildness associated with this coastal landscape could be significantly affected by intrusion by wind turbine development located within this character type.
- The backdrop provided by the rounded hill of Blackpotts to the historic settlement of Coldingham in views from the B6438.

12.2.3 Opportunities

- Shallow valleys and lower hill slopes, which are visually contained from the broad basin of Coldingham Moor and the existing wind farm of Drone Hill, where smaller typologies could be sited to minimise cumulative effects.

12.3 Guidance for development

There are some limited opportunities for the small-medium typology (35-50m) to be located in this landscape. Turbines should be sited well away from the operational Drone Hill wind farm in order to avoid cumulative effects. They should not be sited on the more prominent hill tops, such as Dalks Law, where they would intrude on the adjacent 'Pastoral Upland Fringe Valley' (26). Blackpotts Hill is also likely to be sensitive in terms of its role in providing an immediate setting to Coldingham in some views and because taller turbines sited on its top and upper slopes may intrude on the nearby 'Coastal Margin' (31). Turbines should be sited on lower hill slopes in order to reduce their visual prominence.

There are increased opportunities to locate multiple turbines of small typology (20-35m) to minimise cumulative effects as turbines of this size could be sited to be partially back-dropped by low ridges and hill slopes and additionally screened in places by woodland.

Detailed siting and design should accord with the guidance set out in section 22 of this report.

No scope for the large (80m+) and medium (50m – 80m) typologies has been identified in this assessment.



This landscape forms a series of long, smoothly rolling parallel ridges and valleys.



Existing wind farm development is located in the adjacent Coastal Moorland character type



A single turbine on farmland west of Coldingham



The rolling landform offers some scope for visual containment of smaller turbines



The rounded hill of Blackpotts forms the backdrop to the historic settlement of Coldingham



More defined hills form prominent skylines seen from the Eye Water valley.

13 CHARACTER TYPE 19A: COASTAL FARMLAND (COCKBURNSPATH)

13.1 Introduction

The Coastal Farmland (19) landscape character type is present in two areas within the Scottish Borders, both of which – Cockburnspath and Coldingham – lie within the Berwickshire study area.

These two areas are considered separately in the sensitivity assessment due to their different landscape context and scale and because of the potential for specific cumulative issues to arise in the northern area in association with existing and consented wind farm development in East Lothian.

This is the assessment for the Cockburnspath area of Coastal Farmland landscape type, which for the purposes of this study has been called 19A.

Operational/consented wind farms

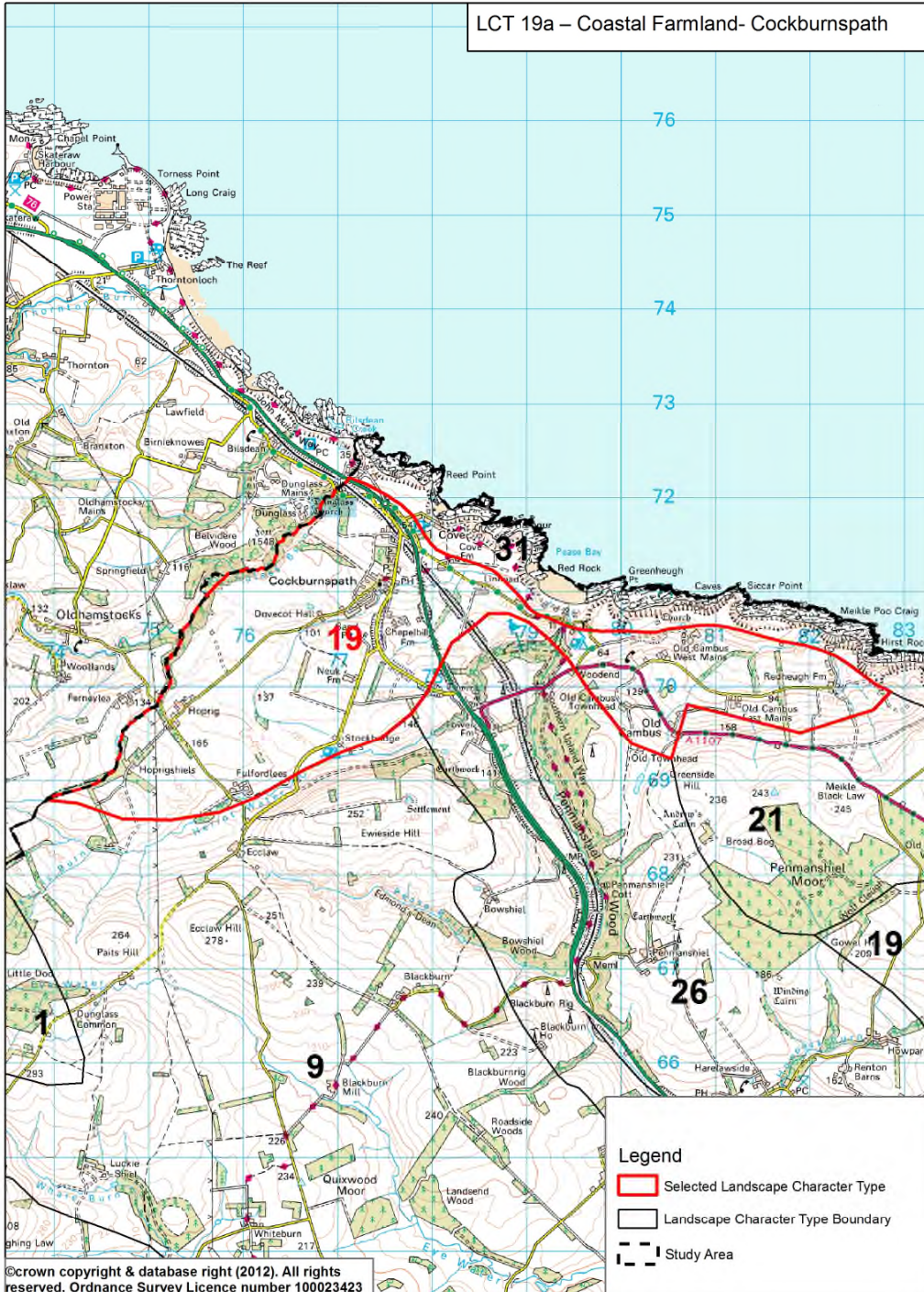
The consented Kinegar Quarry (2 turbines, 110m high) and Hoprigshiels (3 turbines, 115m high) are located in this landscape character type.

The operational Drone Hill wind farm (22 turbines, 76m high to blade tip) is located within the adjacent Coastal Moorland (21) and is visible on the skyline of a ridge which backdrops the Coastal Farmland – Cockburnspath (19a) to the east. The consented Penmanshiel wind farm (14 turbines, 100m high) is located in the Coastal Moorland (21) landscape character type and would increase the number and extent of turbines visible on the skyline of this same ridge as would the consented Moor House turbines (2 turbines, 77.9m high to blade tip) also located in the adjacent Coastal Moorland.

The operational Aikengall I wind farm (16 turbines, 125m high) located within East Lothian is visible from parts of this landscape, particularly in the Cockburnspath area where it is seen at distances of around 6-7km. The consented Aikengall II consented extension to this development (19 turbines, 145m high) will be considerably more visible on the skyline of hills forming the north-western backdrop to this landscape due to the greater height of the turbines and the closer position of this extension to the outer edge of the uplands.

The consented Quixwood wind farm (13 turbines, 100-115m high) is located to the south in the adjacent Platform Farmland (9) landscape character type. Visibility of this wind farm is likely to be restricted from the Coastal Farmland – Cockburnspath (19a) landscape character type due to the location of this development within the slightly lower core of the Platform Farmland (9) which is contained by a higher 'rim' of hills on the northern boundary.⁵

⁵ Informed by the visualisation from viewpoint 23 from the Oldhamstocks area within the Quixwood Wind Farm Updated Cumulative Assessment January 2013



13.2 Summary of sensitivity

The Coastal Farmland – Cockburnspath (19a) character area is relatively small in extent and is strongly contained by the steep edge slopes of the 'Coastal Moorland' (21) and 'Platform Farmland' (9) to the south. This landscape has a rolling landform to the west, cut by occasional narrow deeply incised wooded river valleys. A more gently sloping topography occurs to the east where this area forms the immediate hinterland to the Coastal Margin (31). The landform, together with dispersed farms and other settlement and small woodlands, contribute to the generally small scale of this landscape. Small to medium sized pastures are enclosed by hedges and stone walls and visibility from narrow roads in the western part of this landscape is often restricted by vegetation and landform. Views are open however from the A1107, a promoted coastal tourist route. The A1, East Coast railway, a transmission line and quarrying fragment this landscape in places although the eastern area is less cluttered by built infrastructure.

A total of 5 large turbines >100m high have been consented in the western part of this landscape. The operational and consented wind farm developments of Drone Hill, Moor House and Penmanshiel, located in the 'Coastal Moorland' (21), and Aikengall I and II, sited in nearby East Lothian, are/will be visible in close proximity from parts of this landscape.

The small to medium scale of this landscape, the potential for significant cumulative effects to occur with operational and consented wind farms/turbines sited in this and adjacent landscape character types and the close proximity of the coast increase sensitivity to development in this landscape. There would be a **High** sensitivity to the large, medium and small-medium typologies (turbines above 35m). Sensitivity to the small typology (turbines 20-35m) would be **Medium**, reflecting increased opportunities for this typology to fit better with the scale of this well-settled landscape and avoid significant cumulative effects.

13.2.1 Potential cumulative issues

The consented Hoprigshiels (3 turbines, 115m) and Kinegar Quarry (2 turbines, 110m) will dominate the scale and limited extent of the western part of this landscape. The consented Aikengall II wind farm will increase the spread and extent of large turbines seen in close proximity on the skyline of the 'Dissected Upland Plateau' (1) character type (which continues as the 'East Lammermuir Plateau' character type in East Lothian), particularly from the western part of this landscape. The consented Penmanshiel wind farm and Moor House turbines will also increase the spread and vertical extent of individual turbines visible on the skyline of the ridge which contains this landscape to the south and south-east.

Potential cumulative issues may include the following:

- Close inter-visibility between operational, consented and proposed wind farms and any single or small groups of larger turbines sited in this

landscape seen from settlement and from key roads including the A1107 designated Berwickshire Coast Route and the A1.

- Larger typologies sited in this settled small scale landscape would be contrary to the established association of turbines >80m with more simple and expansive upland landscapes.
- Additional large wind turbines sited in the western part of this landscape would contribute to the domination of the consented Kinegar Quarry and Hoprigshiels within this contained and relatively small area.
- Additional wind turbines of any size sited in this landscape which would significantly exacerbate the visual clutter likely to arise with consented large turbines located in the western part of this landscape and also when seen with large built infrastructure present within the A1 corridor, which includes transmission lines and Torness Power Station (for example, in extensive views to the north and west from the A1107).

13.2.2 Constraints

- The rolling landform and well-settled nature of this landscape which contribute to its predominantly small scale and which would be dominated by larger typologies. The limited extent of this landscape further increases sensitivity to larger typologies and restricts scope for multiple turbines.
- The operational Drone Hill and Aikengall I wind farms and consented Aikengall II extension, Moor House and Penmanshiel wind farms located in adjacent upland landscapes and visible in close proximity from settlement and key roads.
- The consented Hoprigshiel and Kinegar Quarry wind turbines sited in the western part of this character type which will dominate the scale and limited extent of this relatively confined area (and be seen in close proximity to the consented Aikengall II development) and severely limit scope for additional turbines >35m to be accommodated in this area.
- Potential cumulative effects between operational wind farms, consented large wind turbines and existing built infrastructure associated with the A1/railway transport corridor.
- The proximity of the highly sensitive Coastal Margin (31) where wind turbines sited in the eastern parts of this landscape could intrude on views to the rugged headland of Fast Castle and the sea from the A1107 and the A1.

13.2.3 Opportunities

- Lower, less complex hill slopes where smaller typologies could potentially be sited to minimise cumulative impacts.

13.3 Guidance for development

There is some limited scope for the small typology (turbines 20-35m). This typology could be sited on lower, less rolling and complex hill slopes although scope is restricted in the western part of this landscape due to the cumulative effects that would be likely to occur with consented large turbines. Turbines should be sited to avoid impact on the narrow wooded valley of Dunglass and located away from existing transmission lines and built infrastructure structures associated with the A1 corridor. Turbines towards the lower height band of this

typology could be better accommodated in the eastern part of this landscape where they should be associated with existing settlement and set back from the Coastal Margin (31). Detailed siting and design should accord with the guidance set out in section 22 of this report.

No scope for the large (80m+), medium (50m – 80m) and small-medium (35m-50m) typologies has been identified in this assessment.



Existing wind farm development is visible on the skyline above the narrow eastern strip of this Coastal Farmland



This landscape forms the foreground to views of the rugged headland of Fast Castle from the A1107



This gently rolling landscape is well-settled with farms



This landscape lies close to existing wind farm development within adjacent uplands



Hill slopes at the transition with adjacent upland areas are more open with more extensive pastures and coniferous shelterbelts



Landform becomes more complex close to the coastal edge.

14 CHARACTER TYPE 20: COASTAL PASTURE

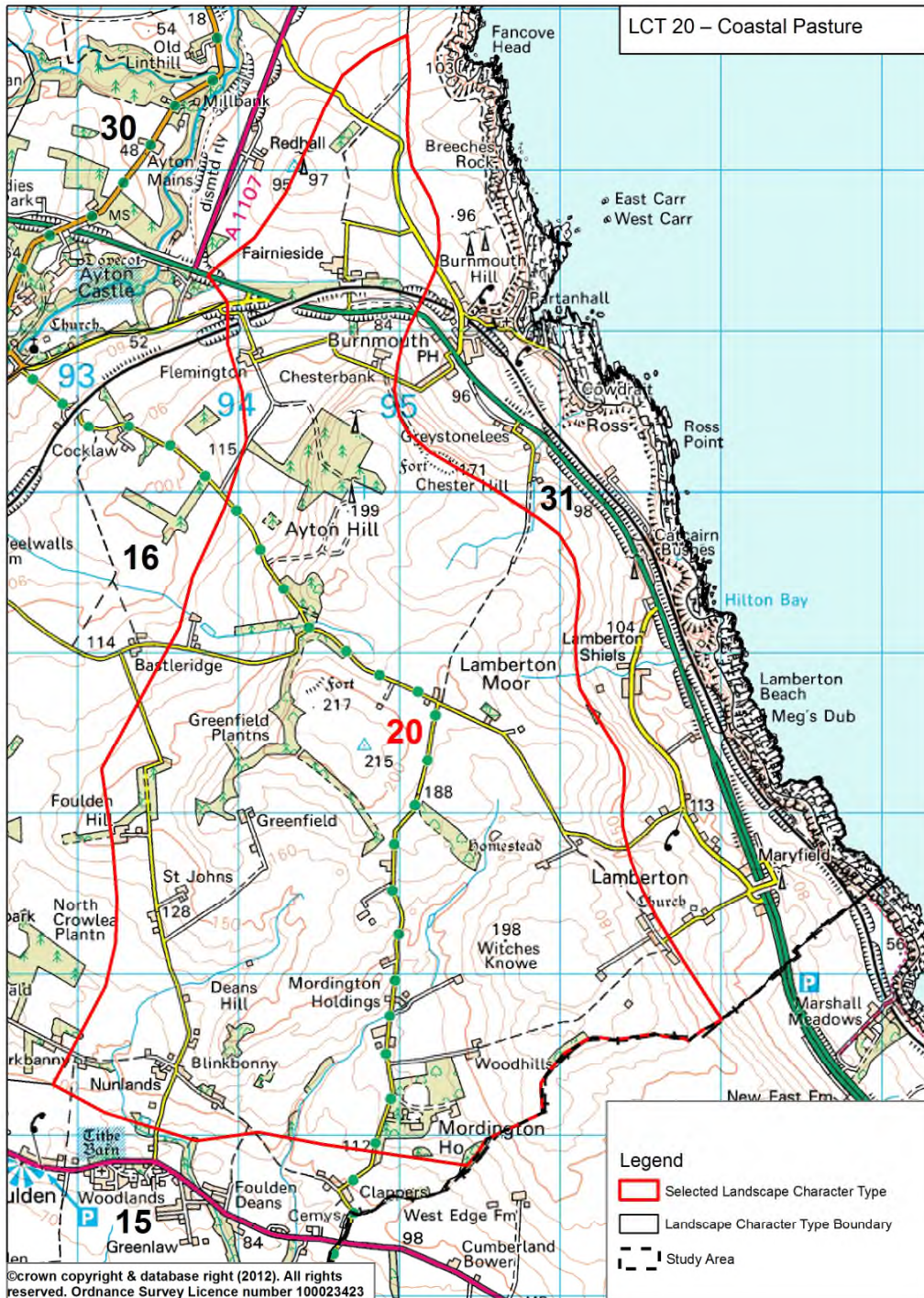
14.1 Introduction

The Coastal Pasture (10) landscape character type is only present in one area, the Lamberton Moor area, within the Scottish Borders. The Lamberton Moor area lies within the Berwickshire study area.

14.1.1 *Operational/consented wind farms*

No wind farms are located within this character type. Three single turbines, below 30m high, have been approved in this character type.

The existing Drone Hill wind farm, comprising 22 turbines, 76m high to blade tip, located in the 'Coastal Moorland' (21) character type can be seen from elevated parts of this character type at distances of over 12km. The consented Quixwood wind farm (13 turbines, 100-115m), the Brockholes development (3 turbines, 84m high) and Aikengall II (19 turbines, 145m high) will also be visible.



14.2 Summary of sensitivity

Coastal Pasture (20) is small in extent, forming an area of low hills between the Coastal Margin and the Tweed Lowlands. Landform can be complex with small scale knolly outcrops, narrow valleys and hollows occurring on lower slopes. The undulating ridge between Ayton Hill and Deans Hill, lying at the core of this landscape, forms a prominent landmark feature seen widely across the Coastal Coastal Farmland (19) and Rolling Lowland Margin (16). The higher ground of this landscape also forms the immediate skyline to the Coastal Margin (31) and is seen from the A1 on the threshold to Scotland when travelling north. This is a well-settled landscape with a regular dispersal of smallholdings and farms and patterned by small woodlands and enclosed pastures.

The small-medium scale of this landscape, its limited extent and the prominence of key ridges increase sensitivity, particularly to larger wind turbines. There would be a **High** sensitivity to the large and medium typologies (turbines above 50m) and a **High-medium** sensitivity to the small-medium typology (turbines 35m-50m). Sensitivity to the small typology (turbines 20-35m) would be **Medium** reflecting increased opportunities to site this typology to avoid intrusion on prominent ridges and skylines and minimise adverse effects on the scale of this landscape.

14.2.1 Potential cumulative issues

Potential cumulative impacts could occur if turbines were associated with the majority of landholdings/buildings within this well-settled landscape. Cumulative effects would be exacerbated if there were variations in the type and size of turbines. Larger turbines/wind farms sited in this landscape could also contribute to cumulative effects experienced from the A1 when seen simultaneously and sequentially with the operational Drone Hill and Brockholes developments and the consented Quixwood wind farm.

14.2.2 Constraints

- The very limited extent of this landscape which increases sensitivity in relation to effects on adjoining landscape character types.
- The low relief of ridges and hills, the small scale of more complex knolly landform and the regular dispersal of small buildings, trees and woodlands which provide ready scale references.
- Sensitive skylines formed by the undulating ridge between Ayton Hill and Deans Hill and the edge of high ground abutting the 'Coastal Margin' (31). Turbines sited on these ridges would be prominent in views from the A1 at the threshold to Scotland and from surrounding lower-lying settled landscapes.

14.2.3 Opportunities

- Flatter areas of rough grazing and moorland contained by slightly higher ground and lower hill slopes where the small typology (20-35m turbines) could potentially be sited to avoid intrusion on sensitive skylines.

14.3 Guidance for development

The small typology (turbines 20m-35m) could be accommodated but should avoid breaking the skyline of the landmark ridge between Ayton Hill and Deans Hill. Intrusion on sensitive skylines seen from the A1 between the Scottish/English border and Burnmouth should also be avoided by careful siting on lower hill slopes and flatter areas of moorland and rough pasture at the core of this landscape. Areas of more complex small scale landform would be sensitive to all turbine developments.

Detailed siting and design should accord with the guidance set out in section 22 of this report.

No scope for the large (80m+) and medium (50m – 80m) typologies has been identified in this assessment.



Flatter areas of more open rough pasture and moorland edged by slightly higher ground



More sheltered farmland on lower hill slopes is well settled and often has a strong field enclosure and woodland pattern.



The eastern edge of this elevated coastal landscape is highly visible from the A1



This landscape forms a prominent ridge seen widely across east Berwickshire and from the A1

15 CHARACTER TYPE 21: COASTAL MOORLAND

15.1 Introduction

The Coastal Moorland (21) landscape character type is only present in one area, the Coldingham Moor, within the Scottish Borders. The Coldingham Moor area lies within the Berwickshire study area.

15.1.1 *Operational/consented wind farms*

The operational Drone Hill wind farm (22 turbines, 76m high) is located in this character type. The consented Penmanshiel wind farm, comprising 14 turbines, up to 100m high to blade tip, is largely located within this character type and the consented Moor House turbines (2 turbines, 77.9m high to blade tip) is located close to the Drone Hill wind farm, also within this character type.

There would be restricted visibility of the operational Brockholes development (3 turbines, 84m) and the consented Quixwood wind farm (13 turbines, 100-115m high) sited in the Platform Farmland (9) and lying within approximately 5km of the Coastal Moorland (21) due to the containment provided by higher hills lying on the south-western edge of this landscape and the adjacent Coastal Farmland (19) character type.



15.2 Summary of sensitivity

This landscape is unusual in that it comprises an area of sparsely settled moorland set within more settled farmed landscapes. It is limited in extent and this increases sensitivity in terms of landscape context and potential effects on these adjacent well-settled landscapes. It is also located close to the highly sensitive Coastal Margin (31) which has a particularly strong sense of wildness in the most rugged and secluded northern stretches which directly abut this landscape. Although the moorland plateau lying at the core of this landscape is open and has a medium to large scale, the narrower valleys of the Buskin Burn and the West Loch area fringe this plateau and are more contained and settled. The existing Drone Hill wind farm is located within a broad basin lying at the core of this landscape.

The presence of existing and consented wind farm development and the close proximity of smaller scale landscapes and the coast increase sensitivity to development. There would be a **High** sensitivity to the large and medium typologies (turbines above 50m) and a **High-medium** sensitivity to the small-medium typology (turbines 35m-50m). Sensitivity to the small typology (turbines 20-35m) would be **Medium** reflecting increased opportunities to site this typology to avoid close inter-visibility with the operational Drone Hill, Moor House and consented Penmanshiel wind farms and intrusion on prominent ridges and skylines while fitting better with the scale of the more settled fringes of this landscape.

15.2.1 *Potential cumulative issues*

The operational Drone Hill wind farm is located within a broad basin lying at the core of this landscape. This development has been designed to limit intrusion on the sensitive coastal edge. Its location within a shallow basin (together with limiting the height of turbines to <80m) has reduced prominence in long views as it generally sits within a low point on skylines, being partially contained by slightly higher ridges either side of the basin. The consented Penmanshiel wind farm, while also largely located on lower hill slopes, will extend above containing hills lying on the northern edge of this landscape character type and increase the vertical extent and spread of turbines seen on sensitive skylines from the north. The absence of similarly lower lying basins and hill slopes contained by higher ground within this character type is a severe constraint to larger typologies. Because of this and other constraints, the assessment concludes a high sensitivity to larger typologies.

Potential cumulative effects that could be associated with the development of the small-medium to small typologies are likely to include the following:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type
- Close proximity to the operational Drone Hill and consented Penmanshiel wind farms where smaller turbines could increase visual clutter and contrasts of scale/design with larger turbines, affecting the setting and design integrity of this wind farm.

- Cumulative visual impacts experienced when travelling through the landscape, especially on the A1 where multiple turbine developments located in this and other character types may dominate skylines above the Upper Eye Water valley.

15.2.2 Constraints

- The operational Drone Hill wind farm which occupies a broad shallow basin, limiting its intrusion on more sensitive landscapes. The consented developments of Penmanshiel and Moor House also occupy generally lower ground. There is likely to be little scope to accommodate any further turbines within this landscape without compromising the design rationale of operational and consented developments (as very few areas of lower ground remain) and affecting the containment offered by slightly higher ridges and small hills.
- The relatively small extent of this character type and its lowland context which increases potential for landscape and visual impact on adjacent well-settled landscapes.
- The proximity of the highly sensitive Coastal Margin (31) where its diverse rugged landform and qualities of wildness would be significantly affected by intrusion by wind turbine development located within this character type.
- The higher ridges and band of hills (including Cross Law, Meikle Black Law, and Dalks Law), the latter two hills lie close to the boundary with the 'Pastoral Upland Fringe Valley' (26) and the northern area of 'Coastal Farmland' (19) and form prominent skylines above these small scale landscapes and also partially contain views of the existing Drone Hill wind farm.
- Views of the Fast Castle Headland from the north where it is a prominent feature seen from the A1 and the coast. The operational Drone Hill wind farm occupies a low section of the skyline in these views reducing its prominence with turbine blades mainly visible. The consented Moor House and Penmanshiel wind farms will increase the spread and vertical extent of turbines visible and additional development within this character type (and particularly sited on higher ground) could exacerbate impacts on these views and significantly detract from the focus of this prominent ridge and headland.
- Cumulative effects between the operational and consented wind energy developments of Quixwood, Aikengall I and II, Black Hill, Hoprigshiels, Kinegar Quarry, Brockholes, Penmanshiel and Drone Hill seen in various combinations from popular elevated walking routes, the A1 and A1107, A6112 and minor roads and settlement. These developments are already spaced at relatively close intervals and additional turbine/wind farm developments would be likely to result in significant cumulative effects with concentrated long bands of large turbines being seen in some views.⁶

⁶ Informed by the visualisations contained in the Quixwood Wind Farm Updated Cumulative Assessment January 2013 and the Penmanshiel Wind Farm Environmental Statement, 2011.

15.2.3 *Opportunities*

- Shallow valleys and lower hill slopes, which are visually contained from the broader basin of Coldingham Moor and the operational and consented wind farms of Drone Hill and Penmanshiel where smaller typologies could potentially be sited to minimise cumulative impacts.

15.3 Guidance for development

The small typology (turbines 20m-35m) could be accommodated although turbines should be sited well away from the basin of Coldingham Moor which forms the setting to the existing Drone Hill wind farm to avoid cumulative effects. Turbines should not be sited on hill tops and should also avoid intrusion on the adjacent highly sensitive Coastal Margin (31). Lower subtle ridges and hill slopes within the more settled fringes of this character type would be more appropriate locations for this typology.

Detailed siting and design should accord with the guidance set out in section 22 of this report.

No scope for turbines over 35m high has been identified in this assessment.



Existing wind farm development is sited within a simple shallow basin at the core of this character type.



This landscape forms a prominent skyline, extending west of the Fast Castle Headland, seen in views from East Lothian and the A1



The landscape gradually becomes more settled and enclosed with hedged fields as it merges with the less elevated Coastal Farmland to the south.



More defined, higher hills above the Eye Water valley provide a degree of containment to existing wind farm development particularly in views from the more settled valley floor

16 CHARACTER TYPE 24: UPLAND VALLEY WITH FARMLAND

16.1 Introduction

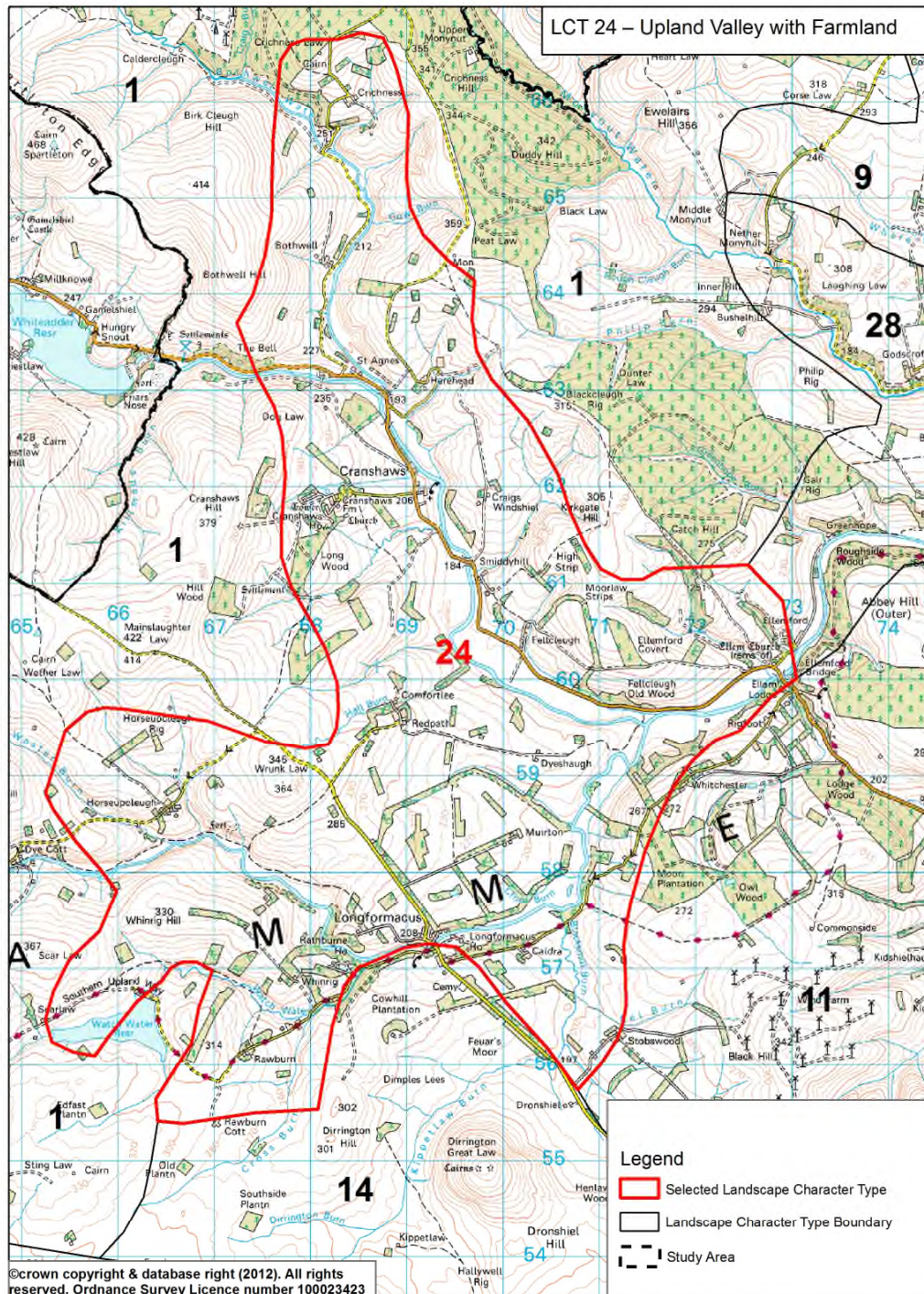
The Upland Valley with Farmland (24) landscape character type is present in two areas within the Scottish Borders. Only one of these areas – the Upper Whiteadder area – lies within the Berwickshire study area.

For the purposes of this study, this valley type has been slightly extended to include the containing rim of the upper side slopes of the valley to the south, at Longformacus and Whitchester.

16.1.1 *Operational/consented wind farm development*

No turbines were found within the Upland Valley with Farmland Valley (24) type. However, the constructed wind farms of Black Hill (22 turbines at 78m height to blade tip), located in the adjacent Grassland with Hills (11) type and Crystal Rig wind farm (85 turbines, 125m max. height to blade tip), located in Dissected Moorland Plateau (1) are both visible from within this character type.

In addition, the operational Fallago Rig wind farm (48 turbines, max 125m height to blade tip), which also lies in Dissected Plateau Moorland (1) and the operational/consented Aikengall I and II wind farms (sited in East Lothian and comprising 35 turbines, 125-145m high) are/will be visible from parts of the character type. The consented Quixwood wind farm (13 turbines, 100-115m high) sited in the Platform Farmland (9) will also be visible from more elevated slopes within this character type.



16.2 Summary of sensitivity

The Upland Valley with Farmland (24) landscape character type lies along the southern edge of the Dissected Plateau Moorland (1), extending up to the foothills. It extends south to the edge of Grassland with Hills (11) and Moorland (14), both of which are upland fringe landscape types. The valleys are broad and flat-bottomed. They appear shallow because of the gentle transition in gradient with the surrounding higher hills, but relief is relatively low. The immediate river valleys are narrower, with steeper slopes, especially in the upper reaches of the main rivers and within the side valleys occupied by tributaries. The rounded landform is dominated by convex slopes rising up to an undulating ridgeline. The cultivated farmland and pasture fields are well defined by numerous shelterbelts, tree lines and small woods, as well as some policy woodland, all of which combine to create a diverse pattern which contrasts with surrounding moorland and upland grassland. The land use pattern is medium scale, becoming larger across the upper slopes where it is more open.

Larger settlements and historic houses and other buildings are generally associated with the river crossings, while there are dispersed farms along the upper slopes. Roads and viewpoints can be elevated, with frequent panoramic and sustained views across and along the main valleys and into neighbouring landscape types. The interim ridge containing the valley is clearly visible.

The breadth of the valleys and the relative openness at the transition with adjacent larger scaled uplands, as well as the presence of smooth and gently graded slopes, all offer scope for some development. However, the smaller scale of the side valleys, the diverse pattern of land use, the areas of historic character, the presence of some small scale features against which the height of a turbine can be readily assessed and the skyline ridge are key sensitivities of this character type. The area is not well settled, and visibility is largely from minor roads, although views are extensive and turbines would be widely visible within the main core of the valleys. There is also potential for negative cumulative effects between larger typologies and wind farms within adjacent landscape types. This landscape character type therefore has a **High** sensitivity to large (80m – 140m) and medium (50m – 80m) typologies, a **Medium** sensitivity to the small-medium (35m – 50m) typology and a **Medium-Low** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be more readily accommodated within the farmed areas within this landscape type.

16.2.1 *Potential cumulative issues*

Negative cumulative landscape and visual impacts are most likely to occur in the immediate future if large turbines and wind farms on surrounding landscape types encircle the valley or extend close to the rim of the valley, creating opportunities for visual clutter to occur between different heights and types of turbine.

There is further potential for cumulative landscape and visual effects to arise in the future if turbines are located where they are inter-visible with wind farms or large individual turbines on adjacent landscape types.

In addition, negative cumulative effects are likely to occur if different sizes and types of turbines are located within this type without adopting a consistent and robust approach to siting and design.

Well-sited turbines and the development of a consistent relationship between turbines and the landform or settlement pattern is likely to further minimise potential cumulative impacts.

Cumulative effects can be further minimised if turbines of less than 20m should be sited where they can be associated with farms or buildings to create 'development clusters'. They are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Upland Valley with Farmland (24) type are likely to include:

- Cumulative visual impacts and clutter associated with inter-visibility between turbines within this character type and turbines located on neighbouring character types which are visible from within this character type
- 'Crowding' of the valley if large turbines are located on adjacent landscape types to form enclosure around the skyline ridges of the valley
- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting in relation to landform
- High inter-visibility of several turbines from panoramic, elevated or long views along the length or across the width of the valleys

16.2.2 *Constraints*

- The low relief which could easily be overwhelmed by very tall structures
- The convex slopes, which have few changes in gradient or natural terracing to accommodate development platforms without excavation
- The steep slopes and narrower valleys within the upper reaches of the river valleys
- The often smaller scale of the side valleys or cleughs, where landform may also be more complex
- Any steep and often convex slopes which are difficult to excavate for roads and platforms without creating large areas of cut and fill material
- The diverse pattern of land use, especially the pattern of small woodlands, shelterbelts and the historic and designed landscapes
- The small size of farms and woodlands, especially along the upper slopes, against which the size of turbines can be easily assessed

- The containing ridge of the valley, or skyline, as viewed from within the valley
- The setting of villages and historic buildings
- Elevated, panoramic and often sustained views, and views along and across the valleys, including views from the Southern Upland Way
- Potential inter-visibility with wind farms on adjacent landscape types

16.2.3 *Opportunities*

- The width and generally broad scale of the valleys, where they are less enclosed
- Gently graded, more open, broad slopes
- The more open and larger scale upper edges of the valley which form a transition to higher and larger scale uplands
- The relatively sparse settlement pattern
- Areas of more simple vegetation pattern and larger fields
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

16.3 **Guidance for development**

There is likely to be limited scope for the small-medium (35m- 50m) typology and some scope for the small (20m – 35m) development typology to be sited within this character type. Scope is limited to the more open, broader, very gently sloping landform containing natural platforms.

Turbines should avoid intruding into the setting of key features and the setting of historic landscapes, buildings and settlements.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of this report.

No scope for the large (80m+) and large-medium (50m – 80m) typologies has been identified in this assessment.



Looking across this wide valley from Wrunk Law, this panorama takes in part of LCT 11 also, which forms the southern edge of this LCT.



Durrington Great Law, a prominent landmark hill, as seen from Wrunk Law



Small broadleaved woodlands on these ridges demonstrate how low the relief is in this valley, and form small scale features on the skyline



Looking along this valley to Longformacus from Whichester. The diversity of woodland reflects policies as well as shelterbelts, both of which are characteristic of this valley.



Whichester estate sits on steeper slopes which enclose the valley and form the transition with neighbouring LCT 11



The upper reaches of the Whiteadder are much more narrow and enclosed than the broader lower reaches of the river

17 CHARACTER TYPE 26: PASTORAL UPLAND FRINGE VALLEY

17.1 Introduction

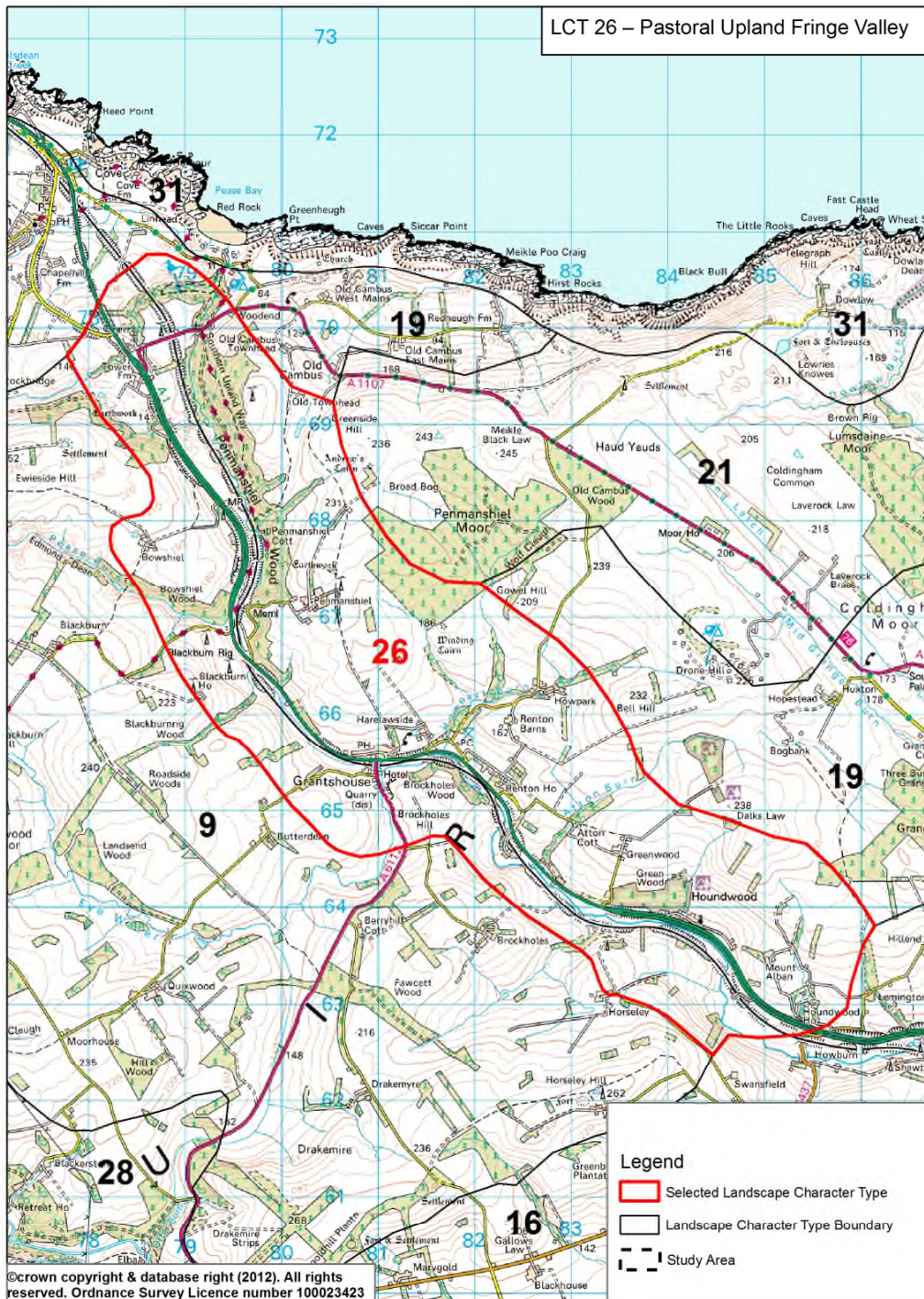
The Pastoral Upland Fringe Valley (26) landscape character type is present in six areas within the Scottish Borders. Only one of these areas – the Eye Water area – lies within the Berwickshire study area.

For the purposes of this study, the valley type has been extended to include the containing rim of the upper side slopes of the valley to the south west, which like the rest of the valley is visible from the A1.

17.1.1 *Operational/consented wind farm development*

Three small (<30m) operational turbines are located within in this character type, two of them as a group. The operational Drone Hill wind farm, which lies within the Coastal Moorland (21) character type, is intermittently visible in glimpsed views from the valley floor with more sustained views occurring from valley sides. The consented Penmanshiel wind farm (14 turbines, 100m high) is also located in the Coastal Moorland (21) and will be visible from sections of the Eye Water valley in the Grantshouse area.

The operational Brockholes turbines (3 turbines, 84m high) are visible from this valley. The consented Quixwood wind farm (13 turbines, 100-115m high) located in the adjacent Platform Farmland (9) will also be visible, notably in the Grantshouse area.



17.2 Summary of sensitivity

The Pastoral Upland Fringe Valley landscape character type (26) lies between the Coastal Farmland (19) and Coastal Moorland (21) to the east and the Platform Farmland (9) to the west. It extends south to join with the Rolling Coastal Margin (16). The valley is well defined, and for the most part clearly enclosed with often steep, convex slopes rising up to a prominent, undulating ridgeline. It shares a land use pattern of cultivated farmland with the farmland types, notably the Rolling Coastal Margin and to a lesser extent the Platform Farmland (9) and the Coastal Farmland (19). The land use pattern in the Pastoral Upland Fringe Valley (26) is medium to small scale, with woodland reinforcing enclosure and diverse tree cover increasing land use complexity, especially at junctions with the more enclosed side valleys.

Settlement is largely located on the valley floor, although there are farms which are located along the higher slopes and also within the more accessible side valleys.

The enclosed, often narrow and sinuous valley form, the relatively low relief, the smaller scale of the side valleys, the diverse pattern of land use and the presence of some small scale features against which the height of a turbine can be readily assessed are key sensitivities. The prominent, containing skyline ridge, which is/will be adversely affected by the operational Brockholes turbines and the consented Quixwood and Penmanshiel wind farms and to a lesser degree by the operational Drone Hill wind farm, is also highly sensitive and cumulative effects with these developments is a key constraint. The area is settled with a network of roads associated with the side valleys as well as the A1 and the railway aligned through the valley floor. While visibility is intermittent due to landform and woodland cover, tall structures are likely to be relatively easily seen, although not for sustained periods. This landscape character type therefore has a **High** sensitivity to both large (80m – 140m) and medium (50m – 80m) typologies, a **High-Medium** sensitivity to the small-medium (35m – 50m) typology and a **Medium** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be more readily accommodated within the farmed areas within this landscape type.

17.2.1 *Potential cumulative issues*

There is potential for significant cumulative landscape and visual effects to occur within this character type, especially in terms of potential sequential visual impacts when travelling along the A1 or the east coast main line, both of which are 'gateways' to Scotland when travelling from the south. Operational and consented wind farms in adjacent landscape character types already are/will be prominent on the skyline of containing ridges and additional turbines would be likely to exacerbate significant cumulative effects in the Grantshouse area.

Key cumulative issues that may arise within the Pastoral Upland Fringe Valley (26) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Sequential visual impacts experienced when travelling through the landscape, especially from the A1 and the railway where the operational Brockholes and Drone Hill developments are already visible and the consented Quixwood and Penmanshiel wind farms will significantly contribute to cumulative effects of large turbines seen on sensitive skylines.
- Cumulative visual impacts and clutter associated with inter-visibility along the rim of the valley where turbines located on neighbouring character types appear over the skyline

17.2.2 *Constraints*

- The low relief which could easily be overwhelmed by tall structures
- The convex slopes and steep sides of the main valley
- The often smaller scale of the side valleys, where landform may also be more complex
- The diverse pattern of land use, especially the pattern of small woodlands, along some of the lower valley sides and along the side valleys
- The small size of farms and woodlands, especially along the upper slopes, against which the size of turbines can be easily assessed
- The prominent containing ridge of the valley, or skyline, as viewed from within the valley
- The setting of villages
- Views from the 'gateway' A1 and the railway
- The presence of existing turbines of different sizes and designs around the Granthouse area, which increases sensitivity to cumulative issues

17.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of features
- Areas of more simple vegetation pattern
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

17.3 Guidance for development

There is some scope for the small (20m – 35m) development typology to be sited within this character type.

Turbines should avoid the steep and convex landforms, and be located on the more open, broader, very gently sloping landform containing natural platforms.

Turbines should also avoid breaching skylines as viewed from the valley floor, intruding into the setting of key features and the setting of buildings and small features.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of this report.

No scope for the large (80m+), medium (50m – 80m) and small-medium (35m – 50m) typologies has been identified in this assessment.



Rounded landform, with convex slopes, are characteristic of this valley. Settlement is in the valley floor, with farms along some of the higher reaches, above the steeper slopes



Two small turbines, which are well located and well scaled in relation to this landscape. They are also well located along a field edge related to a slight break in slope



Looking south along the valley, the shelterbelts on the top of the enclosing hill slopes are small features, forming reference points illustrating how small the relief is within this valley

18 CHARACTER TYPE 28: WOODED UPLAND FRINGE VALLEY

18.1 Introduction

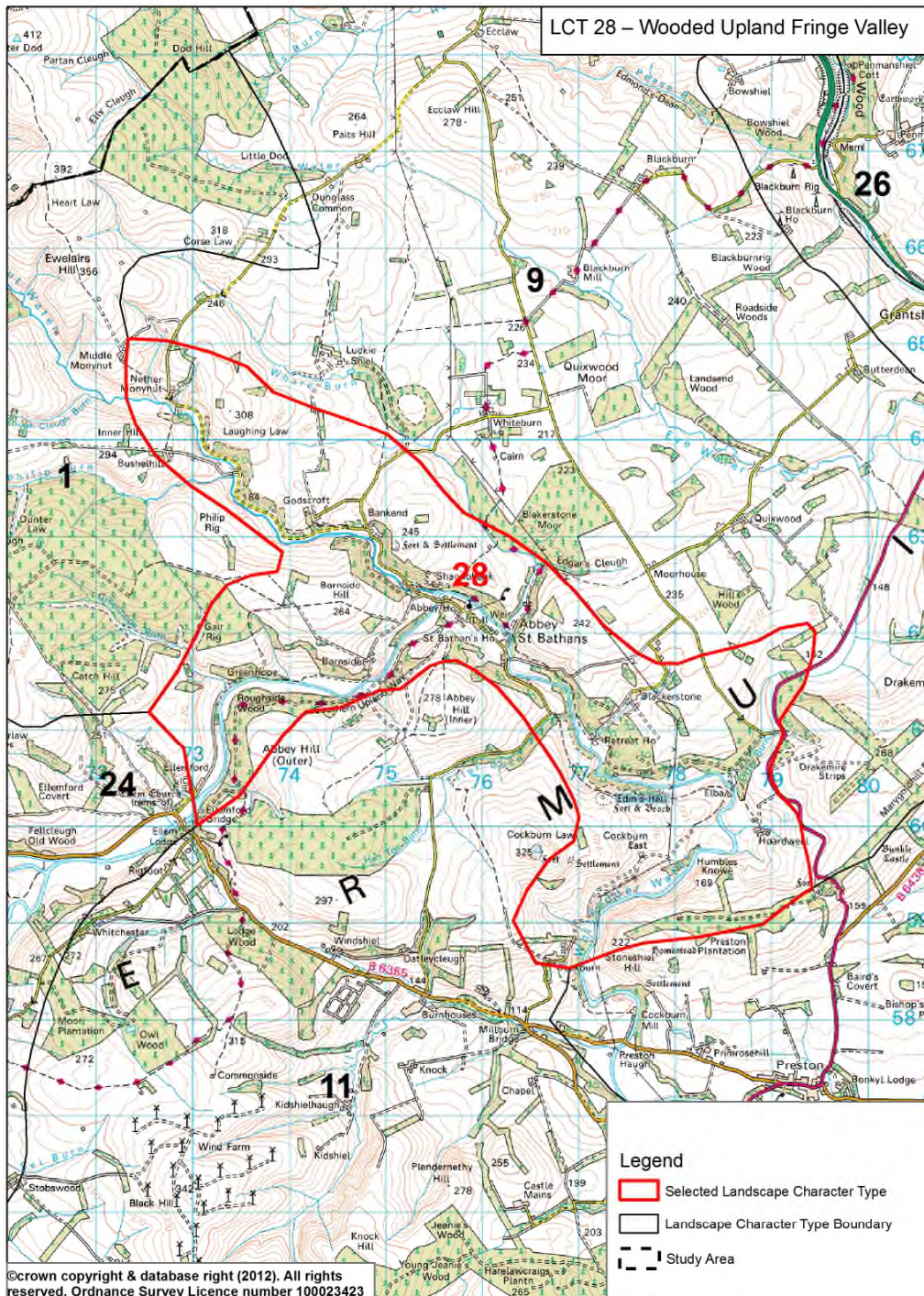
The Wooded Upland Fringe valley (28) landscape character type is present in five areas within the Scottish Borders. Only one of these areas – the Middle Whiteadder – lies within the Berwickshire study area.

For the purposes of this study, the valley type has been extended to include the containing rim of the steep containing slopes of the Whiteadder valley to the very southern end of the type, at Humbles Knowe. Although these slopes are less wooded, they are similar in landform and a continuation of the middle Whiteadder valley.

18.1.1 *Operational/consented wind farm development*

One consented wind turbine is located in this character type, at the transition with the neighbouring Platform Farmland (9). This turbine is between 30m and 60m in height. The Black Hill wind farm (22 turbines at 78m height to blade tip) is located in the adjacent Grassland with Hills (11) character type, and is visible at the head of the valley of the Whiteadder Water as viewed from the elevated A6112.

The operational and consented Weirburn (2 turbines, 54m), Drone Hill (22 turbines, 76m high) and Quixwood wind farm (13 turbines, 100-115m high) are/will be visible from higher hill slopes within this character type. Aikengall I and II (35 turbines, 125-145m high) and the blade tips of the Hoprigshiel and Kinegar Quarry turbines (5 turbines, 110-115m high) will also be visible from elevated walking routes such as those on Cockburn Law.



18.2 Summary of sensitivity

The Wooded Upland Fringe Valley landscape character type (28) is small in extent, a narrow, sinuous, steep sided valley which lies tucked away between the elevated plateaux landscape of the Platform Farmland (9) and the higher foothills of the Grassland with Hills (11) as well as a small stretch of the Dissected moorland Plateau (1). The continuation of the Whiteadder valley links this type to the Upland Valley with Farmland (24) and the Rolling Lowland Margin (16).

The steep slopes which enclose the valleys are often wooded, with varied woodland types, including semi-natural and policy woodland, which also increase the sense of seclusion characteristic of this type. This woodland increases the enclosure and emphasises the small scale and narrowness of the valleys. Open fields, dominated by pasture, extend over the upper slopes, which are more gentle and accessible. There are occasional shelterbelts even on these upper slopes.

Settlement is varied, most of it located in the valley floors, with occasional farms dispersed along the upper slopes. The area is a particular focus for historic sites and buildings.

The small extent, low relief, enclosure and intimate scale of this landscape is reinforced by the woodland which extends across the steeper slopes. While gentle slopes are more common around the upper slopes of the valleys, these slopes are more widely visible, forming the important skyline as viewed from the valley floors. Additional features, such as incised cleughs, small woodland features and the settlements are also small. A further sensitivity is the narrow winding roads which may need to be widened to accommodate development, and the steep and convex landforms which would be affected by any additional roading. The secluded character and presence of numerous historic features increase sensitivity of this type, although the area is not well settled. Views along the valleys from elevated roads and viewpoints are a particular sensitivity, although views from the sinuous valley floor are limited in extent by topography and woodland, each space revealed in sequence. This landscape character type therefore has a **High** sensitivity to large (80m – 140m), medium (50m – 80m) typologies and small-medium (35m – 50m) typology and a **High-Medium** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be more readily accommodated if sited associated with the farms on the upper slopes, although sensitivities about the setting of historic features and breaking the visual skyline remain.

18.2.1 *Potential cumulative issues*

There is some potential for cumulative landscape and visual effects to arise in the future if different heights and designs of turbines are located within this character type. In addition, there are potential cumulative visual impacts when travelling along the A6112, especially associated with Black Hill wind farm, or as

a sequential visual impact with the Quixwood, Weirburn and Aikengall wind energy developments seen along the length of this road across.

Turbines should not be sited on the upper rim, or skyline, of the valley to avoid visual interaction and potential visual cumulative effects with turbines located in neighbouring landscape character types.

Well-sited turbines of less than 20m and a consistent relationship between these small turbines and the farm clusters are likely to further minimise potential cumulative impacts. Small turbines are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Wooded Upland Fringe Valley (28) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting
- Sequential visual impacts experienced when travelling through the landscape, especially on the low valley roads and the A6112
- Visual cumulative effects between this type and neighbouring types which could be exacerbated with turbines appearing on the skyline, and therefore being visible from neighbouring character types as well as overlooking the enclosed valley.
- Cumulative effects with the operational and consented wind energy developments of Weirburn, Quixwood, Aikengall I and II, Black Hill, Hoprigshiels and Kinegar Quarry seen from popular elevated walking routes such as Edin's Hall Broch and Cockburn Law.
- Inconsistency of design and siting policy between this character type and the neighbouring valley and foothill types, in particular, which are experienced as a sequence.

18.2.2 *Constraints*

- The low relief and steep sided, sinuous valleys which characterise this landscape and create a small scale landscape;
- The diverse woodlands, which further reinforce the enclosure of this landscape as well as emphasise the sense of seclusion and the semi-natural qualities;
- The distribution and small size of farms and woodlands, which provide features against which the size of turbines can be readily assessed;
- The steep and often convex slopes which are difficult to excavate for roads and platforms without creating large areas of cut and fill material;
- The sense of semi-naturalness and seclusion;
- The setting of historic buildings, features and the settlement of Abbey St Bathans;
- The visual horizon of the valley, or skyline, as viewed from within the valley;

- Cumulative effects with the operational and consented wind energy developments of Weirburn, Quixwood, Aikengall I and II, Black Hill, Hoprigshiels and Kinegar Quarry which are seen from upper hill slopes.
- Views from the Southern Upland Way, the elevated roads which offer views a along the valleys and views from key historic features.

18.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of key features, including historic features and the wooded river valleys;
- Farms where turbines can be sited to create a ‘development cluster’;
- The intermittent visibility created by the more enclosed topography and the woodland

18.3 Guidance for development

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These could be sited to be associated with farms if they can be located where they do not break the skyline. Turbines should avoid intruding into the setting of key historic features and the setting of the river valleys and settlements. These turbines should be located to avoid impacts on views from and to historical buildings and features.

Individual turbines are likely to be easier to accommodate than groups, which should be limited to no more than three turbines, and care should be taken to avoid cumulative sequential effects.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of this report.

No scope for the large (80m+), large-medium (50m – 80m), small-medium (35m- 50m) and small (20m – 35m) typologies has been identified in this assessment.



This narrow valley is very enclosed, with steep sides and prominent skylines.



This valley is also winding, and a series of views open up in sequence as you travel along the floor of the valley. Farms sit on a ledge above the steeper slopes



The steep sided valley of the Whiteadder south of Cockburn Law which has now been included in this LCT but which was formerly within LCT 11



The narrow valley as viewed from near Edin Hall Broch, the setting of which is sensitive to development

19 CHARACTER TYPE 30: COASTAL VALLEY

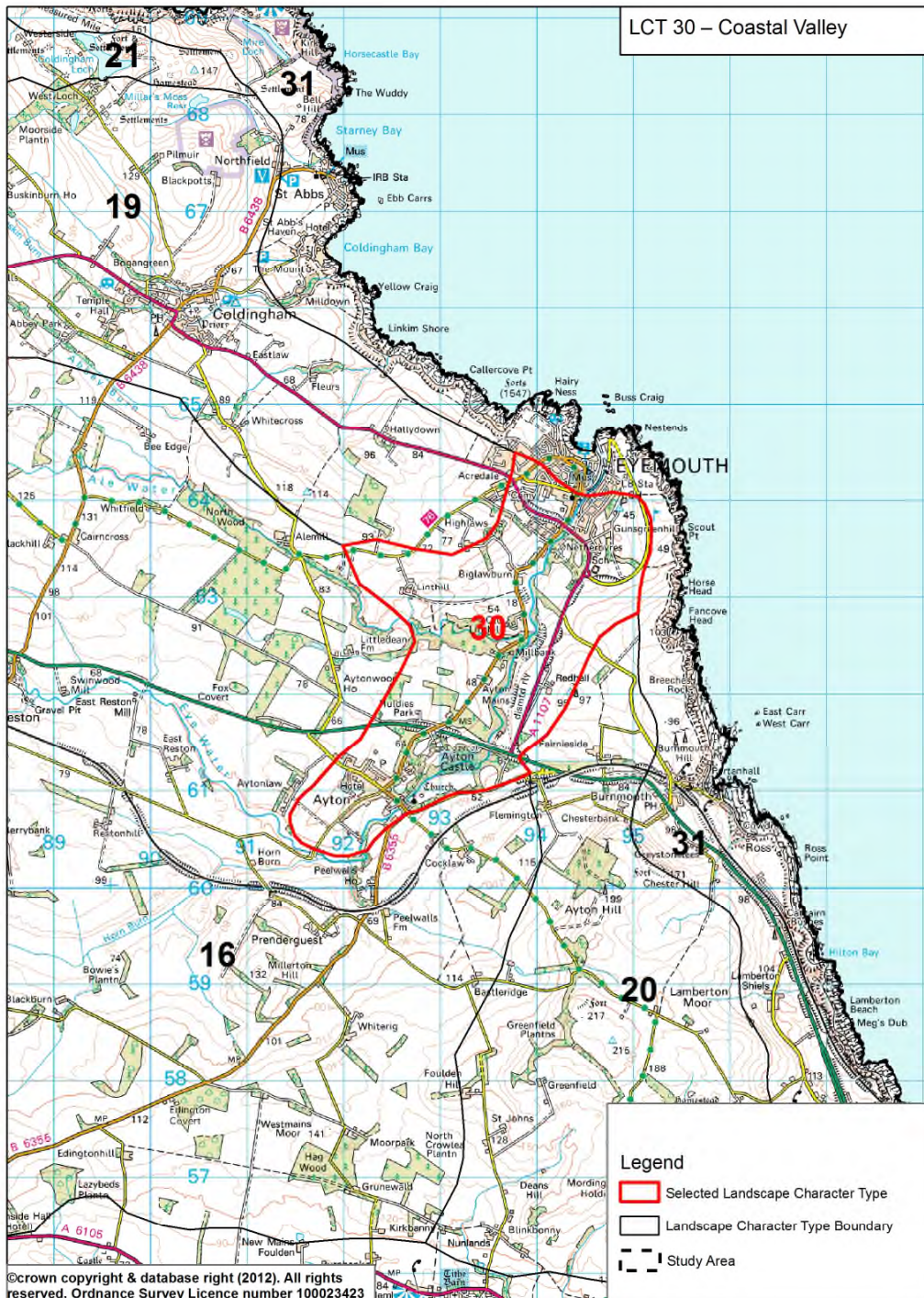
19.1 Introduction

The Coastal Valley (30) landscape character type is only present in one area, the Lower Eye Water, within the Scottish Borders. The Lower Eye Water area lies within the Berwickshire study area.

For the purposes of this study, the valley type has been extended to include the containing rim of the upper side slopes of the valley to the south, which also more comprehensively includes the setting of Eyemouth.

19.1.1 *Operational/consented wind farm development*

No operational or consented wind turbines are located in this character type. The containment of this valley limits visibility of the nearby Drone Hill wind farm sited in the Coastal Moorland (21) character type and other wind turbine/wind farm developments in the Berwickshire study area.



19.2 Summary of sensitivity

The Coastal Valley landscape character type (30) extends inland from the coast at Eyemouth. It lies between the Coastal Farmland (19) and Coastal Pasture (20), and reaches inland to the Rolling Lowland margin (16). The coastal fringe lies within the Coastal Margin (30). It shares a land use pattern of cultivated farmland with these adjacent types, but in Coastal Valley (30), the fields extend across small scale rounded landforms which contain the higher upper slopes of the valley sides. These upper slopes frame narrow, sinuous and steep-sided wooded river valleys of the Eye and Ale Waters.

Settlement is dispersed across the whole area, with two main clusters, at Eyemouth, a substantial town which includes larger buildings on its outskirts, and Ayton, which has a strongly historical character, reinforced by the nearby presence of Ayton Castle and its policy landscape.

The small scale of the landform and its low relief, the diverse pattern of land use, the enclosed drama of the incised river valleys, the more semi-natural stretches of coast, the presence of numerous small scale features against which the height of a turbine can be readily assessed and the historic character around Ayton are key sensitivities of this character type. The area is well settled and with a network of roads, including trunk roads, and some footpaths, and while visibility can be intermittent from the lower river valley, tall structures are likely to be relatively easily seen, especially from the A1107. The skyline of the valley, as seen from this road and on arrival to Eyemouth, is particularly sensitive. This landscape character type therefore has a **High** sensitivity to large (80m – 140m), medium (50m – 80m) typologies and the small-medium (35m – 50m) typology and a **High-Medium** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be more readily accommodated within the farmed areas and with large buildings on the outskirts of Eyemouth within this landscape type.

19.2.1 *Potential cumulative issues*

There is some potential for cumulative landscape and visual effects to arise in the future if different heights and designs of turbines are located within this character type. In addition, there are potential sequential visual impacts when travelling along the A1 or the east coast main line, both of which are ‘gateways’ to Scotland when travelling from the south. Care should be taken to develop a careful and consistent approach to turbine style and siting, preferably consistent also with siting criteria and design of turbines in neighbouring character types, to limit negative impacts on landscape character.

Turbines should not be sited on the upper rim, or skyline, of the valley to avoid visual interaction and potential visual cumulative effects with turbines located on neighbouring coastal character types.

Well-sited turbines of less than 20m and a consistent relationship between these small turbines and the farm cluster are likely to further minimise potential cumulative impacts. Small turbines are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Coastal Valley (30) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting
- Sequential visual impacts experienced when travelling through the landscape, especially on the A1 and the railway
- Visual cumulative effects between this type and neighbouring types which could be exacerbated with turbines appearing above the skyline, and therefore being visible from neighbouring coastal character types
- Inconsistency of design and siting policy between this character type and the neighbouring coastal types, in particular, which are often experienced as a sequence.

19.2.2 *Constraints*

- The low relief, small rounded landforms and steep sided river valleys which characterise of this landscape
- The diverse pattern of land use, especially the pattern of small woodlands, which further reinforce the small scale of this landscape;
- The distribution and small size of farms and woodlands, which provide features against which the size of turbines can be readily assessed;
- The sense of naturalness associated with the wooded river valleys and the coast
- The setting of historic buildings, features and designed landscape around Ayton
- The upper rim of the valley, or skyline, as viewed from within the valley, and from the A 1107
- Views from the 'gateway' A1 and the railway.

19.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of key features, including historic features, the coast and the wooded river valleys
- Larger buildings, including farm buildings, where turbines can be located to create a small 'development cluster'
- The intermittent visibility created by the more enclosed topography and the woodland

19.3 Guidance for development

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These could be sited to be associated with farms or larger buildings on the outskirts of Eyemouth. Turbines should avoid intruding into the setting of key features and

the setting of the narrow river valleys, the coast and more complex landforms. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Individual turbines are likely to be easier to accommodate than groups, which should be limited to no more than three turbines, and care should be taken to avoid cumulative sequential effects.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of this report.

No scope for the large (80m+), large-medium (50m – 80m), small-medium (35m- 50m) and small (20m – 35m) typologies has been identified in this assessment.



This shallow valley has very low relief, with farms and trees on the upper slopes illustrating the small scale of this landscape.



A detail photograph, showing the interlocking land form which makes it difficult to see the narrow wooded valley tucked into the folds of the topography



The immediate river valley is well wooded, with steep woodland slopes containing the river

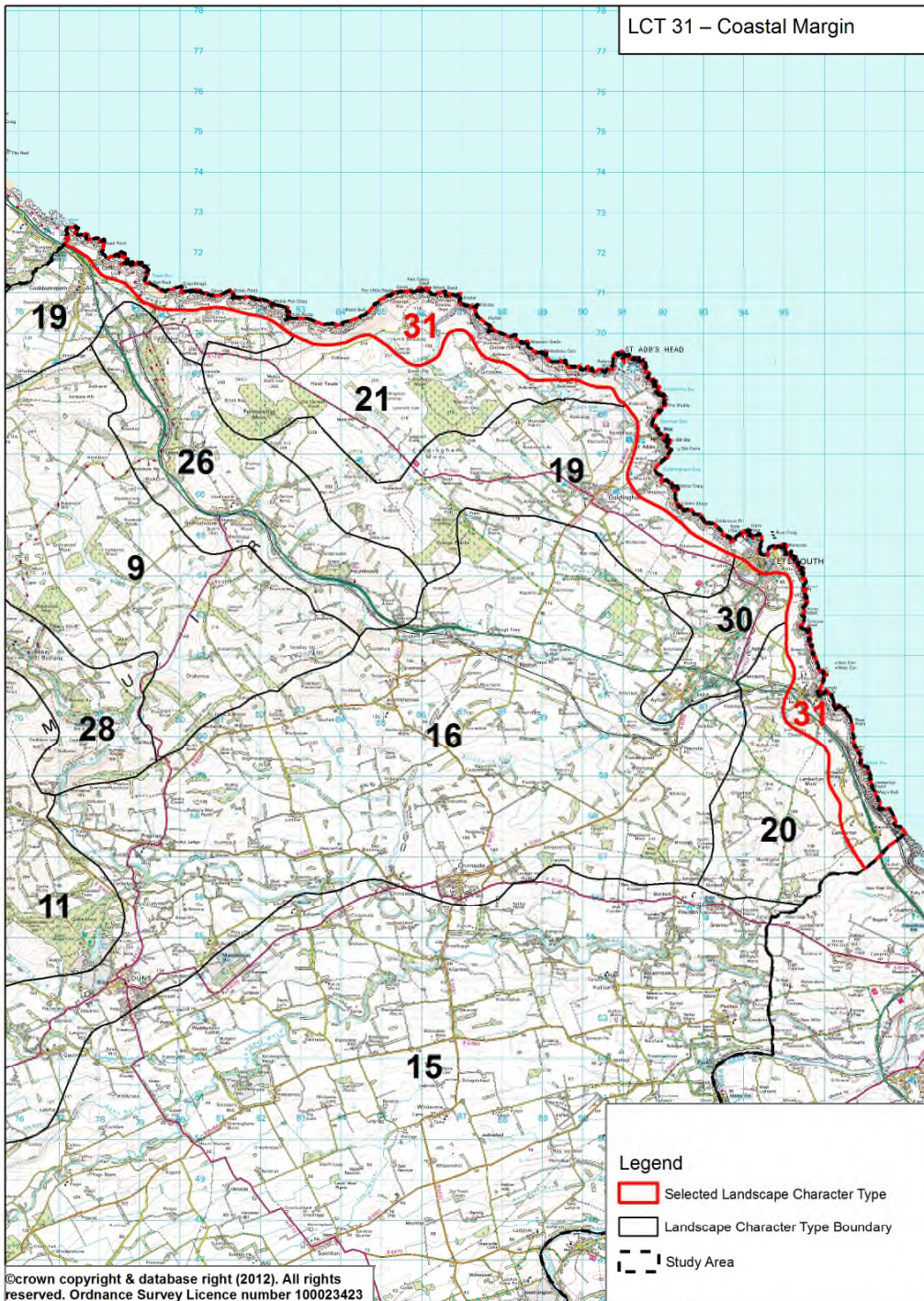
20 CHARACTER TYPE 31: COASTAL MARGIN

20.1 Introduction

The Berwickshire coast has been defined as a separate landscape character – Coastal Margin (31) for the purposes of this assessment due to its specific sensitivities to wind turbine development. It extends along the fringe of the Berwickshire coast.

20.1.1 *Operational/consented wind farms*

No operational or consented wind turbines are located in this character type. The operational Drone Hill wind farm (22 turbines, 76m high to blade tip) and the consented Penmanshiel wind farm (14 turbines, 100m high) and Moor House turbines (2 turbines, 77.9m high) are located in the adjacent Coastal Moorland (21) landscape character type although visibility of these developments from the Coastal Margin landscape character type is restricted.



20.2 Summary of sensitivity

This diverse rocky coastal margin has a rugged and elemental character, particularly to the north between St Abbs and the headland of Fast Castle, where higher cliffs and steep vegetated slopes plunge to the sea. The immediate hinterland to the coast is also complex in this northern area, comprising small lochans and interlocking knolly hills and ridges. A strong sense of wildness can be experienced in the north between St Abbs Head and Fast Castle. The southern part of this coastal landscape is more developed, forming a major transport corridor with rail and road links between Scotland and England. There are a number of distinctive historic settlements closely associated with this coast and the area is also rich in archaeology with the St Abbs lighthouse and the ruinous Fast Castle forming landmark features. This seascape forms an attractive threshold to Scotland when travelling north with close views of small irregularly shaped pastures perched above a fragmented rocky coastline being particularly dramatic when viewed from the train. The Fast Castle headland is prominent in views from East Lothian and the A1 from the east where the rugged character of the Berwickshire coast can be appreciated.

The scenic diversity and perceived naturalness of this coastline, its popularity for tourism and recreation and the prominence of parts of the coast in views from the A1 and East Coast Railway are key constraints to wind turbine development. There would be a **High** sensitivity to the large, medium and the small-medium typology (turbines above 35m high). Sensitivity to the small typology (turbines 20m-35m) would be **High-medium**.

20.2.1 Potential cumulative issues

Potential cumulative effects with the Drone Hill, Penmanshiel and Moor House wind farms located in the adjacent Coastal Moorland (21) could occur. The Drone Hill and Penmanshiel developments have limited visibility from the Coastal Margin although the Moor House turbines may intrude on parts of the more sensitive rugged east coast. Any additional development of larger typologies in this character type would have cumulative effects with these operational and consented developments on views from coastal Core Paths and from settlement and transport routes, including the A1, from the north-east.

20.2.2 Constraints

- The narrowness of the Coastal Margin which limits scope for larger and multiple turbine developments to be physically accommodated.
- The often small scale of this complex indented rocky coastline and the relatively lowly height of cliffs, steep slopes and knolly hills.
- The rich diversity of landform including the dramatic craggy indented cliffs of St Abbs Head, rugged promontories alternating with narrow inlets and coves and rare sandy bays.
- A strong sense of wildness associated with the less developed coastline between St Abbs Head and Fast Castle which can feel remote and elemental, heightened by the ruggedness of landform.

- The attraction of the Berwickshire coast for recreation, increasing sensitivity to turbines which would be seen in views from roads and well-used paths along the coast.
- The rich architectural integrity of coastal settlements, including St Abbs, the historic core of Eyemouth, Cove and Burnmouth, but also landmark and archaeological features where turbines could affect their setting.
- Views from the A1 to the prominent headland of Fast Castle when travelling south-east and the importance of this landscape in providing an attractive threshold to Scotland (see from the East Coast railway and A1) close to the border with England.

20.2.3 *Opportunities*

- There are no opportunities for turbines over 20m high to be accommodated within this character type.

20.3 Guidance for development

Small turbines below 20m high could be accommodated but should be sited where they can be clearly associated with existing built development to minimise visual clutter in this highly sensitive coastal landscape. They should avoid coastal areas with perceived qualities of wildness and be sited well away from more complex small scale and diverse coastal landforms which often form the immediate hinterland to the coastal edge. Turbines should not be sited on the top of small knolls, ridge tops, promontories or above abrupt cliff edges where they would be likely to be more prominent. They should also not be sited on the small pastures between the East Coast railway south of Burnmouth in order to avoid intrusion on views over the coast and sea.

Special care is needed to ensure that only well-designed turbines are used in this highly sensitive coastal landscape with limits on the range of designs used in order to minimise cumulative landscape and visual effects. There is limited scope for multiple developments in this landscape character type.

This landscape is highly sensitive to intrusion from any larger turbine typologies sited in adjacent character types.

Detailed siting and design should accord with the guidance set out in Section 22 of this report.

No scope has been identified for turbines above 20m height in this sensitivity assessment.



The southern part of the Berwickshire coast is highly visible from the A1 and main East Coast Railway



Rolling farmland provides the immediate hinterland to the coastal edge



Settlement occupies small coves and inlets and includes the traditional village of St Abbs.



A more complex landform of small craggy knolls and lochans borders the northern part of this coast.



The rugged and sparsely settled northern coast has a strong sense of wildness



The headland of Fast Castle is a prominent landmark feature seen from East Lothian

21 CONCLUSIONS

This study, which only covers the Berwickshire area of Scottish Borders Council, identified limited scope for accommodating turbines above 50m to blade tip height in one character type only – the Dissected Plateau Moorland (LCT 1).

There was **some** scope identified for turbines from 35m – 50m to blade tip height in the following areas:

- Rolling Farmland (LCT 8)
- Grassland with Hills (LCT 11)
- Rolling Lowland Margin (LCT 16)

There was **limited** scope identified for turbines from 35m – 50m to blade tip height in the following areas:

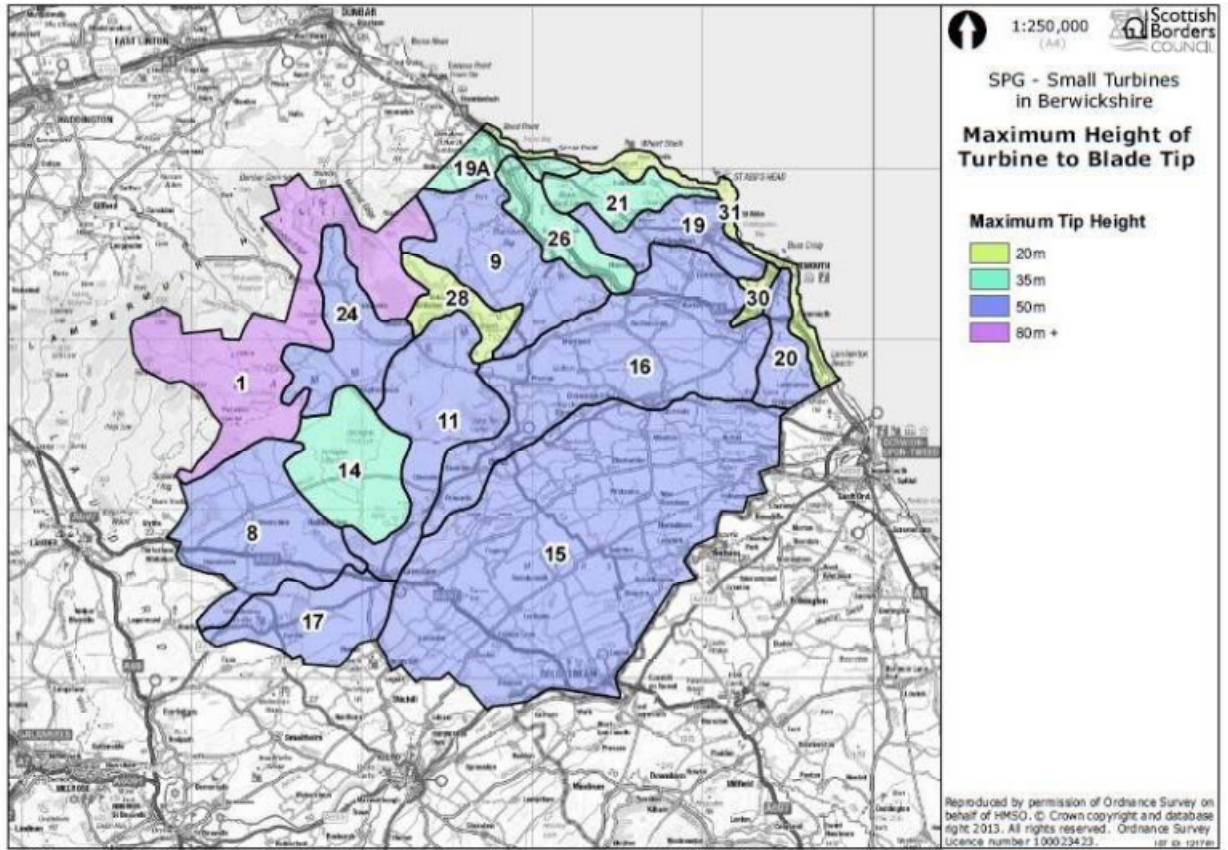
- Platform Farmland (LCT 9)
- Lowland with Drumlins (LCT 15)
- Lowland Platform (LCT 17)
- Coastal Farmland (Coldingham) (LCT 19)
- Upland Valley with Farmland (LCT 24)

Note that no sensitivity assessment for turbines below the height of 50m to blade tip was undertaken in the Dissected Plateau Moorland (LCT 1).

Finally, with the exception of the Coastal Margin (LCT 31) and the Coastal Valley (LCT 30), scope for turbines between 20m – 35m to blade tip height was identified in all other areas assessed for this height in this study.

Figure 3 overleaf confirms the identified maximum height of turbine allowable to blade tip within each LCT within the study area. The figure is only a brief summary and it is recommended that more detailed information is viewed in the relevant parts of this section and Appendix A. In viewing this figure, it is reiterated that if an application proposes a turbine(s) higher than stated within a particular LCT, the applicant must give information and mitigation measures where possible in order to present a case which would allow the proposal to be supported.

Figure 3: Maximum Height of Turbine to Blade Tip



22 GUIDANCE ON THE MICRO-SITING OF SMALLER TURBINES

22.1 Introduction

The height of turbines relative to other structures in the landscape is a key consideration in terms of landscape 'fit'. With this in mind, five types of 'small' turbines were initially considered when developing the methodology for this landscape capacity assessment. These are:

Domestic systems	Roof/wall mounted systems
Micro wind	Freestanding up to 12m to blade tip
Micro-small wind turbines	12m – 20m to blade tip
Small wind turbine	20m – 35m to blade tip
Small-medium wind turbine	35m – 50m to blade tip

The remainder of this section of the Main Report sets out guidance and siting issues by height of turbine. Guidance for turbines between 12m – 20m, 20m – 35m and 35m – 50m in height respectively is set out in separate sections, so that the relevant section can be printed off for use in the field. As a result, some of the introductory statements are repeated, so that each section can be used as a 'stand alone' document.

22.1.1 *Domestic systems*

Domestic roof/wall mounted systems are most likely to have an impact on townscape and add to cumulative effects especially in urban areas. They have not been included in this landscape capacity assessment, as it is difficult to identify a robust list of sensitivities for this size of development which can be properly assessed at the strategic scale required for this locational guidance.

22.1.2 *Micro wind developments*

Freestanding turbines up to 12m high relate well to the size of existing buildings in the landscape, including farm buildings. These turbines are just over twice the height of a single storey house, while a two storey house is about 9m high to roof pitch. This height of turbine is also similar to small telephone masts and tall telegraph poles. This size of turbine has not been included in the landscape sensitivity assessments.

A single turbine of this height is most likely to be used to contribute to the energy needs of a residential house, farm or other rural based small business. The size means that it is relatively easy to accommodate in a settled landscape, if sited to be associated with such a building cluster. It is therefore likely that any assessment of landscape sensitivity will conclude that this size of turbine could be readily accommodated – perhaps, at the most, subject to siting considerations to encourage the turbines to be located where they can be visually seen to be part of a group of buildings, or clearly linked to an individual house.

Therefore, while it is recognised that the free standing turbines of up to 12m may have cumulative effects on the landscape, they have been excluded from the landscape sensitivity assessments.

22.2 Guidance for micro-small turbines (12m – 20m in height to blade tip)

Freestanding turbines between 12m and around 20m in height to blade tip can be, at their tallest, over twice the height of a two storey house. This size of turbine is therefore likely to appear above buildings. However, a well grown, mature forest, broadleaved or conifer tree is also about 15-20m in height. This height of turbine is likely to be similar in height to these trees, even more so in fertile lowland landscapes where trees often achieve good growth. Other structures of a similar height include taller communications masts and small pylons.

It is likely that proposals for this height of turbine will only come forward in settled lowland landscapes or hill fringes, and in these locations, trees and other structures will provide an appropriate scale reference. Specific landscape sensitivity assessments for this size of turbine were therefore not carried out within each of the landscape character types. Nevertheless, this size of turbine has been considered within the guidance offered in the individual lowland landscape sensitivity assessments carried out for this study. Generic guidance for this height of turbine is provided below.

22.2.1 *Background*

Within the Berwickshire landscape, the following issues have been identified as being particularly influential in terms of detailed siting of this typology within character types identified as being appropriate for this typology:

- Association with existing built development
- Turbine height in relation to the scale of the landscape
- Landform shape
- Settlement and land use pattern and features
- Visibility
- Potential cumulative issues

22.2.2 *Association with existing built development*

Wherever possible, a turbine of less than 20m high will 'fit' into the landscape more successfully if it forms part of a 'cluster' of development and is visually associated with other built structures in the landscape. This is best achieved if the size of the turbine is in proportion to the size of individual features, such as buildings, trees and even pylons and other structures.



Image 1: A turbine illustrated at an indicative 2x height of the house from this view, or a taller turbine located behind the ridge to reduce overall height from this view. The turbine is well scaled in relation to the size of other individual features. It is also located on the side of the hill, rather than the hill top, where it can be 'read' in conjunction with the farm buildings. This forms a 'cluster' of development, which reduces landscape and visual impact.

22.2.3 *Introducing scale*

Understanding scale, and the relative proportions of the scale of both the landform and of features in the landscape, is important in siting this typology.

Scale is not the same as size. Size is absolute and can be precisely measured. Scale is relative – it is a term applied to understanding the relative size between objects, or between ourselves, as a viewer, and an object or landscape setting.

Landscape scale is made up of two factors, the perception of scale of the landform, which takes into account degree of relief, expanse, height and is also influenced by openness; and the perception of the scale of individual elements and the pattern of land use.

Assessing the scale of the landform involves assessing the perceived vertical height and horizontal expanse of the topography, as well as the degree of openness and containment created by topographical relief.

The pattern of land use creates an additional layer of possible enclosure which might reduce openness, for example where woodland, hedges and field walls provide containment. Conversely, low-growing vegetation, such as moorland, can reinforce openness.

In addition, while we often assess sense of scale relative to ourselves within the landscape, individual elements, from trees to pylons, can provide reference points against which the scale of the landscape or size of other elements is perceived and understood.

22.2.4 *Scale in the Berwickshire landscape*

In Berwickshire, the scale of the landform is a significant factor in defining landscape character. Topography plays its part – the gentle undulations of

many of the more extensive lowland landscape character types are low in relief, for example, while the valley landscape character types and more complex landform along some of the foothills, create areas of enclosure and relatively small scale landform character.

The larger scale of the hinterland plateau moorlands, high rounded hills, and long undulating ridges are characteristic of upland areas.

In the lowlands and foothill areas of Berwickshire, however, landscape pattern, including trees and woodland, field pattern, settlements and frequent farm buildings provide consistent scale references. These patterns can be complex, with extensive policies associated with the many designed landscapes for example. Buildings include large storage and cattle sheds, small steadings, groups of houses and small villages as well as castles and historic houses, and other historic and archaeological structures.

The consistent and recurring presence of these elements creates a pattern which can increase enclosure and consequently reduce scale in these lowland areas, as well as providing numerous individual elements against which height of turbines can be judged.

As shown in Image 1 above, turbines of around this height (12m – 20m) are still small enough to be sited where they can be associated with buildings and trees. Although they may be bigger than these elements, they are unlikely to be significantly taller when seen within the context of the wider landscape setting. This size relationship can therefore usually be accommodated unless there are site-specific scale sensitivities. This is generally relevant across the lowland farmed landscapes in Berwickshire.

Along the narrow coastal margin, however, landform relief tends to be very low, with raised beaches or sand dunes, more complex small scale and diverse coastal landforms and even areas of perceived wildness forming a backdrop to the beach. Even where cliffs and more pronounced landform is present, the scale is sensitive, and even a small turbine can easily diminish the sense of height.

As a result, the landscape sensitivity assessment for the Coastal Margin (Landscape character type 31), concludes that turbines of no more than 20m high to blade tip are appropriate for this area, and offers specific guidance on siting to limit the effects of even these small turbines on the scale of this sensitive landscape. Turbines should be set back from the crest of a raised beach, promontory, cliff or other key landform feature. They should also avoid the top of small knolls, ridge tops, promontories.

Wherever possible, they should be sited where they can be associated with existing development, set back from the immediate coast. Buildings along the coast are often small, and even trees can be 'wind shorn' and struggle to reach full height in exposed locations. This further emphasises the need to use only

small turbines in the coastal landscape, to reflect the relative size of these features.



Image 2 – Coastal landscapes: This turbine is perched on top of a raised beach or low coastal ridge. Although it is quite small, it instantly dominates the view and overlooks, or appears to ‘hover above’, the coast as well as reducing the perceived scale of the low rise on which it sits.



Image 3 – Coastal landscapes: The same turbine set back from the immediate coast and associated with buildings is a less intrusive impact on the coast. The buildings along the coast are often small and low, therefore smaller turbines are more acceptable in terms of relative scale.

22.2.5 Landform shape

The farms and settlements where turbines of this height (12m – 20m) are most likely to be located are generally associated with extensive lowland farmed landscapes, lower hill slopes or the floors of the narrower valleys. Some valleys have broad upper terraces, or ledges part way up the hillside where steeper lower slopes flatten out. These are also often occupied by farms. The more extensive farmed plains are gently undulating, with subtle terraces or, more rarely, smaller areas of more complex landform created by deposits. There are also occasional long ridges, where settlement can extend far up the slopes, for example on the elevated Platform Farmland (Landscape character type 9).

The farmed plains have subtle dips and undulations against which the turbines can be sited.

The hill sides often have terraces, narrow ledges, folds and subtle hollows, distinct changes in gradient associated with rising slopes or dips within undulations. These changes in gradient all have the potential to create natural

platforms for siting turbines of this height (12m – 20m) within the settled landscape.

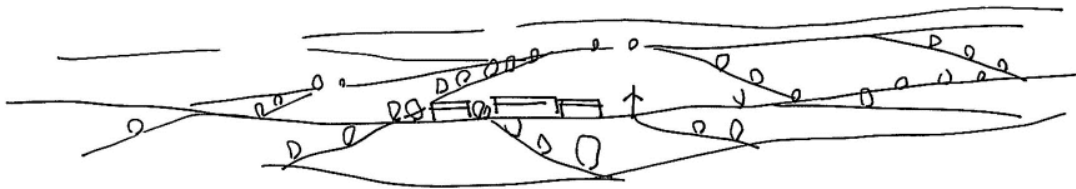


Image 4 –locating turbines on changes of gradient and other landscape features: This turbine is located at a change in gradient close to the farm buildings. It is also located on a field boundary. This means that the turbine reinforces the existing pattern of the landscape rather than detract from it.

When siting turbines in this landscape, avoid locating them on the tops of knolls. Side slopes of low hill and ridges, and terraces or places where there is a marked change in gradient offer good opportunities.

On the more expansive farmed landscapes – such as the Rolling Lowland Margin (16) – landform is more subtle, with long low ridges and undulating forms, as well as occasional more pronounced ridges or complex deposit features. Turbines of this height (12m – 20m) should aim to be linked to existing building groups, and should avoid the tops of ridges except where this is a characteristic of settlement pattern. These turbines will be more easily accommodated if they are sited on the side slopes of ridges.

22.2.6 Settlement and land use pattern and features

Turbines of this height (12m – 20m) are most easily accommodated in areas where there is existing settlement and other infrastructure. In such areas, the distribution of existing built development can form a recognisable pattern to which wind turbines can be visually and physically linked.

In Berwickshire, there is frequently a clear link between settlement and landform, for example, buildings may be located on a natural terrace or ridge, changes of gradient on the side slopes of the valleys or associated with watercourses. In more extensive farmed areas, farm buildings may be relatively evenly dispersed across the landscape to reflect relative equality in farm size. Along the coast, settlement is located in shallow valleys, near the mouths of rivers and sheltered coastal locations.

Larger farm buildings and even industrial buildings are also to be found in the lowland and most settled areas of rural Berwickshire, and these building groups can include tall grain silos, large sheds and occasionally masts.

Berwickshire is also characterised by frequent large designed landscapes, with grounds surrounding castles or large historic houses. These estates sit within

extensive policies which may include a further range of historic designed buildings. The setting of these landscapes and features is likely to be sensitive to all turbine heights.

While turbines of this height (12m – 20m) may be larger than most domestic and farm buildings, it is likely to still be appropriate to establish a visual relationship between a turbine and a farm or other groups of appropriate buildings in this type of landscape. It is more desirable to support the existing pattern of built development than begin a new one. This can be achieved by establishing a pattern of turbines of a similar size consistently being associated with clusters of development, which may be farms or small settlements in an area. Note that proximity to 'regularly occupied' buildings will also need to be balanced with a noise buffer zone.

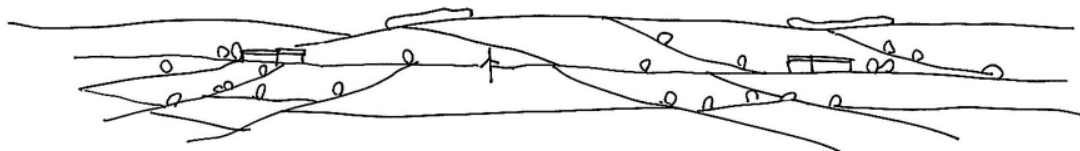


Image 5 – Poor relationship with settlement pattern. Here a turbine is located between two farms, and is not associated with either. It appears to 'drift' unattached in the landscape as it does not reflect the existing pattern of built development. Instead, the turbine is setting up a new pattern of development which conflicts with the existing well-established pattern.

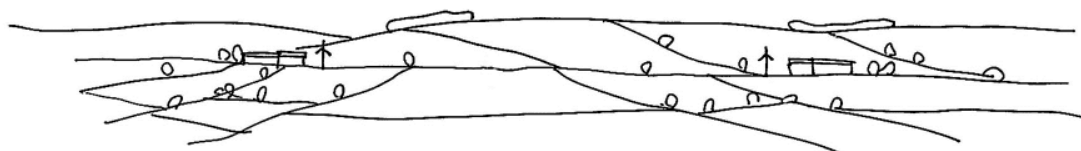


Image 6 – Strong relationship with settlement pattern. The same landscape, with a turbine sited to each of the farms, close to the buildings, each of which now form 'building clusters'. Here the turbines reflect the existing pattern of settlement, emphasising this, rather than starting a new built pattern which conflicts with the existing pattern. Micro-siting will need to balance creating a development cluster with the need to apply a recommended 'noise buffer' zone.

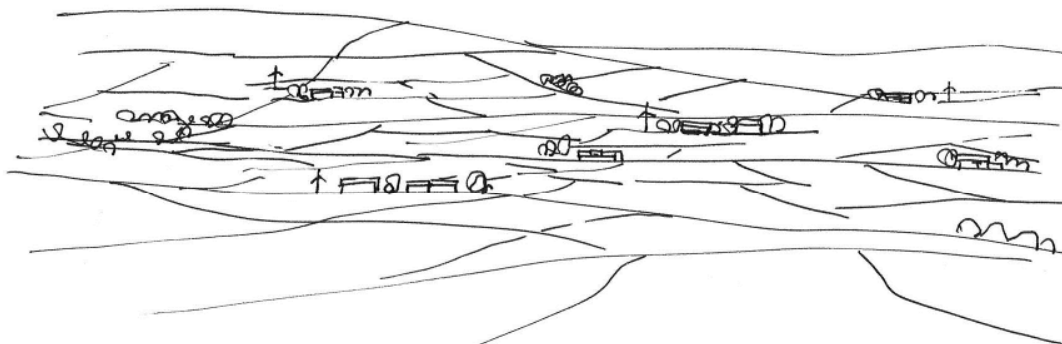


Image 7 – Settlement pattern shown from an aerial view of the extensive low-lying farmed landscapes: The landform is relatively subtle. Micro-small turbines (12 – 20 m) can be located relatively close to buildings, to form 'clusters of development' consistently placed across the more expansive farmland areas. Consistent siting and association with existing farms will limit negative cumulative landscape effects. Micro-siting will need to balance creating a development cluster with the need to apply a recommended 'noise buffer' zone.

In some more upland and hill foot landscapes, this consistency can be further reinforced if turbines are located at a similar elevation, especially if this relates to the existing elevation of farms, settlements or another major feature, such as the head dyke, which forms the boundary between fields and open hill ground, and is often located at a break in slope.

It is important to assess and understand the existing settlement pattern at the outset, and consider how a number of turbines could be sited repeatedly across a landscape when establishing a precedent which in time may become a new landscape characteristic. Cultivating a careful and consistent pattern of siting will limit potential negative cumulative effects on landscape character.

22.2.7 *Visibility*

Unsurprisingly, these micro-small turbines are likely to be less visible than the larger ones over a wider area. Turbines which are 20m or less are more likely to be able to be screened or partially hidden by the low ridges and more undulating landform within the settled landscapes of Berwickshire. Tree cover, including belts of policy woodland and field trees as well as the extensive network of often high and well maintained hedges, also limits visibility. In some more arable landscapes, this vegetation cover can be sparse, creating a more open landscape which may appear larger in scale, but where features are also more visible.

Hiding turbines per se is not more important than choosing a turbine of the right size in relation to landform or other landscape features, or than good micro-siting in relation to landform and settlement pattern. However, reducing sustained visibility of turbines helps limit potential cumulative visual impacts.

Siting turbines on the sides of ridges and low hills, rather than their summits and high points overall reduces visual cumulative effects – turbines are partially screened from some viewpoints to the lee of the hill and slopes in these locations. If several turbines are visible in an area, broad consistency of turbine design, height and location can help mitigate potential visual impacts.

22.2.8 *Potential cumulative issues*

Given the current incentives, these micro-small turbines may become a frequent and common occurrence in farmed landscapes. Key cumulative issues for small turbines are likely to relate strongly to potential clutter in the landscape. Issues may include:

- Several individual, or small groups of turbines, could begin to dominate local character;
- The landscape could appear ‘cluttered’ if single or groups of turbines were associated with the majority of land holdings, especially where holdings are small and therefore closer together;
- Lack of a clear siting strategy could lead to fragmentation of an existing robust, recognisable, consistent and characteristic pattern of settlement, especially if turbines do not relate well to existing buildings and the established pattern of built development;
- While one turbine breaching a skyline may be a focal point, a number of turbines, and even other diverse structures, appearing at irregular intervals along a prominent or important skyline will become a visual distraction from other landscape features or from perceived visual amenity, especially from key viewpoints;
- The variety of potential different types of wind turbines within the landscape could lead to clutter with different styles, sizes of structures and speeds of blade movement dotted across a landscape;
- There may be the added complication of increased visual clutter created by a wide range of different heights of turbine within a farmed landscape with micro-, small and small/medium sized turbines;
- Potential clutter may also be exacerbated if there are other masts, such as telecoms masts, overhead wires and pylons within the same vicinity

The landscape and visual sensitivity assessments carried out for this report have assumed that single turbines and some groups of up to 3 micro-small (below 20m to blade tip) turbines associated with this typology will have the most potential to be accommodated in the landscape. The assessment has also assumed that this size of turbine is most likely to be associated with farmed and settled landscapes.

Proposals for ‘wind farms/crofts’ of micro-small turbines over 3 in number are likely to have more significant adverse impacts on the landscape character, including on cumulative effects.

22.3 Guidance for small turbines (20m – 35m in height to blade tip)

The sensitivity of the landscape to this development scenario has been included in all assessments carried out in settled and farmed landscapes and coastal character landscape types. Less settled upland landscape character types were not assessed for this size of development, as applications for this size of turbine are unlikely to come forward in areas where there are no farms or other settlement.

22.3.1 *Background*

Within the Berwickshire landscape, the following issues have been identified as being particularly influential in terms of detailed siting of this typology within character types identified as being appropriate for this typology:

- Turbine height in relation to the scale of the landscape
- Landform shape
- Settlement and land use pattern and features
- Visibility
- Potential cumulative issues

22.3.2 *Introducing scale*

Turbines between 20m and 35m in height are going to be one of the taller structures in any lowland Berwickshire landscape. They are going to be taller than most buildings and trees. They are still, however, similar in height to some taller pylons and communication masts.

Understanding scale, and the relative proportions of the scale of both the landform and of features in the landscape, is important in siting this typology.

Scale is not the same as size. Size is absolute and can be precisely measured. Scale is relative – it is a term applied to understanding the relative size between objects, or between ourselves, as a viewer, and an object or landscape setting.

Landscape scale is made up of two factors, the perception of scale of the landform, which takes into account degree of relief, expanse, height and is also influenced by openness; and the perception of the scale of individual elements and the pattern of land use.

Assessing the scale of the landform involves assessing the perceived vertical height and horizontal expanse of the topography, as well as the degree of openness and containment created by topographical relief.

The pattern of land use creates an additional layer of possible enclosure which might reduce openness, for example where woodland, hedges and field walls provide containment. Conversely, low-growing vegetation, such as moorland, can reinforce openness.

In addition, while we often assess sense of scale relative to ourselves within the landscape, individual elements, from trees to pylons, can provide reference

points against which the scale of the landscape or size of other elements is perceived and understood.

22.3.3 *Scale in the Berwickshire landscape*

In Berwickshire, the scale of the landform is a significant factor in defining landscape character. Topography plays its part – the gentle undulations of many of the more extensive lowland landscape character types are low in relief, for example, while the valley landscape character types and more complex landform along some of the foothills, create areas of enclosure and relatively small scale landform character.

The larger scale of the hinterland plateau moorlands, high rounded hills, and long undulating ridges are characteristic of upland areas.

In the lowlands and foothill areas of Berwickshire, however, landscape pattern, including trees and woodland, field pattern, settlements and frequent farm buildings provide consistent scale references. These patterns can be complex, with extensive policies associated with the many designed landscapes for example. Buildings include large storage and cattle sheds, small steadings, groups of houses and small villages as well as castles and historic houses, and other historic and archaeological structures.

The consistent and recurring presence of these elements creates a pattern which can increase enclosure and consequently reduce scale in these lowland areas, as well as providing numerous individual elements against which height of turbines can be judged.

Turbines of this size (20m – 35m) are likely to be too tall to be sited close to smaller features, such as most buildings and smaller trees, without dominating them or appearing 'out of scale'. But they may be associated with larger buildings, more extensive forests and more open landscapes, even in lowland areas.

This size of turbine may be able to take advantage of medium scaled landform, for example the broad slopes of foothills and lower fringes of upland areas, lower side slopes of valleys or in areas of low relief, such as the sides of long undulating ridges and more subtle landforms of the extensive lowland farmed landscapes, such as Rolling Lowland Margin (16) and Lowland Margin Platform (17).

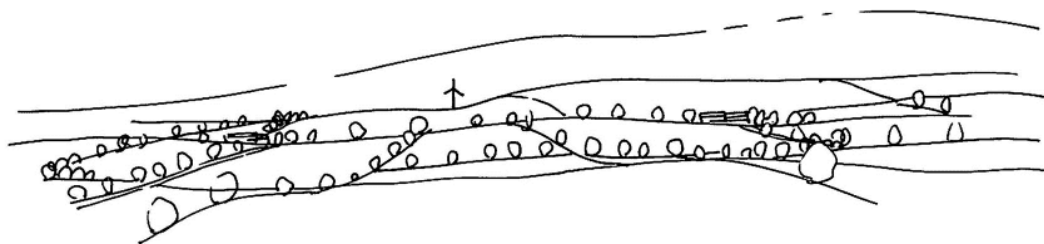


Image 8 – Landscape scale and size of features: An indicative ‘small typology’ (20m – 35m) turbine located on a low-lying ridgeline set back from the settlement and associated with the more open ridge. In this location, the turbine is linked to the scale of the landform and there are no features in the immediate proximity against which to judge turbine height. It is sited at a slight dip in the ridge, and back-dropped in this view by more distant higher ground. It is located away from the farm, to avoid overwhelming the buildings in terms of scale.

In narrower valleys, the coastal margin and shallow valleys, the enclosure of the landform and the shallowness of the relief are likely to be constraints. In addition, where buildings are smaller in size, such as in upland areas or where trees are limited in height by exposure or poor soils the relationship between small turbines (20m – 35m) and landscape features is likely to be very sensitive. This size of turbines is likely to overwhelm the small stature and scale of these individual elements.

Where larger farm buildings, and even industrial buildings are located in more expansive landscapes or broader valleys, there are increased opportunities to site this height of turbine (20m – 35m) closer to buildings.

Overall, turbines of this height (20m – 35m) can most readily be accommodated by relating them to the scale of landform even where relief is relatively low, for example where field enclosures have disappeared and the landform has become a more dominant feature even in a lowland landscape.

Larger buildings and larger woodlands may also offer siting opportunities and will be more appropriate than trying to link this height of turbine to clusters of small structures, buildings and smaller woodland features.

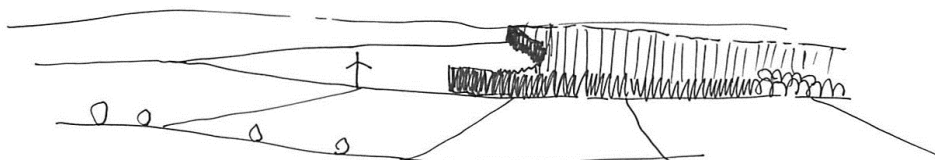


Image 9 – Landscape scale: A turbine of this height (20 – 35m), could be associated with larger woodlands or larger buildings in more simple landscapes.

Turbines of this height are likely to be more difficult to accommodate within very small scale and complex topography, along the floor of very narrow glens and passes, on the coast, or where small landscape scale is created by small fields, diverse land use and dense settlement pattern.

If there is doubt about the potential impact of a turbine on the scale of the landscape, a photomontage or wireline of the turbine taken from a key viewpoint will help identify potential impacts.

22.3.4 *Landform shape*

This typology (20m – 35m) is more likely to fit with the landscape if they are sited to clearly relate to a specific landform. Turbines of this size could be accommodated on low foot hills or the side slopes of the wider farmed valleys, or in more open areas of the undulating farmed plains. Other opportunities include the rising ground which provides the immediate backdrop to the farmed lowland areas and valley floors, especially if they are back-dropped by larger hills.

Distinct changes in gradient associated with rising slopes, well defined dips within undulations or more expansive concave landforms, the lower slopes of long ridges and the sides of interim hills along the lower edges of the foothills, as well as the edges of more expansive plateaux all provide potential opportunities for micro-siting turbines of this size.

Developing a recognisable pattern of development – for example, locating turbines at a similar elevation, and/or on similar topographical features across a landscape type will help create a pattern of development which will appear less cluttered and will also develop a distinctive and consistent landscape characteristic over time. Cultivating a careful and consistent pattern of siting will limit potential negative cumulative effects on landscape character.

22.3.5 *Settlement and land use pattern and features*

In Berwickshire, there is frequently a clear link between settlement and landform, for example, buildings may be located on a natural terrace or ridge, changes of gradient on the side slopes of the valleys or associated with watercourses. In more extensive farmed areas, farm buildings may be relatively evenly dispersed across the landscape to reflect relative equality in farm size. Along the coast, settlement is located in shallow valleys, near the mouths of rivers and sheltered coastal locations.

Larger farm buildings and even industrial buildings are also to be found in the lowland and most settled areas of rural Berwickshire, and these building groups can include tall grain silos, large sheds and occasionally masts.

Berwickshire is also characterised by frequent large designed landscapes, with grounds surrounding castles or large historic houses. These estates fit with extensive policies which may include a further range of historic designed

buildings. The setting of these landscapes and features is likely to be sensitive to all turbine heights.

This height of turbine (20m – 35m height to blade tip) is larger than most buildings found in rural areas. They therefore should be sited where they can more readily be accommodated by landform scale, and avoid overshadowing or dominating smaller elements in the landscape, including small fields or woodland features and settlement. These turbines are more easily accommodated if they are located on low ridges or the side slopes of hills, set slightly apart from farms or settlements.

The alignment of tracks and location of other infrastructure, as well as the turbines themselves, are also more likely to be an issue than with smaller turbine sizes.

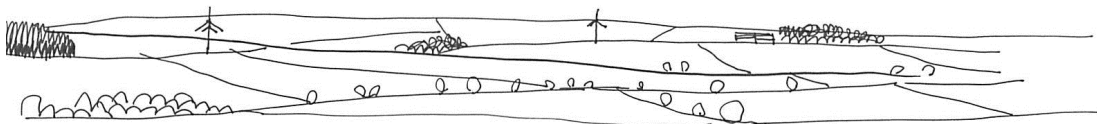


Image 10 – Developing a landscape pattern: These indicative 35m high turbines are located at a similar elevation in this landscape. This similarity in size, location and elevation helps to maintain the unity of the landscape pattern. Consistent association with watercourses, low hills or breaks in slope, head dykes or other features will also help increase unity in the landscape and reduce negative cumulative landscape effects.

22.3.6 *Visibility*

Turbines more than 20m in height are taller than most trees and large farm buildings, and are therefore likely to have wider visibility than those turbines less than 20m in height.

As applicants may own farms or larger land holdings, there may be the potential to screen turbines from viewpoints if required, for example to reduce cumulative visual impacts, by establishing trees adjacent to the viewpoint (for quicker, maximum screening affect).

Hiding turbines per se is not more important than choosing a turbine of the right size in relation to landform or other landscape features, or than good micro-siting in relation to landform shape. However, limited sustained visibility of turbines helps limit potential cumulative visual impacts.

Siting turbines on the sides of ridges and low hills, rather than their summits and high points overall reduces visual cumulative effects – turbines are partially screened from some viewpoints to the lee of the hill and slopes in these locations. If several turbines are visible in an area, broad consistency of turbine design, height and location can help mitigate potential visual impacts.

22.3.7 Potential cumulative issues

Given the current incentives, these small sized turbines may become a frequent and common occurrence, especially in farmed landscapes. Key cumulative issues are likely to relate strongly to potential clutter in the landscape and the visual relationship with other wind turbines. Issues are similar to those identified in the analysis of micro-small wind turbines, but because of the larger size of these turbines the issues are likely to occur more quickly and may include:

- Several individual, or small groups of turbines, could begin to dominate local character;
- Lack of a clear siting strategy could lead to fragmentation of an existing robust and recognisable landscape pattern – where possible, it is important to site turbines on similar landforms, at similar elevations and with a similar relationship to the landform, gradients or existing broad settlement pattern;
- Turbines strung along a prominent or important skyline could become a visual distraction from other landscape features or from perceived visual amenity, especially from key viewpoints;
- The larger the turbine, the harder it is likely to be to accommodate a number of them in a single view or recognisable tract of landscape without them becoming the dominant feature. It is also harder to accommodate the turbines in a sequence of views experienced, for example, when travelling along a road;
- The variety of potential different types of wind turbines within the landscape could lead to clutter with different styles, sizes of structures and speeds of blade movement dotted across a landscape;
- Potential clutter may also be easily created if there are other masts, such as telecoms masts, overhead wires and pylons within the same vicinity;
- There may be the added complication of increased visual clutter created by a wide range of different heights of turbine within a farmed landscape with micro-, small and small/medium sized turbines;
- An additional complication may be the visual interrelationship with larger wind farms of large and medium sized turbines, especially along the upper edge of farmland adjacent to upland character types.

22.3.8 Other landscape issues associated with this typology

Undergrounding electricity cables to a suitable off-site location to connect with the grid should also be undertaken in order to avoid a clutter of disparate built elements in the landscape.

22.4 Guidance for small-medium turbines (35m – 50m in height to blade tip)

The sensitivity of the landscape to this development scenario has been included in all assessments carried out in settled and farmed landscapes and coastal character landscape types. Less settled upland landscape character types were not assessed for this size of development, as applications for this size of turbine are unlikely to come forward in areas where there are no farms or other settlement.

22.4.1 *Background*

Within the Berwickshire landscape, the following issues have been identified as being particularly influential in terms of detailed siting of this typology within character types identified as being appropriate for this typology:

- Turbine height in relation to the scale of the landscape
- Landform shape
- Settlement and land use pattern and features
- Visibility
- Cumulative issues

22.4.2 *Introducing scale*

Turbines of between 35m and 50m in height are going to among the tallest structures in any lowland Berwickshire landscape. They are going to be taller than buildings and trees. They will also be taller than most communication masts and pylons.

Understanding scale, and the relative proportions of the scale of both the landform and of features in the landscape, is important in siting this typology.

Scale is not the same as size. Size is absolute and can be precisely measured. Scale is relative – it is a term applied to understanding the relative size between objects, or between ourselves, as a viewer, and an object or landscape setting.

Landscape scale is made up of two factors, the perception of scale of the landform, which takes into account degree of relief, expanse, height and is also influenced by openness; and the perception of the scale of individual elements and the pattern of land use.

Assessing the scale of the landform involves assessing the perceived vertical height and horizontal expanse of the topography, as well as the degree of openness and containment created by topographical relief.

The pattern of land use creates an additional layer of possible enclosure which might reduce openness, for example where woodland, hedges and field walls provide containment. Conversely, low-growing vegetation, such as moorland, can reinforce openness.

In addition, while we often assess sense of scale relative to ourselves within the landscape, individual elements, from trees to pylons, can provide reference points against which the scale of the landscape or size of other elements is perceived and understood.

22.4.3 *Scale in the Berwickshire landscape*

In Berwickshire, the scale of the landform is a significant factor in defining landscape character. Topography plays its part – the gentle undulations of many of the more extensive lowland landscape character types are low in relief, for example, while the valley landscape character types and more complex landform along some of the foothills, create areas of enclosure and relatively small scale landform character.

The larger scale of the hinterland plateau moorlands, high rounded hills, and long undulating ridges are characteristic of upland areas.

In the lowlands and foothill areas of Berwickshire, however, landscape pattern, including trees and woodland, field pattern, settlements and frequent farm buildings provide consistent scale references. These patterns can be complex, with extensive policies associated with the many designed landscapes for example. Buildings include large storage and cattle sheds, small steadings, groups of houses and small villages as well as castles and historic houses, and other historic and archaeological structures.

The consistent and recurring presence of these elements creates a pattern which can increase enclosure and consequently reduce scale in these lowland areas, as well as providing numerous individual elements against which height of turbines can be judged.

Turbines of this height (35m – 50m) can therefore be accommodated most readily by relating the height of the turbines to the scale of the landform. They can therefore most easily be sited in areas where landform is the dominant characteristic, and where settlement and vegetation cover is more sparse and less diverse. These will be landscapes which are more open, or where large scale vegetation patterns, such as upland grassland, moorland and forestry or very large fields with a limited enclosure pattern, are dominant or provide a suitable backdrop.

If well sited, turbines of this size, even in small groups of up to three turbines, may be able to take advantage of the degree of relief created by medium scaled landforms. Examples include the broad slopes of larger scale foothills and fringes of extensive upland areas and plateaux or the transition between more diverse and densely patterned farmed or settled landscapes and the edge of larger scale upland landscapes or much more open areas of farmed plain.

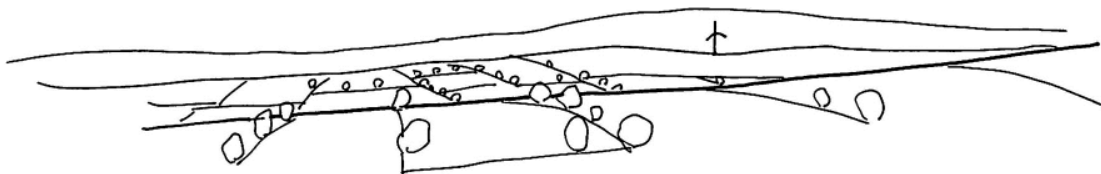


Image 11 – Landscape scale and size of features: A ‘medium-small’ (35 – 50m high) turbine located where it is readily associated with the scale of the landform rather than individual features within the low-lying farmland. This size of turbine is more easily accommodated if it is not located close to farms and trees, but can be seen in the context of landform and more simple landcover, such as moorland, for example at the transition between upland and lowland landscapes. This turbine has also been placed at a clear break in slope along the ridgeline.

In settled and farmed locations, the relationship between small-medium turbines (35m – 50m) and individual buildings and trees is likely to be very sensitive, as this size of turbines will overwhelm the size of individual elements, such as farms, other buildings, trees, small woods and policy features which are key characteristics of these landscapes.

Turbines of this height (35m – 50m) can therefore be accommodated most readily by relating the height of the turbines to the scale of the landform, and away from the setting of farms, other buildings, trees and small woodlands, as shown in image 12 above.

If there is doubt about the potential impact of a turbine on the scale of the landscape, a photomontage, wireline or photowire taken from a key viewpoint will help the assessment of potential impacts.

22.4.4 Landform shape

This size of turbine (35m - 50m to blade tip) is likely to be more readily accommodated in medium scaled landscapes or the transition between smaller scale farmed or settled landscapes and the edge of larger scale upland landscapes. In these locations, they are more likely to fit with the landscape if they are sited to clearly relate to a specific land form. Turbines of this size could be accommodated on low hills or ridgelines which provide the immediate backdrop to the farmed lowland areas, especially if they, too, are back-dropped by larger hills or more sweeping plateaux.

Distinct changes in gradient associated with rising slopes, well defined dips within undulations, natural terraces or more expansive concave landforms, long ridges, and interim hills and foothills, as well as the edges of more expansive plateaux all provide potential opportunities for micro-siting turbines of this size.

Developing a recognisable pattern of development – for example, locating turbines at a similar elevation, and/or on similar topographical features across a

landscape type will help create a pattern of development which will appear less cluttered and will also develop a distinctive and consistent landscape characteristic over time. Cultivating a careful and consistent pattern of siting will limit potential negative cumulative effects on landscape character.

22.4.5 Settlement and land use pattern and features

Wherever possible, this size of turbine will 'fit' in the landscape more successfully if it is strongly associated with the scale of the landform and avoids being visually associated with the setting of buildings or settlements. This will mean locating this typology away from individual farms and buildings and woodland features.

This size of turbine (35-50m) is most likely to be accommodated where the pattern of built development becomes more sparse, for example in the upland fringe, or where lowland, often arable, farm holdings are large with a more dispersed settlement pattern set within more open landscape, often with fewer trees and enclosure features. Other opportunities include where the pattern of fields gives way to upland grazing, extensive forestry, open hills and moorland.

The alignment of tracks and location of other infrastructure, as well as the turbines themselves, are also more likely to be an issue than with smaller turbine sizes.

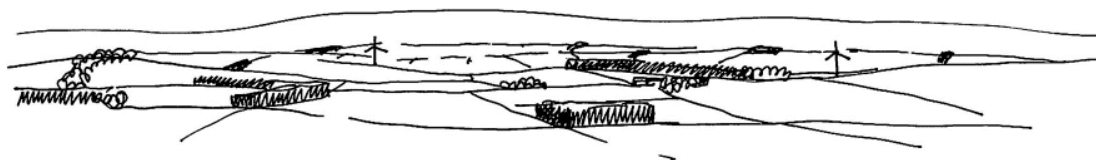


Image 12: Landscape pattern: These two indicative 35-50m high turbines are located at the break in slope or low terraces, in relatively open ground within a landscape where the field system is less well defined, which is normally the case in more upland areas.

22.4.6 Visibility

Turbines of this height are likely to be widely visible, as they are difficult to screen with smaller landform. Good siting is therefore very important, as the relationship with landform and wider landscape setting will be very visible.

22.4.7 Cumulative issues

Given the current incentives, these small-medium sized turbines (35m – 50m) may become a more common occurrence. Key cumulative issues are likely to relate strongly to potential clutter in the landscape and the visual relationship with wind farms of larger turbines or individual and small groups of small turbines. Cumulative issues may include:

- Several individual, or small groups of turbines, could begin to dominate local character;

- Turbines strung along a prominent or important skyline could become a visual distraction from other landscape features or from perceived visual amenity, especially from key viewpoints;
- Lack of a clear siting strategy could lead to fragmentation of an existing robust and recognisable landscape pattern – where possible, it is important to site turbines on similar landforms, at similar elevations and to cultivate a consistent siting pattern;
- The larger the turbine, the harder it is likely to be to accommodate a number of them in a single view or recognisable tract of landscape without them becoming the dominant feature. It is also harder to accommodate the turbines in a sequence of views experienced, for example, when travelling along a road;
- Larger turbines are also likely to be visible for longer – i.e. views of them are likely to be sustained – thereby increasing the likelihood of multiple turbines being visible from one viewpoint.
- The variety of potential different types of wind turbines within the landscape could lead to clutter with different styles, sizes of structures and speeds of blade movement dotted across a landscape;
- Potential clutter may also be easily created if there are other masts, such as telecoms masts, overhead wires and pylons within the same vicinity – this is likely to be a bigger problem with these small turbines than larger ones;
- There may be the added complication of increased visual clutter created by a wide range of different heights of turbine within a farmed landscape with micro-, small and small/medium sized turbines;
- Other complications may be the visual interrelationship with larger wind farms of large and medium sized turbines, especially along the upper edge of farmland adjacent to upland character types.

22.4.8 *Other landscape issues associated with this typology*

More complex landform, such as the areas of small-scale deposits and knolls will be particularly sensitive to the construction of access tracks for this size of wind turbine development. The construction of new access tracks should be minimised by careful siting of turbines to use existing tracks and to avoid more difficult, complex or steep terrain. Care should also be taken in the alignment and design of any access tracks to ensure that sensitive landform and vegetation is not adversely affected and that intrusion on key views is avoided.

Undergrounding electricity cables to a suitable off-site location to connect with the grid should also be undertaken in order to avoid a clutter of disparate built elements in the landscape.

**LANDSCAPE AND VISUAL GUIDANCE ON SINGLE AND SMALL
GROUPS OF WIND TURBINE DEVELOPMENTS IN BERWICKSHIRE,
SCOTTISH BORDERS**

FINAL Appendix Report

December 2014

Prepared by Alison Grant and Carol Anderson Landscape Architects
for Scottish Borders Council

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1 SENSITIVITY ASSESSMENT OF LANDSCAPE CHARACTER TYPES

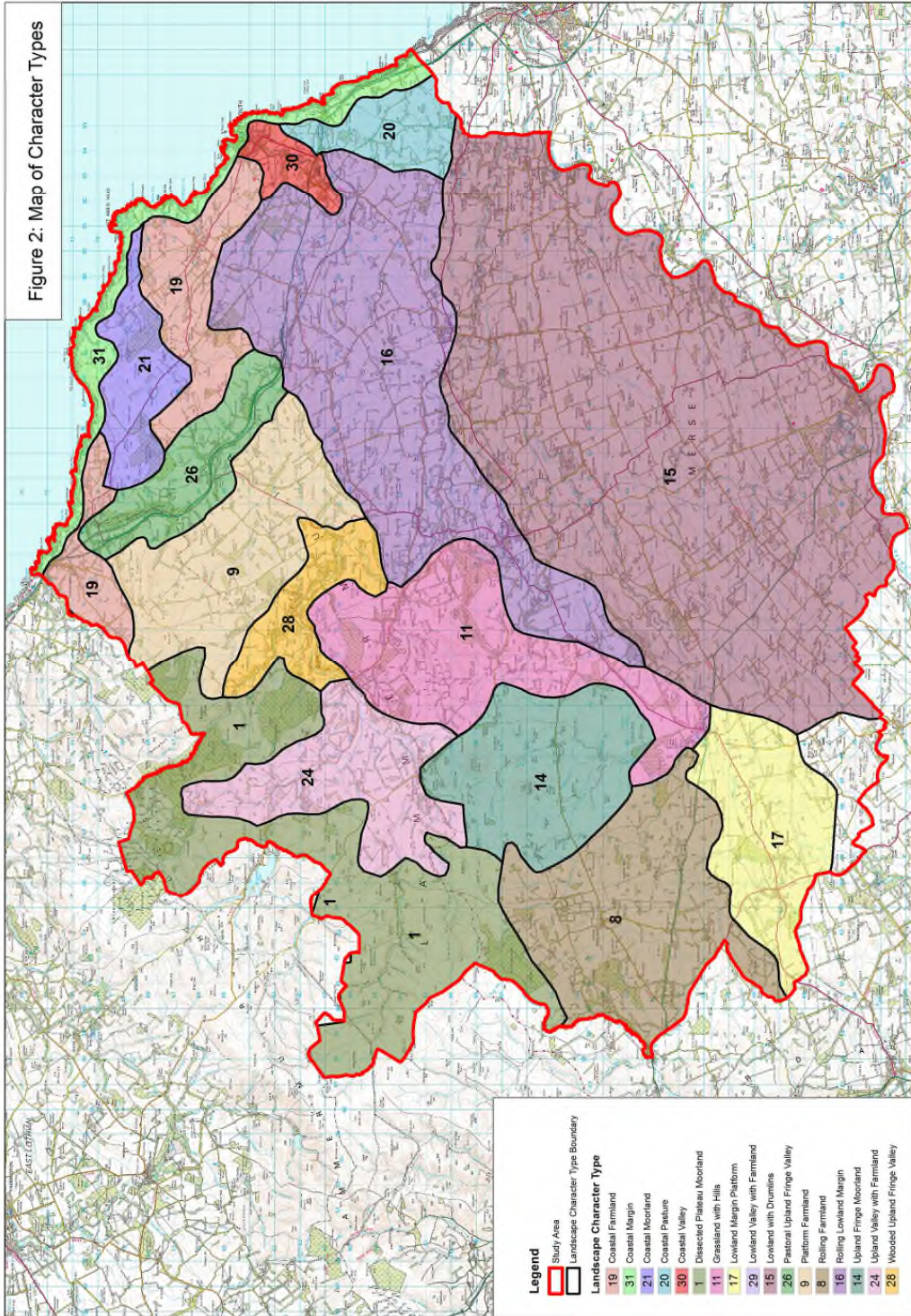
1.1 Introduction

Sensitivity assessments have been undertaken for each character type and any sub-types defined as explained in Section 3 of the Main Report. The sensitivity assessment considers the sensitivity of each character type to four different wind farm/turbine typologies based on the height of turbines.

An introduction to each character type is set out in the sensitivity assessments that follow. This describes where any changes have been made to the boundaries or classification of character types set out in the Scottish Borders Landscape Character Assessment and outlines any sub-divisions defined within original character types. Operational and consented wind farm developments, whether located within the landscape type or in the surrounding area (and clearly visible from the character type being assessed) are briefly listed.

This Appendix Report contains the detailed sensitivity assessments undertaken for each landscape character type. The sensitivity scores outlined in the summary of sensitivity are made on the basis of a five point scale; High, High-medium, Medium, Medium-low and Low. These assessments consider landscape and visual sensitivity against a number of key criteria including any cumulative effects associated with existing and consented wind energy developments. Further detail on methodology is contained in Section 2 of the Main Report.

Potential cumulative issues and key constraints and opportunities are set out for each landscape character type and the sensitivity assessment concludes with guidance on the siting of wind farm/turbine development.



2 CHARACTER TYPE 1: DISSECTED PLATEAU MOORLAND

2.1 Introduction

The Dissected Plateau Moorland (1) landscape character type is present in three areas within the Scottish Borders. The eastern section of one of these areas – Lammermuir Plateau – lies within the Berwickshire study area.

This upland landscape character type covers the southern part of the Lammermuir Hills between the Moneynut Edge in the east and the Upper Leader Valley to the west. These uplands also extend northwards into neighbouring East Lothian where they are described as the ‘Lammermuir Plateau’ character type within The Lothians Landscape Character Assessment¹.

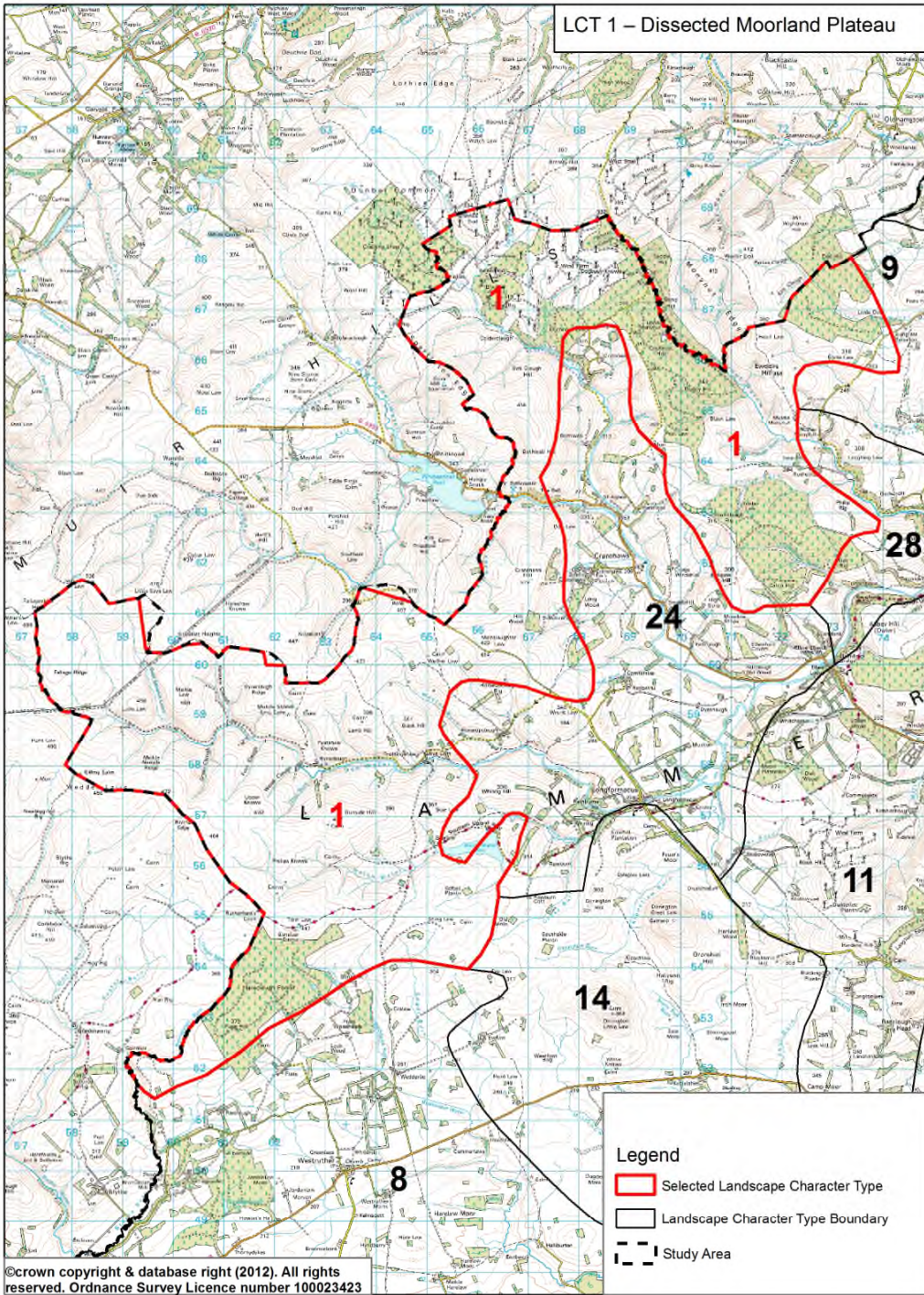
In this sparsely populated upland area, the sensitivity of the landscape to smaller typologies has not been assessed in detail, although a brief appraisal of key sensitivities relating to smaller typologies is included in the summary and guidance section.

2.1.1 *Operational/consented wind farms*

A number of operational and consented wind farms are sited within this character type and the similar ‘Lammermuir Plateau’ character type within East Lothian. These include the operational Fallago Rig wind farm (48 turbines, max 125m height to blade tip) which is located in the core of the Dissected Plateau Moorland (1) character type within Scottish Borders, the Crystal Rig 1, 1a, 2 and 2a wind farm (85 turbines, 125m max. height to blade tip) which straddles the East Lothian/Scottish Borders boundary and the Aikengall I wind farm I (16 turbines, 125m height to blade tip), which lies wholly within East Lothian. The consented Aikengall II wind farm (19 turbines, 145m high to blade tip) also lies on the eastern edge of the ‘Lammermuir Plateau’ character type within East Lothian but close to the boundary with Scottish Borders.

The existing Black Hill wind farm (22 turbines at 78m height to blade tip) is located in the ‘Grassland with Hills’ (11) character type and is seen in conjunction with other wind farm developments sited in the ‘Lammermuir Plateau’ from roads and settlements within Scottish Borders. The existing Dun Law (61 turbines between 62.5m and 75m height to blade tip), Toddleburn (12 turbines, 125m height to blade tip) and Longpark (19 turbines, 100m height) wind farms are located in the ‘Plateau Grassland’ (2) character type within Scottish Borders to the west of this character type and are likely to be seen in conjunction with the consented Fallago Rig wind farm from the upland area and the Upper Leader Valley.

¹ ASH Consulting Group, The Lothians Landscape Character assessment, 1998, Scottish Natural Heritage



Character Type 1: Dissected Plateau Moorland – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landscape context	This landscape forms a long, low backdrop of hills to the settled Rolling Farmland (8) and with a gradual transition occurring between the two character types. A more scenic juxtaposition is formed with the Upland Valley with Farmland (24) around the Dye Water and Whiteadder confluence and on the eastern edge of the Upper Leader where these simple open and often steep-sided uplands provide a backdrop and strong contrast with the diverse settled valleys. The Dissected Plateau Moorland extends northwards into neighbouring East Lothian (as the Lammermuir Plateau character type) where it forms a more dramatic scarp and backdrop of higher hills (including Harestane Hill, Lammer Law and Meikle Says Law) in its central section. The steep-sided Spartleton Edge provides a distinctive backdrop to Whiteadder Reservoir within East Lothian.	Turbines of this size sited on the edges of the Dissected Plateau Moorland would be highly visible from well settled landscapes such as the Rolling Farmland (8) and would also have significant effects on adjoining smaller scale settled landscapes. The more diverse Upland Valley with Farmland (but also smaller more complex valleys which occasionally cut into the plateau fringes) would be particularly sensitive to this typology. Turbines set back into the core of these uplands would be likely to have less of an effect although the higher hills of the Lammermuir Plateau prominent in views from East Lothian would be sensitive to any intrusion on more dramatic scarp slopes and skylines.	High-medium	Although still likely to be highly visible if sited on the fringes of this character type, turbines of this size would have less of an effect on the character of the Rolling Farmland (8) which gradually merges with this character type and has a simpler larger scale at this transition. The smaller, more diverse valleys lying on the edges of these uplands and the higher hills seen from East Lothian would be sensitive to this typology however.	Medium
Scale and openness	An expansive gently undulating plateau with few small scale features. Scale is reduced within the narrow deeply incised valleys which cut into this plateau.	This typology would fit with the scale of this landscape although turbines of this size would dominate narrow settled valleys.	Medium	This typology would fit with the scale of this landscape. There may be increased scope to site turbines of this size to minimise intrusion on narrow settled valleys.	Medium-low

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landform	<p>An undulating upland plateau forming broad ridges and rounded hills with smooth convex slopes. The plateau is dissected by narrow deeply incised valleys, the largest of these being the Dye Water.</p> <p>Some higher and more defined hills occur and include Meikle Says Law and Lammer Law and Spartleton Edge which have rugged scarp slopes within East Lothian. The broader, lower hills found in the core of these uplands however generally coalesce and have an indistinct form within the overall plateau.</p> <p>A more complex landform occurs at the transition with the Upper Leader valley to the west where smaller interlocking steep-sided hills are cut by numerous valleys.</p>	<p>The predominantly simple, gently undulating landform of this landscape reduces sensitivity although turbines of this height would detract from more complex 'edge' hills and deeply cut valleys and the higher, more defined 'landmark' hills within the plateau if sited on or close-by them.</p>	Medium	<p>The predominantly simple, gently undulating landform of this landscape reduces sensitivity although turbines of this height would detract from more complex 'edge' hills and deeply cut valleys and the higher, more defined 'landmark' hills within the plateau if sited on or close-by them.</p>	Medium
Landscape pattern	<p>This landscape has a simple land cover pattern dominated by grass and heather moorland. Coniferous plantations also occur on the fringes, particularly at the transition with the Rolling Farmland (8).</p>	<p>The relatively simple land cover pattern of this landscape reduces sensitivity</p>	Low	<p>The relatively simple land cover pattern of this landscape reduces sensitivity</p>	Low

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Built environment	There are no settlements in this landscape. Visible archaeological features are associated with the fringes of this landscape, for example, at the transition with the Upper Leader Valley, although are rare within the core upland area. The Twin Law Cairns are a distinctive feature and highly visible in views to the south. Transmission lines and wind farms form large scale features across this landscape.	This typology could affect the setting of archaeological features associated with the western fringes of this landscape. They would also detract from the Twin Law Cairns if seen on the skyline close-by. The core of these uplands would be less sensitive.	Medium-low	This typology could affect the setting of archaeological features associated with the western fringes of this landscape. They would also detract from the Twin Law Cairns if seen on the skyline close-by. The core of these uplands would be less sensitive.	Medium-low
Perceptual qualities	The presence of forestry, wind farm development and power lines, particularly prevalent to the east, negates a strong sense of wildness. Deeply incised valleys and edge hills can feel secluded and have some natural qualities where not influenced by large scale infrastructure.	Most of this upland landscape is affected by views of wind farm development and there is now little sense of wildness. Additional wind turbine development could compromise any remaining sense of seclusion that may be experienced within narrow valleys and more visually contained 'edge' hills.	Medium	There may be increased scope to site turbines of this size to minimise effects on the sense of seclusion experienced within narrow, visually contained valleys and 'edge' hills.	Medium-Low

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Visual amenity	The B6355 and minor road between Duns and Longformacus provide views across the Lammermuir Plateau. The Southern Upland Way is aligned on the southern edge of these uplands with views in the Twin Law area focussed to the south. The higher hills of Lammer Law and Meikle Says Law and some valleys providing through routes across the plateau are accessed by walkers and cyclists. Wind farm development is a prominent feature in elevated views from minor roads and hill tops within the plateau.	There are few more visually contained 'basins' left within this character type (and the wider Lammermuir Plateau). Turbines of this size sited on higher more defined hills and on the edges of the plateau would be prominent in views from roads, hill tops and other recreational access routes. The presence of existing wind farm development reduces visual sensitivity to a degree although cumulative issues may arise and this is considered further within the following assessment.	High-medium	There may be some limited opportunities to site turbines within remaining small pockets of more visually contained ground to minimise effects on key views. Turbines of this size sited on higher more defined hills and on the edges of the plateau would still be prominent in views from roads, hill tops and other recreational access routes. The presence of existing wind farm development reduces visual sensitivity to a degree although cumulative issues may arise and this is considered further within the following assessment.	Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Cumulative effects	<p>Operational wind farm development is particularly concentrated in the eastern part of the Lammermuir Plateau and is visible on the upland skyline seen from the settled lowland landscapes of Scottish Borders and East Lothian. The Crystal Rig development is more visually contained (being largely sited within a shallow basin) than the Aikengall I and consented Aikengall II wind farms. Spartleton Edge is important in providing visual containment and separation of wind farm developments in the eastern part of the Lammermuir Plateau.</p> <p>The operational Fallago Rig wind farm is sited within a shallow bowl contained to a degree by slightly higher ground reducing its visual effect on surrounding settled valleys and lowlands although it lies at the core of the Lammermuir Plateau thus considerably extending the influence of turbine development across these uplands. This development is visible from the Rolling Farmland (8) and in close proximity to the minor Duns Longformacus road and the SUW.</p> <p>The existing/consented Dun Law, Toddleburn and Longpark wind farms</p>	<p>This typology would fit with the size of more recent existing and consented developments. The majority of existing developments are sited within lower plateaux or shallow basins which reduces their prominence (eg. Dun Law, Crystal Rig and Fallago Rig). Developments such as Aikengall, and Longpark are more prominent, featuring tall turbines sited close to the upland edge with increased impact on adjacent smaller scale settled landscapes.</p> <p>Significant cumulative impacts would arise where turbines of this size were also sited on the edge of the uplands and seen from the Upland Valley with Farmland (24) where existing developments are prominent, thus exacerbating these effects. There are few more visually contained sites remaining within the Lammermuir Plateau although there may be some limited scope to accommodate very small extensions to existing well-sited wind farms to minimise cumulative impacts providing these avoided more sensitive edge hills and the</p>	High-medium	<p>This typology would be different in size to more recent wind farm developments although there may be some very limited locations where turbines of this size could be sited so they were not seen in close proximity with larger turbines from key viewpoints, thus minimising cumulative effects of relative scale. This typology (and particularly turbines towards the upper height band) sited on the more sensitive edges of the plateau could contribute to cumulative effects experienced within the Upland Valley with Farmland (24).</p>	High-medium

	are sited on the western edge of the Lammermuir Plateau and are particularly prominent in views from the Upper Leader Valley.	higher more defined hills which form landmarks (and in some cases visually contain wind farm development) within the plateau.			
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2.2 Summary of sensitivity

This landscape forms an expansive upland plateau with a generally simple landform of broad sweeping ridges but with occasional higher, more defined hills providing landmark features. These uplands are cut by narrow, often deeply incised valleys and smaller more interlocking hills occur at the junction with these valleys and on the outer edges of the upland plateau. Land cover is simple, dominated by grass and heather moorland and with some improved pasture and geometric coniferous plantations on outer hill slopes. It is a sparsely settled landscape although these uplands form the backdrop to more settled valleys and lowlands both within the Scottish Borders and East Lothian (where these uplands extend as the similar 'Lammermuir Plateau' character type). A number of operational and consented wind farm developments are sited within these uplands within both Scottish Borders and adjacent East Lothian.

While the generally large scale and simple landform and landscape pattern of these uplands reduces sensitivity to larger turbine typologies, cumulative effects with substantial operational and consented wind farms within these uplands is a key constraint. There would be a **High-medium** sensitivity to the large typology (turbines 80m+) and to the medium typology (turbines 50-80m).

2.2.1 *Potential cumulative issues*

Opportunities for additional extensions to the existing Crystal Rig wind farm are constrained by the need to accommodate turbines within lower ground contained by the higher landmark feature of Spartleton Edge. The existing Aikengall wind farm is more prominently sited than Crystal Rig and affects the sensitive 'scarp' of Moneynut Edge (and also impacts on sensitive smaller scale diverse foothills and valleys within neighbouring East Lothian). The consented extension, Aikengall II, will accentuate the visual prominence of this development, increasing the extent of turbines visible on the skyline in views from the Upland Valley with Farmland (24) of the Whiteadder valley and also in the east Berwickshire area.

The operational Fallago Rig wind farm is sited within a shallow bowl within the core of this upland plateau and this lessens to a degree its effect on views from the more densely settled lowlands of Scottish Borders and East Lothian. There will be views however from the Rolling Farmland (8). The Longpark, Dun Law and Toddleburn wind farms are visible on the skyline of hills which contain the Upland Valley with Farmland (24) of the Upper Leader Valley.

The following issues may arise in connection with any possible development situated in adjacent landscapes:

- Inter-visibility between turbines situated in this landscape character type and the existing wind farms of Dun Law, Toddleburn and Longpark seen simultaneously and sequentially from the A68 and other roads and settlement within the Upper Leader Valley.

- Cumulative effects of wind farm developments seen from the long distance route of the SUW.
- Inter-visibility with the small-medium turbines sited in more settled landscapes, for example the Rolling Farmland (8) and larger turbines sited on the outer edges of the Dissected Plateau Moorland (1).

2.2.2 *Constraints*

- Potential cumulative effects with the operational wind farms of Crystal Rig, Aikengall I and Black Hill and the wind farms of Fallago Rig and Aikengall II from the B6355 and minor roads and the SUW which traverses this upland plateau but also seen at greater distances from the settled lowlands of the Scottish Borders.
- Cumulative landscape and visual effects of additional development seen in conjunction with the Fallago Rig, Dun Law, Toddleburn and Longpark wind farms on the Upland Valley with Farmland (24) character type of the Upper Leader Valley (and particularly impacts experienced on views from the A68 and settlements within this valley).
- Potential cumulative landscape and visual effects of additional development seen in conjunction with the Crystal Rig, Aikengall I and II, Black Hill and Fallago Rig wind farms on the Upland Valley with Farmland (24) character type of the Upper Whiteadder.
- The narrow small scale incised valleys which cut into the upland plateau where larger turbines seen on skylines would dominate.
- The more complex landform of steep-sided hills and deeply cut valleys on the western edge of these uplands at the transition with the Upper Leader Valley (and the rich archaeology associated with this transitional area).
- Occasional more defined higher hills such as Spartleton Edge, Lammer Law and Meikle Says Law which form 'landmark' features within this upland plateau seen from both Scottish Borders and East Lothian and are also important in containing existing/consented wind farm development.
- The setting of Twin Law Cairns and views from the SUW particularly those to the south over the richly diverse lowland landscapes and distant Eildon and Cheviot Hills.

2.2.3 *Opportunities*

- Less visually prominent lower hills and shallow basins within the core of these uplands where there may be limited opportunities for small extensions to well-sited operational wind farms.

2.3 **Guidance for development**

There may be some very limited opportunities for the medium typology (50-80m) to be located in this landscape. Turbines could be sited on gentle hill slopes at the transition with the Rolling Farmland (8) where they would be unlikely to be seen in close proximity to larger turbines within existing and consented wind farm developments sited within the more extensive upland core. They should be sited to avoid intrusion on views from the SUW south across the lowlands of the Scottish Borders and on views to the landmark Twin Law cairns. Turbines should avoid more prominent sections of skyline in views from the Rolling Farmland (8). Turbines towards the lower height band of this typology

would be more likely to reduce impacts on settlement and policy landscapes sited on lower hill slopes in the northern part of the Rolling Farmland (8).

There may be very limited scope for the large typology (turbines 80m+) within this landscape as small extensions to well-sited operational wind farms set within more visually contained topography. Turbines should not be sited on or nearby prominent landmark hills. They should also be set well back from the more sensitive edges of the upland plateau to avoid significant impact on smaller scale settled and diverse valleys (and avoid intrusion on views of the more dramatic central section of the Lammermuir Plateau in views from East Lothian).

The detailed assessment considers larger typologies only. Smaller turbines <50m would have significant cumulative effects with existing and consented wind farm developments sited within the core of this landscape although there may be some limited scope to site them at the transition with the Rolling Farmland (8) and on outer hill slopes where they would not be seen in close proximity with existing and consented developments.

3 CHARACTER TYPE 8: ROLLING FARMLAND (WESTRUTHER PLATFORM)

3.1 Introduction

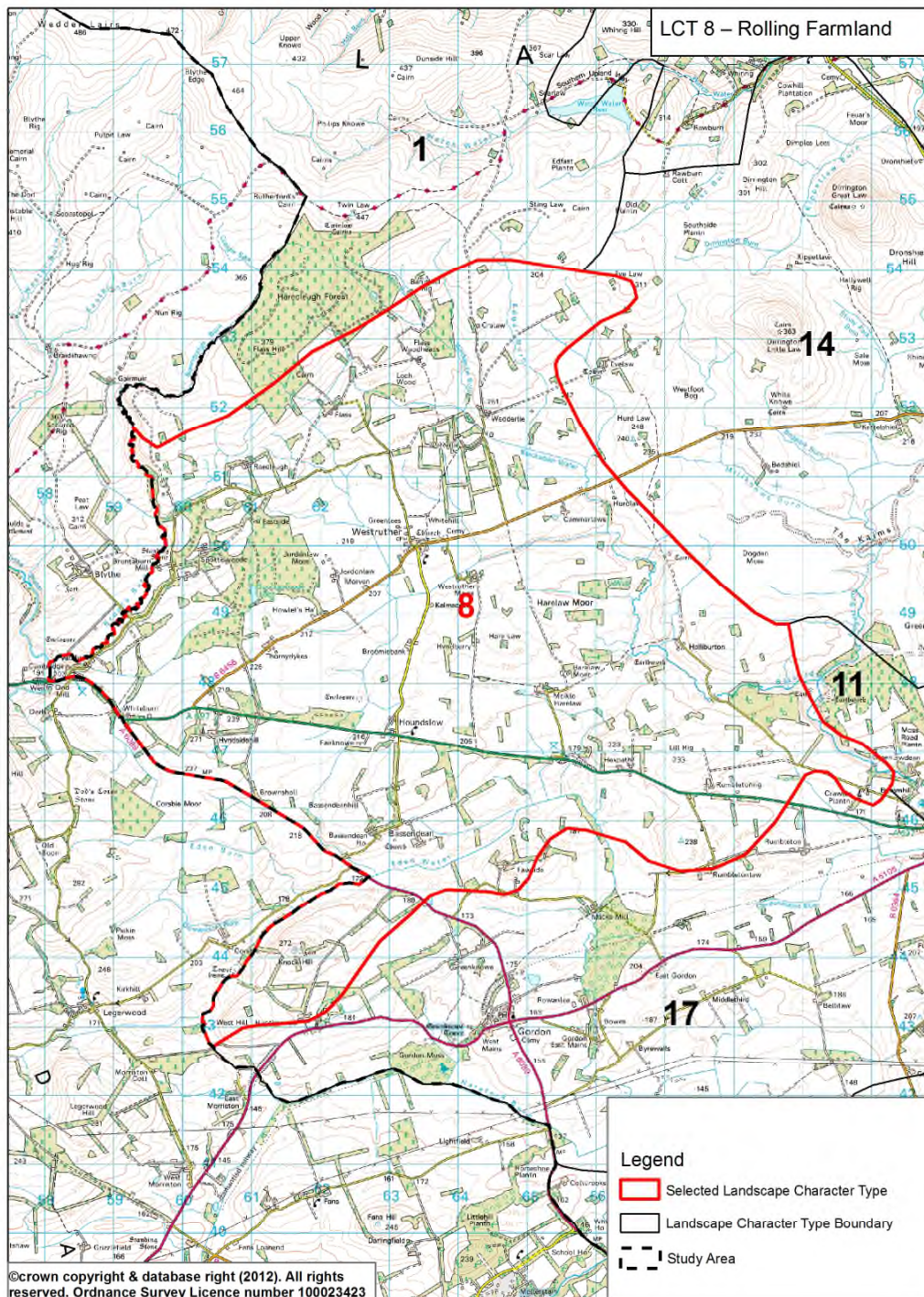
The Rolling Farmland (8) landscape character type is present in five areas within the Scottish Borders. Only one of these areas – the Westruther Platform – lies within the Berwickshire study area.

3.1.1 *Operational/consented wind farms*

No turbine development is located in this character type.

The operational Fallago Rig wind farm (48 turbines, max 125m high) lies approximately 6 km to the north of this character type within the Dissected Plateau Moorland (1).

The operational wind farms of Dun Law (61 turbines between 62.5m and 75m high), Toddleburn (12 turbines, 125m high) and Longpark (19 turbines, 100m high) are visible from the western parts of this landscape character type.



Character Type 8: Rolling Farmland (Westruther Platform) – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landscape context	This landscape is relatively large in extent. It merges gradually with the more extensive, sparsely settled uplands of the Dissected Plateau Moorland (1) to the north. The long, low skyline of the Dissected Plateau Moorland (1) is fairly even with Twin Law Cairns forming the key landmark feature in views from the Rolling Farmland (8). There is also a gradual transition with the Lowland Margin Platform (17). A sharper contrast occurs with the much more open and less managed Moorland (14) character type to the north-east. This landscape forms the backdrop to the Upland Valley with Farmland (24) (the Upper Leader Valley) to the west.	Although the more extensive and simple upland landscape of the Dissected Plateau Moorland (1) would be less sensitive to this typology in general, turbines sited in the north of the Rolling Farmland (8) would appear large in relation to the relatively low edge of the Dissected Plateau Moorland which backdrops this landscape. The more complex landform around narrow valleys and the Twin Law Cairns on the upland edge increase sensitivity in places. Turbines sited in eastern areas could detract from the landmark hills within the Moorland (14) character type. Turbines of this size would impact on the more diverse settled landscapes to the west and south if sited close to the edges of this character type and on higher ridges.	High-medium	This typology would have a reduced effect on the scale of the backdrop provided by the Dissected Plateau Moorland (1) although more complex landform around valleys and the Twin Law Cairns would remain sensitive. Turbines sited in eastern areas could detract from the landmark hills within the Moorland (14) character type. Turbines of this size could impact on the more diverse settled landscapes to the west and south if sited close to the edges of this character type and on higher ridges although there may be some limited scope to site this typology to minimise effects on these adjacent landscapes.	Medium
Scale and openness	A gently undulating expansive landform but well-settled with buildings, small woodlands and enclosed fields providing ready scale references in many areas. Shallow wetter valley bottoms and broader ridge tops are less settled and have an	Although turbines of this size could relate to the scale of more open upland fringes, valley bottoms and broad ridges, they would overwhelm the scale of adjacent settlement and smaller scale land cover pattern in this well-settled	High	Turbines of this size could relate to the scale of more open upland fringes, valley bottoms and broad ridges and may be able to be sited in some very limited areas, well away from smaller scale valleys and more settled areas to minimise	High-medium

	increased scale. The narrow valleys which occur in the Legerwood and Brunta Burn area are more contained.	landscape. Narrow valleys are an additional sensitivity.		impacts on scale.	
Landform	Generally a simple, gently undulating landform with broad low ridges and shallow flat- bottomed valleys. Landform is more complex however within occasional narrow incised valleys which are often edged by small knolls and steep slopes and more defined hills also occur and include Knock Hill and Boon Hill.	The predominantly simple gently undulating landform of this landscape reduces sensitivity although turbines of this height would detract from more complex valleys and defined hills if sited in these areas or close-by.	Medium	The predominantly simple gently undulating landform of this landscape reduces sensitivity although turbines of this height would detract from more complex valleys and defined hills if sited in these areas or close-by.	Medium
Landscape pattern	A broad, simple pattern of angular shelterbelts and extensive pasture occurs at the transition with the Dissected Plateau Moorland (1). Landscape pattern is more diverse in the Wedderlie, Spottiswoode and Hydsidehill areas where extensive wooded policies and semi-natural woodlands are present. More open farmland, patterned with small square conifer woodlands occurs to the west and wetter broad valley bottoms and ridges also have a more open character although pockets of small broadleaved woodlands, field trees and small walled and hedged pastures are a feature, notably in the Flass, Brunta Burn and Legerwood area.	The relatively simple land cover pattern of this landscape reduces sensitivity although this typology would detract from areas with a more diverse land cover of policy woodlands, field trees and smaller field enclosure pattern if sited nearby.	Medium	The relatively simple land cover pattern of this landscape reduces sensitivity although this typology would detract from areas with a more diverse land cover of policy woodlands, field trees and smaller field enclosure pattern if sited nearby.	Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Built environment	This landscape is well settled with small settlements and farms. Occasional historic buildings with designed landscapes and archaeological features are evident particularly at the transition with adjacent upland landscapes. Narrow minor roads extend through valleys and across lower hill slopes.	Turbines of this size will be more difficult to accommodate without affecting the setting of individual buildings, settlements or historic buildings/archaeological features. The character of narrow roads could change if this typology were to be transported along them.	High	There may be scope to site this typology without affecting the setting of individual buildings, settlements or archaeological features, although the height of this typology may make this difficult. The character of narrow roads could change if this typology were to be transported along them.	High-Medium
Perceptual qualities	This landscape is farmed and well-settled with no strong sense of wildness although the more contained narrow valleys and occasional areas of semi-native woodlands are secluded and natural in character.	The absence of a strong perception of wildness generally reduces sensitivity. Turbines of this size would however be more difficult to accommodate without affecting the qualities of seclusion and naturalness associated with less accessible valleys and within more extensive semi-natural woodlands.	Medium	The absence of a strong perception of wildness generally reduces sensitivity although there are likely to be increased opportunities to site this typology to minimise effects on the sense of seclusion and naturalness that can be experienced in less accessible valleys and semi-natural woodlands	Medium-low
Visual amenity	This landscape offers extensive views across this character area and the wider Borders landscape experienced from more elevated sections of roads, including A-class roads and settlement. The B6456 features open views towards the skyline of the Dissected Plateau Moorland (1) and Twin Law Cairns (where the consented Fallago Rig wind farm will be visible). Views are more contained within narrow valleys.	There would be open and sustained views of this typology from major roads with views from the B6456 towards the skyline of the adjacent Dissected Plateau Moorland (1) being a key visual sensitivity. This height of turbine is likely to be widely visible across this often open and well-settled landscape.	High	There would be open and sustained views of this typology from major roads with views from the B6456 towards the skyline of the adjacent Dissected Plateau Moorland (1) being a key visual sensitivity. Although turbines of this size would be likely to be widely visible across this open landscape there may be some very limited scope to site these smaller turbines to minimise significant visual intrusion.	High-Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Cumulative effects	<p>There is no operational or consented wind farm development located within this character type.</p> <p>The operational wind farm of Fallago Rig is visible from this character type although its location within the core of the upland area of the Dissected Plateau Moorland (1) reduces its visual impact to some degree.</p> <p>Operational wind farms sited on the uplands which contain the Upper Leader Valley are visible from the western edge and hills of this character type.</p>	<p>Cumulative effects may occur with the Fallago Rig wind farm if this typology were sited on lower hill slopes at the transition with the Dissected Plateau Moorland (1).</p> <p>Turbines of this size sited on the western fringes of this character area could also have cumulative effects with existing and consented wind farms seen from settlement and roads within the Upper Leader Valley.</p>	Medium	<p>Cumulative effects may occur if this typology were sited on lower hill slopes at the transition with the Dissected Plateau Moorland (1).</p> <p>Turbines of this size sited on the western fringes of this character area could have cumulative effects with existing and consented wind farms seen from settlement and roads within the Upper Leader Valley.</p>	Medium

Character Type 8: Rolling Farmland (Westruther Platform) – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	This landscape is relatively large in extent. It merges gradually with the more extensive, sparsely settled uplands of the Dissected Plateau Moorland (1) to the north. The long, low skyline of the Dissected Plateau Moorland (1) is fairly even with Twin Law Cairns forming the key landmark feature in views from the Rolling Farmland (8). There is also a gradual transition with the Lowland Margin Platform (17). A sharper contrast occurs with the much more open and less managed Moorland (14) character type to the north-east. This landscape forms the backdrop to the Upland Valley with Farmland (24) (the Upper Leader Valley) to the west.	This typology would have a reduced effect on the scale of the backdrop provided by the Dissected Plateau Moorland (1) although more complex landform around valleys and the Twin Law Cairns would remain sensitive. Turbines sited in eastern areas could detract from the landmark hills within the Moorland (14) character type. Turbines of this size could impact on the more diverse settled landscapes to the west and south if sited close to the edges of this character type and on higher ridges although there will be greater scope to site this typology to minimise effects on these adjacent landscapes.	Medium-low	This typology would have less of an effect on surrounding landscapes as there is greater opportunity to site these smaller turbines on lower hill slopes avoiding intrusion on adjacent landscapes.	Low
Scale and openness	A gently undulating expansive landform but well-settled with buildings, small woodlands and enclosed fields providing ready scale references in many areas. Shallow wetter valley bottoms and broader ridge tops are less settled and have an increased scale. The narrow valleys which occur in the Legerwood and Brunta Burn area are more contained.	Turbines of this size would still appear large in relation to buildings and would dominate narrower valleys although there is scope to accommodate this typology in areas of broader landform and where settlement is less dense.	Medium	There is increased scope to site these smaller turbines to avoid conflicts of scale.	Medium-low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landform	Generally a simple, gently undulating landform with broad low ridges and shallow flat- bottomed valleys. Landform is more complex however within occasional narrow incised valleys which are often edged by small knolls and steep slopes and more defined hills also occur and include Knock Hill and Boon Hill.	The predominantly simple gently undulating landform of this landscape reduces sensitivity although turbines of this height would detract from more complex valleys and defined hills if sited in these areas or close-by.	Medium	There is greater scope to site the smaller turbines of this typology to avoid effects on more complex landform features. More defined hills and the tops of small knolls remain sensitive to development.	Medium-low
Landscape pattern	A broad, simple pattern of angular shelterbelts and extensive pasture occurs at the transition with the Dissected Plateau Moorland (1). Landscape pattern is more diverse in the Wedderlie, Spottiswoode and Hydsidehill areas where extensive wooded policies and semi-natural woodlands are present. More open farmland, patterned with small square conifer woodlands occurs to the west and wetter broad valley bottoms and ridges also have a more open character although pockets of small broadleaved woodlands, field trees and small walled and hedged pastures are a feature, notably in the Flass, Brunta Burn and Legerwood area.	The relatively simple land cover pattern of this landscape reduces sensitivity although this typology would detract from areas with a more diverse land cover of policy woodlands, field trees and smaller field enclosure pattern if sited nearby.	Medium	This typology (and particularly multiple single or small groups of turbines of this size) could be more easily accommodated without detracting from more pronounced landscape pattern.	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Built environment	This landscape is well settled with small settlements and dispersed farms. Occasional historic buildings with designed landscapes and archaeological features evident particularly at the transition with adjacent upland landscapes. Narrow minor roads extend through valleys and across lower hill slopes.	There will be increased scope to site this typology without affecting the setting of individual buildings or settlements and other built features of note although turbines of this size would need to be sited away from buildings.	Medium	These smaller turbines are more likely to be able to be partially screened by landform and vegetation and would have a less dominant scale thus limiting impacts on setting.	Low
Perceptual qualities	This landscape is farmed and well-settled with no strong sense of wildness although the more contained narrow valleys and occasional areas of semi-native woodlands are secluded and natural in character.	The absence of a strong perception of wildness generally reduces sensitivity and there are likely to be increased opportunities to site this typology to minimise effects on the sense of seclusion and naturalness that can be experienced in less accessible valleys and more extensive semi-natural woodlands.	Medium-low	These smaller turbines would be likely to have minimal effects on more secluded and natural parts of this landscape.	Low
Visual amenity	This landscape offers extensive views across this character area and the wider Borders landscape experienced from more elevated sections of roads, including A-class roads and settlement. The B6456 features open views towards the skyline of the Dissected Plateau Moorland (1) and Twin Law Cairns (where the consented Fallago Rig wind farm will be visible). Views are more contained within narrow valleys.	Although turbines of this size would be likely to be widely visible across this open landscape there may be some increased scope to site turbines of this height on lower hill slopes to minimise visual intrusion.	High-medium	There are greater opportunities to site these smaller turbines to minimise effects on views and utilise containment by low ridges and woodland.	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Cumulative effects	<p>There is no existing or consented wind farm development located within this character area.</p> <p>The operational wind farm of Fallago Rig is visible from this character type although its location within the core of the upland area of the Dissected Plateau Moorland (1) will be likely to reduce its visual impact.</p> <p>Operational wind farms sited on the uplands which contain the Upper Leader Valley are visible from the western edge and hills of this character area.</p>	<p>Cumulative effects may occur if this typology were sited on lower hill slopes at the transition with the Dissected Plateau Moorland (1) and on the western fringes of this character area although turbines towards the lower height band would be appreciably different in scale to operational developments thus minimising effects.</p>	Medium-low	<p>The smaller turbines of this typology would be unlikely to incur significant cumulative impacts with operational wind farm developments sited in adjacent landscape character types.</p>	Low

3.2 Summary of sensitivity

The Westruther Platform area of the Rolling Farmland (8) character type forms a broad and open upland fringe landscape. Landform is generally gently undulating with broad ridges and wide shallow valleys although Knock and Boon Hills form more defined landmark hills and a more complex knolly topography is associated with narrow valleys such as Brunta Burn and the Legerwood area. This landscape is well-settled with small settlements and a regular pattern of farms. Shelterbelts and woodlands provide strong enclosure in some areas and semi-natural woodlands and policy features are particularly distinctive in the Spottiswoode, Hynsidehill and Wedderlie areas. More open areas occur on ridges, where wetter pastures fill open valley bottoms and on hill slopes at the transition with the adjacent uplands of the Dissected Plateau Moorland (1). There is no operational wind farm development sited in this landscape although developments in adjacent landscape character types are visible.

The well-settled character of this landscape and its openness increases the sensitivity of visual amenity in relation to larger typologies. There would be a **High** sensitivity to the large typology (turbines 80m+), a **High-medium** sensitivity to the medium typology (turbines 50-80m), a **Medium** sensitivity to the small-medium typology and a **Medium-low** sensitivity to the small typology (35-50m).

3.2.1 *Potential cumulative issues*

There is no operational wind farm development sited in this landscape. Operational wind farms sited in other character types are however visible from parts of this landscape. Key potential cumulative effects that may arise within the Rolling Farmland (8) are likely to include:

- Inter-visibility between any taller turbines situated in this landscape character type and the operational wind farms of Dun Law, Toddleburn, and Longpark sited within the uplands containing the Upper Leader Valley and seen from settlement and major roads.
- Taller turbines sited on lower hill slopes at the transition with the Dissected Plateau Moorland (1) and therefore seen in close proximity with the operational Fallago Rig wind farm.
- Inter-visibility and sequential views experienced from the SUW which is aligned through the Dissected Plateau Moorland (1).
- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create visual clutter
- High inter-visibility of several turbines from elevated and long views across this landscape from roads and settlement.

3.2.2 *Constraints*

- Narrow, small scale incised valleys such as Brunta Burn and the Legerwood area which would be dominated by larger typologies.

- Occasional more defined 'landmark' hills such as Boon Hill and Knock Hill and more complex knolly landform and steep slopes often associated with smaller valleys.
- The well-settled nature of this landscape where buildings provide ready scale references increasing sensitivity to larger typologies.
- Extensive policy woodlands within the Wedderlie and Spottiswoode areas and the more diverse land cover pattern of field trees and woodlands found in areas such as Legerwood and Hydsidehill.
- The setting provided by the backdrop of the adjacent Dissected Plateau Moorland (1) to the Wedderlie policies (seen in designed vistas between tree belts) and to large houses and farms on lower hills slopes, for example in the Raecleugh area.
- The openness of this landscape which increases visibility particularly of larger typologies.
- The 'landmark' hills within the adjacent Moorland (14) character type where large turbines sited in the eastern part of the Rolling Farmland (8) could detract from their focus.
- Potential cumulative effects with the operational wind farm of Fallago Rig in the Dissected Plateau Moorland (1) and the existing and consented developments of Longpark, Toddleburn and Dun Law seen from the Upper Leader Valley.

3.2.3 *Opportunities*

- Less settled and more open broad ridges and basins and the more extensively scaled hill slopes at the transition with the Dissected Plateau Moorland (1).

3.3 **Guidance for development**

There are some opportunities for the medium typology (35-50m) to be located in this landscape. Turbines should only be sited on gentle hill slopes at the transition with the Dissected Plateau Moorland (1) and on broader less settled and more open ridges. They should not be sited on, or close to, the more defined hills of Boon Hill and Knock Hill or the smaller scale incised and often more complex landform of the valleys of Brunta Burn and Legerwood and the Blackadder Burn. They should also be sited to avoid intrusion on policy woodlands and designed landscapes and more diverse areas featuring broadleaved woodlands, field trees and small walled pastures.

There are greater opportunities to accommodate multiple single and small groups of the small typology (turbines 20-35m) within this landscape to minimise effects on landscape scale and on views. Turbines should be sited away from more complex landform, prominent hill tops and more diverse areas of woodland and strong field enclosure pattern.

Detailed siting and design of smaller typologies should accord with the guidance set out in Section 22 of the Main Report.

No scope for the large and medium typologies (turbines 50m+) has been identified in this assessment for this landscape character type.

4 CHARACTER TYPE 9: PLATFORM FARMLAND

4.1 Introduction

The Platform Farmland (9) landscape character type is only present in one area within the Scottish Borders.

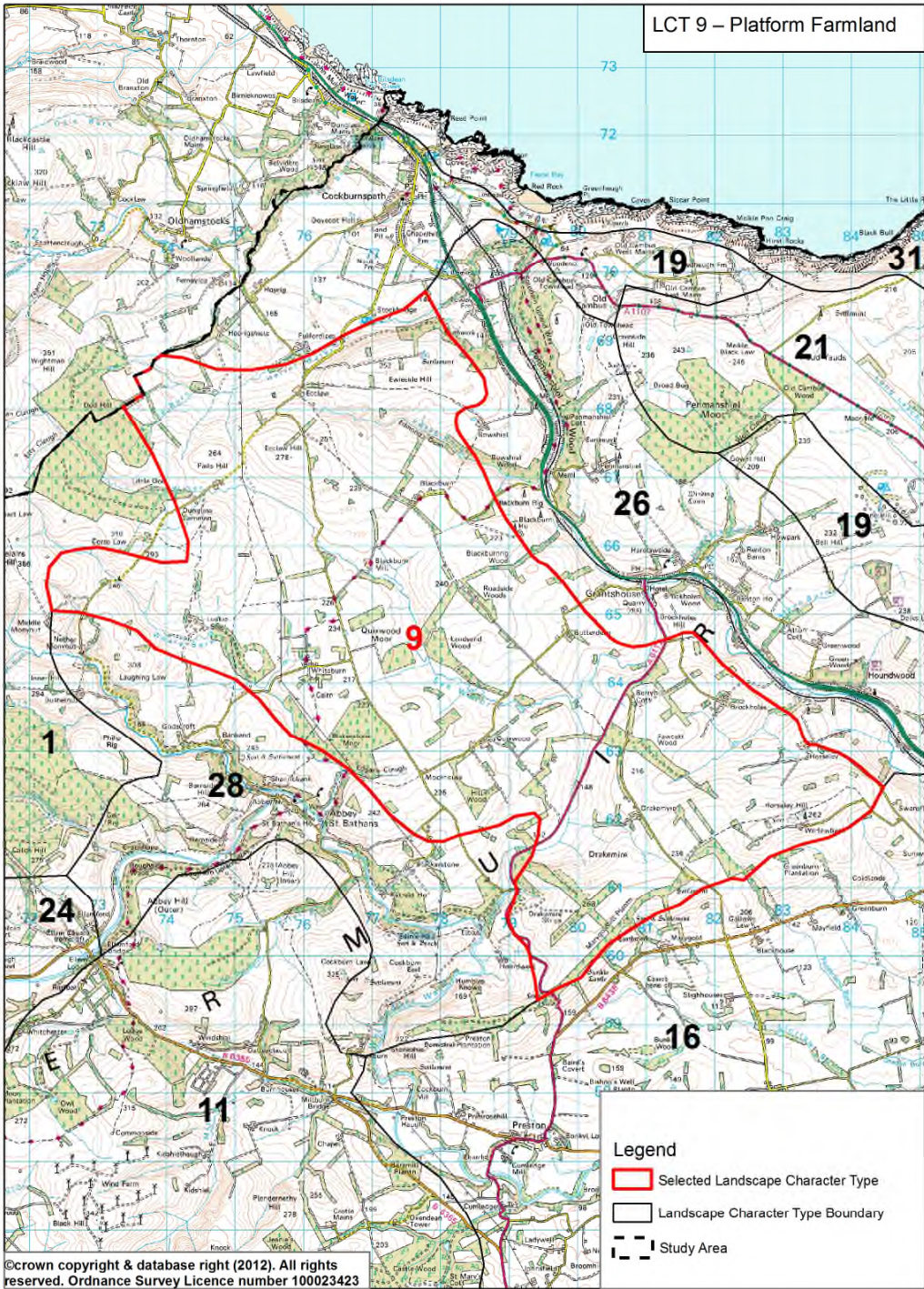
4.1.1 *Operational/consented wind farm development*

The operational Brockholes (3 turbines, 84m high) and the Weirburn developments (2 turbines, 54m high to blade tip) are located in this landscape character type. The consented Quixwood wind farm (13 turbines, 100-115m high) also lies at the core of this landscape.

The operational Drone Hill (22 turbines, 76m high) and Black Hill (22 turbines, 78m high), located in the 'Coastal Moorland' (21) and 'Grassland with Hills' (11) landscape character types respectively, are clearly visible from this landscape. The Aikengall I wind farm (16 turbines, 125m height), which lies within East Lothian, is also visible from this landscape and the consented extension to this development, Aikengall II (19 turbines, 145m high), will significantly increase the visibility of turbines on the uplands which form the north-western backdrop to this character type.

The consented Penmanshiel wind farm (14 turbines, 100 m high), which is located on a ridge on the western edge of the 'Coastal Moorland' (21) above the Eye Water valley, will be prominent across much of the open and elevated landscape of the Platform Farmland (9). The consented developments at Kinegar Quarry (2 turbines, 110m high) and Hoprigshiels (3 turbines, 115m high), located to the north in the 'Coastal Farmland – Cockburnspath' (19a) landscape character type, will also be visible from parts of this landscape.

LCT 9 – Platform Farmland



Character Type 9: Platform Farmland – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape context	<p>The Platform Farmland (9) is largely surrounded by lower lying landscape types which are small in scale. These are two valleys, Pastoral Upland Fringe Valley (26) and Wooded Upland Fringe Valley (28) and the low-lying plains associated with Coastal farmland – Cockburnspath (19a) and the Rolling Lowland Margin (16). The Platform Farmland (9), forms key containing ridges for these latter two types. This type also lies adjacent to the eastern end of the Dissected Plateau Moorland (1).</p> <p>The Platform Farmland (9) is of medium extent and slightly linear. The outer edges in particular are inter-visible with adjacent landscape types, although it is not widely visible from the lower valleys. This type is also visible more widely from more distant types because of its elevation.</p> <p>The broad pattern of farmland and woodland merges with the simpler land use pattern on the upper slopes of the neighbouring valleys as well as the adjacent Rolling Lowland Margin (16).</p>	<p>The height of this typology means that it would be readily inter-visible with surrounding landscapes and would impact upon adjacent landscape character types.</p> <p>The medium extent of this type, and the sensitivity of the edges which overlook adjacent lower and small scale landscape types, increases the potential likelihood of impacts on adjacent types.</p>	High-medium	<p>The height of this typology means that it would be readily inter-visible with surrounding landscapes and would impact upon adjacent landscape character types.</p> <p>The medium extent of this type, and the sensitivity of the edges which overlook adjacent lower and small scale landscape types, increases the potential likelihood of impacts on adjacent types. The smaller size of this typology may provide some increased scope to site turbines away from sensitive edges to minimise effects on adjacent smaller scale landscapes.</p>	Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Scale and openness	<p>The relief overall ranges from about 200m to 280m, although the elevation drops much lower in the valley occupied by the A6112. The subtlety of this variation in elevation creates a landscape of low relief.</p> <p>Long, gently defined ridges and shallow valleys create an undulating plateau landform of relatively large scale, but the scale is reduced by containment within the shallow valleys and by a landscape pattern of fields and enclosure created by numerous woodlands and shelterbelts.</p> <p>Scattered farms and other buildings, as well as the constant presence of trees provide consistent reference points against which the size of turbines can be judged.</p>	<p>The overall low relief and the presence of gently contained valleys, the enclosure created by land use pattern and the presence of features which can form scale reference points, limits the scope to accommodate this typology without significant impacts on landscape scale.</p>	High	<p>The overall low relief and the presence of gently contained valleys, the enclosure created by land use pattern and the presence of features which can form scale reference points, limits the scope to accommodate this typology without impacting on landscape scale.</p>	High-Medium
Landform	<p>Smooth, long, gently graded undulations with only occasional steeper slopes characterise this rolling landscape. Hills are broad and gently defined.</p> <p>The steeper slopes along the edges of this type form key ridges and more prominent containing slopes.</p>	<p>The simple, gentle gradients, long slopes and broad undulations create scope for this typology. The more prominent and better defined ridges along the edge of this type are more sensitive to development.</p>	Medium	<p>The simple, gentle gradients, long slopes and broad undulations create scope for this typology. The more prominent and better defined ridges along the edge of this type are more sensitive to development.</p>	Medium-Low

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape pattern	A farmed landscape, with grassland occasional arable fields, separated by dykes and fences. The pattern of enclosure across most of this landscape is created by shelterbelts and small woodlands, which are numerous and often merge visually to create the impression of a relatively well wooded landscape.	The enclosure and consistent presence of field pattern and woodland across this landscape creates some diversity, although it is limited by the similarities in type of woodland and lack of field trees or policy woodland.	Medium-low	The enclosure and consistent presence of field pattern and woodland across this landscape creates some diversity, although it is limited by the similarities in type of woodland and lack of field trees or policy woodland.	Medium-Low
Built environment	The settlement is relatively evenly distributed, with farms dispersed across the upper slopes of the ridges and sometimes along the valley floors. Minor roads cross the landscape, while the A6112 extends through the southern part. Elsewhere, settlement is linked by minor roads and farm tracks. There is a large power line which extends through the western side of this landscape and the occasional telecommunication mast. There are also consents for two single turbines to the south of this type. A line of forts and settlements along southern ridge from Horseley Hill to the A6112 mark the ridge top between this and the adjacent Rolling Lowland Margin (16).	There may be scope to site this typology without disrupting the setting of individual buildings or settlements, although the height of this typology will make this very difficult. Existing narrow roads may require upgrading, creating a further change in character, if this size of turbine is to be transported within this area. The integrity of the setting of the line of archaeological sites on the southern ridge line is an additional sensitivity.	High-Medium	There may be scope to site this typology without disrupting the setting of individual buildings or settlements, although the height of this typology will make this difficult. Smaller turbines in this typology would be easier to accommodate without disrupting the setting of individual settlements and small groups of buildings. Existing narrow roads may require upgrading, creating a further change in character, if this size of turbine is to be transported within this area. The integrity of the setting of the line of archaeological sites on the southern ridge line is an additional sensitivity.	Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Perceptual qualities	This landscape is farmed and well ordered, but has a strong integrity of character created by the systematic recurrence of features across a wide area.	The presence of settlement, roads and farmland limits the sense of wildness thus reducing sensitivity in relation to key perceptual qualities.	Medium-Low	The presence of settlement, roads and farmland limits the sense of wildness thus reducing sensitivity in relation to key perceptual qualities.	Medium-Low
Visual amenity	The elevation of this type means that it is widely visible, and from key viewpoints within this landscape – such as the A6112 – views are often extensive and panoramic, extending over nearly the whole character area and often revealing the Platform Farmland (9) in context with other landscape types. There are similar views from the Southern Upland Way which crosses this landscape type. Some of the settlement is located on elevated sites overlooking the valleys and adjacent low-lying landscape types. The skylines of the peripheral ridgelines are especially visually sensitive.	The elevation and sustained views from public roads of this character type increase its visual sensitivity. The key visual sensitivities are the peripheral skyline ridges which provide visual containment and backdrops in views from lower lying surrounding landscapes. This height of turbine is likely to be readily and widely visible, possibly even from within more enclosed landscapes, depending on location.	High	The elevation and sustained views from public roads of this character type increase its visual sensitivity. The key visual sensitivities are the peripheral skyline ridges which provide visual containment and backdrops in views from lower lying surrounding landscapes. This height of turbine is likely to be readily and widely visible, possibly even from within more enclosed landscapes, depending on location. This typology is smaller in height and will be less widely visible than large typology turbines and the smaller turbines in this typology range would have a much reduced visual impact.	High-Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Cumulative effects	Operational turbines at Brockholes and Weirburn and the consented Quixwood wind farm are located within this LCT. Although the large turbines (100/115m high) of the Quixwood development will dominate the scale of this settled landscape, the location of this wind farm at the core of this landscape reduces effects on adjacent landscapes to some degree. Drone Hill, Black Hill and Aikengall wind farms are all located in nearby character types to the east, south-west and north-west respectively from this landscape character type and are clearly seen from elevated roads and settlement. The consented Aikengall II development will increase intrusion on prominent skylines to the north and create a cluttered image with the Quixwood wind farm in views in views from the A6112. The consented Penmanshiel wind farm will appear contiguous with the Drone Hill wind farm across much of this landscape but will be much more prominent due to its closer proximity. The Hoprigshiels turbines in the Coastal Farmland (19a) are also likely to be visible from the northern part of this character type.	Significant cumulative impacts would be likely to arise between any additional turbines of this size sited in this landscape and operational/consented turbines/wind farms. These impacts would include effects on key views from the A1, A6112, Southern Upland Way and from settlements such as Grantshouse as well as from minor elevated roads and settlement within this character type. The extent of operational and consented wind farm development visible on surrounding skylines and located in relatively close proximity to the consented Quixwood wind farm severely limits scope for additional development of this typology to be accommodated in this landscape character type without significant detrimental landscape and visual effects arising.	High	Significant cumulative impacts would be likely to arise between any additional turbines of this size sited in this landscape and operational/consented turbines/wind farms. These impacts would include effects on key views from the A1, A6112, SUW and from settlements such as Grantshouse as well as from minor elevated roads and settlement within this character type. The extent of operational and consented wind farm development visible on surrounding skylines and located in relatively close proximity to the consented Quixwood wind farm severely limits scope for additional development of this typology to be accommodated in this landscape character type without significant detrimental landscape and visual effects arising.	High

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Cumulative Effects (cont)		<p>Consented large turbines in the adjacent 'Coastal Farmland – Cockburnspath' (19a) character type, seen together with the Aikengall II wind farm, will significantly constrain scope for any additional turbines of this size, especially if located on the northern margins of this character type. The combination of the Black Law, Quixwood, Brockholes and Penmanshiel wind farms severely limits the successful accommodation of any further turbine development seen from the A6112 due to the significant simultaneous and sequential effects that would occur on views.</p>		<p>Consented large turbines in the adjacent 'Coastal Farmland – Cockburnspath' character type, seen together with the Aikengall II wind farm, will also significantly constrain scope for any additional turbines of this size, especially if located on the northern margins of this character type. The combination of the Black Law, Quixwood, Brockholes and Penmanshiel wind farms severely limits the successful accommodation of any further turbine development seen from the A6112 due to the significant simultaneous and sequential effects that would occur on views.</p>	

Character Type 9: Platform Farmland – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	<p>The Platform Farmland (9) is largely surrounded by lower lying landscape types which are small in scale. These are two valleys, Pastoral Upland Fringe Valley (26) and Wooded Upland Fringe Valley (28) and the low-lying plains associated with Coastal farmland – Cockburnspath (19a) and the Rolling Lowland Margin (16). The Platform Farmland (9), forms key containing ridges for these latter two types. This type also lies adjacent to the eastern end of the Dissected Plateau Moorland (1).</p> <p>The Platform Farmland (9) is of medium extent and slightly linear. The outer edges in particular are inter-visible with adjacent landscape types, although is not widely visible from the lower valleys. This type is also visible more widely from more distant types because of its elevation.</p> <p>The pattern of farmland and woodland merges with the land use pattern on the upper slopes of the neighbouring valleys as well as the adjacent Rolling Lowland Margin (16).</p>	<p>This typology could be readily inter-visible with the surrounding landscape types, especially if located on the elevated ridgelines at the periphery of the Platform Farmland (9).</p> <p>It would have less impact if located in the interior of this type.</p>	Medium	<p>This typology could be readily inter-visible with the surrounding landscape types, especially if located on the elevated ridgelines at the periphery of the Platform Farmland (9).</p> <p>It would have less impact if located in the interior of this type.</p> <p>This relatively small size of this typology would nevertheless limit the extent of any impact on adjacent character types.</p>	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Scale and openness	<p>The relief overall ranges from about 200m to 280m, although the elevation drops much lower in the valley occupied by the A6112. The subtlety of this variation in elevation creates a landscape of low relief.</p> <p>Long, gently defined ridges and shallow valleys create an undulating plateau landform of relatively large scale, but the scale is reduced by containment within the shallow valleys and by a landscape pattern of fields and enclosure created by numerous woodlands and shelterbelts.</p> <p>Scattered farms and other buildings, as well as the constant presence of trees provide consistent reference points against which the size of turbines can be judged.</p>	<p>The broad gentle slopes where a number of open fields come together to create larger scaled open spaces offer scope for accommodating this typology, especially where these link onto adjacent larger scale landscapes. The valleys would be sensitive to this height of typology, especially as relief is so shallow.</p> <p>It would be difficult to accommodate this size of typology close to buildings and small woodlands where it would appear much larger than these features and diminish their scale.</p>	Medium	<p>The broad gentle slopes where a number of open fields come together to create larger scaled open spaces offer scope for accommodating this typology, especially where these link onto adjacent larger scale landscapes. It would be difficult to accommodate this size of typology close to small buildings without it appearing larger than these features and possibly diminishing their scale.</p>	Medium-Low
Landform	<p>Smooth, long, gently graded undulations with only occasional steeper slopes characterise this rolling landscape. Hills are broad and gently defined.</p> <p>The steeper slopes along the edges of this type form key ridges and more prominent containing slopes.</p>	<p>The broad, gentle slopes are likely to offer scope for siting this typology.</p> <p>The more prominent and better defined ridges along the edge of this type are more sensitive to development.</p>	Low	<p>The broad gentle slopes are likely to offer scope for siting this typology.</p> <p>The crest of containing ridges which extend around the periphery of this type are more sensitive to even this height of typology.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape pattern	A farmed landscape, with grassland occasional arable fields, separated by dykes and fences. The pattern of enclosure across most of this landscape is created by shelterbelts and small woodlands, which are numerous and often merge visually to create the impression of a relatively well wooded landscape.	More open and simple landcover, provides scope for this typology.	Low	More open and simple landcover, provides scope for this typology.	Low
Built environment	The settlement is relatively evenly distributed, with farms dispersed across the upper slopes of the ridges and sometimes along the valley floors. Minor roads cross the landscape, while the A6112 extends through the southern part. Elsewhere, settlement is linked by minor roads and farm tracks. There is a large power line which extends through the western side of this landscape and the occasional telecommunication mast. There are also consents for two single turbines to the south of this type. A line of forts and settlements along southern ridge from Horseley Hill to the A6112 mark the ridge top between this and the adjacent Rolling Lowland Margin (16).	Settlement is sparse in the upland areas of this landscape type, therefore there is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements. The integrity of the setting of the line of archaeological sites on the southern ridge line is an additional sensitivity.	Medium	Settlement is dispersed, therefore there is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements, and it could be located where it can be broadly associated with existing pattern of built development. The integrity of the setting of the line of archaeological sites on the southern ridge line is an additional sensitivity. This typology may be more easily located where it can be associated with larger farm buildings without compromising the setting of individual farms and other more dispersed settlement.	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Perceptual qualities	This landscape is farmed and well ordered, but has a strong integrity of character created by the systematic recurrence of features across a wide area.	The presence of settlement, roads and farmland limits the sense of wildness thus reducing sensitivity in relation to key perceptual qualities.	Medium-Low	The presence of settlement, roads and farmland limits the sense of wildness thus reducing sensitivity in relation to key perceptual qualities.	Medium-Low
Visual amenity	The elevation of this type means that it is widely visible, and from key viewpoints within this landscape – such as the A6112 – views are often extensive and panoramic, extending over nearly the whole character area and often revealing the Platform Farmland (9) in context with other landscape types. There are similar views from the Southern Upland Way which crosses this landscape type. Some of the settlement is located on elevated sites overlooking the valleys and adjacent low-lying landscape types. The skylines of the peripheral ridgelines are especially visually sensitive.	The elevation and sustained views from public roads of this character type increase its visual sensitivity. The key visual sensitivities are the peripheral skyline ridges which form visual foci in views within the area and more widely, especially as they form visual containment and backdrops in views from lower lying surrounding landscapes. Nevertheless, this typology is smaller in height and will be less widely visible than large typology turbines. The smaller turbines in this typology range would have less visual impact.	Medium	The elevation and sustained views from public roads of this character type increase its visual sensitivity. The key visual sensitivities are the peripheral skyline ridges which form visual foci in views within the area and more widely, especially as they form visual containment and backdrops in views from lower lying surrounding landscapes. Nevertheless, this typology is smaller in height and will be less widely visible than taller turbines. The smaller turbines in this typology range would have less visual impact.	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Cumulative effects	<p>Operational turbines at Brockholes and Weirburn and the consented Quixwood wind farm are located within this LCT. Although the large turbines (100/115m high) of the Quixwood development will dominate the scale of this settled landscape, the location of this wind farm at the core of this landscape reduces effects on adjacent landscapes to some degree.</p> <p>Drone Hill, Black Hill and Aikengall wind farms are all located in nearby character types to the east, south-west and north-west respectively from this landscape character type and are clearly seen from elevated roads and settlement. The consented Aikengall II development will increase intrusion on prominent skylines to the north and create a cluttered image with the Quixwood wind farm in views in views from the A6112. The consented Penmanshiel wind farm will appear contiguous with the Drone Hill wind farm across much of this landscape but will be much more prominent due to its closer proximity. The Hoprigshiels turbines in the Coastal Farmland (19a) are also likely to be visible from the northern part of this character type.</p>	<p>The wide range of operational and consented turbine sizes and the relatively limited extent of this landscape character type severely limits scope for additional turbines to be accommodated. This is due to the visual interaction of differently sized turbines seen in key views (both in this and adjacent landscapes) which would produce a cluttered and confusing appearance.</p>	High	<p>There may be some limited scope for this smaller typology to be located in this landscape while minimising cumulative effects with operational and consented wind farms/turbine clusters which comprise much larger turbines.</p>	High-medium

4.2 Summary of sensitivity

The Platform Farmland (9) landscape character type forms an undulating, elevated plateau raised above lower lying, valley type landscapes, including the Pastoral Upland Fringe Valley (26) to the east and the Wooded Upland Fringe Valley (28) to the west. This type also forms the prominent containing ridgeline to Rolling Coastal Margin (16) which lies to the south and to the Coastal Farmland – Cockburnspath (19a) to the north. It also marches with a small section of the Dissected Plateau Moorland (1).

The location of this type means that the outer edges form the backdrop and containing landform to the adjacent lowland landscape types and the remaining central core of land is relatively limited in extent.

The landform is gently undulating with long ridges and shallow valleys with occasional steeper slopes containing more pronounced valleys, especially in the south of this type. To the north and south, this type forms important and visually prominent containing ridges to lower lying farmland. Although the undulating plateau is elevated, relief is low, and the scale of the landform is reduced in the valleys and across the plateau as a whole by the vegetation pattern of regular fields separated by numerous shelterbelts and small woodlands. Larger fields extend across the upper slopes and smaller fields lie within the valleys.

Scattered farms and other buildings, including small groups of houses, are located across this type. They are sited either within the valleys or along the upper slopes of the ridges, elevated to look over the valleys or wider landscape. Roads are often elevated, revealing panoramic and sustained views, sometimes across the entire extent of the landscape type.

The long, simple broad scale of the ridges and smooth, gently graded topography offer scope for development. The landscape scale is however reduced by the containment within the valleys, the enclosure of the landscape created by the woodland pattern and the consistent presence of small scale features, including small groups of houses and farms, increasing sensitivity to larger scale turbines. In addition, the edges of this type are sensitive to development which 'perches above', and dominates, adjacent small scale valleys and low-lying farmland. The area is visible from a distance and includes skylines which are visually prominent from neighbouring landscapes. It is also widely visible across the landscape type, as there are elevated viewpoints from public roads, including the A6112. The limited extent of this landscape character type and the large number of operational and consented wind farm/turbine developments with turbines > 80m high, located in this and adjoining landscapes, **severely limits** scope for additional larger turbines to be accommodated.

This landscape character type therefore has a **High** sensitivity to the large (80m +) and medium (50m – 80m) typologies, a **High-medium** sensitivity to the small-medium (35m – 50m) typology and a **Medium** sensitivity to the small (20m – 35m) typology.

4.2.1 *Potential cumulative issues*

The Platform Farmland (9) landscape character type is fairly limited in extent. A substantial number of operational and consented wind farms and small groups of larger turbines lie within this character type and in the area immediately surrounding this landscape. Of these developments, the Brockholes, Quixwood, Drone Hill, Black Hill, Aikengall I and II, Hoprigshiels, Kinegar Quarry, Penmanshiel and Weirburn wind farms have most potential to incur significant cumulative landscape and visual effects with any additional development. There is little physical separation between these developments when seen in key views and significant cumulative effects are likely to occur in views from sections of the A1 and the A6112, minor roads and settlement within the Platform Farmland (9) and Coastal Farmland (Cockburnspath) (19a) and from Cockburns Law and Edins Hill Fort and Broch.

The consented (but not yet constructed) Quixwood wind farm will dominate the scale of the Platform Farmland (9) although the position of this development at the core of this landscape lessens its impact on surrounding sensitive valleys and also reduces cumulative effects by maximising the spacing with operational wind farms such as Drone Hill and Aikengall in nearby landscape character types. The consented Penmanshiel wind farm will significantly reduce this spacing and will incur significant cumulative impacts where it is seen with other operational and consented wind farms on the skyline in views from the Grantshouse area within the Eye Water valley and from the Cockburnspath area and the coast to the north, often creating a confusing and cluttered image². Any additional development of wind farms/large wind turbines on the outer edges of the Platform Farmland (9) and within other landscape character types, such as the Coastal Moorland (21), the Coastal Farmland (19a) or Dissected Plateau Moorland (1) will further exacerbate these effects.

Key cumulative issues that may arise within the Platform Farmland (9) type are likely to include:

- Cumulative visual impacts from the A1 and A6112 where operational and consented wind farms/turbines are seen simultaneously and sequentially and where additional developments sited on the edges of this, and other close-by landscape character types, would be likely to add to these effects.
- Cumulative visual impacts and clutter associated with inter-visibility between small numbers of smaller turbines and larger wind farms in this and nearby landscape character types.
- Impacts on panoramic, elevated or long views from popular walks such as those to Cockburn Law or Edins Hall Fort and Broch where additional wind farm/turbine development could fill gaps between operational and consented developments and present a consolidated 'band' of turbines which would dominate views.

² This appraisal has been informed by the visualisations contained in '*Updated Cumulative Assessment at January 2013 – Quixwood Wind Farm*' prepared by Open for Banks Group.

- The potential visual confusion which would be likely to occur if any additional large turbines were sited on the northern edge of the Platform Farmland (9) and seen in conjunction with the consented Hoprigshiels and Weirburn developments sited at lower elevations in the 'Coastal Farmland – Cockburnspath (19a) in views from settlements and roads. The consented Aikengall II development, which will be prominent on the skyline formed by the eastern Lammermuir Hills, would contribute to cumulative effects in this area.
- Additional large turbines sited on the eastern edges of this landscape character type which would break the skyline of ridges which contain the Eye Water valley. These would exacerbate significant cumulative effects already associated with the operational and consented developments of Drone Hill, Brockholes, Penmanshiel and Quixwood experienced from the A1 and settlement within this valley.

4.2.2 Constraints

- The relatively low relief of the Platform Farmland (9) which could easily be overwhelmed by very tall structures
- The more contained valleys where the enclosure reduces scale, this sometimes reinforced by even steeper side slopes
- The prominent ridgelines which provide visual containment and backdrop to the neighbouring Rolling Lowland Margin (16), the Pastoral Upland Fringe Valley (26) and Coastal Farmland – Cockburnspath (19a) character types
- The pattern of numerous small woodlands and shelterbelts across this landscape, which increases enclosure and reduces scale
- The small size of farms and other buildings, especially where they appear along the upper slopes, creating recurring features which can be used as scale references in this landscape
- The line of archaeological sites which extend along the southern ridge west from Horseley Hill
- Elevated, panoramic and often sustained views from roads and views from the Southern Upland Way
- The limited extent of this landscape character type and the presence of a large number of operational and consented wind farms and larger wind turbines, located in this and nearby landscape character types, which **severely limits** scope for additional developments to be successfully accommodated.

4.2.3 Opportunities

- Gently graded, more open, broad slopes, along the upper slopes of the ridges
- The relatively sparse settlement pattern
- Areas of more simple vegetation pattern, including larger fields, or areas where woodlands are less apparent
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

4.3 Guidance for development

There is some **very limited** scope for the small-medium (35m-50m) typology and the small (20m – 35m) development typology to be sited within this character type. The presence of operational and consented wind farms and small groups of larger wind turbines severely restricts scope even for these smaller turbines and any additional turbines of this size should be set well away from the Quixwood wind farm to avoid cumulative effects associated with the close juxtaposition of differently sized turbines. Turbines should not be sited on the edge of more prominent skylines seen from adjoining smaller scale landscapes such as the Wooded Upland Fringe Valley (28) and the Pastoral Upland Fringe Valley (26). They should also be sited to avoid significant cumulative impacts with consented developments within the Coastal Farmland – Cockburnspath (19a) to the north and the Coastal Moorland (21) to the east of this landscape character type.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features. Micro siting of smaller turbines should follow the guidance set out in Section 22 of the Main Report.

No scope for the large (80m +) and large-medium (50m – 80m) typologies has been identified in this assessment. **Cumulative effects are considered to be a major constraint.** Scope for extensions to operational and consented development is likely to be severely constrained by the need to restrict impacts on adjoining valleys given the limited extent of this landscape character type and its importance in providing a backdrop or containing 'edge' to these smaller scale and more settled landscapes.

5 CHARACTER TYPE 11: GRASSLAND WITH HILLS

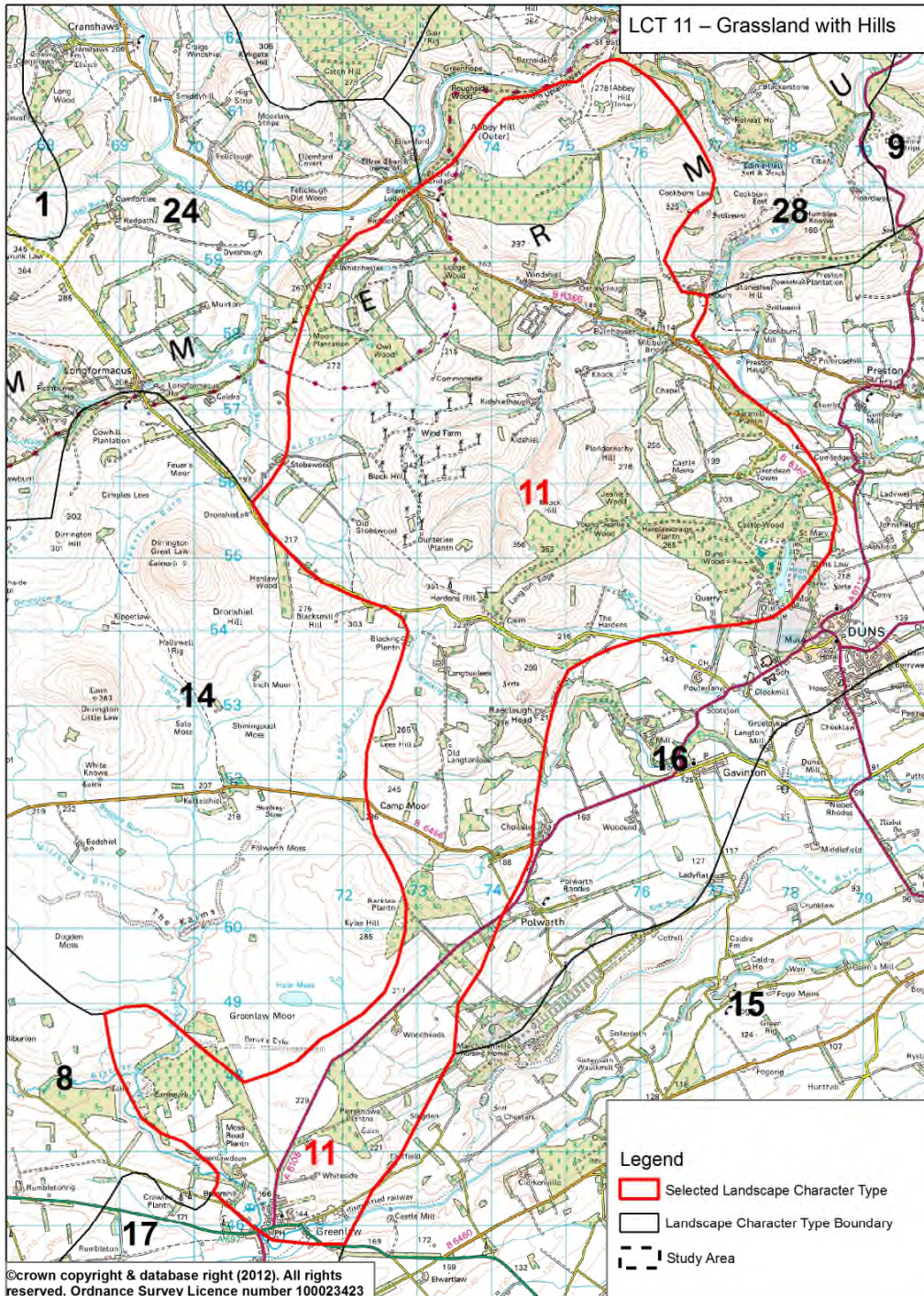
5.1 Introduction

The Grassland with Hills (11) landscape character type is present in five areas across the Scottish Borders. Only one of these areas – the Knock Hill area – lies within the Berwickshire study area.

5.1.1 *Operational/consented wind farm development*

The operational wind farm of Black Hill (22 turbines at 78m height to blade tip) lies within the study area, and a number of turbines less than 30m height to blade tip have received consent.

The operational wind farms of Crystal Rig (85 turbines, 125m max. height to blade tip) and Fallago Rig (48 turbines, max 125m high to blade tip), both located in Dissected Plateau Moorland (1) and the Aikengall I and II wind farm (35 turbines, 125-145m height to blade tip), located in East Lothian, are visible from higher elevations within this character type.



Character Type 11: Grassland with Hills – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape context	<p>The Grassland with Hills (11) straddles the upland/lowland transition, sandwiched between seven other landscape types, ranging from small scale and diverse valleys, such as the Wooded Upland Fringe Valley (28) to the more simple Moorland (14) and the well settled and managed lowlands, such as the Rolling Lowland Margin (16). It is largely 'outward facing' with slopes which face 'outwards' towards surrounding landscape types. The Grassland with Hills (11) is broadly linear in shape and narrow in extent, although it is much wider in the north where it extends round the central upland core of the Knock Hill group of hills. It provides a well defined contrast with neighbouring lowlands (in terms of relief and elevation) and the Moorland (14) to the west (in terms of landform shape and land use pattern). This landscape type is readily inter-visible with adjacent types, as it forms the backdrop to adjacent valleys and lowlands.</p> <p>The pattern of farmland and woodland which extends around the periphery of the Grassland with Hills (11) and along the lower lying interior valleys broadly merges with the land use pattern in the neighbouring Upland Valley with Farmland (24) and to a lesser extent the Wooded Upland Fringe Valley (28) as well as the adjacent Rolling Lowland Margin (16).</p>	<p>This typology would be readily inter-visible with the surrounding landscape types and would impact upon adjacent landscape characters, including the smaller scale topography of the adjacent valleys. The small extent of the area further reinforces this potential effect.</p>	High	<p>This typology would be readily inter-visible with the surrounding landscape types and would impact upon adjacent landscape characters, including the smaller scale topography of the adjacent valleys. The small extent of the area further reinforces this potential effect.</p>	High

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Scale and openness	<p>The relief overall ranges from about 140m in the valleys to the top of Knock Hill at 358m, but the landform is complex and perceived relief is very variable across the Grassland with Hills (11).</p> <p>Broad, smooth slopes, which are medium-large in scale alternate with numerous cleughs and occasional more substantial valleys which are narrow, often steep-sided and much smaller in scale.</p> <p>The broader, elevated upland slopes are also the most open, often characterised by unimproved grassland moor, although there are some larger conifer woodlands which occupy the most accessible slopes.</p> <p>The smaller scale of the more enclosed valleys and cleughs, and the transition with the lowlands and adjacent valleys, is characterised by more diverse land use which reduces the scale and increases enclosure.</p> <p>Scattered farms and the constant presence of trees provide consistent reference points against which size of turbines can be judged.</p>	<p>The overall low relief and the presence of smaller scale landform, enclosure created by land use pattern and the presence of features which can form scale reference points, severely limits the scope to accommodate this typology without significant impacts on scale.</p>	High	<p>The overall low relief and the presence of smaller scale landform, enclosure created by land use pattern and the presence of features which can form scale reference points, severely limits the scope to accommodate this typology without significant impacts on scale.</p> <p>A wind farm of height to blade tip at 78m (Black Hill) is already located on the largest scale and most open area of uplands within this landscape type.</p> <p>There is no other area of open, medium-large scale upland landscape of this size within the Grassland with Hills (11).</p> <p>It would be difficult to accommodate this size of typology else where in this landscape type without siting it close to buildings and woodlands where it would appear much larger than these features and diminish their scale.</p>	High-Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landform	<p>Rounded, dome-shaped hills, steep sided cleughs and valleys, long broad slopes and elongated ridges combine to create a diverse and often complex topography of varying gradients and landforms.</p> <p>This diversity in part contributes to the transitional role this landscape plays between upland and lowland types. The higher hills around Hardens Hill and the Knock Hill group, as well as the easily recognisable and prominent Cockburn Law are widely visible 'landmark' hills.</p>	<p>The often complex and diverse topography makes it difficult to accommodate this typology to reflect the landform.</p> <p>Broader and gently graded landforms and shallow bowls are the most appropriate for this typology, but slopes of this type are very small in extent and not large enough to form the containment required to create a setting for this size of turbine.</p> <p>The construction of access roads on steep and convex slopes would be a further constraint for this typology.</p> <p>The 'land mark hills' are a particular sensitivity.</p>	High	<p>The often complex and diverse topography makes it difficult to accommodate this typology to reflect the landform.</p> <p>Although the broader and gently graded landforms and shallow bowls are the most appropriate for this typology, and turbines of this height (Black Hill) already occupy the largest area of this type of topography in the upland area of Grassland with Hills (11).</p> <p>The remaining slopes of this type are very small in extent and not large enough to form the containment required to create a setting for this size of turbine.</p> <p>The construction of access roads on steep and convex slopes would be a further constraint for this typology.</p> <p>The 'land mark hills' are a particular sensitivity.</p>	High-Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape pattern	<p>The very variable land use pattern reflects the transition from upland to lowlands which is a key characteristic of Grassland with Hills (11). While the upland areas accommodate relatively simple upland unimproved grassland and larger areas of conifer woodlands, the land use pattern becomes increasingly diverse and more complex along lower slopes and into valleys.</p> <p>At these lower elevations, woodlands can be small, creating complex shelterbelt patterns, and include some policy woods. The woodland is associated with permanent pasture fields which graduate to improved pasture and cultivated farmland along the lower slopes.</p> <p>There is some policy woodland associated with Duns Castle and Whitchester.</p>	<p>More extensive areas of open and simple landcover in the upland areas provide scope for this typology, although the largest area of this land use type is already occupied by the Black Hill wind farm.</p> <p>The more diverse and complex land use patterns along the lower slopes and within the valleys and transition to the lowlands are sensitive to this typology.</p>	High-Medium	<p>More extensive areas of open and simple landcover in the upland areas provide scope for this typology, although the largest area of this land use type is already occupied by the Black Hill wind farm.</p> <p>The more diverse and complex land use patterns along the lower slopes and within the valleys and transition to the lowlands are sensitive to this typology.</p>	Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Built environment	<p>The settlement distribution is widely variable, with sparsely settled more upland and interior areas, and more settled glens and lowland fringes. Small communities are located along the B6355 and dispersed farms are located across the lower hills slopes. There are a number of hill forts and historic buildings within this character type, including Duns Castle. The Knock Hill group of hills form part of the wider setting to Duns, located on adjacent Rolling Lowland Margin (16). There are several minor roads which cross the Grassland with Hills (11), while the A6112 cuts through the southern edge. Elsewhere, settlement is linked by minor roads and farm tracks. The Black Hill wind farm occupies the west-central core of the higher slopes within Grassland with Hills (11), and there have been consents for several smaller wind turbines within the farmed areas.</p>	<p>Settlement is sparse in the upland areas of this landscape type, and there is existing wind farm development. There may be scope to site this typology without disrupting the setting of individual buildings or settlements, although the height of this typology will make this difficult. The setting of historic buildings and sites, as well as settlement clusters are sensitive to this typology. Existing narrow roads are likely to require upgrading, creating a further change in character, if this size of turbine is to be transported within this area.</p>	High-Medium	<p>Settlement is sparse in the upland areas of this landscape type, and there is existing wind farm development. There may be scope to site this typology without disrupting the setting of individual buildings or settlement. Although the height of this typology is likely to make this difficult, there may be more scope than the larger turbines. The setting of historic buildings and sites, as well as settlement clusters are sensitive to this typology. Existing narrow roads may require upgrading, creating a further change in character, if this size of turbine is to be transported within this area.</p>	Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Perceptual qualities	This landscape is farmed although the more contained, less accessible narrow valleys and uplands are secluded in character. The designed landscape at Duns Castle has a high degree of integrity and individual character.	While the sense of wildness is limited within farmed areas, the more secluded uplands, less accessible valleys and more diverse areas with pronounced historic character are sensitive. This height of typology and its infrastructure is likely to be difficult to site without intruding on these qualities.	Medium	While the sense of wildness is limited within farmed areas, the more secluded uplands, less accessible valleys and more diverse areas with pronounced historic character are sensitive. This height of typology and its infrastructure is likely to have some difficulties in terms of finding sites where it does not intrude on these qualities.	Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Visual amenity	<p>The hills and elevated ridges of the Grassland with Hills are widely visible. The interior valleys and cleughs are far more contained and visibility from the lower elevation roads and tracks is limited by woodland and topography. In contrast, elevated views from minor roads which cross this character type are panoramic and sustained, often revealing the Grassland with Hills in context with other landscape types. There are similar views from the Southern Upland Way which extends slightly into this landscape type. Some of the settlement is located on elevated sites overlooking the valleys and adjacent low-lying landscape types. The skylines of the hills and interior valleys are visually sensitive.</p>	<p>The elevated viewpoints and sustained views from public roads of this character type increase its visual sensitivity. The key visual sensitivities are the skyline ridges and the 'landmark hills' which form visual foci in views within the area and more widely. This height of turbine is likely to be readily and widely visible, possibly even from within more enclosed landscapes, depending on location.</p>	High	<p>The elevated viewpoints and sustained views from public roads of this character type increase its visual sensitivity. The key visual sensitivities are the skyline ridges and the 'landmark hills' which form visual foci in views within the area and more widely. This height of turbine is likely to be readily and widely visible, possibly even from within more enclosed landscapes, depending on location. Nevertheless, this typology is smaller in height and will be less widely visible than large typology turbines. The smaller turbines in this typology range would have less visual impact.</p>	High-Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Cumulative effects	The wind farm of Black Hill is located within the west-central upland core of the Grassland with Hills (11) character type. It is widely visible from the north, and from elevated roads which cross the northern part of the character type. In addition, the operational Crystal Rig and Fallago Rig wind farms, both located within the Dissected Plateau Moorland (1) and the operational/consented Aikengall I and II wind farm in East Lothian, are visible from higher elevations and roads, although at a distance.	Turbines of this height located within this character type would be compared to the much smaller height of the existing turbines at Black Hill. The difference in height would be a significant negative cumulative effect if seen in close proximity or sequentially. Further negative cumulative landscape and visual effects are most likely to occur if large turbines and wind farms extend onto the small remaining areas of open uplands in this type, so that all the adjacent valleys are overlooked by turbines.	High	Turbines of this height located within this character type would most likely create a negative cumulative landscape and visual effect if turbines and wind farms extend onto the small remaining areas of open uplands in this type, so that all the adjacent valleys are overlooked by turbines.	High-Medium

Character Type 11: Grassland with Hills – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	<p>The Grassland with Hills (11) straddles the upland/lowland transition, sandwiched between seven other landscape types, ranging from small scale and diverse valleys, such as the Wooded Upland Fringe Valley (28) to the more simple Moorland (14) and the well settled and managed lowlands, such as the Rolling Lowland Margin (16). It is largely 'outward facing' with slopes which face 'outwards' towards surrounding landscape types. The Grassland with Hills (11) is broadly linear in shape and narrow in extent, although it is much wider in the north where it extends round the central upland core of the Knock Hill group of hills. It provides a well defined contrast with neighbouring lowlands (in terms of relief and elevation) and the Moorland (14) to the west (in terms of landform shape and land use pattern). This landscape type is readily inter-visible with adjacent types, as it forms the backdrop to adjacent valleys and lowlands. The pattern of farmland and woodland which extends around the periphery of the Grassland with Hills (11) and along the lower lying interior valleys broadly merges with the land use pattern in the neighbouring Upland Valley with Farmland (24) and to a lesser extent the Wooded Upland Fringe Valley (28) as well as the adjacent Rolling Lowland Margin (16).</p>	<p>This typology could be readily inter-visible with the surrounding landscape types if located on the outward facing slopes, the elevated ridgelines or the periphery of the Grassland with Hills (11). It would have less impact if located in the interior and valleys or cleughs associated with this type.</p>	High-Medium	<p>This typology could be readily inter-visible with the surrounding landscape types if located on the outward facing slopes, the elevated ridgelines or the periphery of the Grassland with Hills (11). It would have less impact if located in the interior and valleys or cleughs associated with this type. This relatively small size of this typology would nevertheless limit the extent of any impact on adjacent character types.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Scale and openness	<p>The relief overall ranges from about 140m in the valleys to the top of Knock Hill at 358m, but the landform is complex and perceived relief is very variable across the Grassland with Hills (11).</p> <p>Broad, smooth slopes, which are medium-large in scale alternate with numerous cleughs and occasional more substantial valleys which are narrow, often steep-sided and much smaller in scale.</p> <p>The broader, elevated upland slopes are also the most open, often characterised by unimproved grassland moor, although there are some larger conifer woodlands which occupy the most accessible slopes.</p> <p>The smaller scale of the more enclosed valleys and cleughs, and the transition with the lowlands and adjacent valleys, is characterised by more diverse land use which reduces the scale and increases enclosure.</p> <p>Scattered farms and the constant presence of trees provide consistent reference points against which size of turbines can be judged.</p>	<p>The relative openness of broad gentle slopes along the lower reaches of the more upland areas within this type, offer scope for accommodating this typology. It would be difficult to accommodate this size of typology close to buildings and woodlands where it would appear much larger than these features and diminish their scale.</p> <p>This typology would also impact on the scale of the enclosure within the most narrow, steep sided cleughs and side valleys.</p>	Medium	<p>The relative openness of broad gentle slopes along the lower reaches of the more upland areas within this type, offer scope for accommodating this typology, especially at the transition between lowland land use type and more open uplands, including areas where the larger fields and bigger scale field patterns dominate.</p> <p>It would be difficult to accommodate this size of typology close to small buildings without it appearing larger than these features and possibly diminishing their scale.</p>	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landform	<p>Rounded, dome-shaped hills, steep sided cleughs and valleys, long broad slopes and elongated ridges combine to create a diverse and often complex topography of varying gradients and landforms.</p> <p>This diversity in part contributes to the transitional role this landscape plays between upland and lowland types. The higher hills around Hardens Hill and the Knock Hill group, as well as the easily recognisable and prominent Cockburn Law are widely visible 'landmark' hills.</p>	<p>The broad, gentle slopes are likely to offer scope for siting this typology.</p> <p>Natural terraces or changes of gradient on long, evenly graded and gentle slopes are likely to offer more potential than areas of complex and steep sided landform, or where the convex form of the side slopes is pronounced.</p> <p>Areas of more complex topography should be avoided.</p> <p>The construction of access roads on steep and convex slopes would be a further constraint for this typology.</p> <p>The skyline ridges and the 'land mark hills' – which effectively provide a visual 'edge' between the upland areas to the north and the lowland areas to the south – are also sensitive to this typology.</p>	Medium-Low	<p>The broad gentle slopes are likely to offer scope for siting this typology.</p> <p>Natural terraces or changes of gradient on long, evenly graded and gentle slopes are likely to offer more potential than areas of complex and steep sided landform, or where the convex form of the side slopes is pronounced.</p> <p>There is likely to be additional potential to accommodate this typology on smaller terraces and changes of gradient within the valleys and lower reaches of the cleughs.</p> <p>The skyline ridges and the 'land mark hills' – which effectively provide a visual 'edge' between the upland areas to the north and the lowland areas to the south – are also sensitive to this typology.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape pattern	<p>The very variable land use pattern reflects the transition from upland to lowlands which is a key characteristic of Grassland with Hills (11). While the upland areas accommodate relatively simple upland unimproved grassland and larger areas of conifer woodlands, the land use pattern becomes increasingly diverse and more complex along lower slopes and into valleys.</p> <p>At these lower elevations, woodlands can be small, creating complex shelterbelt patterns, and include some policy woods. The woodland is associated with permanent pasture fields which graduate to improved pasture and cultivated farmland along the lower slopes.</p> <p>There is some policy woodland associated with Duns Castle and Whitchester.</p>	<p>More open and simple landcover, which tends to be along the upper slopes or transition with more upland types, provides scope for this typology.</p> <p>The more diverse and complex land use patterns and designed landscapes are more sensitive to this typology.</p>	Medium-Low	<p>More open and simple landcover, which tends to be along the upper slopes or transition with more upland types, provides scope for this typology, as do the larger field patterns.</p> <p>The more diverse and complex land use patterns and designed landscapes are also more sensitive to this typology.</p> <p>This size of typology is less likely to interrupt or distract from the landcover pattern than taller typologies.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Built environment	<p>The settlement distribution is widely variable, with sparsely settled more upland and interior areas, and more settled glens and lowland fringes. Small communities are located along the B6355 and dispersed farms are located across the lower hills slopes. There are a number of hill forts and historic buildings within this character type, including Duns Castle. The Knock Hill group of hills form part of the wider setting to Duns, located on adjacent Rolling Lowland Margin (16). There are several minor roads which cross the Grassland with Hills (11), while the A6112 cuts through the southern edge. Elsewhere, settlement is linked by minor roads and farm tracks.</p> <p>The Black Hill wind farm occupies the west-central core of the higher slopes within Grassland with Hills (11), and there have been consents for several smaller wind turbines within the farmed areas.</p>	<p>Settlement is sparse in the upland areas of this landscape type, therefore there is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements. The setting of historic buildings and sites, as well as settlement clusters are sensitive to this typology.</p>	Medium	<p>Settlement is dispersed, therefore there is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements, and it could be located where it can be broadly associated with existing pattern of built development. The setting of historic buildings and clusters of settlement are nevertheless still sensitive to this typology. This typology may be more easily located where it can be associated with larger farm buildings without compromising the setting of individual farms and other more dispersed settlement.</p>	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Perceptual qualities	This landscape is farmed although the more contained, less accessible narrow valleys and uplands are secluded in character. The designed landscape at Duns Castle has a high degree of integrity and individual character.	While the sense of wildness is limited within farmed areas, the more secluded uplands, less accessible valleys and more diverse areas with pronounced historic character are sensitive.	Medium	While the sense of wildness is limited within farmed areas, the more secluded uplands, less accessible valleys and more diverse areas with pronounced historic character are sensitive.	Medium-Low
Visual amenity	The hills and elevated ridges of the Grassland with Hills are widely visible. The interior valleys and cleughs are far more contained and visibility from the lower elevation roads and tracks is limited by woodland and topography. In contrast, elevated views from minor roads which cross this character type are panoramic and sustained, often revealing the Grassland with Hills in context with other landscape types. There are similar views from the Southern Upland Way which extends slightly into this landscape type. Some of the settlement is located on elevated sites overlooking the valleys and adjacent low-lying landscape types. The skylines of the hills and interior valleys are visually sensitive.	The elevated viewpoints and sustained views of this character type from public roads increase its visual sensitivity. This height of turbine is likely to be readily visible above trees and other features, but may be hidden by topography in some locations. The key visual sensitivities are the skyline ridges and the 'landmark hills' which form visual foci in views within the area and more widely. The smaller turbines in this typology range would have less visual impact.	Medium	The elevated viewpoints and sustained views of this character type from public roads increase its visual sensitivity. This height of turbine is likely to be readily visible above trees and other features, but may be hidden by topography in some locations. The key visual sensitivities are the skyline ridges and the 'landmark hills' which form visual foci in views within the area and more widely. Nevertheless, this typology is smaller in height and will be less widely visible than taller turbines. The smaller turbines in this typology range would have less visual impact.	Medium-low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Cumulative effects	The wind farm of Black Hill is located within the west-central upland core of the Grassland with Hills (11) character type. It is widely visible from the north, and from elevated roads which cross the northern part of the character type. In addition, the operational Crystal Rig and Fallago Rig wind farms, both located within the Dissected Plateau Moorland (1) and the operational/consented Aikengall I and II wind farm in East Lothian, are visible from higher elevations and roads, although at a distance.	Turbines of this height located within this character type could be compared to the taller height of the existing turbines at Black Hill. The difference in height could be a negative cumulative effect if seen in close proximity or in close sequence.	Medium-Low	Turbines of this height located within this character type could be compared to the taller height of the existing turbines at Black Hill. The difference in height could be a negative cumulative effect if seen in close proximity or in close sequence.	Low

5.2 Summary of sensitivity

The Grassland with Hills landscape character type (11) straddles the upland/lowland transition, and as a result is a very diverse landscape. It lies between seven other landscape types, with Moorland (14) and Upland Valley with Farmland (24) and a short stretch of Rolling Farmland (8) lying to the west and the lowland types of Rolling Lowland Margin (16), Lowland with Drumlins (15) and Lowland Margin Platform (17) to the south and east. The steep sided Wooded Upland Fringe Valley (28) curves around the northern edge of this type. The location of this type means it forms the backdrop to valleys and lowland landscape types and contributes to the setting of Duns. The 'outward facing' slopes of this type are widely visible from neighbouring character types.

The diverse landform ranges from prominent, widely visible 'landmark' hills and broad gentle slopes to narrow cleughs, elongated ridges, steep sided valleys and complex, interlocking topography of varying gradients. The relief is not high, and the scale also varies, with more open, medium-large scale uplands contrasting with narrow enclosed valleys and lowland fringes where landuse pattern reinforces the smaller scale of the landscape. The woodland pattern ranges from larger conifer woodland in the higher elevations to policy woodland, the designed landscape associated with Duns Castle and shelterbelts along the lower slopes. There is a further contrast between the open, unimproved grassland on some of the higher hills and more enclosed field pattern in the valleys.

Clusters of settlement are located along the accessible valleys, with dispersed farms across the lower slopes of the hills. The uplands and less accessible cleughs are not settled. Roads and viewpoints can be elevated, revealing panoramic and sustained views.

The openness and larger scale, areas of smooth topography and gentle gradients and the lack of settlement of the more upland areas within this character type offer some scope for development, although the largest and most appropriate area in terms of scale and topography, has been occupied by Black Hill wind farm. However, the importance of the area as a backdrop to smaller scale surrounding landscape types, the smaller scale and more complex landforms, secluded and narrow valleys and cleughs, the farmed fringes and diverse land use associated with the lower slopes and valleys, the more settled lower slopes and the prominent skyline ridges are all sensitive to turbine development. Apart from farms, settlement is located where visibility is reduced by topography within the contained valleys, but the area is widely visible from elevated, although minor, roads and neighbouring landscape types. There are also likely to be potential landscape and visual cumulative effects with the existing Black Hill wind farm. This landscape character type therefore has a **High** sensitivity to large (80m – 150m) and **High-Medium** sensitivity to further medium (50m – 80m) typologies, a **Medium** sensitivity to the small-medium (35m – 50m) typology and a **Medium-Low** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be more readily accommodated within the farmed areas within this landscape type.

5.2.1 *Potential cumulative issues*

Negative cumulative landscape and visual impacts are most likely to occur in the immediate future if turbines are sited where they visually juxtapose with the existing Black Hill windfarm, or are experienced in sequence with this existing development. In addition, this wind farm occupies the largest area of more open, gently graded uplands within this type – remaining areas are smaller and have a strong relationship as a backdrop to the surrounding lowlands.

There is further potential for cumulative landscape and visual effects to arise in the future if different sizes and types of turbines are located within this type without adopting a consistent and robust approach to siting and design.

Well-sited turbines and the development of a consistent relationship between turbines and the landform or settlement pattern is likely to further minimise potential cumulative impacts.

Cumulative effects can be further minimised if turbines of less than 20m should be sited where they can be associated with farms or buildings to create 'development clusters'. They are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Grassland with Hills (11) type are likely to include:

- Cumulative visual impacts associated with inter-visibility with Black Hill wind farm, either simultaneously or in sequence
- Cumulative visual impacts and clutter associated with inter-visibility between turbines within this character type and turbines located on neighbouring character types which are visible from within this character type – the spacing of wind farm and large turbine developments sited in this and nearby landscape character types will be critical in minimising cumulative effects experienced from key viewpoints such as the A6112 and Cocksburn Law.
- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting in relation to landform
- High inter-visibility of several turbines from panoramic, elevated or long views

5.2.2 *Constraints*

- The relatively low relief of this landscape which could easily be overwhelmed by very tall structures
- The smaller scale and narrower valleys and cleughs, their steep sides and sense of enclosure

- The prominent ridgeline which forms a widely visible skyline from neighbouring lowland landscape types, including the 'landmark hill' group associated with Hardens Hill and Knock Hill
- The setting of the 'landmark hill' Cockburn Law
- The 'outward facing' slopes which characterise this area, and form the backdrop or containing ridgeline to lower lying valleys and lowlands which surround much of this type
- Its role as a transitional landscape, which forms a 'buffer' between the larger scale uplands to the north (Dissected Upland Plateau) and the lowlands and smaller scale valleys
- The setting of clusters of settlement, Duns and Duns Castle, including the designed landscape
- The diverse pattern of land use, especially the pattern of small woodlands, shelterbelts policy woods, along the lower slopes and in the valleys
- The small size of farms and woodlands, especially along the lower slopes, against which the size of turbines can be easily assessed
- Elevated, panoramic and often sustained views, and views along and across the valleys
- Potential inter-visibility with Black Hill wind farm and wind farms sited within other landscape character types nearby.

5.2.3 *Opportunities*

- Gently graded and more open slopes along upper hill sides
- The relatively sparse settlement pattern
- Areas of more simple vegetation pattern, including more extensive forestry and larger fields
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

5.3 **Guidance for development**

There is some scope for both the small-medium (35m- 50m) typology and the small (20m – 35m) development typology to be sited within this character type.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of the Main Report.

No scope for the large (80m-130m) and additional large-medium (50m – 80m) typologies has been identified in this assessment.

6 CHARACTER TYPE 14: MOORLAND

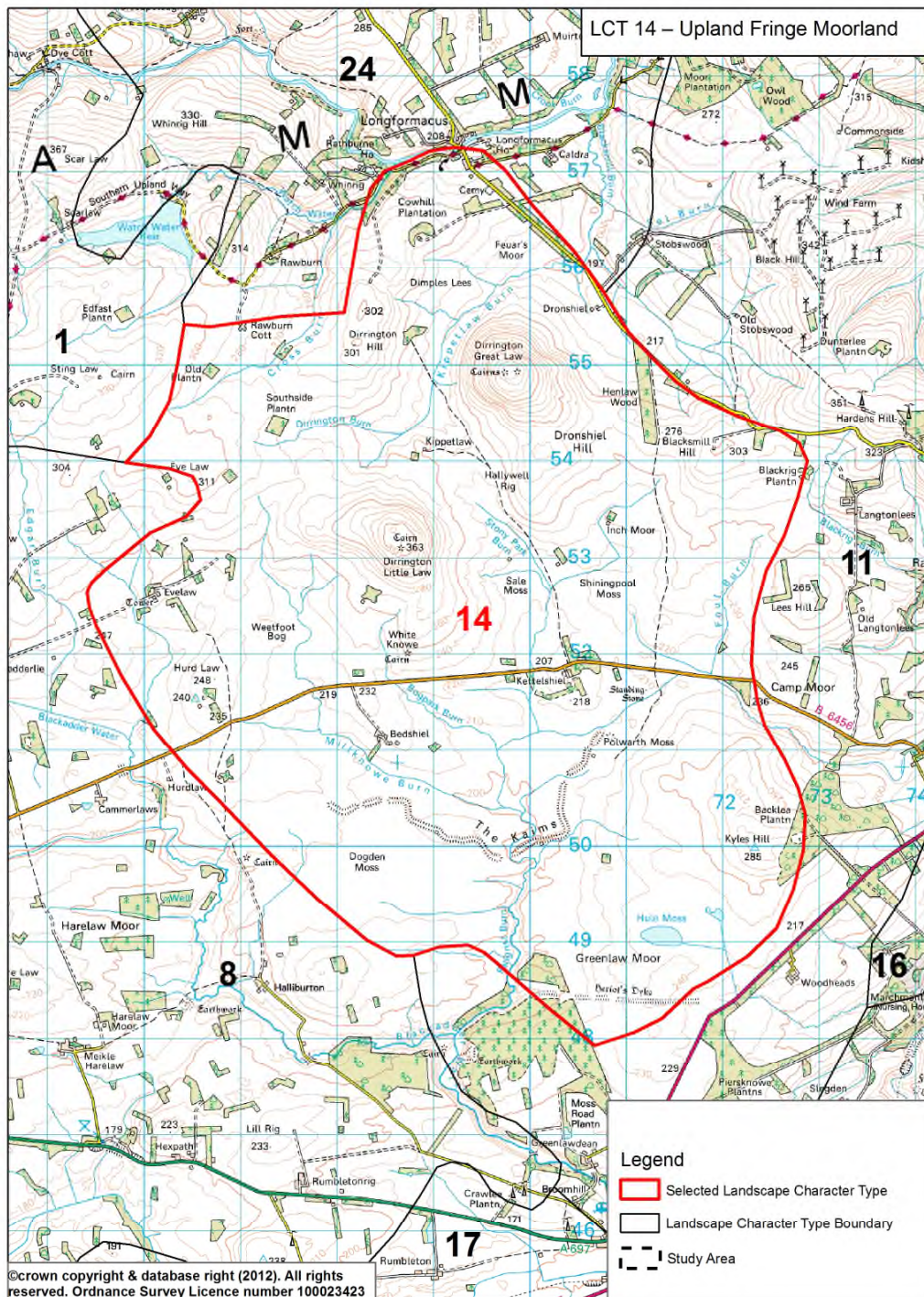
6.1 Introduction

This landscape character type occurs in a single area at Greenlaw Moor.

6.1.1 *Operational/consented wind farms*

No operational or consented turbine development is located in this character type.

The operational Black Hill wind farm (22 turbines, 78m high) is located in the adjacent Grassland with Hills (11) character type. The operational Fallago Rig wind farm (48 turbines, max. 125m high) lies approximately 9 km to the north-west of this character type within the Dissected Plateau Moorland (1) character type. The operational Crystal Rig and Aikengall I wind farms (and the consented Aikengall II wind farm), located in the eastern Lammermuir Hills, are visible from more elevated parts of this character type at distances of around 11km. The Longpark wind farm located to the west of the upper Leader Valley is visible at distances beyond 20km.



Character Type 14: Moorland – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landscape context	This moorland plateau punctuated by prominent dome shaped hills is unusual because of its close proximity to (and visibility from) more settled and farmed lowland landscapes. The simple form and pattern of this landscape are ‘upland’ in character and there is a strong contrast with adjacent more complex, settled landscapes with abrupt boundaries occurring between character types.	The close proximity and visibility of this landscape to more settled and farmed lowland landscapes increases sensitivity to larger typologies. Large turbines sited in this landscape would diminish the strong contrast this unusual little developed landscape has with more settled and managed adjacent landscapes.	High	The close proximity and visibility of this landscape to more settled and farmed lowland landscapes increases sensitivity to larger typologies. Large turbines sited in this landscape would diminish the strong contrast this unusual little developed landscape has with more settled and managed adjacent landscapes.	High
Scale and openness	This landscape appears extensive and open due to its gently undulating to flat landform and the absence of smaller scale buildings and woodlands within the core moorland basin. The hills of Dirington Great Law and Little Law appear higher than they are as they rise from the low-lying moorland plateau, although a height differential of only 130m occurs between the moorland plateau and the tops of these hills. Scale is reduced on the fringes of this landscape where occasional farms and woodlands are located, often within more contained valleys.	Turbines of this height would overwhelm the scale of Dirington Great Law and Little Law as they would be likely to be seen in close proximity to these hills because of the relatively confined extent of this character type.	High	This typology would also overwhelm the scale of the outcrop hills if sited on them or nearby although there may be some limited scope to minimise this effect by siting turbines of this size (and particularly turbines towards the lower height band of this typology) in more expansive areas of moorland away from the hills to avoid direct conflicts of scale	High-medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landform	This landscape comprises flat moorland, gently undulating plateau and shallow valleys and the dramatic domed-shaped hills of Dirrington Great Law and Dirrington Little Law which form landmark features visible across a wide area. The distinctive glacial moraine landform feature of The Kaims lying to the south of the B6456 forms a broken meandering ridge conspicuous against the generally smooth relief of the surrounding moorland.	Although it would be easier to associate wind turbines with the simple landform of broad flat moorland and gently undulating plateau of this landscape, turbines of this height would significantly detract from the landmark hills of Dirrington Great Law and Little Law. The distinctive landform feature of The Kaims would be highly sensitive to all development typologies sited on or close-by.	High	There may be some very limited scope to site the lower turbines of this typology sufficiently far away to minimise detract from the landmark hills and The Kaims.	High-medium
Landscape pattern	An open land cover with few trees and dominated by rough grassland with rushes and moss on lower ground with occasional pools. Heather moorland covers upper slopes and is often dotted with mature Scots Pine. Small coniferous plantations enclose farms on the fringes of this landscape and along the B6456. Some walled pastures occur on broad slightly higher ridges close to farms.	The relatively simple land cover pattern of this landscape reduces sensitivity although more distinctive vegetation including heather moorland with Scots Pine, mosses and lochans would be sensitive to all typologies.	Medium	The relatively simple land cover pattern of this landscape reduces sensitivity although more distinctive vegetation including heather moorland with Scots Pine, mosses and lochans would be sensitive to all typologies.	Medium
Built environment	This landscape is very sparsely settled with isolated farms associated with more sheltered valleys.	The sparsely settled nature of this landscape reduces sensitivity.	Low	The sparsely settled nature of this landscape reduces sensitivity.	Low

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Perceptual qualities	This landscape has a strong sense of place with soft light grasses, mosses and big open skies being distinctive characteristics. The naturalness of this landscape is enhanced by the presence and sounds of moorland and wetland birds, although this landscape is not remote as roads and settlement lie nearby.	The introduction of tall man-made structures to this landscape would significantly diminish the strong sense of place experienced and its perceived naturalness.	High	The introduction of tall man-made structures to this landscape would significantly diminish the strong sense of place experienced and its perceived naturalness.	High
Visual amenity	Elevated views over this landscape are dramatic from the Duns to Longformacus road where the landmark hills of Dirrington Great and Little Law are prominent features. The B6456 also provides close views of the moorland and grassland core of this landscape. Dirrington Great Law and Little Law are accessed by walkers and offer elevated views across this landscape. Moorland tracks and paths provide access to The Kaims and Greenlaw Moss.	Turbines of this size would be highly visible in close proximity to the B6456. Any access tracks to turbines would be prominent (with bright red-orange sandy substrate strongly contrasting with darker vegetation – as evident where existing small quarries and tracks are present) particularly from elevated views from Dirrington Great Law and Little Law and from the Duns to Longformacus road.	High	Turbines of this size would be highly visible in close proximity to the B6456. Any access tracks to turbines would be prominent (with bright red-orange sandy substrate strongly contrasting with darker vegetation – as evident where existing small quarries and tracks are present) particularly from elevated views from Dirrington Great Law and Little Law and from the Duns to Longformacus road.	High
Cumulative effects	The Black Hill wind farm lies approximately 3km to the north-east. The operational wind farms of Crystal Rig and Aikengall I sited within the Lammermuir Hills are clearly visible from elevated parts of this landscape. The consented Aikengall II extension will be closer and more intrusive	Dirrington Great and Little Law currently provide some screening of existing and consented wind farm developments seen from settlement and the B6456. There would however be cumulative effects from these hills and sequential visibility from the minor Duns/Longformacus	Medium	Dirrington Great and Little Law currently provide some screening of existing and consented wind farm developments seen from settlement and the B6456. There would however be cumulative effects from these hills and sequential visibility from the minor Duns/Longformacus	Medium

	because of the increased height of turbines (145m).	road. Cumulative effects would also be likely to arise on views from roads and settlement within the Rolling Farmland (8) and other well-settled landscapes to the south.		road. Cumulative effects would also be likely to arise on views from roads and settlement within the Rolling Farmland (8) and other well-settled landscapes to the south.	
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Character Type 14: Moorland – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	This moorland plateau punctuated by prominent dome shaped hills is unusual because of its close proximity to (and visibility from) more settled and farmed lowland landscapes. The simple form and pattern of this landscape comprise 'upland' characteristics and there is a strong contrast with adjacent more complex 'lowland' landscapes with abrupt boundaries occurring between character types.	The close proximity of this landscape to more settled and farmed lowland areas increases sensitivity although turbines towards the lower height band of this typology, located on lower hill slopes, would be likely to have a reduced effect on landscape context.	High-medium	This typology would have less of an effect on surrounding landscapes as there is greater opportunity to site these smaller turbines on lower hill slopes avoiding intrusion on adjacent landscapes.	Medium
Scale and openness	This landscape appears extensive and open due to its gently undulating to flat landform and the absence of smaller scale buildings and woodlands within the core moorland basin. The hills of Durrington Great Law and Little Law appear higher than they are as they rise from the low-lying moorland plateau, although a height differential of only 130m occurs between the moorland plateau and the tops of these hills. Scale is reduced on the fringes of this landscape where occasional farms and woodlands are located, often within more contained valleys.	This typology would be less dominant in relation to the scale of the landmark hills and there is increased scope to site turbines of this size to avoid direct conflicts of scale	Medium	Smaller turbines would appear out of scale with the more expansive open moorland of this character type. There is however some limited scope to site this typology close to more settled areas on the farmed fringes of this landscape.	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landform	This landscape comprises flat moorland, gently undulating plateau and shallow valleys and the dramatic domed-shaped hills of Dirrington Great Law and Dirrington Little Law which form landmark features visible across a wide area. The distinctive glacial moraine landform feature of The Kaims lying to the south of the B6456 forms a broken meandering ridge conspicuous against the generally smooth relief of the surrounding moorland.	This typology could relate to the simple, gently undulating landform of this landscape although turbines would detract from the more defined landmark hills and The Kaims if sited on or close-by.	Medium	This typology could relate to the simple, gently undulating landform of this landscape. There is increased scope to site these smaller turbines to avoid effects on more distinctive landform features.	Medium-low
Landscape pattern	An open landscape with few trees and dominated by rough grassland with rushes and moss on lower ground with occasional pools. Heather moorland covers upper slopes and is often dotted with mature Scots Pine. Small coniferous plantations enclose farms on the fringes of this landscape and along the B6456. Some walled pastures occur on broad slightly higher ridges close to farms.	The relatively simple land cover pattern of this landscape reduces sensitivity although more distinctive vegetation including heather moorland with Scots Pine, mosses and lochs would be sensitive to all typologies.	Medium	This typology is more likely to be located close to settlement and could therefore be more easily accommodated without detracting from more distinctive vegetation cover.	Low
Built environment	This landscape is very sparsely settled with isolated farms associated with more sheltered valleys.	The sparsely settled nature of this landscape reduces sensitivity.	Low	The sparsely settled nature of this landscape reduces sensitivity.	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Perceptual qualities	This landscape has a strong sense of place with soft light grasses, mosses and big open skies being distinctive characteristics. The naturalness of this landscape is enhanced by the presence and sounds of moorland and wetland birds, although this landscape is not remote as roads and settlement lie nearby.	The introduction of tall man-made structures to this landscape would diminish the strong sense of place experienced and its perceived naturalness.	High	These smaller turbines would diminish the perceived naturalness of parts of this landscape although they could be more readily assimilated if associated with existing built development on the fringes of this landscape.	High-medium
Visual amenity	Elevated views over this landscape are dramatic from the Duns to Longformacus road where the landmark hills of Dirrington Great and Little Law are prominent features. The B6456 also provides close views of the moorland and grassland core of this landscape. Dirrington Great Law and Little Law are accessed by walkers and offer elevated views across this landscape. Moorland tracks and paths provide access to The Kaims and Greenlaw Moss.	Even turbines of this size would be highly visible if sited on flatter open moorland and mosses from the B6456. Subtle hills and ridges would potentially provide a degree of visual containment however in some limited areas. Ancillary infrastructure is likely to be limited for this typology although care would be needed to avoid impact on key elevated views.	High-medium	This typology could be sited on the fringes of this landscape, utilising the containment provided by low ridges to minimise effects on views in this open landscape.	Medium
Cumulative effects	The Black Hill wind farm lies approximately 3km to the north-east. The operational wind farms of Crystal Rig and Aikengall I sited within the Lammermuir Hills are clearly visible from elevated parts of this landscape. The consented Aikengall II extension will be closer and more intrusive because of the increased height of turbines (145m).	Dirrington Great and Little Law currently provide some screening of existing and consented wind farm developments seen from settlement and the B6456. There would be cumulative effects from these hills and sequential visibility from the minor Duns/Longformacus road.	Medium	The smaller turbines of this typology would be less likely to incur significant cumulative effects with existing and consented larger wind farms due to their clear differential in size and provided that turbines were sited so visually associated with existing farms, thus limiting the incidence of turbines within this landscape.	Low

6.2 Summary of sensitivity

This open moorland plateau with its 'landmark' hills is unique within the Scottish Borders because of its lowland context and strong contrast with adjacent settled and farmed lowland landscapes. The broad, gently sweeping moorland plateau is simple although drama is present as the steep-sided domed shaped hills of Dirrington Great Law and Little Law rise abruptly from the flat plinth of moor and moss. The Kaims Esker also provides an interesting feature, its snaking, broken ridge standing out amongst more uniform gently undulating moorland. This character type is very sparsely settled with widely dispersed farms located on its fringes. Some semi-improved grassland occurs within these fringes and within more sheltered shallow valleys, although extensive tracts of moss and Scots Pine-studded heather moorland increase the diversity of vegetation cover and contribute to the strong sense of naturalness associated with this landscape. Elevated views over this landscape from the Duns to Longformacus road are striking and close views are also gained from the B6456.

The unusual character of this landscape with its intact expanses of moss and heather moor, small but dramatic 'landmark' hills which punctuate the moor and its strong sense of naturalness increase sensitivity to wind turbine development. There would be a **High** sensitivity to the large, medium and small to medium typologies (turbines >35m high). Sensitivity to the small typology (turbines 20m-35m) would also be **High-medium** over much of this character type as they would appear out of scale within more expansive mosses and moorland areas and would introduce vertical structures into this little modified landscape.

6.2.1 *Potential cumulative issues*

Potential cumulative issues are likely to be limited in terms of smaller typologies due to the very sparsely settled nature of this landscape. The following issues may arise however in connection with any development situated in adjacent landscapes:

- Inter-visibility between the operational and consented Black Hill, Fallago Rig, Aikengall I and II and Crystal Rig wind farms and any additional wind farms sited within the 'Dissected Plateau Moorland' (1) and 'Grassland with Hills' (11) seen from the Dirrington Laws which are accessed by walkers.

6.2.2 *Constraints*

- The unusual qualities of this very sparsely settled and little modified open moorland landscape given its close proximity and strong contrast to more settled and farmed lowland landscapes.
- The hills of Dirrington Great Law and Dirrington Little Law which rise dramatically from the low-lying gently undulating moss and moorland plateau and form landmark features seen across adjoining landscapes.
- The distinctive glacial moraine ridge of The Kaims which snakes across a mossy basin.

- The strong sense of place associated with this landscape including the naturalness of extensive moss and heather moorland which is accentuated by the presence and sounds of moorland and wetland birds.
- Close elevated views of this landscape from the Duns to Longformacus road and the B6456 and from the Dirrington Laws which are accessed by walkers.

6.2.3 *Opportunities*

- Shallow valleys and lower hill slopes, set well away from the landmark Dirrington Laws, where smaller typologies could be sited so they are visually associated with existing buildings.

6.3 **Guidance for development**

There are some very limited opportunities for the small typology (20-35m) to be located in this landscape. Turbines should only be sited on the outer fringes of this landscape and on the lower slopes of shallow valleys where they should be clearly associated with existing farms and other buildings. They should not be sited on or close to the foot of the Dirrington Laws although other less distinctive hills provide opportunities to reduce prominence for turbines sited on lower slopes.

Detailed siting and design should accord with the guidance set out in Section 22 of the Main Report.

No scope for the large, medium and small-medium typologies (turbines >35m) has been identified in this landscape sensitivity assessment.

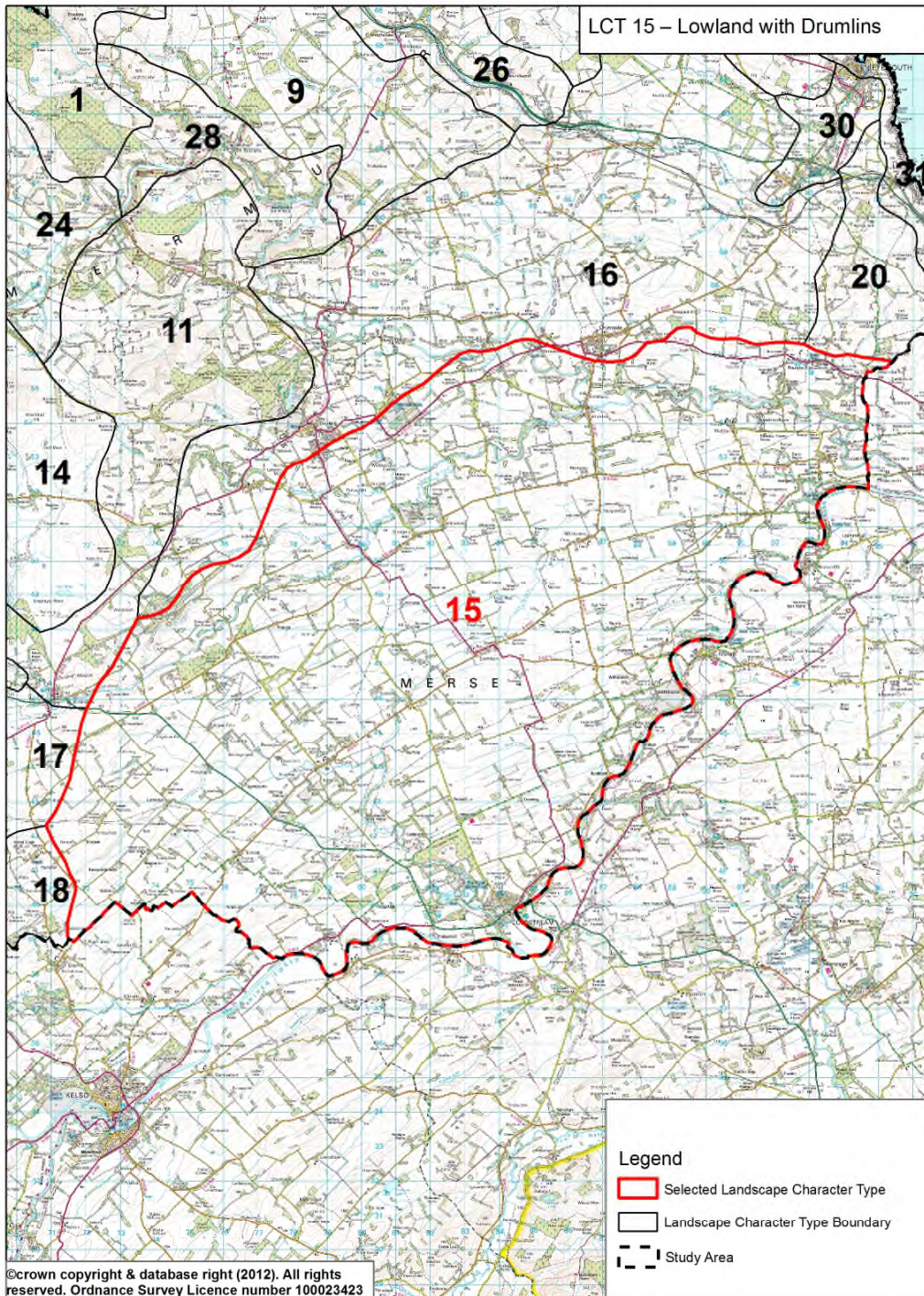
7 CHARACTER TYPE 15: LOWLAND WITH DRUMLINS

7.1 Introduction

The Lowland with Drumlins (15) landscape character type is only present in one area, the Lower Merse, within the Scottish Borders. The Lower Merse area lies within the Berwickshire study area.

7.1.1 *Operational/consented wind farm development*

Consents for two turbines less than 30m in height and one turbine between 31m and 60m in height have been granted within in this character type.



Character Type 15: Lowland with Drumlins – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape context	<p>The Lowland with Drumlins (15) lies to the south of the Rolling Lowland Margin (16), with which it has some similarities, and shares boundaries with a more diverse range of character types immediately to the west, including the lowlying Lowland Margin Platform (17), the knolly Lowland Margin with Hills (18) and the Lowland Valley with Farmland (29). The Grassland with Hills (11) also shares a short boundary with this type. It is very large in extent, and shares a similar land use pattern to the Lowland with Drumlins (15) and the eastern edge of Grassland with Hills (11). It is easily inter-visible with these two types and with the hilltops and higher land in Lowland Margin with Hills (18). It also abuts the border with England, and the dramatic valley of the Tweed.</p>	<p>This typology would be inter-visible with the surrounding landscape types and would impact upon adjacent landscape characters, especially if sited towards the edges of this extensive type. The potential impact of inter-visibility would be partially reduced if turbines were located in the centre of the type, as it is large in extent, a perception which is reinforced with the continuation of similar landuse pattern across adjacent types.</p>	<p>High-Medium</p>	<p>This typology would be inter-visible with the surrounding landscape types and would impact upon adjacent landscape characters, especially if sited towards the edges of this extensive type. The potential impact of inter-visibility would be partially reduced if turbines were located in the centre of the type as it is large in extent, a perception which is reinforced with the continuation of similar landuse pattern across adjacent types. Potential inter-visibility is also reduced by the lower height of this typology.</p>	<p>Medium</p>

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Scale and openness	<p>The relief is very low, as the landform generally undulates between 50-100m although the ground rises to the northwest where it adjoins the foothills. The topography of low sweeping ridges is very gently undulating and landform containment is not pronounced, except within defined river valleys and where occasional more complex landforms (for example around Coldstream) create enclosure. While the underlying landform is relatively large scale, the vegetation pattern creates substantial enclosure, with a robust pattern of fields and woodland reinforced by an extensive network of hedges and fields trees, reducing the scale of the landscape and limiting the degree of openness. Where large arable fields, with little in the way of woodland or hedgerow trees dominate, enclosure is reduced, the landform becomes more dominant, and scale is larger. Nevertheless, the constant presence of trees and less frequently, buildings, provide consistent reference points against which size of turbines can be judged. Some of the farm buildings are relatively large.</p>	<p>The low relief, the well defined enclosure created by a land use pattern which includes an extensive network of hedges and hedgerow trees and the continuous presence of features which can form scale reference points severely limits the scope to accommodate this typology without significant impacts on landscape scale.</p>	High	<p>The low relief, the well defined enclosure created by a land use pattern which includes an extensive network of hedges and hedgerow trees and the continuous presence of features which can form scale reference points severely limits the scope to accommodate this typology without significant impacts on landscape scale.</p>	High

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landform	<p>This is a landscape of undulating landform of long low, broadly parallel ridges and gentle landform formed by glacial drift.</p> <p>The ridges are separated by shallow valleys, and occasional more enclosed, flat-bottomed river valleys, the most pronounced of which are the valleys of the Blackadder and the Tweed.</p> <p>There are also occasional more pronounced low hills and some more complex areas of rounded landform and steeper slopes, especially where this type extends alongside adjacent foothills.</p>	<p>Broader and gently graded landforms are the most appropriate for this typology.</p> <p>Smaller landform features, such as the low hills, the river valleys and areas of more complex landform are key sensitivities.</p>	Medium	<p>Broader and gently graded landforms are the most appropriate for this typology.</p> <p>Smaller landform features, such as the low hills, the river valleys and areas of more complex landform are key sensitivities.</p>	Medium
Landscape pattern	<p>The pattern of arable fields is easy to read because of the seasonal variation and the dense network of high hedges and field trees which reinforce the field shapes and sizes. Small woodlands and frequent policy woods and designed landscapes, many of which are associated with the river valleys, further add to a diverse landscape pattern.</p> <p>There are occasional more open and less densely patterned areas on slightly elevated gentle arable land.</p>	<p>Opportunities for this typology are limited as the land use pattern is diverse and relatively complex.</p> <p>The numerous designed landscapes and planted features are additionally sensitive to this typology.</p>	High	<p>Opportunities for this typology are limited as the land use pattern is diverse and relatively complex.</p> <p>The numerous designed landscapes and planted features are additionally sensitive to this typology.</p>	High-Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Built environment	<p>Several settlements, including the larger Coldstream and smaller villages such as Eccles, Swinton and Ednam, lie within this character type and the wider landscape is well settled with farms, larger farms and small terraces of houses scattered often located on rising ground.</p> <p>There are relatively frequent historic houses and designed landscape features, including walls, gateways, gate houses and bridges.</p> <p>There is a dense network of roads over this well settled landscape – the less densely roaded areas tend to be associated with drained lowlying former moors. Several A roads cross through this area.</p> <p>There a number of existing turbines, and overhead pylon lines in this type.</p>	<p>The height of this typology will make it difficult to site it where it does not impinge on the setting of settlement in this well-settled landscape.</p> <p>The setting of the many historic buildings and sites, and settlement clusters are sensitive to this typology.</p> <p>Existing narrow roads are likely to require upgrading, creating a further change in character, if this size of turbine is to be transported within this area.</p>	High	<p>There may be scope to site this typology without disrupting the setting of individual buildings or settlements, although the height of this typology and the well-settled character of the landscape will make this difficult.</p> <p>The setting of historic buildings and sites and settlement clusters are sensitive to this typology.</p> <p>Existing narrow roads are likely to require upgrading, creating a further change in character, if this size of turbine is to be transported within this area.</p> <p>The smaller size of this typology might be easier to accommodate without impacting on settlement setting.</p>	High-Medium
Perceptual qualities	<p>This landscape is largely farmed with no sense of seclusion or exceptionally dramatic character.</p>	<p>The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.</p>	Low	<p>The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.</p>	Low

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Visual amenity	This landscape type is well roaded and settled, with frequent elevated viewpoints allowing panoramic and often sustained views across the area. The openness of some areas contributes to high visibility, especially from settlements where views are retained, but frequently the high hedges, the woodland and dips in the landform limit views from roads. Views from and to designed landscapes are a further sensitivity.	The height of this typology means that it is likely to be widely visible.	High	The height of this typology means that it is likely to be widely visible. The smaller turbines in this typology range could have less visual impact.	High-Medium
Cumulative effects	There are consents for three turbines already within this type. No other turbines in adjacent landscape types impact on the landscape character or visual amenity of this type.	There is no significant landscape or visual cumulative effect arising from existing consents.	Low	There is no significant landscape or visual cumulative effect arising from existing consents.	Low

Character Type 15: Lowland with Drumlins – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	<p>The Lowland with Drumlins (15) lies to the south of the Rolling Lowland Margin (16), with which it has some similarities, and shares boundaries with a more diverse range of character types immediately to the west, including the lowlying Lowland Margin Platform (17), the knolly Lowland Margin with Hills (18) and the Lowland Valley with Farmland (29). The Grassland with Hills (11) also shares a short boundary with this type. It is very large in extent, and shares a similar land use pattern to the Lowland with Drumlins (15) and the eastern edge of Grassland with Hills (11). It is easily inter-visible with these two types and with the hilltops and higher land in Lowland Margin with Hills (18). It also abuts the border with England, and the dramatic valley of the Tweed.</p>	<p>The large extent of this landscape creates scope for siting this typology where it does not impact upon adjacent landscape types.</p>	Low	<p>The large extent of this landscape creates scope for siting this typology where it does not impact upon adjacent landscape types.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Scale and openness	<p>The relief is very low, as the landform generally undulates between 50-100m although the ground rises to the northwest where it adjoins the foothills. The topography of low sweeping ridges is very gently undulating and landform containment is not pronounced, except within defined river valleys and where occasional more complex landforms (for example around Coldstream) create enclosure. While the underlying landform is relatively large scale, the vegetation pattern creates substantial enclosure, with a robust pattern of fields and woodland reinforced by an extensive network of hedges and fields trees, reducing the scale of the landscape and limiting the degree of openness. Where large arable fields, with little in the way of woodland or hedgerow trees dominate, enclosure is reduced, the landform becomes more dominant, and scale is larger. Nevertheless, the constant presence of trees and less frequently, buildings, provide consistent reference points against which size of turbines can be judged. Some of the farm buildings are relatively large.</p>	<p>Where woodland, field trees and continuous hedges are sparse, the enclosure pattern is weaker and the landform scale is more evident, there is more scope for accommodating this typology. The height of this typology would impact on the small scale of areas where the fields are smaller, and the enclosure created by hedges and hedgerow trees and woodlands is more pronounced. However, this typology would also impact on the low relief and enclosure within this landscape, especially along the river valleys or within areas of more complex landforms. The continuous presence of small features, such as trees and buildings make it difficult to accommodate this size of typology without it appearing much larger than these features if sited close by. The perceived size of features on the tops of ridges is a further constraint. There is likely to be more scope to relate the smaller sizes of this typology to the scale of this landscape.</p>	High-Medium	<p>Where woodland, field trees and continuous hedges are sparse, the enclosure pattern is weaker and the landform scale is more evident, there is more scope for accommodating this typology. The height of this typology could impact on the small scale of areas where the fields are small, and the enclosure created by hedges and hedgerow trees and woodlands is more pronounced. However, this typology is less likely to impact on the low relief and the scale of the field pattern over much of this landscape. The continuous presence of small features, such as trees and buildings make it difficult to accommodate this size of typology without it appearing much larger than these features, but this size of turbine could relate to larger buildings and other built structures, such as pylons, within this extensive landscape.</p>	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landform	<p>This is a landscape of undulating landform of long low, broadly parallel ridges and gentle landform formed by glacial drift.</p> <p>The ridges are separated by shallow valleys, and occasional more enclosed, flat-bottomed river valleys, the most pronounced of which are the valleys of the Blackadder and the Tweed.</p> <p>There are also occasional more pronounced low hills and some more complex areas of rounded landform and steeper slopes, especially where this type extends alongside adjacent foothills.</p>	<p>The gentle gradients and longer side slopes of the ridges offer scope for this typology.</p> <p>The well-defined river valleys, pronounced landform features such as the rounded hills and the very tops of the ridges are all sensitive to development, as are more complex areas of landform.</p>	Medium-Low	<p>The gentle gradients and longer side slopes of the ridges offer scope for this typology.</p> <p>The well-defined river valleys, pronounced landform features such as the rounded hills and the very tops of the ridges are all sensitive to development, as are more complex areas of landform.</p> <p>There is likely to be additional potential to accommodate this typology on smaller terraces and changes of gradient within this varied topography.</p>	Low
Landscape pattern	<p>The pattern of arable fields is easy to read because of the seasonal variation and the dense network of high hedges and field trees which reinforce the field shapes and sizes. Small woodlands and frequent policy woods and designed landscapes, many of which are associated with the river valleys, further add to a diverse landscape pattern.</p> <p>There are occasional more open and less densely patterned areas on slightly elevated gentle arable land.</p>	<p>Opportunities for this typology are limited where the land use pattern is more diverse and complex, while areas with more open and simple land cover, including areas where there are fewer field trees dominate may provide some scope for this typology.</p> <p>Designed landscapes and planted features are sensitive to this typology.</p>	Medium	<p>Opportunities for this typology are limited where the land use pattern is more diverse and complex, while areas with more open and simple land cover, including areas where there are fewer field trees dominate may provide some scope for this typology.</p> <p>Designed landscapes and planted features are sensitive to this typology.</p> <p>This size of typology is less likely to interrupt or distract from the landcover pattern than taller typologies.</p>	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Built environment	<p>Several settlements, including the larger Coldstream and smaller villages such as Eccles, Swinton and Ednam, lie within this character type and the wider landscape is well settled with farms, larger farms and small terraces of houses scattered often located on rising ground.</p> <p>There are relatively frequent historic houses and designed landscape features, including walls, gateways, gate houses and bridges.</p> <p>There is a dense network of roads over this well settled landscape – the less densely roaded areas tend to be associated with drained lowlying former moors. Several A roads cross through this area.</p> <p>There a number of existing turbines, and overhead pylon lines in this type.</p>	<p>There are areas within this landscape where farms are more sparsely dispersed, and there is likely to be some scope to site this typology without disrupting the setting of individual buildings or settlements.</p> <p>The presence of large buildings, existing turbines and infrastructure all create a pattern of existing development which provides a context for additional development. Historic houses and features are sensitive to this typology.</p>	High-Medium	<p>There are areas within this landscape where farms are very sparsely dispersed, and there is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements.</p> <p>This typology could be located where it can be broadly associated with existing settlement pattern. The presence of large buildings, existing turbines and infrastructure all create a pattern of existing development which could provides a context for additional development.</p> <p>Historic houses and features are sensitive to this typology. This typology may be more easily located where it can be associated with larger farm buildings without compromising the setting of individual farms and other more dispersed settlement.</p>	Medium
Perceptual qualities	<p>This landscape is largely farmed with no sense of seclusion or exceptionally dramatic character.</p>	<p>The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.</p>	Low	<p>The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Visual amenity	This landscape type is well roaded and settled, with frequent elevated viewpoints allowing panoramic and often sustained views across the area. The openness of some areas contributes to high visibility, especially from settlements where views are retained, but frequently the high hedges, the woodland and dips in the landform limit views from roads. Views from and to designed landscapes are a further sensitivity.	In more open areas and from elevated viewpoints, the height of this typology means that it is likely to appear above many of the smaller features and may be widely visible. Views of this height of turbine are likely to be intermittent, especially from the roads, where visibility is reduced by the screening effects of landform, hedges and trees. The smaller turbines in this typology range would have less visual impact.	Medium	In more open areas and from elevated viewpoints, the height of this typology means that it is likely to appear above many of the smaller features and may be widely visible. Views of this height of turbine are likely to be intermittent and reduced by the screening effects of landform and trees in the more enclosed areas. This typology is smaller in height and will be less widely visible. The smaller turbines in this typology range would have less visual impact.	Medium-low
Cumulative effects	There are consents for three turbines already within this type. No other turbines in adjacent landscape types impact on the landscape character or visual amenity of this type.	There is no significant landscape or visual cumulative effect arising from existing consents.	Low	There is no significant landscape or visual cumulative effect arising from existing consents.	Low

7.2 Summary of sensitivity

The Lowland with Drumlins (15) shares its northern margin with Rolling Lowland Margin (16), and marches with England along its southern edge. Its western boundary lies adjacent to other lowland types – Lowland Margin Platform (17) and Lowland Margin with Hills (18) – as well as the Lowland Valley with Farmland (29) and a short stretch of the Grassland with Hills (11). This landscape is very large in extent, an impression which is reinforced by sharing the pattern of farmed land with some adjacent landscape types. The landform has a very low relief. The long low ridges are long, and parallel, creating even, gently graded undulations with occasional well defined and more contained flat bottomed river valleys, and some areas of more pronounced or complex landform. The pattern of land use reduces the landscape scale, especially as the field pattern is well defined by hedges, hedgerow trees and some small woodlands. This area also has a large number of extensive designed landscapes and historic features.

Settlement varies from towns and villages to farms and short rows of terraced or semi-detached farm cottages. There are areas where settlement is more sparse, and the settlements are connected by an extensive network of roads, including a number of A roads which cross this area. Views from elevated viewpoints can be sustained and panoramic but from many of the roads, views are intermittent, limited by the high hedges.

The large extent of this character type, the sweeping scale of the gently graded landform and occasional more open landscapes where enclosure pattern of trees and hedges is much reduced, as well as the sparse settlement in some areas, combine to create some opportunities for turbines within this landscape. Areas of diverse and well defined land use pattern, prominent landforms, such as low hills, well-defined river valleys and occasional more complex undulations, as well as the setting of settlements, numerous designed landscapes and historic features are all key sensitivities. The recurring presence of features against which the size of a turbine can be assessed is a further sensitivity, as is the widespread visibility that ensures that tall structures are likely to be relatively easily seen. This landscape character type therefore has a **High** sensitivity to large (80m – 140m) typologies, **High-Medium** sensitivity to medium (50m – 80m) typologies, a **Medium** sensitivity to the small-medium (35m – 50m) typology and a **Medium-Low** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be readily accommodated within this farmed landscape type.

7.2.1 *Potential cumulative issues*

There is potential for cumulative landscape and visual effects to occur within this character type if a number of individual or small groups of turbines are constructed across this landscape, although its extent and intermittent visibility are likely to mitigate against impacts in the medium term.

Well-sited turbines and the development of a consistent relationship between turbines and the landform shape or broad settlement pattern is likely to also help minimise potential cumulative impacts.

Cumulative effects can be further minimised if turbines of less than 20m should be sited where they can be associated with farms or buildings to create 'development clusters'. They are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Lowland with Drumlins (15) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting in relation to landform
- Sequential visual impacts experienced when travelling through the landscape, especially on A roads, and well used elevated B roads, and in sequence when travelling through adjoining character types.

7.2.2 *Constraints*

- The low relief which could easily be overwhelmed by tall structures
- The more contained river valleys, smaller scale and more complex landforms and pronounced hills
- The summits and crests of key hills and ridges
- The diverse and consistent vegetation pattern, which is clearly defined by field pattern and hedgerow trees and reduces landscape scale
- The setting of historic and designed landscapes, villages and other settlements
- The visibility of the landscape from elevated viewpoints, including settlements

7.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of features
- Areas of more simple vegetation pattern, where field trees and even hedgerows are more sparse
- The side slopes rather than the crests of ridges
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

7.3 **Guidance for development**

There is limited scope for the small-medium (35m – 50m) and some scope for the small (20m – 35m) development typology to be sited within this character type.

Turbines should avoid convex landforms, and be located on the more open, broader, very gently sloping landform containing natural platforms.

Turbines should also avoid breaching skylines as viewed from key viewpoints, avoid intruding into the setting of historic features and designed landscapes and the setting of buildings and small features.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of the Main Report.

No scope for the large (80m-130m) and medium (50m – 80m) typologies has been identified in this assessment.

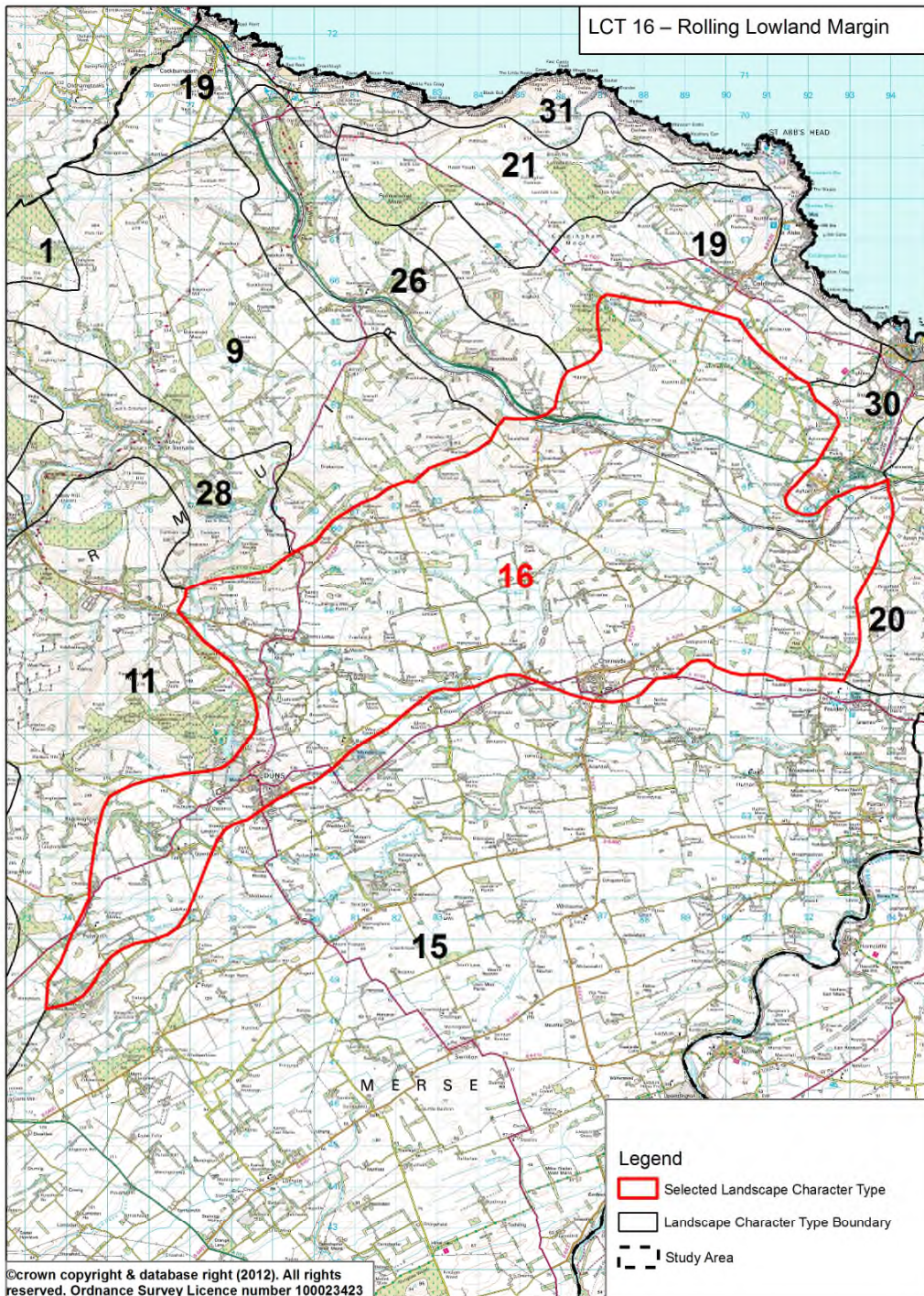
8 CHARACTER TYPE 16: ROLLING LOWLAND MARGIN

8.1 Introduction

The Rolling Lowland Margin (16) landscape character type is present in two areas within the Scottish Borders. Only one of these areas – the Eye Water Lowlands – lies within the Berwickshire study area.

8.1.1 *Operational/consented wind farm development*

Consents for four turbines less than 30m in height and two turbines between 31m and 60m in height have been granted within in this character type.



Character Type 16: Rolling Lowland Margin – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape context	<p>The Rolling Lowland Margin (16) lies to the north of the Lowland with Drumlins (15), and shares boundaries with coastal landscape types to the east, and the upland fringe types of Platform Farmland (9) and Grassland with Hills (11) to the north. It contributes to the setting of a line of forts on the southern edge of the Grassland with Hills (11). It also shares much shorter march boundaries with two valley types. It is large in extent, and shares a similar land use pattern to most of the surrounding landscape types, which reinforces the perception of its extent. It is very visible across neighbouring lowland types, especially the coast, the Lowland with Drumlins (15) and the eastern edge of Grassland with Hills (11). However, the Rolling Lowland Margin (16) is visually quite separate to landscape types to the immediate north, due to the containment provided by a long ridge on its northern edge.</p>	<p>This typology would be readily inter-visible with the surrounding landscape types and would impact upon adjacent landscape characters, especially if sited towards the edges of this type. The potential impact of inter-visibility would be partially reduced if turbines were located in the centre of the type, as it is large in extent, a perception which is reinforced with the continuation of similar landuse pattern across adjacent types.</p>	<p>High-Medium</p>	<p>This typology would be readily inter-visible with the surrounding landscape types and would impact upon adjacent landscape characters. The potential impact of inter-visibility would be partially reduced if turbines were located in the centre of the type, as it is large in extent, a perception which is reinforced with the continuation of similar landuse pattern across adjacent types. Potential inter-visibility is also reduced by the lower height of this typology.</p>	<p>Medium</p>

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Scale and openness	<p>The relief is very low, as the landform undulates between 70m – 130m overall with the very occasional higher hill (159m at Bishopwell plantation), all contained to the north by a long ridge which reaches to 206m at Gallowhill. The topography of low sweeping ridges is gentle and containment is not pronounced, but the presence of trees, frequently on top of the ridgelines, and the enclosure pattern, limits openness and reduces landscape scale. The ridgelines are often seen in 'layered succession', where tree-topped ridges are revealed one behind the other. Where large arable fields, with little in the way of woodland or hedgerow trees dominate, enclosure is reduced, the sweeping landform becomes more dominant, and scale is larger. Where pattern is dominated by small, enclosed fields and woodland, scale is significantly reduced. Nevertheless, the constant presence of trees and less frequently, buildings, provide consistent reference points against which size of turbines can be judged. Some of the farm and industrial buildings are relatively large.</p>	<p>The low relief and the continuous presence of features which can form scale reference points limits the scope to accommodate this typology without significant impacts on landscape scale. The scale of the landscape is reduced by the land use pattern, which increases enclosure where trees and high hedges dominate, but elsewhere the landscape is more open.</p>	High-medium	<p>The low relief and the continuous presence of features which can form scale reference points limits the scope to accommodate this typology without significant impacts on landscape scale. The scale of the landscape is reduced by the land use pattern, which increases enclosure where trees and high hedges dominate, but elsewhere the landscape is more open.</p>	High-medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landform	<p>This rolling landform of generally gentle gradients often appears as a succession of ridges, one behind the other, but in reality it is more complex with some subtle interlock between landform and the ridges forming gentle sinuous curves.</p> <p>The ridges are separated by shallow valleys, and occasional more enclosed, flat-bottomed river valleys, the most pronounced of which is the valley of the Whiteadder.</p> <p>There are also more complex areas of landform generally associated with where the neighbouring valley types march with this landscape type.</p> <p>The long containing ridge to the north has pronounced steep slopes.</p> <p>There are occasional, free-standing rounded hills which are slightly higher than the undulating landform – notably Millerton Hill in the east, and Bunkle Wood/Bishop Well's plantation hill to the west.</p>	<p>Broader and gently graded landforms are the most appropriate for this typology.</p> <p>Small landform features, such as the freestanding hills, the river valleys and areas of more complex landform as well as the pronounced crest of the long ridge along the northern edge of this type are additional sensitivities.</p>	High-Medium	<p>Broader and gently graded landforms are the most appropriate for this typology.</p> <p>Small landform features, such as the freestanding hills, the river valleys and areas of more complex landform as well as the pronounced crest of the long ridge along the northern edge of this type are additional sensitivities.</p> <p>The lower height of this typology would have less impact on the landform, which may be able to provide some well scaled containment and setting.</p>	Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape pattern	<p>Large arable fields, with hedges and lines of trees, including narrow shelterbelts give way to more open areas dominated by fields alone. There are occasional more policy style woodlands, often closer to settlements or associated with particular estates, including the designed landscape of Duns castle.</p> <p>There are also pockets of smaller fields well defined by hedges, and more enclosed landscapes, and occasional hill – or ridge – top planted features.</p>	<p>Opportunities for this typology are limited where the land use pattern is more diverse and complex. More extensive open areas where enclosure pattern and woodland enclosure is much reduced may provide some scope for this typology.</p> <p>Designed landscapes and planted features are sensitive to this typology.</p>	High-Medium	<p>Opportunities for this typology are limited where the land use pattern is more diverse and complex. More extensive open areas where enclosure pattern and woodland enclosure is much reduced may provide some scope for this typology.</p> <p>Designed landscapes and planted features are sensitive to this typology.</p> <p>The lower height of this typology means it could be sited where it will have less impact on diverse landscape patterns.</p>	Medium
Built environment	<p>Several settlements, including the larger Duns and Chirnside, lie within this character type and large farms are dispersed across this landscape. There are also occasional historic features and houses.</p> <p>The main A1 and the east coast railway extend along the eastern side of this type, and there are a number of B roads which are nevertheless well used local roads linking the settlements, as well as an extensive network of smaller roads.</p> <p>There are existing turbines and overhead pylon lines in this type.</p>	<p>The height of this typology will make it difficult to site it where it does not impinge on the setting of settlement in this landscape.</p> <p>The setting of historic buildings and sites, as well as settlement clusters are sensitive to this typology.</p> <p>Existing narrow roads are likely to require upgrading, creating a further change in character, if this size of turbine is to be transported within this area.</p>	High	<p>There may be scope to site this typology without disrupting the setting of individual buildings or settlements, although the height of this typology will make this difficult.</p> <p>The setting of historic buildings and sites, as well as settlement clusters are sensitive to this typology.</p> <p>Existing narrow roads may require upgrading, creating a further change in character, if this size of turbine is to be transported within this area.</p>	High-Medium

Topic	Summary description	Assessment of large typology (80m – 150m)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Perceptual qualities	This landscape is largely farmed with no sense of seclusion or exceptionally dramatic character.	The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.	Low	The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.	Low
Visual amenity	This landscape type is relatively well roaded and settled in parts, with frequent elevated viewpoints allowing panoramic and often sustained views across the area. The openness of some areas contributes to the high visibility, but elsewhere, the woodland and dips in the landform limit views. Both the A1 and the railway are sometimes in cuttings, but other roads can be elevated on the ridges. The pronounced ridge which extends along the northern edge is a widely visible and prominent skyline.	The height of this typology means that it is likely to be widely visible.	High	The height of this typology means that it is likely to be widely visible. The smaller turbines in this typology range would have less visual impact.	High-Medium
Cumulative effects	There are consents for six turbines already within this type, generally although not always associated with farms. No other turbines in adjacent landscape types impact on the landscape character or visual amenity of this type.	There is no significant landscape or visual cumulative effect arising from existing consents.	Low	There is no significant landscape or visual cumulative effect arising from existing consents.	Low

Character Type 16: Rolling Lowland Margin – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	<p>The Rolling Lowland Margin (16) lies to the north of the Lowland with Drumlins (15), and shares boundaries with coastal landscape types to the east, and the upland fringe types of Platform Farmland (9) and Grassland with Hills (11) to the north. It contributes to the setting of a line of forts on the southern edge of the Grassland with Hills (11). It also shares much shorter march boundaries with two valley types. It is large in extent, and shares a similar land use pattern to most of the surrounding landscape types, which reinforces the perception of its extent. It is very visible across neighbouring lowland types, especially the coast, the Lowland with Drumlins (15) and the eastern edge of Grassland with Hills (11). However, the Rolling Lowland Margin (16) is visually quite separate to landscape types to the immediate north, due to the containment provided by a long ridge on its northern edge.</p>	<p>The large extent of this landscape creates scope for siting this typology where it does not impact upon adjacent landscape types.</p>	Low	<p>The large extent of this landscape creates scope for siting this typology where it does not impact upon adjacent landscape types.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Scale and openness	<p>The relief is very low, as the landform undulates between 70m – 130m overall with the very occasional higher hill (159m at Bishopwell plantation), all contained to the north by a long ridge which reaches to 206m at Gallowhill. The topography of low sweeping ridges is gentle and containment is not pronounced, but the presence of trees, frequently on top of the ridgelines, and the enclosure pattern, limits openness and reduces landscape scale. The ridgelines are often seen in 'layered succession', where tree-topped ridges are revealed one behind the other. Where large arable fields, with little in the way of woodland or hedgerow trees dominate, enclosure is reduced, the sweeping landform becomes more dominant, and scale is larger. Where pattern is dominated by small, enclosed fields, and woodland, scale is significantly reduced. Nevertheless, the constant presence of trees and less frequently, buildings, provide consistent reference points against which size of turbines can be judged. Some of the farm and industrial buildings are relatively large.</p>	<p>Where woodland is sparse, the enclosure pattern is weak and the landform scale is more evident, there is more scope for accommodating this typology. The height of this typology would impact on the small scale of areas where the fields are smaller, and the enclosure created by hedges and treelines and woodlands is more pronounced. However, this typology would also impact on the low relief and enclosure within this landscape and the perceived size of features sited on the tops of the ridges. The continuous presence of small features, such as trees and buildings make it difficult to accommodate this size of typology without it appearing much larger than these features. There is likely to be more scope to relate the smaller sizes of this typology to the scale of this landscape.</p>	Medium	<p>Where woodland is sparse, the enclosure pattern is weak and the landform scale is more evident, there is more scope for accommodating this typology. The height of this typology would impact on the small scale of areas where the fields are smaller, and the enclosure created by hedges and treelines and woodlands is more pronounced. However, this typology is less likely to impact on the low relief and the scale of the larger field pattern over much of this landscape. The continuous presence of small features, such as trees and buildings make it difficult to accommodate this size of typology without it appearing much larger than these features, but this size of turbine could relate to larger buildings and other built structures, such as pylons, within this extensive landscape.</p>	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landform	<p>This rolling landform of generally gentle gradients often appears as a succession of ridges, one behind the other, but in reality it is more complex with some subtle interlock between landform and the ridges forming gentle sinuous curves.</p> <p>The ridges are separated by shallow valleys, and occasional more enclosed, flat-bottomed river valleys, the most pronounced of which is the valley of the Whiteadder.</p> <p>There are also more complex areas of landform generally associated with where the neighbouring valley types march with this landscape type.</p> <p>The long containing ridge to the north has pronounced, steep slopes.</p> <p>There are occasional, free-standing rounded hills which are slightly higher than the undulating landform – notably Millerton Hill in the east, and Bunkle Wood/Bishop Well's plantation hill to the west.</p>	<p>The gentle gradients and longer side slopes of the ridges offer scope for this typology.</p> <p>The well-defined river valleys, pronounced landform features such as the rounded hills and the very tops of the ridges are all sensitive to development, as are more complex areas of landform.</p> <p>The crest of the long ridge along the northern edge of this type is also sensitive to this typology.</p>	Medium-Low	<p>The gentle gradients and longer side slopes of the ridges offer scope for this typology.</p> <p>The well-defined river valleys, pronounced landform features such as the rounded hills and the very tops of the ridges are all sensitive to development, as are more complex areas of landform.</p> <p>The crest of the long ridge along the northern edge of this type is also sensitive to this typology.</p> <p>There is likely to be additional potential to accommodate this typology on smaller terraces and changes of gradient within this varied topography.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape pattern	<p>Large arable fields, with hedges and lines of trees, including narrow shelterbelts give way to more open areas dominated by fields alone. There are occasional more policy style woodlands, often closer to settlements or associated with particular estates, including the designed landscape of Duns Castle.</p> <p>There are also pockets of smaller fields well defined by hedges, and more enclosed landscapes, and occasional hill – or ridge – top planted features.</p>	<p>Opportunities for this typology are limited where the land use pattern is more diverse and complex, while areas with more open and simple land cover, including areas where more simple woodland dominates, may provide some scope for this typology.</p> <p>Designed landscapes and planted features are sensitive to this typology.</p>	Medium	<p>Opportunities for this typology are limited where the land use pattern is more diverse and complex, while areas with more open and simple land cover, including areas where more simple woodland dominates, may provide some scope for this typology.</p> <p>Designed landscapes and planted features are sensitive to this typology.</p> <p>This size of typology is less likely to interrupt or distract from the vegetation pattern than taller typologies.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Built environment	<p>Several settlements, including the larger Duns and Chirnside, lie within this character type and large farms are dispersed across this landscape. There are also occasional historic features and houses.</p> <p>The main A1 and the east coast railway extend along the eastern side of this type, and there are a number of B roads which are nevertheless well used local roads linking the settlements, as well as an extensive network of smaller roads.</p> <p>There are a number of existing turbines, and overhead pylon lines in this type.</p>	<p>There are areas within this landscape where farms are very sparsely dispersed, and there is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements.</p> <p>The presence of large buildings, existing turbines and infrastructure all create a pattern of existing development which provides a context for additional development.</p>	Medium	<p>There are areas within this landscape where farms are very sparsely dispersed, and there is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements.</p> <p>This typology could be located where it can be broadly associated with existing settlement pattern. The presence of large buildings, existing turbines and infrastructure all create a pattern of existing development which could provide a context for additional development.</p> <p>This typology may be more easily located where it can be associated with larger farm buildings without compromising the setting of individual farms and other more dispersed settlement.</p>	Medium-Low
Perceptual qualities	<p>This landscape is largely farmed with no sense of seclusion or exceptionally dramatic character.</p>	<p>The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.</p>	Low	<p>The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Visual amenity	<p>This landscape type is relatively well roaded and settled in parts, with frequent elevated viewpoints allowing panoramic and often sustained views across the area.</p> <p>The openness of some areas contributes to the high visibility, but elsewhere, the woodland and dips in the landform limit views.</p> <p>Both the A1 and the railway are sometimes in cuttings, but other roads can be elevated on the ridges.</p> <p>The pronounced ridge which extends along the northern edge is a widely visible and prominent skyline.</p>	<p>In more open areas and from elevated viewpoints, the height of this typology means that it is likely to appear above many of the smaller features and may be widely visible.</p> <p>Views of this height of turbine are likely to be intermittent and reduced by the screening effects of landform and trees in the more enclosed areas.</p> <p>The key visual sensitivity is the skyline, the prominent ridge to the north, which is sensitive to any development.</p> <p>The smaller turbines in this typology range would have less visual impact.</p>	Medium	<p>In more open areas and from elevated viewpoints, the height of this typology means that it is likely to appear above smaller features and may be widely visible.</p> <p>Views of this height of turbine are likely to be intermittent and reduced by the screening effects of landform and trees in more enclosed areas.</p> <p>A key visual sensitivity is the skyline, the prominent ridge to the north, which is sensitive to any development.</p> <p>Nevertheless, this typology is smaller in height and will be less widely visible. The smaller turbines in this typology range would have less visual impact.</p>	Medium-low
Cumulative effects	<p>There are consents for six turbines already within this type, generally although not always associated with farms. No other turbines impact on the landscape character or visual amenity of this type.</p>	<p>There is no significant landscape or visual cumulative effect arising from existing consents.</p>	Low	<p>There is no significant landscape or visual cumulative effect arising from existing consents.</p>	Low

8.2 Summary of sensitivity

The Rolling Lowland Margin (16) shares its longest boundary with the Lowland with Drumlins (15) to the south. The upland fringe types of Platform Farmland (9) and Grassland with Hills (11) lie to the north west, while Coastal Farmland (19) and Coastal Pasture (20) lie to the east. This type also has short march boundaries with three valley types – Coastal Valley (30), Pastoral Upland Fringe Valley (26) and Wooded Upland Fringe Valley (28). This landscape is large in extent, an impression which is further reinforced by the pattern of broadly farmed land which is shared with adjacent landscape types. The landform has a very low relief. The long low ridges are often curved and convoluted to create more complex landforms, often appearing as a series of ridges, unfolding one behind the other. The northern boundary of this type is a pronounced containing ridge which forms the highest landform, the crest highly prominent. The pattern of land use reduces the landscape scale, although it varies from larger scale and more open arable fields, to smaller fields and more enclosed areas, with tree belts, small woods and the occasional historic landscape.

Settlement varies from towns and villages to dispersed, often large, farms. There are areas where settlement is relatively sparse, although the area supports a network of access routes, including several roads and the east coast railway line. Views are often from elevated viewpoints, and can be sustained and panoramic across the more open areas of landscape.

The large extent of this character type, the more open landscapes where fields are large and enclosure pattern of trees and hedges is much reduced, as well as the sparse settlement in some areas combine to create some opportunities for turbines within this landscape. Areas of smaller scale and more diverse land use pattern, prominent landforms, such as low hills, well-defined river valleys and the prominent containing ridge to the north, as well as the setting of settlements are all key sensitivities. The recurring presence of features against which the size of a turbine can be assessed is a further sensitivity, as is the widespread visibility which ensures that tall structures are likely to be easily seen and widely visible. This landscape character type therefore has a **High** sensitivity to large (80m – 140m) typologies, **High-Medium** sensitivity to medium (50m – 80m) typologies, a **Medium** sensitivity to the small-medium (35m – 50m) typology and a **Medium-Low** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be readily accommodated within this farmed landscape type.

8.2.1 *Potential cumulative issues*

There is potential for cumulative landscape and visual effects to occur within this character type, especially in terms of potential sequential visual impacts when travelling along the A1 or the east coast main line, both of which are ‘gateways’ to Scotland when travelling from the south. Care should be taken to

develop a careful and consistent approach to turbine style and siting along these routes.

Well-sited turbines and the development of a consistent relationship between turbines and the landform shape or broad settlement pattern is likely to further minimise potential cumulative impacts.

Cumulative effects can be further minimised if turbines of less than 20m should be sited where they can be associated with farms or buildings to create 'development clusters'. They are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Rolling Lowland Margin (16) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting in relation to landform
- Sequential visual impacts experienced when travelling through the landscape, especially on A roads, well used elevated B roads and the railway
- The high visibility across this landscape is likely to increase sensitivity to visual cumulative effects

8.2.2 *Constraints*

- The low relief which could easily be overwhelmed by tall structures
- The long northern ridgeline which overlooks this type and where a line of forts and historic sites are located on the immediately adjacent Platform Farmland (9)
- The more contained river valleys, smaller scale and more complex landforms and pronounced hills
- The summits and crests of key hills and ridges
- The areas of relatively small scale and diverse vegetation pattern, where field pattern and hedgerow trees reduce landscape scale
- The setting of historic and designed landscapes, villages and other settlements
- The high visibility of the landscape from elevated viewpoints, including settlements

8.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of features
- The side slopes, rather than the crests of ridges
- Areas of more simple vegetation pattern and more open, less settled landscape
- Larger buildings, where small turbines can be located to create a small 'development cluster'

- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

8.3 Guidance for development

There is some scope for the small-medium (35m – 50m) and small (20m – 35m) development typology to be sited within this character type.

Turbines should avoid convex landforms and steep prominent slopes, and be located on the more open, broader, very gently sloping landform containing natural platforms.

Turbines should also avoid breaching skylines as viewed from lower elevations, especially the ridge to the north of this area, which is widely prominent. Turbines should also avoid intruding into the setting of key features, including historic sites, and the setting of buildings, and small features.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of the Main Report.

No scope for the large (80m-130m) and medium (50m – 80m) typologies has been identified in this assessment.

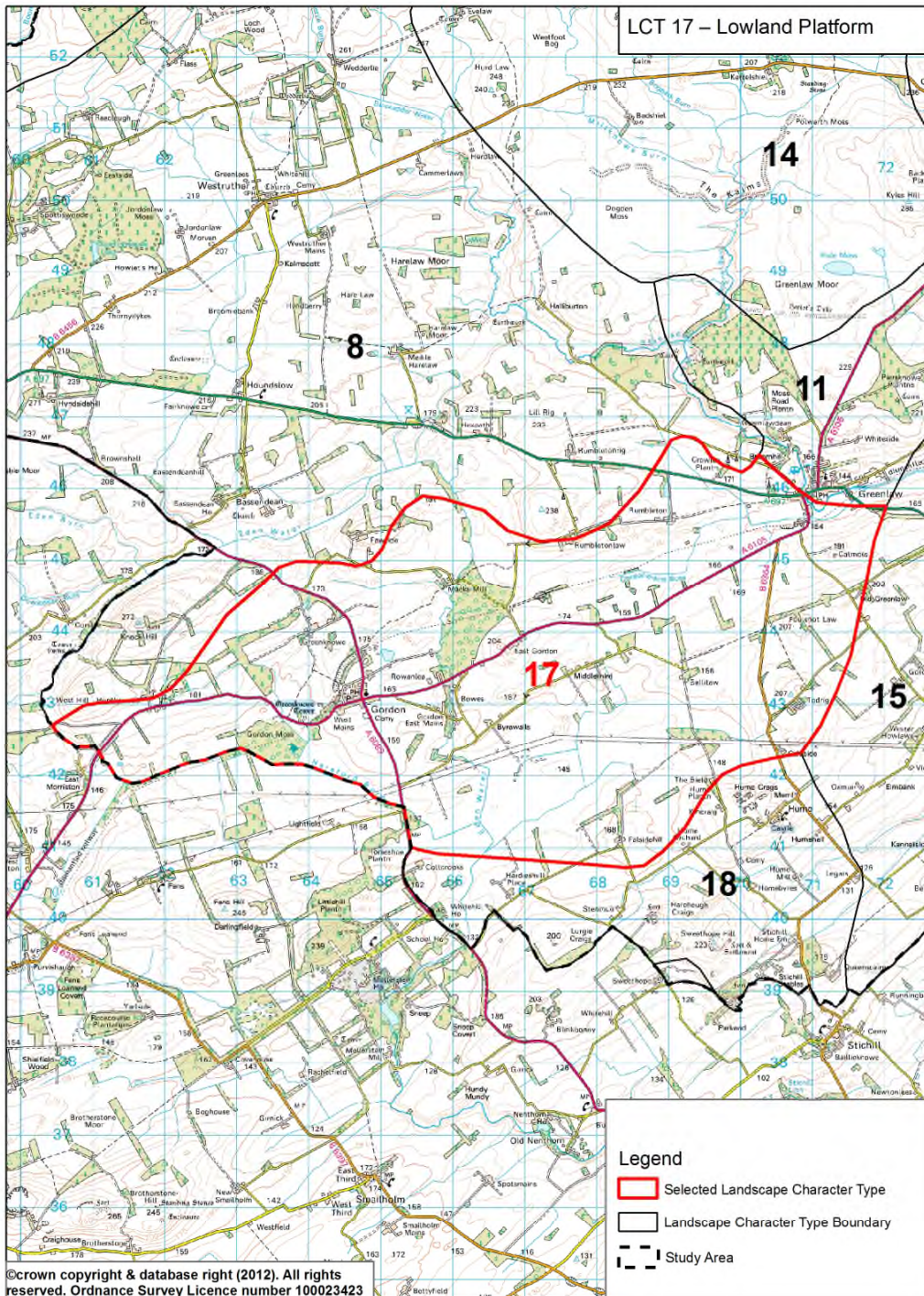
9 CHARACTER TYPE 17: LOWLAND MARGIN PLATFORM

9.1 Introduction

The Lowland Margin Platform (17) landscape character type is only present in one area, the Gordon Platform, within the Scottish Borders. The Gordon Platform area lies within the Berwickshire study area.

9.1.1 *Operational/consented wind farm development*

A consent for only one turbine, which is below 30m in height, has been granted within in this character type.



Character Type 17: Lowland Margin Platform – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape context	<p>The Lowland Margin Platform (17) lies between Rolling Farmland (8) to the north and the knolly Lowland Margin with Hills (18) to the south. It also shares short stretches of boundary with the Lowland with Drumlins (15) and Grassland with Hills (11) to the east.</p> <p>It is small in extent and narrow in shape, and shares some similarities in land use pattern with both the southern Rolling Farmland (8) and the eastern end of Lowland Margin with Hills (18). It is easily inter-visible with these two types and forms the lowlying foreground to views of the outcrop hills in Lowland Margin with Hills (18) from the elevated A6105.</p>	<p>This typology would be inter-visible with the surrounding landscape types and would impact upon adjacent landscape characters, especially the setting and visual context of the visually prominent and striking outcrop hills within Lowland Margin with Hills (18).</p>	High	<p>This typology would be inter-visible with the surrounding landscape types and would impact upon adjacent landscape characters, especially the setting and visually prominent and striking outcrop hills within Lowland Margin with Hills (18).</p>	High

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Scale and openness	<p>The relief is low, ranging from about 140m to a high point of 204m. To the south of this type, the lowlying former wetland is simple and medium scale, influenced by the even, sweeping landform and relative openness. Although there is a field pattern, it is defined by low field walls which do not create significant enclosure. On the drier ridges there are more woodlands and more complex landforms (e.g. east and north of Gordon), form landform which is smaller in scale as containment is increased. Nevertheless, the presence of some trees and buildings, provide reference points against which size of turbines can be judged especially on the higher, drier ground.</p>	<p>The more open and larger scale landform of the former wetland is less sensitive to large structures, although its extent is limited. The very low relief and the enclosure created by more complex landform and woodland pattern within parts of this landscape, as well as the presence of features which can form scale reference points limits the scope to accommodate this typology without significant impacts on general landscape scale.</p>	High-medium	<p>The more open and larger scale landform of the former wetland is less sensitive to large structures, although its extent is limited. The low relief and the enclosure created by more complex landform and woodland pattern within parts of this landscape, as well as the presence of features which can form scale reference points limits the scope to accommodate this typology without significant impacts on general landscape scale. The smaller size of this typology would have less impact on the scale of the more open landscape than the large typology.</p>	Medium
Landform	<p>The lowlying, largely evenly graded and drained former wet moorland dominates the southern part of this area, and the landform then rises to the north to create a series of elevated low hills and drier ridges. There are rounded, more complex landforms north of Gordon.</p>	<p>The simple, low-lying former wetland forms an area of gentle landform. The small hills and more complex landforms are more sensitive.</p>	High-Medium	<p>The simple, low-lying former wetland forms an area of gentle landform. The small hills and more complex landforms are more sensitive.</p>	Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape pattern	The landuse pattern ranges from very open, former moss which is now farmed as pasture and arable land to more extensive arable fields across the higher land. The field boundaries are walls, with very few field trees and only occasional woodland creating some reinforcement of the pattern	The lack of diverse land use pattern and modest reinforcement of field pattern reduce the sensitivity of this landscape for this typology.	Medium	The lack of diverse land use pattern and modest reinforcement of field pattern reduce the sensitivity of this landscape for this typology.	Medium-Low
Built environment	Gordon is the main settlement in this area, and the historic Greenknowe Tower lies just to the west of the settlement. There are also scattered farms and tiny villages. The area supports a modest road network. Gordon is the meeting point of two A roads, and there are also some minor roads linking the farms and smaller settlements. There are two overhead pylon lines crossing this area.	The height of this typology will make it difficult to site it where it does not impinge on the setting of settlement in this narrow landscape area The setting of Greenknowe Tower as well as the few settlement clusters are sensitive to this typology. Existing narrow roads are likely to require upgrading, creating a further change in character, if this size of turbine is to be transported within this area.	High-Medium	There may be scope to site this typology without disrupting the setting of individual buildings or settlements, although the height of this typology will make this difficult. The setting of Greenknowe Tower as well as the few settlement clusters are sensitive to this typology. Existing narrow roads may require upgrading, creating a further change in character, if this size of turbine is to be transported within this area. The smaller size of this typology makes it possible that it might be easier to accommodate without impacting on settlement setting than the largest typology.	High-Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Perceptual qualities	This landscape is largely farmed with no sense of seclusion or exceptionally dramatic character	The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.	Low	The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.	Low
Visual amenity	This landscape type is open and the roads and settlement are elevated, affording fine views to landmark hills in other landscape types and across this type. Views to and from Hume Castle in the adjacent Lowland Margin with Hills (18) are particularly sensitive, as it is on the immediate boundary of this type.	The height of this typology means that it is likely to be widely visible in this relatively open landscape.	High	The height of this typology means that it is likely to be widely visible in this relatively open landscape.	High
Cumulative effects	There is a consent for one turbine already within this type. No other turbines in adjacent landscape types impact on the landscape character or visual amenity of this type.	There is no significant landscape or visual cumulative effect arising from existing consents.	Low	There is no significant landscape or visual cumulative effect arising from existing consents.	Low

Character Type 17 Lowland Margin Platform – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	<p>The Lowland Margin Platform (17) lies between Rolling Farmland (8) to the north and the knolly Lowland Margin with Hills (18) to the south. It also shares short stretches of boundary with the Lowland with Drumlins (15) and Grassland with Hills (11) to the east.</p> <p>It is small in extent and narrow in shape, and shares some similarities in land use pattern with both the southern Rolling Farmland (8) and the eastern end of Lowland Margin with Hills (18). It is easily inter-visible with these two types and forms the lowlying foreground to views of the outcrop hills in Lowland Margin with Hills (18) from the elevated A6105.</p>	<p>This typology could be inter-visible with the surrounding landscape types and would impact upon adjacent landscape characters, especially the setting and visual context of the visually prominent and striking outcrop hills within Lowland Margin with Hills (18). The smaller size of this typology could have less impact on context than the larger typologies.</p>	High-Medium	<p>This typology could be inter-visible with the surrounding landscape types and could impact upon adjacent landscape characters, especially the setting and visual context of the visually prominent and striking outcrop hills within Lowland Margin with Hills (18). The small size of this typology would have less impact on context than the larger typologies.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Scale and openness	<p>The relief is relatively low, ranging from about 140m to a high point of 204m. To the south of this type, the lowlying former wetland is simple and medium scale, influenced by the even, sweeping landform and relative openness.</p> <p>Although there is a field pattern, it is defined by low field walls which do not create significant enclosure.</p> <p>On the drier ridges there are more woodlands and more complex landforms (e.g. east and north of Gordon), form landform which is smaller in scale as containment is increased.</p> <p>Nevertheless, the presence of some trees and buildings, provide reference points against which size of turbines can be judged especially on the higher, drier ground.</p>	<p>The more open and larger scale landform of the former wetland and less enclosed upland landscapes, where vegetation pattern is relatively simple, could accommodate this typology.</p> <p>The low relief and the enclosure created by more complex landform and woodland pattern within parts of this landscape, as well as the presence of features which can form scale reference points remain key sensitivities even for this typology.</p>	Medium-Low	<p>The more open and larger scale landform of the former wetland and less enclosed upland landscapes, where vegetation pattern is relatively simple, could accommodate this typology.</p> <p>The low relief and the enclosure created by more complex landform within parts of this landscape, as well as the presence of features which can form scale reference points remain key sensitivities even for this typology.</p>	Low
Landform	<p>The low-lying, largely evenly graded and drained former wet moorland dominates the southern part of this area, and the landform then rises to the north to create a series of elevated low hills and drier ridges.</p> <p>There are rounded, more complex landforms north of Gordon.</p>	<p>The simple, lowlying former wetland forms an area of gentle landform. The small hills and more complex landforms are more sensitive.</p> <p>There is likely to be additional potential to accommodate this typology on smaller terraces and changes of gradient within the more elevated areas.</p>	Medium-Low	<p>The simple, lowlying former wetland forms an area of gentle landform. The small hills and more complex landforms are more sensitive.</p> <p>There is likely to be additional potential to accommodate this typology on smaller terraces and changes of gradient within the more elevated areas.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape pattern	The landuse pattern ranges from very open, former moss which is now farmed as pasture and arable land to more extensive arable fields across the higher land. The field boundaries are walls, with very few field trees and only occasional woodland creating some reinforcement of the pattern	The lack of diverse land use pattern and modest reinforcement of field pattern reduce the sensitivity of this landscape for this typology.	Medium-Low	The lack of diverse land use pattern and modest reinforcement of field pattern reduce the sensitivity of this landscape for this typology.	Low
Built environment	Gordon is the main settlement in this area, and the historic Greenknowe Tower lies just to the west of the settlement. There are also scattered farms and tiny villages. The area supports a modest road network. Gordon is the meeting point of two A roads, and there are also some minor roads linking the farms and smaller settlements. There are two overhead pylon lines crossing this area.	There is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements. The setting of Greenknowe Tower as well as the few settlement clusters remain sensitive to this typology.	Medium	There is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements. The setting of Greenknowe Tower as well as the few settlement clusters remain sensitive to this typology. The relative small size of this typology should provide opportunities for it to be sited without interrupting the setting of settlement.	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Perceptual qualities	This landscape is largely farmed with no sense of seclusion or exceptionally dramatic character.	The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.	Low	The presence of settlement, infrastructure and farmed land creates a context of developed landscape which provides scope for further development.	Low
Visual amenity	This landscape type is open and the roads and settlement are elevated, affording fine views to landmark hills in other landscape types and across this type. Views to and from Hume Castle in the adjacent Lowland Margin with Hills (18) are particularly sensitive, as it is on the immediate boundary of this type.	The height of this typology means that it is likely to be easily visible in this relatively open landscape.	High-Medium	The height of this typology means that it is likely to be visible in this relatively open landscape.	Medium
Cumulative effects	There is a consent for one turbine already within this type.	There is no significant landscape or visual cumulative effect arising from existing consents within this character type.	Low	There is no significant landscape or visual cumulative effect arising from existing consents within this character type.	Low

9.2 Summary of sensitivity

The Lowland Margin Platform (17) lies between the Rolling Farmland (8), to the north and the Lowland Margin with Hills (18) to the south. Its eastern boundary abuts the Grassland with Hills (11) and the Lowland with Drumlins (15). This landscape is narrow and small in extent, although it shares its vegetation pattern with adjacent landscape types. It offers a contrast and also provides the foreground to the landscape of distinct rocky outcrop hills in Lowland Margin with Hills (18). The landform has a very low relief, with more undulating landform in the northern part. In the lowlying drained moss areas, the simple vegetation pattern creates an open landscape which reinforces the broader scale of the land form. The field pattern is marked out by dykes, and is not strongly enclosed, although there are occasional woodlands and shelterbelts. Settlement is dispersed, with farms located on drier ground and the main village of Gordon a focal point for the main A-class roads. Views from elevated viewpoints, including the major roads, are elevated and sustained, with extensive panoramas over this, neighbouring and even more distant character types.

The relative simplicity of the landscape pattern, which allows the broader land form scale to have a stronger influence on landscape character in this area, as well as the relatively gentle topography and scattered settlement all combine to reduce sensitivity to development in this area. However, the low relief, the extensive panoramic views, the small extent of the area and its importance in providing a setting and views to and from the rocky hills in the neighbouring Lowland Margin with hills (18) are key sensitivities. This landscape character type therefore has a **High** sensitivity to large (80m +) typologies, **High-Medium** sensitivity to medium (50m – 80m) and **Medium** sensitivity to small-medium (35m – 50m) typologies, and a **Medium-Low** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be readily accommodated within this farmed landscape type.

9.2.1 *Potential cumulative issues*

There is potential for cumulative landscape and visual effects to occur within this character type if a number of individual or small groups of turbines are constructed across this landscape.

Well-sited turbines and the development of a consistent relationship between turbines and the landform shape or broad settlement pattern is likely to also help minimise potential cumulative impacts.

Cumulative effects can be further minimised if turbines of less than 20m could be sited where they can be associated with farms or buildings to create 'development clusters'. They are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Lowland Margin Platform (17) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting in relation to landform
- Sequential visual impacts experienced when travelling through the landscape, especially on A roads and in sequence when travelling through adjoining character types
- Views across this landscape to other types, which may increase potential for cumulative visual impacts.

9.2.2 *Constraints*

- The low relief which could easily be overwhelmed by tall structures
- The more contained smaller scale and more complex landforms around Gordon
- The summits of ridges and hills and hills
- The setting of the rocky outcrop hills which are a key feature of the neighbouring Lowland Margin with Hills (18) landscape type, and are a focal point of views from this area
- The fine panoramic views from the elevated roads
- The setting of Greenknowe Tower and Hume Castle.

9.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of features, the views to and from Hume castle and the setting of the outcrop hills in neighbouring Lowland Margin with Hills (18)
- Extensive areas of more simple vegetation pattern
- The side slopes, rather than the crests of ridges
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

9.3 **Guidance for development**

There is limited scope for the small-medium (35m – 50m) and some scope for the small (20m – 35m) development typology to be sited within this character type.

Turbines should avoid convex landforms, and be located on the more open, broader, very gently sloping landform containing natural platforms, away from the setting of the rocky outcrop hills and key historic features.

Turbines should also avoid breaching skylines as viewed from the main roads and settlements, as well as avoid intruding into the setting of key features and the setting of buildings and small features.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and key natural features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of the Main Report.

No scope for the large (80m+) and medium (50m – 80m) typologies has been identified in this assessment.

10 CHARACTER TYPE 19: COASTAL FARMLAND (COLDINGHAM)

10.1 Introduction

The Coastal Farmland (19) landscape character type is present in two areas within the Scottish Borders, both of which – Cockburnspath and Coldingham – lie within the Berwickshire study area.

These two areas are considered separately in the sensitivity assessment due to their different landscape context and scale and because of the potential for specific cumulative issues to arise in the Cockburnspath area (19A) in association with existing and consented wind farm development in East Lothian.

This is the assessment for the Coldingham area of Coastal Farmland landscape type (19).

10.1.1 *Operational/consented wind farms*

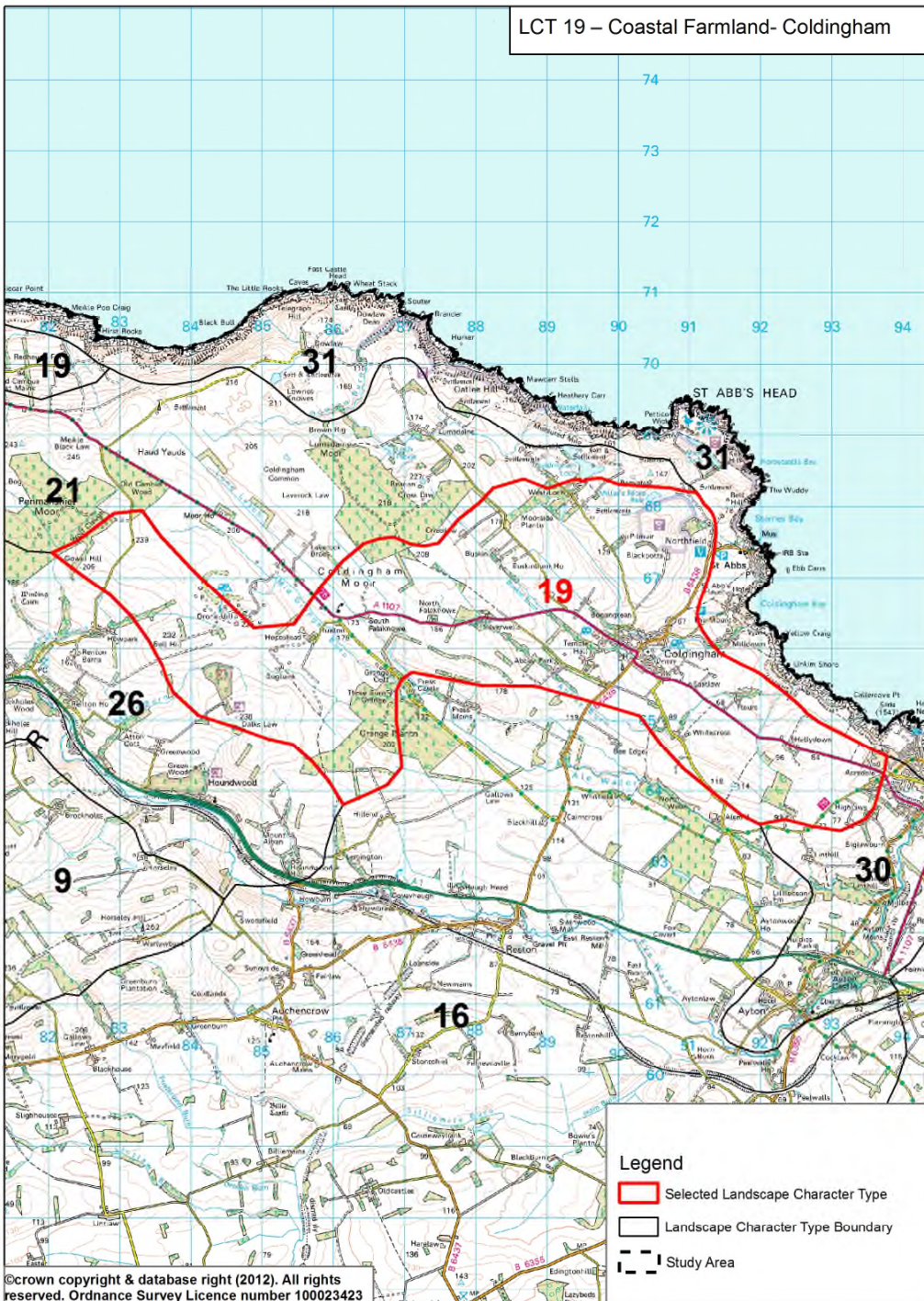
A number of small turbines <30m high are located in this character. Two of these turbines were noted in the West Loch area during field survey.

A single turbine, between 30m – 60m high is located at Pressmains Farm within the 'Rolling Lowland Margin' (16) but close to the boundary with this character type.

The operational Drone Hill wind farm (22 turbines, 76m high to blade tip) is located within the adjacent Coastal Moorland (21) landscape character type. The consented Penmanshiel wind farm (14 turbines, 100m high to blade tip) and the Moor House turbines (2 turbines, 77.9m to blade tip) are also located in the Coastal Moorland (21) landscape character type.

The operational Brockholes (3 turbines, 84m high to blade tip) and the consented Quixwood wind farm (13 turbines, 100/115m high to blade tip), both located in the Platform Farmland (9) character type, will be visible from more elevated parts of this landscape.

LCT 19 – Coastal Farmland- Coldingham



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Character Type 19: Coastal Farmland – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landscape context	This landscape is relatively confined in extent. It merges gradually with the 'Coastal Moorland' (21) to the north-west, where pasture becomes more extensive and open and the landscape less settled, and the 'Rolling Lowland Margin' (16) to the south. A more defined boundary occurs with the adjacent 'Coastal Margin' (31) where a band of small knolls and lochans occurs. More defined rounded hills, including Dalks Law, occur at the boundary with the 'Pastoral Upland Fringe Valley' (26) forming the skyline to views from settlement and the A1.	The limited extent of this landscape and its close proximity to the highly sensitive 'Coastal Margin' (31) and the 'Pastoral Upland Fringe Valley' (26) increases sensitivity to larger typologies. Turbines of this size would be likely to be particularly prominent in views from the A1 if sited on the more defined hills which form the south-west boundary of this character type. They could also significantly intrude on views from well used coastal paths and St Abbs Head.	High	The limited extent of this landscape and its close proximity to the highly sensitive 'Coastal Margin' (31) and the 'Pastoral Upland Fringe Valley' (26) increases sensitivity to larger typologies. Turbines of this size would be likely to be particularly prominent in views from the A1 if sited on the more defined hills which form the south-west boundary of this character type. They could also significantly intrude on views from well used coastal paths and St Abbs Head although there may be some very limited scope to site turbines towards the lower height band of this typology to avoid such intrusion.	High-medium
Scale and openness	A medium scale gently undulating landscape where a regular pattern of dispersed small farms, houses and woodlands provides ready scale references. A degree of containment occurs within the shallow valleys of West Loch and the Buskin burn area.	This typology would appear very large compared with the relatively low relief of small hills. It would also dominate the small buildings which regularly pattern this landscape and provide ready scale references.	High	This typology (and particularly turbines towards the lower height band) would be better able to fit with the scale of larger hills although turbines of this size would still appear very large in comparison with the small buildings which regularly pattern this landscape and provide ready scale references.	High-medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landform	This landscape has a relatively simple landform of low smooth parallel ridges and broad shallow valleys. The landform is more complex and knolly at the transition with the 'Coastal Margin' (31). Occasional more defined rounded hills occur on the south-west boundary and include Dalks Law and Bell Hill.	The generally simple, gently undulating landform of this landscape reduces sensitivity although smaller knolly landform close to the Coastal Margin (31) and particularly defined hills are more sensitive.	Medium	The generally simple, gently undulating landform of this landscape reduces sensitivity although smaller knolly landform close to the Coastal Margin (31) and particularly defined hills are more sensitive.	Medium
Landscape pattern	This farmed landscape comprises pastures enclosed by gorse and thorn hedgerows and stone walls. Wind stunted pine and patches of gorse scrub hint at the coastal aspect of this landscape. Small mixed woodlands and shelterbelts also feature.	The simple land cover pattern of this landscape reduces sensitivity although turbines of this size (and particularly multiple turbines) would detract from lower hill slopes which tend to have a stronger pattern of woodlands and small enclosed fields.	Medium	The simple land cover pattern of this landscape reduces sensitivity although turbines of this size (and particularly multiple turbines) would detract from lower hill slopes which tend to have a stronger pattern of woodlands and small enclosed fields.	Medium
Built environment	The historic settlement of Coldingham is tucked into a dip; the rounded hill of Blackpotts providing an immediate backdrop in views from the B6438. Archaeological features are notable at the transition with the Coastal Margin (31).	This size of turbine could significantly intrude on the setting of Coldingham and on archaeological features if sited close-by.	Medium	There may be increased scope to site this typology to minimise intrusion on the setting of Coldingham and on archaeological features.	Medium-low
Perceptual qualities	This landscape does not have a distinct sense of wildness.	Sensitivity is reduced due to the absence of key perceptual qualities.	Low	Sensitivity is reduced due to the absence of key perceptual qualities.	Low

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Visual amenity	The A1107, a promoted coastal tourist route, provides close views of this landscape. Views from minor 'dead-end' roads and settlement within the more contained valleys of West Loch and Buskin and from Coldingham tend to be restricted by landform.	Turbines of this size would be highly visible from the A1107 and from more openly situated settlement. They may also be visible above low ridges from within the settled valleys.	High	Turbines of this size would also be likely to be visible from the A1107 and from more openly situated settlement. They may also be visible above low ridges from within the settled valleys although there may be some increased scope to site turbines towards the lower height band of this typology to minimise visual intrusion.	High-medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Cumulative effects	<p>The Drone Hill wind farm (22 turbines, 78m high) is located within the adjacent 'Coastal Moorland' (21). Views of this development are limited from the West Loch and Buskin burn valleys and from Coldingham although it is highly visible from more open and elevated farmland either side of the A1107 and close to the boundary with the 'Coastal Moorland' (21). Two consented Moor House turbines (77.9m high) are located close to Drone Hill wind farm and would have minimal cumulative effects, appearing as a reasonably well-integrated extension to this development.</p> <p>The consented Penmanshiel wind farm also located in the adjacent 'Coastal Moorland' (21) would generally be seen behind the operational Drone Hill wind farm in views from the more settled southern part of the Coastal Farmland (19), lessening its impact.</p> <p>The operational Brockholes (3 turbines, 84m high) and consented Quixwood (13 turbines, 100/115m high) wind farms sited in the Platform Farmland (9) are visible from the more elevated parts of this landscape and from the A1 corridor.</p>	<p>Turbines towards the upper height band of this typology would be appreciably larger than the existing Drone Hill turbines. This operational development is located within the shallow basin of the Mid Grange Burn within the 'Coastal Moorland' (21) landscape character type.</p> <p>Turbines of this size located in the smaller scale and more settled 'Coastal Farmland' (19) landscape character type would detract from the design rationale of the Drone Hill wind farm and its clear association of larger turbines with a more simple, open and less settled upland landscape.</p> <p>Turbines of this size sited in this landscape character type would be seen from surrounding landscapes where significant cumulative effects could occur in combination with the Drone Hill, Brockholes, Penmanshiel and Quixwood developments.</p>	High	<p>This typology would be of a comparative scale to the Drone Hill turbines. This operational development is located within the shallow basin of the Mid Grange Burn within the 'Coastal Moorland' (21) landscape character type.</p> <p>Turbines of this size located in the smaller scale and more settled 'Coastal Farmland' (19) landscape character type would detract from the design rationale of the Drone Hill wind farm and its clear association of larger turbines with a more simple, open and less settled upland landscape.</p> <p>Turbines of this size sited in this landscape character type would be seen from surrounding landscapes where significant cumulative effects could occur in combination with the Drone Hill, Brockholes, Penmanshiel and Quixwood developments.</p>	High

Character Type 19: Coastal Farmland – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	This landscape is relatively confined in extent. It merges gradually with the 'Coastal Moorland' (21) to the north-west, where pasture becomes more extensive and open and the landscape less settled, and the 'Rolling Lowland Margin' (16) to the south. A more defined boundary occurs with the adjacent 'Coastal Margin' (31) where a band of small knolls and lochans occurs. More defined rounded hills, including Dalks Law, occur at the boundary with the 'Pastoral Upland Fringe Valley' (26) forming the skyline to views from settlement and the A1.	This typology could impact on surrounding landscape character types if sited on higher hills where they would be more prominent. Turbines towards the lower height band of this typology located on lower hill slopes would have a reduced effect on landscape context. The 'Coastal Margin' (31) remains sensitive to intrusion.	Medium	This typology would have less of an effect on surrounding landscapes as there is greater opportunity to site these smaller turbines on lower hill slopes avoiding intrusion on adjacent landscapes. The 'Coastal Margin' (31) would be sensitive to intrusion even by these smaller turbines.	Medium-low
Scale and openness	A medium scale gently undulating landscape where a regular pattern of dispersed small farms, houses and woodlands provides ready scale references. A degree of containment occurs within the shallow valleys of West Loch and the Buskin burn area.	This typology could relate to the scale of the landform. Turbines of this size would still appear large in relation to buildings although there is scope to accommodate this typology in areas where settlement is less dense.	Medium	There is increased scope to site these smaller turbines to avoid conflicts of scale.	Medium-low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landform	This landscape has a relatively simple landform of low smooth parallel ridges and broad shallow valleys. The landform is more complex and knolly at the transition with the 'Coastal Margin' (31). Occasional more defined rounded hills occur on the south-west boundary and include Dalks Law and Bell Hill.	The simple, gently undulating landform of this landscape reduces sensitivity although more defined hill tops and more complex knolly topography close to the Coastal Margin (31) would be sensitive.	Medium-low	The simple, gently undulating landform of this landscape reduces sensitivity although more defined hill tops and more complex knolly topography close to the Coastal Margin (31) would be sensitive.	Low
Landscape pattern	This farmed landscape comprises pastures enclosed by gorse and thorn hedgerows and stone walls. Wind stunted pine and patches of gorse scrub hint at the coastal aspect of this landscape. Small mixed woodlands and shelterbelts also feature.	The simple land cover pattern of this landscape reduces sensitivity although turbines of this size (and particularly multiple turbines) could detract from lower hill slopes which tend to have a stronger pattern of woodlands and small enclosed fields.	Medium-low	This typology could be more easily accommodated without detracting from more pronounced landscape pattern.	Low
Built environment	The historic settlement of Coldingham is tucked into a dip; the rounded hill of Blackpotts providing an immediate backdrop in views from the B6438. Archaeological features are notable at the transition with the Coastal Margin (31).	There is likely to be increased scope to site turbines of this size to minimise intrusion on the setting of Coldingham and on archaeological features.	Medium-low	These smaller turbines are more likely to be able to be partially screened by landform and vegetation and would have a less dominant scale thus limiting impacts on setting.	Low
Perceptual qualities	This landscape does not have a distinct sense of wildness.	Sensitivity is reduced due to the absence of key perceptual qualities.	Low	Sensitivity is reduced due to the absence of key perceptual qualities.	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Visual amenity	The A1107, a promoted coastal tourist route, provides close views of this landscape. Views from minor 'dead-end' roads and settlement within the more contained valleys of West Loch and Buskin and from Coldingham tend to be restricted by landform.	Turbines of this size would be likely to be visible from the A1107 and from more openly situated settlement. They may also be visible above low ridges from within the settled valleys although there may be some increased scope to site turbines of this height on lower hill slopes to minimise visual intrusion.	High-medium	There are greater opportunities to site these smaller turbines to minimise effects on views and utilise containment by low ridges and woodland.	Medium
Cumulative effects	The Drone Hill wind farm (22 turbines, 78m high) is located within the adjacent 'Coastal Moorland' (21). Views of this development are limited from the West Loch and Buskin burn valleys and from Coldingham although it is highly visible from more open and elevated farmland either side of the A1107 and close to the boundary with the 'Coastal Moorland' (21). Two consented Moor House turbines (77.9m high) are located close to Drone Hill wind farm and would have minimal cumulative effects, appearing as a reasonably well-integrated extension to this development. The consented Penmanshiel wind farm also located in the adjacent 'Coastal Moorland' (21) would generally be seen behind the operational Drone Hill	This typology could have cumulative effects if sited close-by the existing Drone Hill wind farm, resulting in increased visual clutter and affecting the design integrity of this wind farm. Taller turbines within this typology may also be visible in longer views from surrounding landscapes where cumulative effects could occur with the Drone Hill, Penmanshiel, Brockholes and Quixwood developments.	Medium	This typology would have a clear height differential with the Drone Hill turbines and there is also increased scope to site turbines of this size to minimise inter-visibility with the existing Drone Hill wind farm. Turbines towards the lower height band of this typology are less likely to be appreciable in more distant views due to screening by landform and woodlands.	Medium-low

	<p>wind farm in views from the more settled southern part of the Coastal Farmland (19), lessening its impact. The operational Brockholes (3 turbines, 84m high) and consented Quixwood (13 turbines, 100/115m high) wind farms sited in the Platform Farmland (9) are visible from the more elevated parts of this landscape and from the A1 corridor.</p>				
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10.2 Summary of sensitivity

The Coastal Farmland has a gently undulating landform of parallel long, low ridges and shallow valleys and more defined softly rolling hills. Smooth pastures are enclosed by a mix of gorse and thorn hedgerows and edged by wind-swept trees, accentuating the coastal aspect of this landscape. It is well settled with dispersed farms, small houses and the historic settlement of Coldingham nestles in a dip between low hills. This landscape lies adjacent to the highly sensitive Coastal Margin (31); the transition marked by a more complex knolly landform and lochans. The higher hill of Dalks Law forms a prominent edge to the 'Pastoral Upland Fringe Valley' (26) to the south-west and partially contains views of the existing Drone Hill wind farm from this valley which accommodates major transport routes.

The close proximity of operational and consented wind farm development within the adjacent Coastal Moorland (21) and the close proximity of the coast increase sensitivity to larger typologies. There would be a **High** sensitivity to the large and medium typologies (turbines >50m). Sensitivity to the small-medium typology (turbines 35m-50m) would be **Medium** and **Medium-low** for the small typology (turbines 20m-35m) reflecting increased opportunities for these smaller typologies to fit better with the scale of this well-settled landscape, to limit intrusion on adjacent highly sensitive landscapes and to be sited to avoid significant cumulative effects with the existing Drone Hill wind farm.

10.2.1 *Potential cumulative issues*

Potential cumulative issues may include the following:

- Close inter-visibility between operational/consented wind energy developments sited within the 'Coastal Moorland' (21) and any larger turbines sited in this landscape seen from settlement and from key roads including the A1107 designated Berwickshire Coast Route.
- Smaller turbines sited close to the operational Drone Hill and consented Penmanshiel wind farms, increasing visual clutter and contrasts of scale/design with larger turbines and affecting the design rationale of these developments.
- Larger typologies sited in this settled small scale landscape would be contrary to the established association of turbines >70m with more simple and expansive upland landscapes.
- Variations in the type and size of single and small groups of small turbines proposed within the landscape type
- Cumulative visual impacts experienced when travelling through the landscape, especially on the A1 where multiple turbine developments located in this and other character types may dominate skylines above the Upper Eye Water valley.

10.2.2 *Constraints*

- The small to medium scale of this landscape where a regular pattern of settlement, woodlands and enclosed pastures limit scale especially within more contained valleys.
- Higher, more defined hills such as Dalks Hill which form prominent skylines seen from the 'Pastoral Upland Fringe Valley' (26) of the Eye Water Valley which accommodates the A1 and East Coast Railway.
- The operational and consented Drone Hill and Penmanshiel wind farms located within the adjacent 'Coastal Moorland' (21) which generally has a simple landform and pattern and large scale. Similar sized turbines located in the Coastal Farmland would dilute the design rationale and clear association with a particular landscape character demonstrated by this development.
- The proximity of the highly sensitive Coastal Margin (31) where the diverse rugged landform and qualities of wildness associated with this coastal landscape could be significantly affected by intrusion by wind turbine development located within this character type.
- The backdrop provided by the rounded hill of Blackpotts to the historic settlement of Coldingham in views from the B6438.

10.2.3 *Opportunities*

- Shallow valleys and lower hill slopes, which are visually contained from the broad basin of Coldingham Moor and the existing wind farm of Drone Hill, where smaller typologies could be sited to minimise cumulative effects.

10.3 **Guidance for development**

There are some limited opportunities for the small-medium typology (35-50m) to be located in this landscape. Turbines should be sited well away from the operational Drone Hill wind farm in order to avoid cumulative effects. They should not be sited on the more prominent hill tops, such as Dalks Law, where they would intrude on the adjacent 'Pastoral Upland Fringe Valley' (26). Blackpotts Hill is also likely to be sensitive in terms of its role in providing an immediate setting to Coldingham in some views and because taller turbines sited on its top and upper slopes may intrude on the nearby 'Coastal Margin' (31). Turbines should be sited on lower hill slopes in order to reduce their visual prominence.

There are increased opportunities to locate multiple turbines of small typology (20-35m) to minimise cumulative effects as turbines of this size could be sited to be partially back-dropped by low ridges and hill slopes and additionally screened in places by woodland.

Detailed siting and design should accord with the guidance set out in Section 22 of the Main Report.

No scope for the large (80m+) and medium (50m – 80m) typologies has been identified in this assessment.

11 CHARACTER TYPE 19A: COASTAL FARMLAND (COCKBURNSPATH)

11.1 Introduction

The Coastal Farmland (19) landscape character type is present in two areas within the Scottish Borders, both of which – Cockburnspath and Coldingham – lie within the Berwickshire study area.

These two areas are considered separately in the sensitivity assessment due to their different landscape context and scale and because of the potential for specific cumulative issues to arise in the northern area in association with existing and consented wind farm development in East Lothian.

This is the assessment for the Cockburnspath area of Coastal Farmland landscape type, which for the purposes of this study has been called 19a.

11.1.1 *Operational/consented wind farms*

The consented Kinegar Quarry (2 turbines, 110m high) and Hoprigshiels (3 turbines, 115m high) are located in this landscape character type.

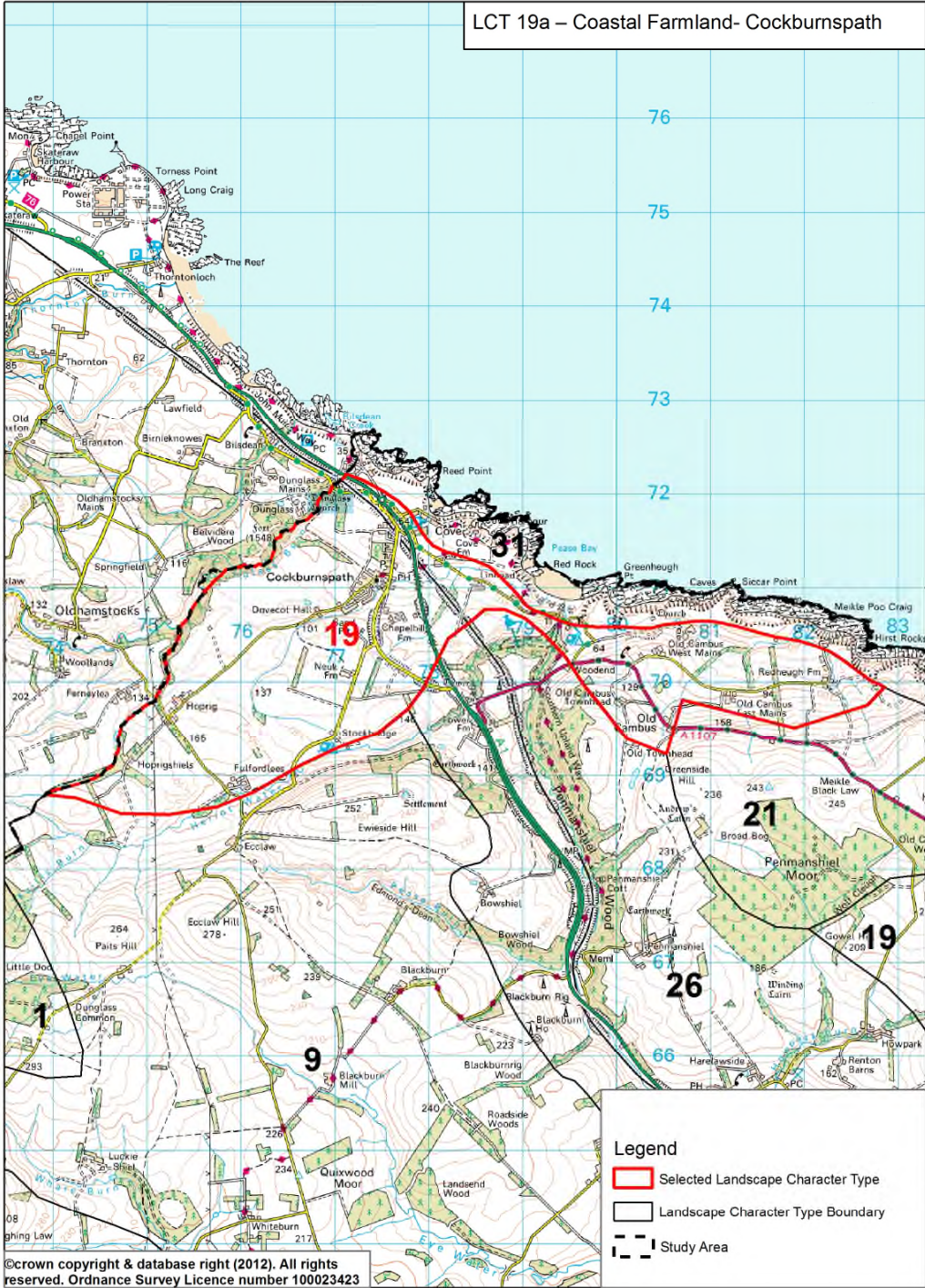
The operational Drone Hill wind farm (22 turbines, 76m high to blade tip) is located within the adjacent Coastal Moorland (21) and is visible on the skyline of a ridge which backdrops the Coastal Farmland – Cockburnspath (19a) to the east. The consented Penmanshiel wind farm (14 turbines, 100m high) is located in the Coastal Moorland landscape character type and would increase the number of turbines visible on the skyline of this same ridge as would the consented Moor House turbines (2 turbines, 77.9m high to blade tip) also located in the adjacent Coastal Moorland .

The operational Aikengall I wind farm (16 turbines, 125m high) located within East Lothian is visible from parts of this landscape, particularly in the Cockburnspath area where it is seen at distances of around 6-7km. The consented Aikengall II consented extension to this development (19 turbines, 145m high) will be considerably more visible on the skyline of hills forming the north-western backdrop to this landscape due to the greater height of the turbines and the closer position of this extension to the outer edge of the uplands.

The consented Quixwood wind farm (13 turbines, 100-115m high) is located to the south in the adjacent Platform Farmland (9) landscape character type. Visibility of this wind farm is likely to be restricted from the Coastal Farmland – Cockburnspath (19a) landscape character type due to the location of this development within the slightly lower core of the Platform Farmland which is contained by a higher ‘rim’ of hills on the northern boundary.³

³ Informed by the visualisation from viewpoint 23 from the Oldhamstocks area within the Quixwood Wind Farm Updated Cumulative Assessment January 2013

LCT 19a – Coastal Farmland- Cockburnspath



Character Type 19a: Coastal Farmland – Cockburnspath. Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80 +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landscape context	This landscape is relatively confined in extent and strongly contained by the steeper hill slopes of the 'Platform Farmland' (9) and 'Coastal Moorland' (21) character types to the south. The eastern part of this landscape forms a narrow strip of undulating farmland against the 'Coastal Margin' (31).	The limited extent of this landscape character type and its close proximity to highly sensitive coastal landscapes increases sensitivity. Turbines of this height would be very prominent in views from the coast and parts of East Lothian from the north although views from the south would be likely to be more contained.	High	The limited extent of this landscape character type and its close proximity to highly sensitive coastal landscapes increases sensitivity. This typology would also significantly intrude on the 'Coastal Margin' (31) although views from the south would be likely to be more contained.	High
Scale and openness	A small to medium scale rolling to gently undulating landscape which is limited in extent. A regular pattern of small buildings, enclosed fields and woodlands provide ready scale references.	This typology would dominate the scale of the landform, settlement and woodlands. Multiple turbines of this size would also overwhelm the very limited extent of this landscape.	High	This typology would dominate the scale of the landform, settlement and woodlands. Multiple turbines of this size would also overwhelm the very limited extent of this landscape.	High
Landform	This landscape is more rolling in the west, forming more gentle slopes down to the coast in the east. The deeply incised narrow Dunglass Valley forms the boundary with East Lothian. Steep slopes provide strong containment to the south at the transition with the 'Coastal Moorland' (21) and the 'Platform Farmland' (9).	Turbines of this size would detract from more complex rolling landform, steep containing slopes and narrow valleys. Areas with more gently undulating, broader slopes would be less sensitive although these are limited in extent, restricting scope for multiple turbines.	High-medium	Turbines of this size would detract from more complex rolling landform, steep containing slopes and narrow valleys. Areas with more gently undulating, broader slopes would be less sensitive.	Medium

Topic	Summary description	Assessment of large typology (80 +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landscape pattern	Small to medium sized pastures and occasional arable fields are enclosed by hedgerows, with occasional field trees, and stone walls. Shelterbelts pattern this landscape and broadleaved woodlands occur within occasional narrow valleys.	Areas with a stronger field enclosure pattern, including occasional field trees, would be more sensitive to this typology.	Medium	Areas with a stronger field enclosure pattern, including occasional field trees, would be more sensitive to this typology.	Medium
Built environment	This landscape forms the immediate setting for the small settlement of Cockburnspath. Archaeological features are notable within the Dunglass Valley on the East Lothian boundary. A high voltage transmission line, quarrying and transport infrastructure influences the character of parts of this landscape. Consented large turbines at Hoprigshiels and Kinegar Quarry will significantly affect the western part of this landscape.	This typology would significantly exacerbate and spread the clutter of disparate built structures evident in parts of this landscape.	High	This typology would significantly exacerbate the clutter of disparate built structures evident in parts of this landscape. There may be some scope to site turbines towards the lower height band of this typology to minimise impact on the less cluttered eastern area of this landscape.	High-medium
Perceptual qualities	This landscape does not have a distinct sense of wildness.	Sensitivity is reduced due to the absence of key perceptual qualities.	Low	Sensitivity is reduced due to the absence of key perceptual qualities.	Low
Visual amenity	The A1107, a promoted coastal tourist route, provides close views of this landscape where its well-managed farmland forms the foreground to views of the coastal edge and sea. Views from the A1 and railway are limited in places by vegetation and cuttings.	Turbines of this size would be highly visible from the A1107 and would significantly intrude on scenic coastal views if sited in the eastern part of this landscape. This typology would also be likely to be prominent in intermittent views from the A1.	High	Turbines of this size would be highly visible from the A1107 and would significantly intrude on highly scenic coastal views if sited in the eastern part of this landscape. This typology would also be likely to be prominent in intermittent views from the A1.	High

Topic	Summary description	Assessment of large typology (80 +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Cumulative effects	<p>The consented Hoprigshiels (3 turbines, 115m) and Kinegar Quarry (2 turbines, 110m) will dominate the scale and limited extent of the western part of this landscape.</p> <p>The Drone Hill wind farm (22 turbines, 78m high) located within the adjacent 'Coastal Moorland '(21) is partially visible on the skyline above steep containing hill slopes in the eastern part of this landscape. The consented Penmanshiel and Moor House wind farms will increase the number of turbines visible on this prominent skyline with both these developments resulting in more turbines seen above nacelle height when compared with views of the Drone Hill wind farm which are largely confined to blade tips.</p> <p>The Aikengall I wind farm (16 turbines 125m high) is visible from the A1107, the A1 and from minor roads in the eastern part of this landscape. The consented Aikengall II extension will be more prominent from the Coastal Farmland due to its larger turbines and closer position on the outer edge of the uplands.</p>	<p>Sensitivity is increased due to the presence of consented large turbines sited within in this character type and the close proximity of operational and consented large scale wind farm development in adjacent character types which would be visible on prominent skylines above this landscape.</p> <p>Significant cumulative effects will occur from the A1107, the A1, sections of the Southern Upland Way and coastal areas as well as minor roads and settlement west of the A1.</p>	High	<p>Sensitivity is increased due to the presence of consented large turbines sited within in this character type and the close proximity of operational and consented large scale wind farm development in adjacent character types which would be visible on prominent skylines above this landscape.</p> <p>Significant cumulative effects will occur from the A1107, the A1, sections of the Southern Upland Way and coastal areas as well as minor roads and settlement west of the A1.</p>	High

Character Type 19a: Coastal Farmland – Cockburnspath. Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	This landscape is relatively confined in extent and strongly contained by the steeper hill slopes of the 'Platform Farmland' (9) and 'Coastal Moorland' (21) character types to the south. The eastern part of this landscape forms a narrow strip of undulating farmland against the 'Coastal Margin' (31).	This typology would impact on the Coastal Margin (31) if sited in the narrow eastern part of this landscape. Effects on adjacent landscapes would be likely to be reduced if sited in the west due to the containment provided by landform.	High-medium	This typology would have less of an effect on surrounding landscapes as it would be more likely to be screened by vegetation and landform. The narrow Coastal Margin (31) remains sensitive to intrusion however by turbines sited close to its boundary.	Medium
Scale and openness	A small to medium scale rolling to gently undulating landscape which is limited in extent. A regular pattern of small buildings, enclosed fields and woodlands provide ready scale references.	Turbines of this size would still appear large in relation to buildings in this well-settled landscape although would fit better with the scale of broader and more open hill slopes.	High-medium	There is increased scope to site these smaller turbines to avoid conflicts of scale.	Medium
Landform	This landscape is more rolling in the west, forming more gentle slopes down to the coast in the east. The deeply incised narrow Dunglass Valley forms the boundary with East Lothian. Steep slopes provide strong containment to the south at the transition with the 'Coastal Moorland' (21) and the 'Platform Farmland' (9).	Turbines of this size would detract from more complex rolling landform, steep containing slopes and narrow valleys although more gently undulating, broader slopes would be less sensitive.	Medium	These smaller turbines could be sited to avoid detracting from more sensitive landform features with increased scope for multiple turbines to be associated with more gently undulating broader hill slopes.	Medium-low
Landscape pattern	Small to medium sized pastures and occasional arable fields are enclosed by hedgerows, with occasional field trees, and stone walls. Mixed shelterbelts pattern also this landscape and broadleaved woodlands occur within occasional narrow valleys.	Areas with a stronger field enclosure pattern, including occasional field trees, would be more sensitive to this typology although there would be increased scope to set turbines of this size well back from these areas.	Medium-low	There are greater opportunities to site this smaller typology to avoid impacts on areas with a more pronounced landscape pattern.	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Built environment	This landscape forms the immediate setting for the small settlement of Cockburnspath. Archaeological features are notable within the Dunglass Valley close to the East Lothian boundary. A high voltage transmission line, quarrying and transport infrastructure influences the character of parts of this landscape. Consented large turbines at Hoprigshiels and Kinegar Quarry will significantly affect the western part of this landscape.	Although there is scope for this typology to be sited to minimise effects on the setting of settlement and archaeological features, turbines would be comparable in size to transmission line towers and could exacerbate and spread the clutter of infrastructure in places.	Medium	There is increased scope to site the smaller turbines of this typology to avoid effects on the setting of settlement and archaeological features. Turbines visually associated with farms and other buildings would minimise clutter and fragmentation of the landscape.	Medium-low
Perceptual qualities	This landscape does not have a distinct sense of wildness.	Sensitivity is reduced due to the absence of key perceptual qualities.	Low	Sensitivity is reduced due to the absence of key perceptual qualities.	Low
Visual amenity	The A1107, a promoted coastal tourist route, provides close views of this landscape where its well-managed farmland forms the foreground to views of the coastal edge and sea. Open views from minor roads in the west are intermittent, being screened by vegetation and landform. Views from the A1 and railway are also limited in places by vegetation and cuttings.	Turbines of this size would be highly visible from the A1107 and would significantly intrude on highly scenic coastal views if sited in the eastern part of this landscape. This typology may be able to be sited to minimise visual intrusion on views from the A1 and Cockburnspath.	High-medium	There are greater opportunities to site these smaller turbines to minimise effects on views and utilise containment by landform and woodland.	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Cumulative effects	<p>The consented Hoprigshiels (3 turbines, 115m) and Kinegar Quarry (2 turbines, 110m) will dominate the scale and limited extent of the western part of this landscape.</p> <p>The Drone Hill wind farm (22 turbines, 78m high) located within the adjacent 'Coastal Moorland '(21) is partially visible on the skyline above steep containing hill slopes in the eastern part of this landscape. The consented Penmanshiel and Moor House wind farms will increase the number of turbines visible on this prominent skyline with both these developments resulting in more turbines seen above nacelle height when compared with views of the Drone Hill wind farm which are largely confined to blade tips.</p> <p>The Aikengall I wind farm (16 turbines 125m high) is visible from the A1107, the A1 and from minor roads in the eastern part of this landscape. The consented Aikengall II extension will be more prominent from the Coastal Farmland due to its larger turbines and closer position on the outer edge of the uplands.</p>	<p>Sensitivity is increased due to the presence of consented large turbines sited within this landscape and the close proximity of operational and consented large scale wind farm development in adjacent landscapes. Significant cumulative effects are most likely to occur from the A1107, the A1 and minor roads and settlement west of the A1 as well as from elevated footpaths such as the Southern Upland Way and hill summits in the surrounding area.</p>	High	<p>This size of turbine would be clearly different in scale to existing wind farm developments but would still be likely to exacerbate clutter within the western part of this landscape. Turbines towards the lower height band of this typology are also less likely to be appreciable in more distant views, due to screening by landform and woodlands, thus limiting cumulative effects.</p>	High-medium

11.2 Summary of sensitivity

The Coastal Farmland – Cockburnspath (19a) character area is relatively small in extent and is strongly contained by the steep edge slopes of the ‘Coastal Moorland’ (21) and ‘Platform Farmland’ (9) to the south. This landscape has a rolling landform to the west, cut by occasional narrow deeply incised wooded river valleys. A more gently sloping topography occurs to the east where this area forms the immediate hinterland to the Coastal Margin (31). The landform, together with dispersed farms and other settlement and small woodlands, contribute to the generally small scale of this landscape. Small to medium sized pastures are enclosed by hedges and stone walls and visibility from narrow roads in the western part of this landscape is often restricted by vegetation and landform. Views are open however from the A1107, a promoted coastal tourist route. The A1, East Coast railway, a transmission line and quarrying fragment this landscape in places although the eastern area is less cluttered by built infrastructure.

A total of 5 large turbines >100m high have been consented in the western part of this landscape character type. The operational and consented wind farm developments of Drone Hill/Moor House and Penmanshiel located in the ‘Coastal Moorland’ (21), and Aikengall I and II, sited in nearby East Lothian, are also visible in close proximity from parts of this landscape.

The small to medium scale of this landscape, the potential for significant cumulative effects to occur with operational and consented wind farms/turbines sited in this and adjacent landscape character types and the close proximity of the coast increase sensitivity to development in this landscape. There would be a **High** sensitivity to the large, medium and small-medium typologies (turbines above 35m). Sensitivity to the small typology (turbines 20-35m) would be **Medium**, reflecting increased opportunities for this typology to fit better with the scale of this well-settled landscape and to be sited to avoid significant cumulative effects.

11.2.1 *Potential cumulative issues*

The consented Hoprigshiels (3 turbines, 115m) and Kinegar Quarry (2 turbines, 110m) will dominate the scale and limited extent of the western part of this landscape. The consented Aikengall II wind farm will increase the spread and extent of large turbines seen in close proximity on the skyline of the ‘Dissected Upland Plateau’ (1) character type (which continues as the ‘East Lammermuir Plateau’ character type in East Lothian), particularly from the western part of this landscape. The consented Penmanshiel wind farm and Moor House turbines will also increase the spread and proportion of individual turbines visible on the skyline of the ridge which contains this landscape to the south and south-east.

Potential cumulative issues may include the following:

- Close inter-visibility between operational and consented large wind turbines sited in this landscape, wind farms sited in adjacent landscape character types (and seen on surrounding skylines) and any further single or small groups of larger turbines sited in this landscape seen from settlement and from key roads including the A1107 designated Berwickshire Coast Route and the A1.
- Larger typologies sited in this settled small scale landscape would be contrary to the established association of turbines >80m with more simple and expansive upland landscapes.
- Additional large wind turbines sited in the western part of this landscape would contribute to the domination of the consented Kinegar Quarry and Hoprigshiels within this strongly contained and relatively small area.
- Additional wind turbines of any size sited in this landscape which would significantly exacerbate the visual clutter likely to arise with consented large turbines located in the western part of this landscape and also when seen with large built infrastructure present within the A1 corridor, which includes transmission lines and Torness Power Station (for example, in extensive views to the north and west from the A1107 in the Old Cambus area).

11.2.2 *Constraints*

- The rolling landform and well-settled nature of this landscape which contribute to its predominantly small scale and which would be dominated by larger typologies. The limited extent of this landscape further increases sensitivity to larger typologies and restricts scope for multiple turbines.
- The operational Drone Hill and Aikengall I wind farms and consented Aikengall II extension, Moor House and Penmanshiel wind farms located in adjacent upland landscapes and visible in close proximity from settlement and key roads.
- The consented Hoprigshiel and Kinegar Quarry wind turbines sited in the western part of this character type which will dominate the scale and limited extent of this relatively confined area (and be seen in close proximity to the consented Aikengall II development) and severely limit scope for additional turbines >35m to be accommodated in this area.
- Potential cumulative effects between operational wind farms, consented large wind turbines and existing built infrastructure associated with the A1/railway transport corridor.
- The proximity of the highly sensitive Coastal Margin (31) where wind turbines sited in the eastern parts of this landscape could intrude on views to the rugged headland of Fast Castle and the sea from the A1107 and the A1.

11.2.3 *Opportunities*

- Lower, less complex hill slopes, particularly within the less cluttered eastern part of this landscape, where smaller typologies could potentially be sited to minimise cumulative impacts.

11.3 Guidance for development

There is some limited scope for the small typology (turbines 20-35m) only. This typology could be sited on lower, less rolling and complex hill slopes although scope is restricted in the western part of this landscape due to the cumulative effects that would be likely to occur with consented large turbines. Turbines should be sited to avoid impact on the narrow wooded valley of Dunglass and located away from existing transmission lines and built infrastructure structures associated with the A1 corridor. Turbines towards the lower height band of this typology could be better accommodated in the eastern part of this landscape where they should be associated with existing settlement and set back from the Coastal Margin (31).

Detailed siting and design should accord with the guidance set out in Section 22 of the Main Report.

No scope for the large (80m+) and medium (50m – 80m) typologies has been identified in this assessment.

12 CHARACTER TYPE 20: COASTAL PASTURE

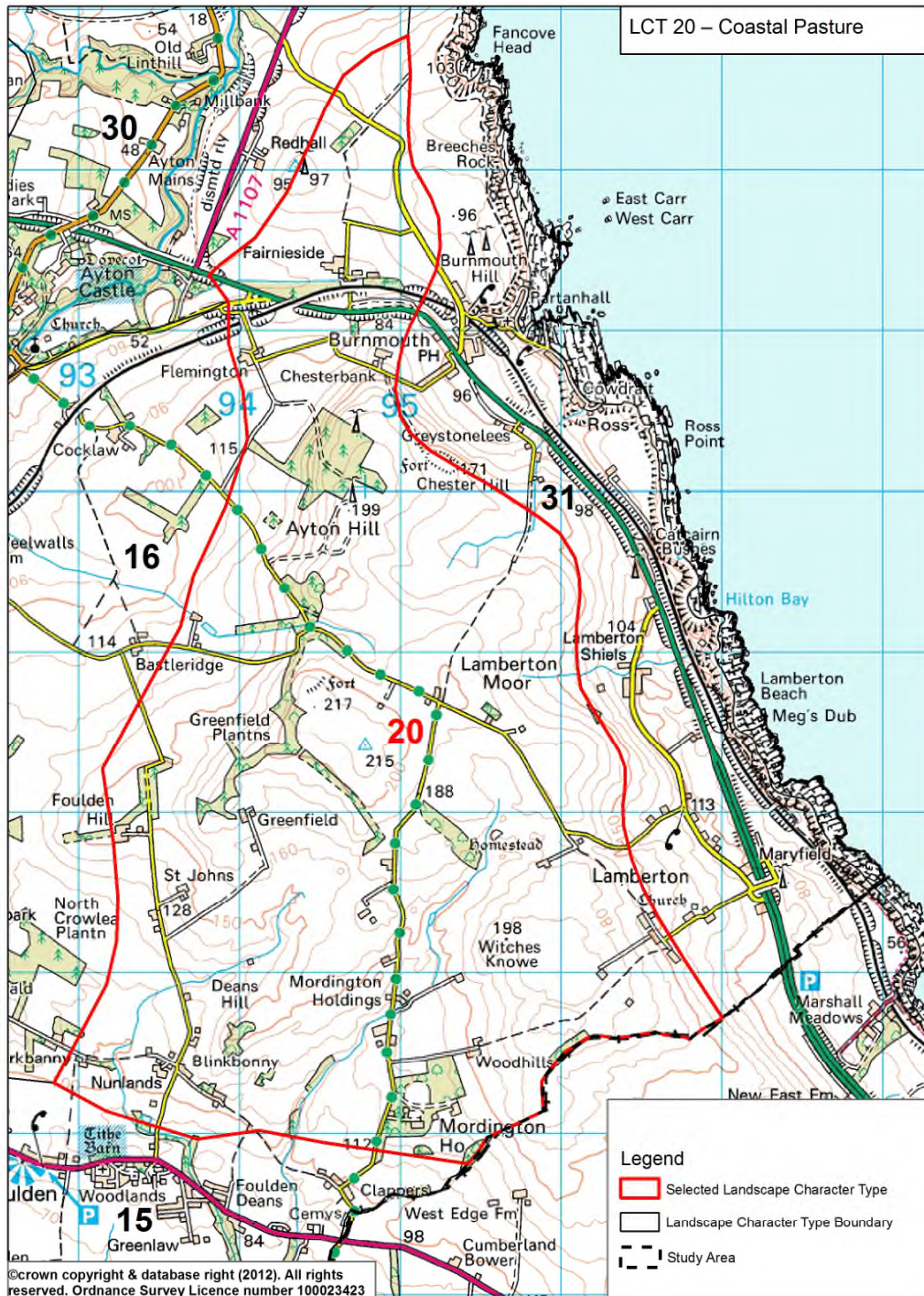
12.1 Introduction

The Coastal Pasture (10) landscape character type is only present in one area, the Lamberton Moor area, within the Scottish Borders. The Lamberton Moor area lies within the Berwickshire study area.

12.1.1 *Operational/consented wind farms*

No wind turbines are located within this character type. Three single turbines, below 30m high, have been approved in this character type.

The existing Drone Hill wind farm, comprising 22 turbines, 76m high to blade tip, located in the 'Coastal Moorland' (21) character type can be seen from elevated parts of this character type at distances of over 12km. The consented Quixwood wind farm (13 turbines, 100-115m), the Brockholes development (3 turbines, 84m high) and Aikengall II (19 turbines, 145m high) will also be visible.



Character Type 20: Coastal Pasture – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80+ m)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landscape context	This character type is geographically small. A prominent ridge of higher ground between Ayton Hill and Deans Hill lying at the core of this landscape is seen widely in views across Lowland Rolling Margin (16), Coastal Valley (30) and Coastal Farmland (19). The higher ground of this landscape abuts the Coastal Margin to the east, forming a prominent skyline seen from the Coastal Margin (31).	The very limited extent of this landscape character type increases sensitivity. Turbines of this height would be very prominent in views from surrounding low-lying and well settled landscapes.	High	The very limited extent of this landscape character type increases sensitivity. Turbines of this height would be prominent in views from surrounding low-lying and well settled landscapes.	High
Scale and openness	This is a small to medium scale landscape. An undulating ridge at the core of this area rises to around 215m. Although this ridge is prominent its relatively lowly relief can be appreciated in comparison with the size of mature trees planted on its top which appear large in relation to its height. This is a well-settled landscape with a regular distribution of small farm buildings and houses.	This typology would dominate the relatively low relief of this landscape and the small scale of more diverse knolly landform on lower hill slopes. It would also overwhelm the size of small buildings which provide ready scale references across this landscape.	High	This typology would dominate the relatively low relief of this landscape and the small scale of more diverse knolly landform on lower hill slopes. It would also overwhelm the size of small buildings which provide ready scale references across this landscape.	High

Topic	Summary description	Assessment of large typology (80+ m)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landform	Areas of hummocky landform with knolls, hollows and occasional rocky outcrops and narrow valleys tend to occur on lower hill slopes. Limited flatter areas of moorland are also a feature in more elevated areas, these often contained by slightly higher ground. An undulating ridge between Ayton Hill and Deans Hill is a prominent landform feature at the core of this landscape.	This typology would significantly detract from more complex landform and the prominent undulating ridge between Ayton Hill and Deans Hill. Although flatter areas of moorland would be less sensitive their limited size and close proximity to areas with a more diverse landform, is a key constraint to turbines of this size.	High	This typology would significantly detract from more complex landform and the prominent undulating ridge between Ayton Hill and Deans Hill. Although flatter areas of moorland would be less sensitive their limited size and close proximity to areas with a more diverse landform, is a key constraint to turbines of this size.	High
Landscape pattern	This landscape has a rough textured vegetation cover with gorse along narrow roads and covering steeper slopes and rugged hill tops. Pastures are often enclosed by drystone walls, these interspersed with more poorly drained flatter areas of rough grazing/moorland. Broadleaved woodlands are more prevalent on sheltered west-facing slopes away from the coast and set within narrow valleys.	This typology could relate to the simple and generally open character of farmland although occasional woodlands would be more sensitive.	Medium	This typology could relate to the simple and generally open character of farmland although occasional woodlands would be more sensitive.	Medium

Topic	Summary description	Assessment of large typology (80+ m)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Built environment	Well-settled with a regular pattern of similar compact houses associated with smallholdings occurring in some areas. Larger farms are also present; these generally located on more sheltered lower hill slopes and surrounded by small woodlands. Hill forts and other archaeological features are present.	This typology would be likely to be seen in close proximity to buildings and archaeological features and would affect their setting due to the limited extent of the character type. Narrow roads could result in landscape and visual effects associated with access improvements for vehicles required to transport turbines of this size.	High	This typology would be likely to be seen in close proximity to buildings and archaeological features and could affect their setting due to the limited extent of the character type. Narrow roads could result in landscape and visual effects associated with access improvements for vehicles required to transport turbines of this size.	High
Perceptual qualities	This landscape is largely farmed and well-settled and consequently has little sense of naturalness. The close proximity of the A1/East Coast railway corridor also precludes a sense of seclusion particularly in the eastern part of this landscape.	Sensitivity is reduced due to the absence of key perceptual qualities.	Low	Sensitivity is reduced due to the absence of key perceptual qualities.	Low

Topic	Summary description	Assessment of large typology (80+ m)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Visual amenity	Views from narrow roads within this landscape are generally restricted by hedgerows and landform. More open and extensive views are possible from the minor road close to Ayton Hill over the Eye Water valley (with Ayton Castle being a key focus in these views). There are also open and elevated views from some sections of road and properties to the coast and sea. This landscape is highly visible from the A1 and surrounding low-lying and well-settled landscapes.	Turbines of this size would be highly visible within this well-settled landscape and could intrude on key views from settlement and roads to the Eye Water valley and the sea. This typology could affect views from the A1 at the threshold to Scotland, particularly if sited on ridges which form the immediate skyline to the route corridor between the border and Burnmouth.	High	Turbines of this size would be highly visible within this well-settled landscape and could intrude on key views from settlement and roads to the Eye Water valley and the sea. This typology could affect views from the A1 at the threshold to Scotland, particularly if sited on ridges which form the immediate skyline to the route corridor between the border and Burnmouth.	High
Cumulative effects	The operational Drone Hill and Brockholes wind energy developments and the consented are Quixwood and Aikengall II wind farms are/will be visible parts of this landscape at distances of over 12km.	No significant cumulative effects would be likely to occur on the basis of existing or consented developments.	Low	No significant cumulative effects would be likely to occur on the basis of existing or consented developments.	Low

Character Type 20: Coastal Pasture – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	This character type is geographically small. A prominent ridge of higher ground between Ayton Hill and Deans Hill, lying at the core of this landscape, is seen widely in views across Lowland Rolling Margin (16), Coastal Valley (30) and Coastal Farmland (19). The higher ground of this landscape abuts the Coastal Margin to the east, forming a prominent skyline seen from the A1 corridor.	This typology could impact on surrounding landscape character types if sited on higher ground where they would be prominent. Turbines towards the lower height band of this typology located on lower hill slopes would have a reduced effect on landscape context.	High-medium	This typology would have less of an effect on surrounding landscapes as it could be sited on lower hill slopes and basins, avoiding intrusion on more prominent ridgelines.	Medium
Scale and openness	This is a small to medium scale landscape. An undulating ridge at the core of this area rises to around 215m. Although this ridge is prominent its relatively lowly relief can be appreciated in comparison with the size of mature trees planted on its top which appear large in relation to its height. This is a well-settled landscape with a regular distribution of small farm buildings and houses.	Although this typology would be less likely to dominate the scale of higher ground at the core of this landscape, turbines of this size would appear very large in relation to mature trees, to smaller scale knolly landform and to buildings which provide ready scale references across this landscape.	High-medium	There is increased scope to site these smaller turbines on broader hill slopes and flatter areas and set back from buildings to avoid conflicts of scale. More complex smaller scale landform remains sensitive however.	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landform	Areas of hummocky landform with knolls, hollows and occasional rocky outcrops and narrow valleys tend to occur on lower hill slopes. Limited flatter areas of moorland are also a feature in more elevated areas, these often contained by slightly higher ground. An undulating ridge between Ayton Hill and Deans Hill is a prominent landform feature at the core of this landscape.	This typology could relate to gentler hill slopes and occasional basins of flatter ground. More complex knolly landform and the prominent undulating ridge between Ayton Hill and Deans Hill have increased sensitivity.	<i>High-medium</i>	There are greater opportunities to locate this size of turbine on lower hill slopes and flatter basin areas to avoid detracting from more complex landform and the prominent ridge between Ayton Hill and Deans Hill.	<i>Medium</i>
Landscape pattern	This landscape has a rough textured vegetation cover with gorse aligning narrow roads and covering steeper slopes and rugged hill tops. Pastures are often enclosed by drystone walls, these interspersed with more poorly drained flatter areas of rough grazing/moorland. Broadleaved woodlands are more prevalent on sheltered west-facing slopes away from the coast and set within narrow valleys.	This typology could relate to the simple and generally open character of farmland although occasional woodlands would be more sensitive.	<i>Medium-low</i>	This typology could relate to the simple and generally open character of farmland although occasional woodlands would be more sensitive.	<i>Medium-low</i>

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Built environment	Well-settled with a regular pattern of similar compact houses associated with smallholdings occurring in some areas. Larger farms are also present; these generally located on more sheltered lower hill slopes and surrounded by small woodlands. Hill forts and other archaeological features are present.	More sparsely settled upper hill slopes would be less sensitive in terms of avoiding impact on the immediate setting of settlement although turbines of this size would be likely to be seen in relative proximity to built features given settlement density and the limited extent of the character type. They may also affect the setting of archaeological features.	High-medium	There is increased scope to site the smaller turbines of this typology to minimise effects on the setting of settlement and archaeological features.	Medium
Perceptual qualities	This landscape is largely farmed and well-settled and consequently has little sense of naturalness. The close proximity of the A1/East Coast railway corridor also precludes a sense of seclusion particularly in the eastern part of this landscape.	Sensitivity is reduced due to the absence of key perceptual qualities.	Low	Sensitivity is reduced due to the absence of key perceptual qualities.	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Visual amenity	Views from narrow roads within this landscape are generally restricted by hedgerows and landform. More open and extensive views are possible from the minor road close to Ayton Hill over the Eye Water valley (with Ayton Castle being a key focus in these views). There are also open and elevated views from some sections of road and properties to the coast and sea. This landscape is highly visible from the A1 and surrounding low-lying and well-settled landscapes.	Turbines of this size would be highly visible if sited on prominent hill tops and ridges or if perched on the edge of steep slopes to the east adjacent to the A1 corridor. There may be some very limited scope to accommodate turbines towards the lower height band of this typology to minimise intrusion by locating them within flatter basins, set well back from more sensitive ridges and skylines and where a degree of containment is provided by higher ground. Key views to the coast and over the Eye Water valley would be sensitive to intrusion.	High-medium	There is increased scope to accommodate this typology to avoid intrusion on sensitive skylines and key views.	Medium
Cumulative effects	The operational Drone Hill and Brockholes wind energy developments and the consented are Quixwood and Aikengall II wind farms are/will be visible parts of this landscape at distances of over 12km.	No significant cumulative effects would be likely to occur on the basis of existing or consented developments.	Low	No significant cumulative effects would be likely to occur on the basis of existing or consented developments.	Low

12.2 Summary of sensitivity

This landscape character type is small in extent, forming an area of low hills between the Coastal Margin and the Tweed Lowlands. Landform can be complex with small scale knolly outcrops, narrow valleys and hollows occurring on lower slopes. The undulating ridge between Ayton Hill and Deans Hill, lying at the core of this landscape, forms a prominent landmark feature seen widely across the Coastal Coastal Farmland (19) and Rolling Lowland Margin (16). The higher ground of this landscape also forms the immediate skyline to the Coastal Margin (31) and is seen from the A1 on the threshold to Scotland when travelling north. This is a well-settled landscape with a regular dispersal of smallholdings and farms and patterned by small woodlands and enclosed pastures.

The small-medium scale of this landscape, its limited extent and the prominence of key ridges increase sensitivity, particularly to larger wind turbines. There would be a **High** sensitivity to the large and medium typologies (turbines above 50m) and a **High-medium** sensitivity to the small-medium typology (turbines 35m-50m). Sensitivity to the small typology (turbines 20-35m) would be **Medium** reflecting increased opportunities to site this typology to avoid intrusion on prominent ridges and skylines and minimise adverse effects on the scale of this landscape.

12.2.1 *Potential cumulative issues*

Potential cumulative impacts could occur if turbines were associated with the majority of landholdings/buildings within this well-settled landscape. Cumulative effects would be exacerbated if there were variations in the type and size of turbines. Larger turbines/wind farms sited in this landscape could also contribute to cumulative effects experienced from the A1 when seen simultaneously and sequentially with the operational Drone Hill and Brockholes developments and the consented Quixwood and Penmanshiel wind farms.

12.2.2 *Constraints*

- The very limited extent of this landscape which increases sensitivity in relation to effects on adjoining landscape character types.
- The low relief of ridges and hills, the small scale of more complex knolly landform and the regular dispersal of small buildings, trees and woodlands which provide ready scale references.
- Sensitive skylines formed by the undulating ridge between Ayton Hill and Deans Hill and the edge of high ground abutting the 'Coastal Margin' (31). Turbines sited on these ridges would be prominent in views from the A1 at the threshold to Scotland and from surrounding lower-lying settled landscapes.

12.2.3 *Opportunities*

- Flatter areas of rough grazing and moorland contained by slightly higher ground and lower hill slopes where the small typology (20-35m turbines) could potentially be sited to avoid intrusion on sensitive skylines.

12.3 Guidance for development

The small typology (turbines 20m-35m) could be accommodated but should avoid breaking the skyline of the landmark ridge between Ayton Hill and Deans Hill. Intrusion on sensitive skylines seen from the A1 between the Scottish/English border and Burnmouth should also be avoided by careful siting on lower hill slopes and flatter areas of moorland and rough pasture at the core of this landscape. Areas of more complex small scale landform would be sensitive to all turbine developments.

Detailed siting and design should accord with the guidance set out in Section 22 of the Main Report.

No scope for the large (80m+) and medium (50m – 80m) typologies has been identified in this assessment.

13 CHARACTER TYPE 21: COASTAL MOORLAND

13.1 Introduction

The Coastal Moorland (21) landscape character type is only present in one area, the Coldingham Moor, within the Scottish Borders. The Coldingham Moor area lies within the Berwickshire study area.

13.1.1 *Operational/consented wind farms*

The operational Drone Hill wind farm (22 turbines, 76m high) is located in this character type. The consented Penmanshiel wind farm, comprising 14 turbines, up to 100m high to blade tip, is largely located within this character type and the consented Moor House turbines (2 turbines, 77.9m high to blade tip) are located close to the Drone Hill wind farm, also within this character type.

There would be restricted visibility of the operational Brockholes development (3 turbines, 84m) and the consented Quixwood wind farm (13 turbines, 100-115m high) sited in the Platform Farmland (9) and lying within approximately 5km of the Coastal Moorland (21) due to the containment provided by higher hills lying on the south-western edge of this landscape and the adjacent Coastal Farmland (19) character type.



Character Type 21: Coastal Moorland – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landscape context	<p>This landscape is unusual in comprising a sparsely settled open moorland landscape with upland characteristics lying within more settled lowland landscapes. It is relatively confined in extent and merges gradually with the 'Coastal Farmland' (19) to the south-east. A more defined boundary occurs with the adjacent 'Pastoral Upland Fringe Valley' (26) where a band of low hills limits visibility of the interior of this landscape. Inter-visibility is similarly limited close to the 'Coastal Margin' (31) where more undulating knolly landform and ridges screen views of the coastal edge. The elevated plateau of this landscape also forms the backdrop to the 'Coastal Farmland' to the north and forms part of the Fast Castle Headland which is highly visible in views from the A1 and East Lothian to the north-east.</p>	<p>The limited extent of this landscape character type and its close proximity to highly sensitive coastal and well-settled lowland landscapes increases sensitivity. Turbines of this height would be very prominent in views from the surrounding lower-lying and well settled landscapes, especially as the Drone Hill wind farm already occupies the lower basin area leaving little scope for sensitive siting of further development. The Coastal Margin (31) is particularly sensitive to intrusion due to its strong qualities of wildness and diverse landform.</p> <p>This typology would be likely to be prominent in views from the A1 and East Lothian especially if turbines were located on the higher hills and ridges and detracted from long views to the Fast Castle Headland from the A1 and East Lothian.</p>	High	<p>The limited extent of this landscape character type and its close proximity to highly sensitive coastal and well-settled lowland landscapes increases sensitivity. Turbines of this height would also be likely to be prominent in views from the surrounding lower-lying and well settled landscapes especially if located on higher ridges and edge hills. The Coastal Margin (31) is particularly sensitive to intrusion due to its strong qualities of wildness and diverse landform.</p> <p>This typology would be likely to be prominent in views from the A1 and East Lothian if turbines were located on the higher hills and ridges and detracted from long views to the Fast Castle Headland from the A1 and East Lothian.</p>	High

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Scale and openness	A medium-large scale landscape within the more open Coldingham Moor area where settlement is sparse and the landform gently undulating. This moorland plateau is not geographically expansive however. The upper valleys of West Loch and Buskin Burn are more contained and settled and have a reduced scale, particularly at the transition with the Coastal Margin (31) where landform becomes increasingly complex. The small hills that form the south-western boundary of this landscape are relatively low in relief rising to around 245m.	This typology would dominate the relatively low relief of small hills and containing ridges and smaller scale settled areas fringing the more open moorland plateau. This typology would also appear overly large in relation to the moorland plateau, which although open in character is very limited in extent.	High	Turbines towards the upper height band of this typology would also dominate the relatively low relief of small hills and smaller scale settled areas fringing the more open moorland plateau. This typology would be likely to have less of an effect on the larger scale of the more open moorland plateau and broader ridges. The limited extent of the more open moorland plateau constrains scope for multiple turbines of this size.	High-medium
Landform	This landscape has a simple landform comprising the broad shallow valley of Coldingham Moor which is contained by long parallel ridges of slightly higher ground. The terrain is generally smooth and gently undulating. Narrower valleys occur to the north-east and the landform is more complex and knolly at the transition with the 'Coastal Margin' (31). Occasional subtly rounded peaks occur and include Cross Law and the higher hills of Dalks Law and Meikle Black Law close to the boundary with the 'Pastoral Upland Fringe Valley' (26).	The generally simple, gently undulating landform of this landscape reduces sensitivity although more distinct hill tops and smaller knolly landform and narrow valleys close to the Coastal Margin (31) are more sensitive. Broad flatter areas are limited thus restricting scope for multiple turbines.	Medium	The generally simple, gently undulating landform of this landscape reduces sensitivity although more distinct hill tops and smaller knolly landform and narrow valleys close to the Coastal Margin (31) are more sensitive. There is increased scope to site turbines of this size within limited areas of flatter and/or gently undulating landform.	Medium-low

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landscape pattern	A simple land cover of heather and grass moorland, rough rush pastures enclosed by fences and drystone dykes, some areas of wetland and coniferous woodlands and shelterbelts.	The simple land cover pattern of this landscape reduces sensitivity.	Low	The simple land cover pattern of this landscape reduces sensitivity.	Low
Built environment	Sparsely settled with widely dispersed farms occurring on the fringes of the moorland plateau and a caravan park at Drone Hill. Small farms and houses are focused within the more sheltered narrow upper valleys of Buskin Burn and the West Loch area. Archaeological features are notable at the transition with the Coastal Margin (31).	Although the moorland plateau is sparsely settled it lies close to settlement located on its fringes thus increasing sensitivity. This typology could additionally affect the setting of archaeological features located at the transition with the Coastal Margin (31).	High-medium	There is some scope for this typology (and particularly turbines towards the lower height band) to be sited to minimise effects on the setting of settlement and archaeological features.	Medium
Perceptual qualities	This landscape does not have a distinct sense of wildness due to the presence of roads and wind farm development.	Sensitivity is reduced due to the absence of key perceptual qualities.	Low	Sensitivity is reduced due to the absence of key perceptual qualities.	Low
Visual amenity	The A1107 – a promoted coastal tourist route – provides close views of this landscape (and the existing Drone Hill wind farm). Views from minor ‘dead-end’ roads and settlement within the more contained valleys of West Loch and Buskin are restricted by landform. There are also open views from dispersed settlement and the caravan park located on the fringes of the moorland plateau.	Turbines of this size would be highly visible from the A1107. They may also be visible on the skyline from more contained valleys.	High	Turbines of this size would be highly visible from the A1107. They may also be visible on the skyline from more contained valleys especially if located on higher ridges and hills.	High

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Cumulative effects	<p>The Drone Hill wind farm (22 turbines, 78m high) and the majority of the turbines of the consented Penmanshiel wind (14 turbines, 100m high) are located within this landscape. The Moor House consented development of 2 x 77.9m high turbines is located close-by the operational Drone Hill wind farm.</p>	<p>Turbines >100m high would be appreciably larger than the existing Drone Hill turbines. The difference in height would be likely to incur significant cumulative effects particularly where turbines were seen in close proximity to each other.</p> <p>The Drone Hill development is located within the shallow basin of the Mid Grange Burn either side of the A1107. The consented Moor House turbines are closely associated with this existing development and the consented Penmanshiel wind farm is also located on generally lower hill slopes. There is likely to be little scope to accommodate any further turbines within this landscape without compromising the design rationale of operational and consented developments (as very few areas of lower ground remain) and affecting the containment offered by slightly higher ridges and small hills.</p> <p>Additional turbines of this size sited in this landscape could increase cumulative effects on the adjacent Eye Water valley, on views from the A1 and on the settled Coastal Farmland – Coldingham (19a).</p>	High	<p>Turbines towards the upper band of this typology would be of a similar height to the Drone Hill turbines thus minimising cumulative effects associated with different turbine sizes.</p> <p>The Drone Hill development is located within the shallow basin of the Mid Grange Burn either side of the A1107. The consented Moor House turbines are closely associated with this existing development and the consented Penmanshiel wind farm is also located on generally lower hill slopes. There is likely to be little scope to accommodate any further turbines within this landscape without compromising the design rationale of operational and consented developments (as very few areas of lower ground remain) and affecting the containment offered by slightly higher ridges and small hills.</p> <p>Additional turbines of this size sited in this landscape could increase cumulative effects on the adjacent Eye Water valley, on views from the A1 and on the settled Coastal Farmland – Coldingham (19a).</p>	High

Character Type 21: Coastal Moorland – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	<p>This landscape is unusual in comprising a sparsely settled open moorland landscape with upland characteristics lying within more settled lowland landscapes. It is relatively confined in extent and merges gradually with the 'Coastal Farmland' (19) to the south-east. A more defined boundary occurs with the adjacent 'Pastoral Upland Fringe Valley' (26) where a band of low hills limits visibility of the interior of this landscape. Inter-visibility is similarly limited close to the 'Coastal Margin' (31) where more undulating knolly landform and ridges screen views of the coastal edge. The elevated plateau of this landscape also forms the backdrop to the 'Coastal Farmland' to the north and forms part of the Fast Castle Headland which is highly visible in views from the A1 and East Lothian to the north-east.</p>	<p>This typology could impact on surrounding landscape character types if sited on higher ground where they would be prominent. Turbines towards the lower height band of this typology located on lower hill slopes would have a reduced effect on landscape context.</p>	High-medium	<p>This typology would have less of an effect on surrounding landscapes as it could be sited on lower hill slopes and basins, avoiding intrusion on more prominent ridgelines.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Scale and openness	A medium-large scale landscape within the more open Coldingham Moor area where settlement is sparse and the landform gently undulating. This moorland plateau is not geographically expansive however. The upper valleys of West Loch and Buskin Burn are more contained and settled and have a reduced scale, particularly at the transition with the Coastal Margin (31) where landform becomes increasingly complex. The small hills that form the south-western boundary of this landscape are relatively low in relief rising to around 245m.	Although this typology would be less likely to dominate the scale of higher hills ground at the core of this landscape, turbines of this size would still appear large in relation to buildings if sited in the more settled fringes of this landscape.	Medium	There is increased scope to site these smaller turbines to avoid conflicts of scale.	Medium-low
Landform	This landscape has a simple landform comprising the broad shallow valley of Coldingham Moor which is contained by long parallel ridges of slightly higher ground. The terrain is generally smooth and gently undulating. Narrower valleys occur to the north-east and the landform is more complex and knolly at the transition with the 'Coastal Margin' (31). Occasional subtly rounded peaks occur and include Cross Law and the higher hills of Dalks Law and Meikle Black Law close to the boundary with the 'Pastoral Upland Fringe Valley' (26).	The simple, gently undulating landform of this landscape reduces sensitivity although more distinct hill tops and smaller knolly landforms and narrow valleys close to the Coastal Margin (31) are more sensitive.	Medium-low	The simple, gently undulating landform of this landscape reduces sensitivity although more distinct hill tops and smaller knolly landform close to the Coastal Margin (31) are more sensitive.	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape pattern	A simple land cover of heather and grass moorland, rough rush pastures enclosed by fences and drystone dykes, some areas of wetland and coniferous woodlands and shelterbelts.	The simple land cover pattern of this landscape reduces sensitivity.	Low	The simple land cover pattern of this landscape reduces sensitivity.	Low
Built environment	Sparsely settled with widely dispersed farms occurring on the fringes of the moorland plateau and a caravan park at Drone Hill. Small farms and houses are focused within the more sheltered narrow upper valleys of Buskin Burn and the West Loch area. Archaeological features are notable at the transition with the Coastal Margin (31).	There is some scope for this typology to be sited to minimise effects on the setting of settlement and archaeological features.	Medium	There is increased scope to site the smaller turbines of this typology to avoid effects on the setting of settlement and archaeological features.	Medium-low
Perceptual qualities	This landscape does not have a distinct sense of wildness due to the presence of roads and wind farm development.	Sensitivity is reduced due to the absence of key perceptual qualities.	Low	Sensitivity is reduced due to the absence of key perceptual qualities.	Low
Visual amenity	The A1107 – a promoted coastal tourist route – provides close views of this landscape (and the existing Drone Hill wind farm). Views from minor ‘dead-end’ roads and settlement within the more contained valleys of West Loch and Buskin are restricted by landform. There are also open views from dispersed settlement and the caravan park located on the fringes of the moorland plateau.	Turbines of this size could have a reduced effect on views from the A1107 if sited on lower slopes and valleys between ridges. They would be prominent however if sited on ridges and higher hills both in views across this character type and from the wider area.	High-medium	There are greater opportunities to site these smaller turbines to minimise effects on views and utilise containment by low ridges and woodland.	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Cumulative effects	The Drone Hill wind farm (22 turbines, 78m high) and the majority of the turbines of the consented Penmanshiel wind (14 turbines, 100m high) are located within this landscape. The Moor House consented development of 2 x 77.9m high turbines is located close-by the operational Drone Hill wind farm.	This typology could have cumulative effects if sited close-by the existing Drone Hill and consented Penmanshiel wind farms where they would increase visual clutter and affect the design integrity of these developments. Turbines of this size located on the slightly higher ridges and small hills which provide a degree of containment to the existing Drone Hill and Penmanshiel wind farms would have cumulative effects on the setting and clear association of these developments with lower-lying ground. Turbines of this size may also be seen in longer views from surrounding landscapes where cumulative effects may occur with the Drone Hill, Penmanshiel, Brockholes and Quixwood wind farms.	High-medium	There is increased scope to site this typology to minimise inter-visibility with the existing Drone Hill wind farm. Turbines towards the lower height band of this typology are less likely to be appreciable in more distant views due to screening by landform and woodlands.	Medium

13.2 Summary of sensitivity

This landscape is unusual in that it comprises an area of sparsely settled moorland set within more settled farmed landscapes. It is limited in extent and this increases sensitivity in terms of landscape context and potential effects on these adjacent well-settled landscapes. It is also located close to the highly sensitive Coastal Margin (31) which has a particularly strong sense of wildness in the most rugged and secluded northern stretches which directly abut this landscape. Although the moorland plateau lying at the core of this landscape is open and has a medium to large scale, the narrower valleys of the Buskin Burn and the West Loch area fringe this plateau and are more contained and settled. The existing Drone Hill wind farm is located within a broad basin lying at the core of this landscape.

The presence of operational and consented wind farm development and the close proximity of smaller scale landscapes and the coast increase sensitivity to development. There would be a **High** sensitivity to the large and medium typologies (turbines above 50m) and a **High-medium** sensitivity to the small-medium typology (turbines 35m-50m). Sensitivity to the small typology (turbines 20-35m) would be **Medium** reflecting increased opportunities to site this typology to avoid close inter-visibility with the operational Drone Hill and consented Penmanshiel wind farms and intrusion on prominent ridges and skylines while fitting better with the scale of the more settled fringes of this landscape.

13.2.1 *Potential cumulative issues*

The operational Drone Hill wind farm is located within a broad basin lying at the core of this landscape. This development has been designed to limit intrusion on the sensitive coastal edge. Its location within a shallow basin (together with limiting the height of turbines to <80m) has reduced prominence in long views as it generally sits within a low point on skylines, being partially contained by slightly higher ridges either side of the basin. The consented Penmanshiel wind farm, while also largely located on lower hill slopes, will extend above containing hills lying on the northern edge of this landscape character type and increase the extent and spread of turbines seen on sensitive skylines from the north. The absence of similarly lower lying basins and hill slopes contained by higher ground within this character type is a severe constraint to larger typologies. Because of this and other constraints, the assessment concludes a high sensitivity to larger typologies.

Potential cumulative effects that could be associated with the development of the small-medium to small typologies are likely to include the following:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type
- Close proximity to the operational Drone Hill and consented Penmanshiel wind farms where smaller turbines could increase visual clutter and

contrasts of scale/design with larger turbines, affecting the setting and design integrity of this wind farm.

- Cumulative visual impacts experienced when travelling through the landscape, especially on the A1 where multiple turbine developments located in this and other character types may dominate skylines above the Upper Eye Water valley.

13.2.2 Constraints

- The operational Drone Hill wind farm which occupies a broad shallow basin, limiting its intrusion on more sensitive landscapes. The consented developments of Penmanshiel and Moor House also occupy generally lower ground. There is likely to be little scope to accommodate any further turbines within this landscape without compromising the design rationale of operational and consented developments (as very few areas of lower ground remain) and affecting the containment offered by slightly higher ridges and small hills.
- The relatively small extent of this character type and its lowland context which increases potential for landscape and visual impact on adjacent well-settled landscapes.
- The proximity of the highly sensitive Coastal Margin (31) where its diverse rugged landform and qualities of wildness would be significantly affected by intrusion by wind turbine development located within this character type.
- The higher ridges and band of hills (including Cross Law, Meikle Black Law, and Dalks Law), the latter two hills lie close to the boundary with the 'Pastoral Upland Fringe Valley' (26) and the Coastal Farmland - Cockburnspath (19a) and form prominent skylines above these small scale landscapes and also partially contain views of the existing Drone Hill wind farm.
- Views of the Fast Castle Headland from the north where it is a prominent feature seen from the A1 and the coast. The operational Drone Hill wind farm occupies a low section of the skyline in these views reducing its prominence with turbine blades mainly visible. The consented Moor House and Penmanshiel wind farms will increase the spread and proportion of turbines visible and additional development within this character type (and particularly sited on higher ground) could exacerbate impacts on these views and significantly detract from the focus of this prominent ridge and headland.
- Cumulative effects between the operational and consented wind energy developments of Quixwood, Aikengall I and II, Black Hill, Hoprigshiels, Kinegar Quarry, Brockholes, Penmanshiel and Drone Hill seen in various combinations from popular elevated walking routes, the A1 and A1107, A6112 and minor roads and settlement. These developments are already spaced at relatively close intervals and additional turbine/wind farm developments would be likely to result in significant cumulative effects

with concentrated long bands of large turbines being seen in some views.⁴

13.2.3 *Opportunities*

- Shallow valleys and lower hill slopes, which are visually contained from the broader basin of Coldingham Moor and the operational and consented wind farms of Drone Hill and Penmanshiel, where smaller typologies could potentially be sited to minimise cumulative impacts.

13.3 **Guidance for development**

The small typology (turbines 20m-35m) could be accommodated although turbines should be sited well away from the basin of Coldingham Moor which forms the setting to the existing Drone Hill wind farm and from the Penmanshiel wind farm to avoid cumulative effects. Turbines should not be sited on hill tops and should also avoid intrusion on the adjacent highly sensitive Coastal Margin (31). Lower subtle ridges and hill slopes within the more settled fringes of this character type would be more appropriate locations for this typology.

Detailed siting and design should accord with the guidance set out Section 22 of the Main Report.

No scope for turbines over 35m high has been identified in this assessment.

⁴ Informed by the visualisations contained in the Quixwood Wind Farm Updated Cumulative Assessment January 2013 and the Penmanshiel Wind Farm Environmental Statement, 2011.

14 CHARACTER TYPE 24: UPLAND VALLEY WITH FARMLAND

14.1 Introduction

The Upland Valley with Farmland (24) landscape character type is present in two areas within the Scottish Borders. Only one of these areas – the Upper Whiteadder area – lies within the Berwickshire study area.

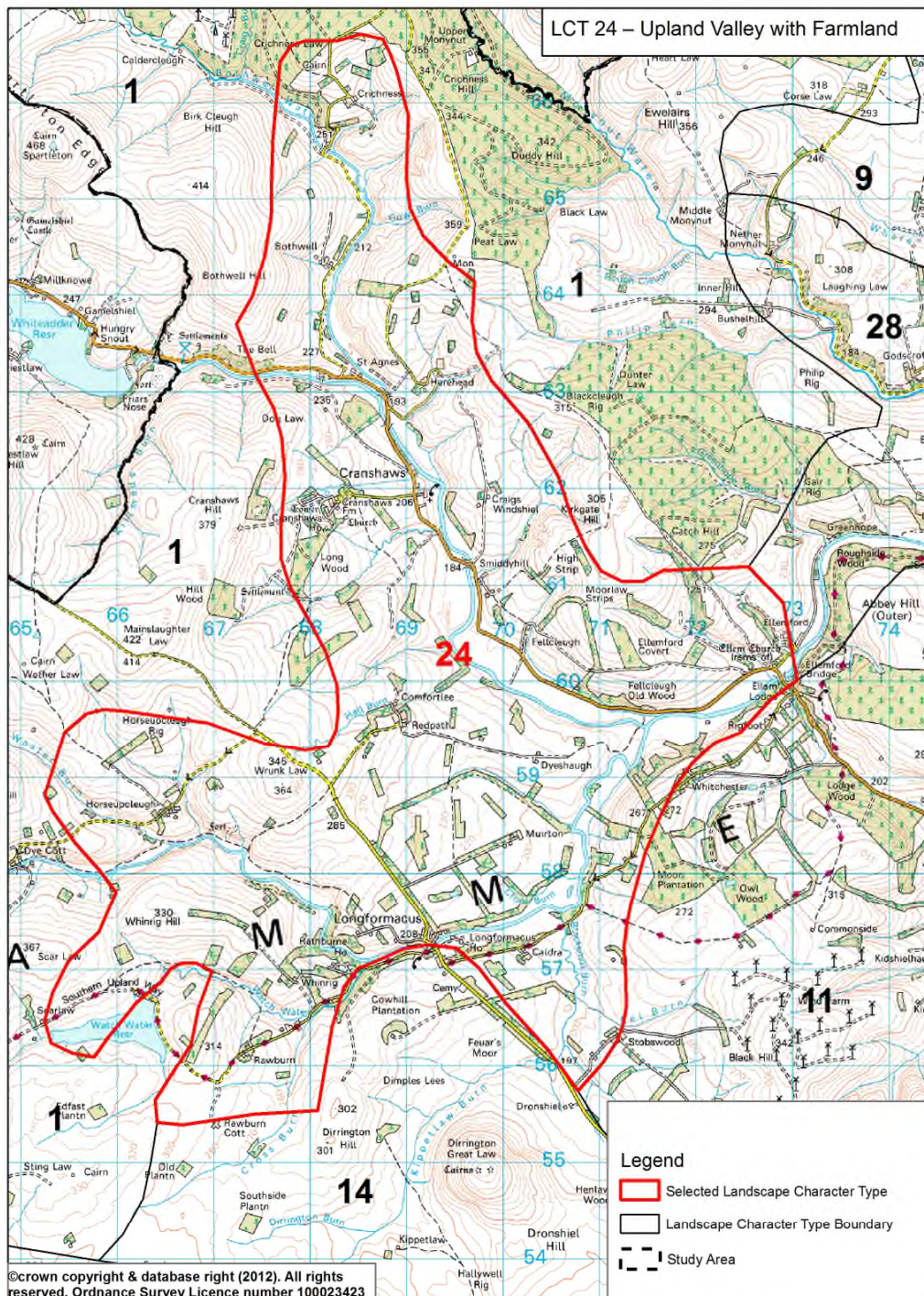
For the purposes of this study, this valley type has been slightly extended to include the containing rim of the upper side slopes of the valley to the south, at Longformacus and Whitchester.

14.1.1 *Operational/consented wind farm development*

No turbines were found within the Upland Valley with Farmland Valley (24) type. However, the constructed wind farms of Black Hill (22 turbines at 78m height to blade tip), located in the adjacent Grassland with Hills (11) type and Crystal Rig wind farm (85 turbines, 125m max. height to blade tip), located in Dissected Moorland Plateau (1) are both visible from within this character type.

In addition, the operational Fallago Rig wind farm (48 turbines, max 125m height to blade tip), which also lies in Dissected Plateau Moorland (1) and the operational/consented Aikengall I and II wind farms (sited in East Lothian and comprising 35 turbines, 125-145m high) are/will be visible from parts of the character type. The consented Quixwood wind farm (13 turbines, 100-115m high) sited in the Platform Farmland (9) will also be visible from more elevated slopes within this character type.

LCT 24 – Upland Valley with Farmland



Character Type 24: Upland Valley with Farmland – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape context	<p>The Upland Valley with Farmland (24), lies between the upland Dissected Plateau Moorland (1) and the Grassland with Hills (11) and Moorland (14) upland fringe types to the south. It merges with Wooded Upland Fringe Valley (28) to the east.</p> <p>The valley is broad and relatively shallow, the hills forming the upper rim form a subtle transition with the foothills to surrounding upland and upland fringe types.</p> <p>This valley is therefore relatively inter-visible with adjacent landscape character types.</p> <p>The pattern of farmland and woodland merges with the land use pattern on the upper slopes of the neighbouring Wooded Upland Fringe Valley (28), but contrasts clearly with extensive areas of upland grassland and the heather moorland character of much of the surrounding area. This reinforces the relative small extent of the Upland Valley with Farmland (24).</p> <p>This landscape type is linear as well as small in extent – its organic shape ensures that it is well interlocked with adjacent landscape types.</p>	<p>The height of this typology would be very inter-visible with the surrounding landscape types and would readily impact upon adjacent landscape characters.</p> <p>The size of this typology would also be difficult to absorb within the limited extent of this landscape type.</p>	High	<p>The height of this typology would be very inter-visible with the surrounding landscape types and would readily impact upon adjacent landscape characters.</p> <p>The size of this typology would also be difficult to absorb within the limited extent of this landscape type, although some neighbouring character types, being more upland in character, may be able to create a larger scale context for this typology on the periphery of this type.</p>	High-Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Scale and openness	<p>The valley floor sits at around 180m, while the upper hill slopes extend to about 345m at Wrunk Law. The relief is therefore relatively low.</p> <p>The breadth of the valley creates an impression of a relatively shallow bowl which is emphasised by the often gentle transition between the valley and surrounding hill slopes and uplands. Smaller scale, narrower side valleys contain minor tributaries to the main rivers. The valley also narrows in its upper reaches and becomes more enclosed to the east and around Longformacus.</p> <p>Medium scale fields are often enclosed by shelterbelts and woodland which increases containment. The diversity of land use, especially relative to surrounding uplands, contributes to a smaller scale landscape pattern.</p> <p>Scattered farms and the constant presence of trees provide consistent reference points against which size of turbines can be judged.</p>	<p>The overall low relief, the enclosure created by land use pattern, the more enclosed valleys and the presence of features which can form scale reference points, severely limits the scope to accommodate this typology without significant impacts on landscape scale.</p>	High	<p>The overall low relief, the enclosure created by land use pattern, the more enclosed valleys and the presence of features which can form scale reference points, severely limits the scope to accommodate this typology without significant impacts on landscape scale.</p>	High

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landform	<p>Rounded, often gentle, convex slopes enclose these river valleys. The valleys become narrower and increasingly steep sided in the upper reaches of the rivers. There are numerous smaller, steep-sided side valleys or cleughs containing tributaries of the main rivers. Areas of very gently graded topography extend along some of the upper slopes and also at the confluence of the main rivers. The valley floor is flat, becoming steeper again only their more elevated upper reaches. The containing ridge merges into the lower slopes and undulating plateaux of neighbouring types.</p>	<p>There are broader and gently graded landforms and shallow bowls which are the most appropriate landform for this typology, but these slopes are very limited in extent and not large enough to form the containment required to create a setting for this size of turbine. The convex landforms and steeper side slopes, as well as more complex and narrow, sinuous upper valleys are particular constraints for this typology. The construction of access roads on steep or convex slopes would be a further constraint for this typology.</p>	High-Medium	<p>There are broader and gently graded landforms and shallow bowls which are the most appropriate landform for this typology, but these slopes are very limited in extent and not large enough to form the containment required to create a setting for this size of turbine. The convex landforms and steeper side slopes, as well as more complex and narrow, sinuous upper valleys are particular constraints for this typology. The construction of access roads on steep or convex slopes would be a further constraint for this typology.</p>	High-Medium
Landscape pattern	<p>A well-defined pattern of cultivated fields and pasture, largely reinforced by the extensive network of shelterbelts and small woods, extends over most of this character type. The woodlands include mixed species and historic and policy woodlands (for example around Longformacus and Whitchester), as well as lines of field trees and numerous small shelterwoods extending high up the slopes.</p>	<p>More extensive areas of open and simple landcover in the upland areas provide scope for this typology. These are limited in extent within this landscape type. The more diverse and complex land use patterns and areas of policy woodland and designed landscape features, are key sensitivities.</p>	High-medium	<p>More extensive areas of open and simple landcover in the upland areas are less sensitive. These are limited in extent within this landscape type, although there may be scope to amalgamate upland grassland at the transition with adjacent upland types to create larger areas of open land. The more diverse and complex land use patterns and areas of policy woodland and designed landscape features, are key sensitivities.</p>	Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Built environment	<p>Settlement varies from the clusters of settlement – the largest being the village of Longformacus – associated with river crossings to farms dispersed across the upper slopes of the hillsides, overlooking the valley. There are also a number of historic buildings, including the houses of Rathburne, Longformacus and Whitcheater and other buildings at Cranshaws and Ellem. There is a modest network of minor roads and farm tracks which criss-crosses this area.</p>	<p>Settlement is dispersed but nevertheless there is unlikely to be scope to site this height of typology without disrupting the setting of individual buildings or settlements. The setting of historic buildings and sites, as well as settlement clusters are sensitive to this typology. Existing narrow roads are likely to require upgrading, creating a further change in character, if this size of turbine is to be transported within this area.</p>	High	<p>Settlement is dispersed, but nevertheless there is likely to be very limited scope to site this typology without disrupting the setting of individual buildings or settlements. The setting of historic buildings and sites, as well as settlement clusters are sensitive to this typology. Existing narrow roads are likely to require upgrading, creating a further change in character, if this size of turbine is to be transported within this area. Smaller turbines in this typology might be easier to accommodate without disrupting the setting of individual settlements and small groups of buildings.</p>	High-Medium
Perceptual qualities	<p>This landscape is largely farmed with limited sense of seclusion, largely related to its lack of accessibility from major public roads. However, the presence of several historic buildings, other historic structures and designed landscapes creates pockets of distinctively more diverse landscape.</p>	<p>The presence of settlement, infrastructure and farmed land reduces creates a context of developed landscape which provides scope for further development, although the setting of more diverse areas with pronounced historic character are sensitive to development.</p>	Medium	<p>The presence of settlement, infrastructure and farmed land reduces creates a context of developed landscape which provides scope for further development, although the setting of more diverse areas with pronounced historic character are sensitive to development.</p>	Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Visual amenity	<p>There are sustained views along and across this valley from elevated roads and from a short stretch of the Southern Upland Way.</p> <p>At lower elevations and within more sinuous sections of the valley, for example the narrower upper reaches, topography and woodland limit views making visibility more intermittent. Some of the settlement is located on elevated sites overlooking the valley and the area is relatively well roaded. The elevated roads which cross into the valley offer high level, panoramic views which often encompass neighbouring character types. The upper rim of the valley forms a distinct interim skyline which is clearly visible from within the valley.</p>	<p>The elevated viewpoints and sustained views of this character type increase its visual sensitivity. Views of this height of turbine are therefore likely to be readily and widely visible.</p>	High	<p>The elevated viewpoints and sustained views of this character type increase its visual sensitivity. Views of this height of turbine are therefore likely to be readily and widely visible.</p>	High
Cumulative effects	<p>Black Hill wind farm, in the adjacent Grassland with Hills (11) is visible from many viewpoints. In addition, the operational Crystal Rig, Aikengall I and Fallago Rig wind farms located in the Dissected Plateau Moorland (1) (and within neighbouring East Lothian) are visible from more elevated viewpoints. The consented Aikengall II and Quixwood wind farms will also be visible.</p>	<p>If turbines of this height were located within the small extent of this landscape type, cumulative landscape and visual effects would be likely to arise with wind farms sited in adjacent upland areas.</p>	High-medium	<p>If turbines of this height were located within the small extent of this landscape type, cumulative landscape and visual effects would be likely to arise with wind farms sited in adjacent upland areas.</p>	High-medium

Character Type 24: Upland Valley with Farmland – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	<p>The Upland Valley with Farmland (24), lies between the upland Dissected Plateau Moorland (1) and the Grassland with Hills (11) and Moorland (14) upland fringe types to the south. It merges with Wooded Upland Fringe Valley (28) to the east.</p> <p>The valley is broad and relatively shallow, the hills forming the upper rim form a subtle transition with the foothills to surrounding upland and upland fringe types.</p> <p>This valley is therefore relatively inter-visible with adjacent landscape character types.</p> <p>The pattern of farmland and woodland merges with the land use pattern on the upper slopes of the neighbouring Wooded Upland Fringe Valley (28), but contrasts clearly with extensive areas of upland grassland and the heather moorland character of much of the surrounding area. This reinforces the relative small extent of the Upland Valley with Farmland (24).</p> <p>This landscape type is linear as well as small in extent – its organic shape ensures that it is well interlocked with adjacent landscape types.</p>	<p>This typology would be readily inter-visible with the surrounding landscape types and would impact upon adjacent landscape characters, some of which however, being more upland in character, may be able to create a larger scale context for this typology.</p>	Medium	<p>This typology could be inter-visible with the surrounding landscape types and would impact upon adjacent landscape characters, but its relatively small size would limit the extent of any impact on adjacent character types.</p>	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Scale and openness	<p>The valley floor sits at around 180m, while the upper hill slopes extend to about 345m at Wrunk Law. The relief is therefore relatively low. The breadth of the valley creates an impression of a relatively shallow bowl which is emphasised by the often gentle transition between the valley and surrounding hill slopes and uplands. Smaller scale, narrower side valleys contain minor tributaries to the main rivers. The valley also narrows in its upper reaches and becomes more enclosed to the east and around Longformacus.</p> <p>Medium scale fields are often enclosed by shelterbelts and woodland which increases containment. The diversity of land use, especially relative to surrounding uplands, contributes to a smaller scale landscape pattern. Scattered farms and the constant presence of trees provide consistent reference points against which size of turbines can be judged.</p>	<p>The broad scale of the valley and the more open upper reaches, especially at the transition with the more open uplands, may provide some scope for accommodating this typology. However, this typology would impact on the enclosure within the most narrow, steep sided stretches of the valley and in the smaller side valleys. Where small features – including trees and farms – are present, it would be difficult to accommodate this size of typology without it appearing much larger than these features.</p>	High-Medium	<p>The broad scale of the valley and the more open upper reaches, especially at the transition with the more open uplands, provide scope for accommodating this typology, including areas where the larger fields and bigger scale field patterns dominate. It would be difficult to accommodate this size of typology close to small buildings without it appearing larger than these features and possibly diminishing their scale.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landform	<p>Rounded, often gentle, convex slopes enclose these river valleys. The valleys become narrower and increasingly steep sided in the upper reaches of the rivers. There are numerous smaller, steep-sided side valleys or cleughs containing tributaries of the main rivers. Areas of very gently graded topography extend along some of the upper slopes and also at the confluence of the main rivers. The valley floor is flat, becoming steeper again only their more elevated upper reaches.</p> <p>The containing ridge merges into the lower slopes and undulating plateaux of neighbouring types.</p>	<p>The broad gentle slopes are likely to offer scope for siting this typology.</p> <p>Natural terraces or changes of gradient on long, evenly graded and gentle slopes are likely to offer more potential than areas of complex and steep sided landform, or where the convex form of the side slopes is pronounced.</p> <p>The construction of access roads on steep and convex slopes would be a further constraint for this typology.</p> <p>The gently undulating profile of the ridgeline is an additional sensitivity – it often also marks the transition in landuse pattern from more complex valley land use to more simple upland landuse.</p>	Medium	<p>The broad gentle slopes are likely to offer scope for siting this typology.</p> <p>Natural terraces or changes of gradient on long, evenly graded and gentle slopes are likely to offer more potential than areas of complex and steep sided landform, or where the convex form of the side slopes is pronounced.</p> <p>There is likely to be additional potential to accommodate this typology on smaller terraces and changes of gradient within side valleys.</p> <p>The gently undulating profile of the ridgeline is sensitive even to this typology – it often also marks the transition in landuse pattern from more complex valley land use to more simple upland landuse.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape pattern	<p>A well-defined pattern of cultivated fields and pasture, largely reinforced by the extensive network of shelterbelts and small woods, extends over most of this character type. The woodlands include mixed species and historic and policy woodlands (for example around Longformacus and Whitchester), as well as lines of field trees and numerous small shelterwoods extending high up the slopes.</p>	<p>More open and simple landcover, which tends to be along the upper slopes or transition with more upland types, provides scope for this typology.</p> <p>The more diverse and complex land use patterns and areas of policy woodland and designed landscape features, are sensitive to this typology.</p>	Medium-Low	<p>More open and simple landcover, which tends to be along the upper slopes or transition with more upland types, provides scope for this typology, as do the larger field patterns.</p> <p>The more diverse and complex land use patterns and areas of policy woodland and designed landscape features, are also sensitive to this typology</p> <p>This size of typology is less likely to interrupt or distract from the landcover pattern than taller typologies.</p>	Low
Built environment	<p>Settlement varies from the clusters of settlement – the largest being the village of Longformacus – associated with river crossings to farms dispersed across the upper slopes of the hillsides, overlooking the valley. There are also a number of historic buildings, including the houses of Rathburne, Longformacus and Whitchester and other buildings at Cranshaws and Ellem. There is a modest network of minor roads and farm tracks which crisscrosses this area.</p>	<p>Settlement is dispersed, therefore there is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements.</p> <p>The setting of historic buildings and clusters of settlement are sensitive to this typology.</p>	Medium	<p>Settlement is dispersed, therefore there is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements, and it could be located where it can be broadly associated with existing settlement pattern. The setting of historic buildings and clusters of settlement are nevertheless still sensitive to this typology.</p> <p>This smaller size of this typology may be more easily located where it can be associated with larger farm buildings</p>	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Perceptual qualities	<p>This landscape is largely farmed with limited sense of seclusion, largely related to its lack of accessibility from major public roads.</p> <p>However, the presence of several historic buildings, other historic structures and designed landscapes creates pockets of distinctively more diverse landscape.</p>	<p>The presence of settlement, infrastructure and farmed land reduces creates a context of developed landscape which provides scope for further development, although the setting of more diverse areas with pronounced historic character are sensitive to development.</p>	Medium-Low	<p>The presence of settlement, infrastructure and farmed land reduces creates a context of developed landscape which provides scope for further development, although the setting of more diverse areas with pronounced historic character are sensitive to development.</p>	Medium-Low
Visual amenity	<p>There are sustained views along and across this valley from elevated roads and from a short stretch of the Southern Upland Way.</p> <p>At lower elevations and within more sinuous sections of the valley, for example the narrower upper reaches, topography and woodland limit views making visibility more intermittent.</p> <p>Some of the settlement is located on elevated sites overlooking the valley and the area is relatively well roaded.</p> <p>The elevated roads which cross into the valley offer high level, panoramic views which often encompass neighbouring character types.</p> <p>The upper rim of the valley forms a distinct interim skyline which is clearly visible from within the valley.</p>	<p>The elevated viewpoints and sustained views of this character type increase its visual sensitivity. Views of this height of turbine are therefore likely to be readily and widely visible, especially if they are located in the main section of the broader middle valleys.</p> <p>The key visual sensitivity is the interim skyline which forms the rim of the valley, which is sensitive to any development.</p> <p>The smaller turbines in this typology range would have less visual impact.</p>	High-Medium	<p>The elevated viewpoints and sustained views of this character type increase its visual sensitivity. Views of this height of turbine are therefore likely to be readily and widely visible, especially if they are located in the main section of the broader middle valleys.</p> <p>The key visual sensitivity is the skyline which forms the rim of the valley, which is sensitive to any development.</p> <p>Nevertheless, this typology is smaller in height and will be less widely visible than taller turbines.</p> <p>The smaller turbines in this typology range would have less visual impact.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Cumulative effects	Black Hill wind farm, in the adjacent Grassland with Hills (11) is visible from many viewpoints. In addition, the operational Crystal Rig, Aikengall I and Fallago Rig wind farms located in the Dissected Plateau Moorland (1) (and within neighbouring East Lothian) are visible from more elevated viewpoints. The consented Aikengall II and Quixwood wind farms will also be visible.	There is potential for negative visual cumulative effects to occur with operational and consented wind farms in neighbouring character types, in particular with the Black Hill wind farm which lies close to this landscape.	Medium	This size of turbine would have minimal cumulative effects with operational and consented wind farms in neighbouring character types.	Low

14.2 Summary of sensitivity

The Upland Valley with Farmland (24) landscape character type lies along the southern edge of the Dissected Plateau Moorland (1), extending up to the foothills. It extends south to the edge of Grassland with Hills (11) and Moorland (14), both of which are upland fringe landscape types. The valleys are broad and flat-bottomed. They appear shallow because of the gentle transition in gradient with the surrounding higher hills, but relief is relatively low. The immediate river valleys are narrower, with steeper slopes, especially in the upper reaches of the main rivers and within the side valleys occupied by tributaries. The rounded landform is dominated by convex slopes rising up to an undulating ridgeline. The cultivated farmland and pasture fields are well defined by numerous shelterbelts, tree lines and small woods, as well as some policy woodland, all of which combine to create a diverse pattern which contrasts with surrounding moorland and upland grassland. The land use pattern in is medium scale, becoming larger across the upper slopes where it is more open.

Larger settlements and historic houses and other buildings are generally associated with the river crossings, while there are dispersed farms along the upper slopes. Roads and viewpoints can be elevated, with frequent panoramic and sustained views across and along the main valleys and into neighbouring landscape types. The interim ridge containing the valley is clearly visible.

The breadth of the valleys and the relative openness at the transition with adjacent larger scaled uplands, as well as the presence of smooth and gently graded slopes, all offer scope for some development. However, the smaller scale of the side valleys, the diverse pattern of land use, the areas of historic character, the presence of some small scale features against which the height of a turbine can be readily assessed and the skyline ridge are key sensitivities of this character type. The area is not well settled, and visibility is largely from minor roads, although views are extensive and turbines would be widely visible within the main core of the valleys. There is also potential for negative cumulative effects between larger typologies and wind farms within adjacent landscape types. This landscape character type therefore has a **High** sensitivity to large (80m – 140m) and medium (50m – 80m) typologies, a **Medium** sensitivity to the small-medium (35m – 50m) typology and a **Medium-Low** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be more readily accommodated within the farmed areas within this landscape type.

14.2.1 *Potential cumulative issues*

Negative cumulative landscape and visual impacts are most likely to occur in the immediate future if large turbines and wind farms on surrounding landscape types encircle the valley or extend close to the rim of the valley, creating opportunities for visual clutter to occur between different heights and types of turbine.

There is further potential for cumulative landscape and visual effects to arise in the future if turbines are located where they are inter-visible with wind farms or large individual turbines on adjacent landscape types.

In addition, negative cumulative effects are likely to occur if different sizes and types of turbines are located within this type without adopting a consistent and robust approach to siting and design.

Well-sited turbines and the development of a consistent relationship between turbines and the landform or settlement pattern is likely to further minimise potential cumulative impacts.

Cumulative effects can be further minimised if turbines of less than 20m should be sited where they can be associated with farms or buildings to create 'development clusters'. They are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Upland Valley with Farmland (24) type are likely to include:

- Cumulative visual impacts and clutter associated with inter-visibility between turbines within this character type and turbines located on neighbouring character types which are visible from within this character type
- 'Crowding' of the valley if large turbines are located on adjacent landscape types to form enclosure around the skyline ridges of the valley
- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting in relation to landform
- High inter-visibility of several turbines from panoramic, elevated or long views along the length or across the width of the valleys

14.2.2 *Constraints*

- The low relief which could easily be overwhelmed by very tall structures
- The convex slopes, which have few changes in gradient or natural terracing to accommodate development platforms without excavation
- The steep slopes and narrower valleys within the upper reaches of the river valleys
- The often smaller scale of the side valleys or cleughs, where landform may also be more complex
- Any steep and often convex slopes which are difficult to excavate for roads and platforms without creating large areas of cut and fill material
- The diverse pattern of land use, especially the pattern of small woodlands, shelterbelts and the historic and designed landscapes
- The small size of farms and woodlands, especially along the upper slopes, against which the size of turbines can be easily assessed

- The containing ridge of the valley, or skyline, as viewed from within the valley
- The setting of villages and historic buildings
- Elevated, panoramic and often sustained views, and views along and across the valleys, including views from the Southern Upland Way
- Potential inter-visibility with wind farms on adjacent landscape types

14.2.3 *Opportunities*

- The width and generally broad scale of the valleys, where they are less enclosed
- Gently graded, more open, broad slopes
- The more open and larger scale upper edges of the valley which form a transition to higher and larger scale uplands
- The relatively sparse settlement pattern
- Areas of more simple vegetation pattern and larger fields
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

14.3 Guidance for development

There is likely to be limited scope for the small-medium (35m- 50m) typology and some scope for the small (20m – 35m) development typology to be sited within this character type. Scope is limited to the more open, broader, very gently sloping landform containing natural platforms.

Turbines should avoid intruding into the setting of key features and the setting of historic landscapes, buildings and settlements.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of the Main Report.

No scope for the large (80m+) and large-medium (50m – 80m) typologies has been identified in this assessment.

15 CHARACTER TYPE 26: PASTORAL UPLAND FRINGE VALLEY

15.1 Introduction

The Pastoral Upland Fringe Valley (26) landscape character type is present in six areas within the Scottish Borders. Only one of these areas – the Eye Water area – lies within the Berwickshire study area.

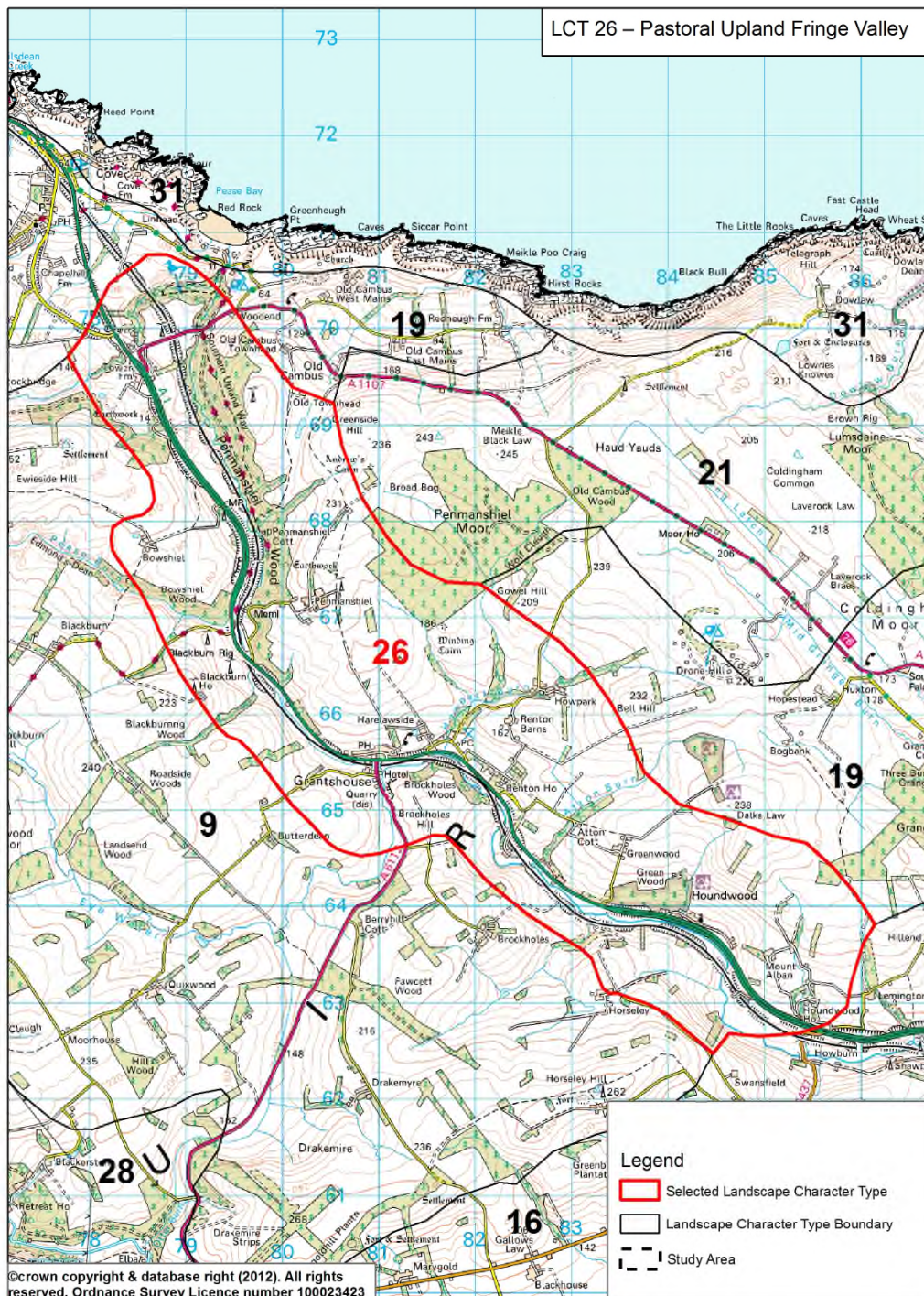
For the purposes of this study, the valley type has been extended to include the containing rim of the upper side slopes of the valley to the south west, which like the rest of the valley is visible from the A1.

15.1.1 *Operational/consented wind farm development*

Three small (<30m) operational turbines are located in this character type, two of them as a group. The operational Drone Hill wind farm, which lies within the Coastal Moorland (21) character type, is intermittently visible in glimpsed views from the valley floor with more sustained views occurring from valley sides. The consented Penmanshiel wind farm (14 turbines, 100m high) is also located in the Coastal Moorland (21) and will be visible from sections of the Eye Water valley in the Grantshouse area.

The operational Brockholes turbines (3 turbines, 84m high) are visible from this valley. The consented Quixwood wind farm (13 turbines, 100-115m high) located in the adjacent Platform Farmland (9) will also be visible, notably in the Grantshouse area.

LCT 26 – Pastoral Upland Fringe Valley



Character Type 26: Pastoral Upland Fringe Valley – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape context	<p>The Pastoral Upland Fringe Valley Type (26) lies between Coastal Farmland (19) and Coastal Moorland (21) to the east and Platform Farmland (9) to the west. It extends south to join with the Rolling Lowland Margin (16). The self containment created by the enclosure of the landform ensures that this type is not very inter-visible with adjacent landscape character types. The pattern of farmland and woodland merges with the land use pattern in those adjacent types which are similarly farmed, but the containment reinforces the small, narrow extent of this character type.</p>	<p>This landscape character type is relatively self-contained, with views into this type from neighbouring LCTs limited by the landform. Nevertheless, the height of this typology means that it would impact visually on adjacent landscape types. This landscape type is small in extent, and the size of this typology would also be difficult to absorb within the limited extent of this landscape type. It would quickly dominate the landscape.</p>	High	<p>This landscape character type is relatively self-contained, with views into this type from neighbouring LCTs limited by the landform. Nevertheless, the height of this typology means that it would impact visually on adjacent landscape types. This landscape type is small in extent, and the size of this typology would also be difficult to absorb within the limited extent of this landscape type. It would quickly dominate the landscape.</p>	High

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Scale and openness	<p>The relief is relatively low, as the valley floor sits at around 100m, while the upper hill slopes extend to about 230m.</p> <p>The steep valley sides reinforce the sense of enclosure and there are several smaller scaled side valleys. Medium to small scale fields alternate with diverse woodland which increases enclosure and reinforces the small scale, although the upper slopes of the valley are more open.</p> <p>Occasional farms at higher levels and the constant presence of trees provide consistent reference points against which size of turbines can be judged, although most settlement is located along the valley floor.</p>	<p>This size of turbine would significantly impact on the small scale, low relief and enclosure of this character type, as well as the scale of individual features.</p>	High	<p>This size of turbine would significantly impact on the small scale, low relief and enclosure of this character type, as well as the scale of individual features.</p>	High

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landform	<p>Rounded, convex, often steep-sided slopes enclose this sinuous river valley. There are several steep sided side valleys which splay out from the main valley, creating some complexity. The valley floor is often narrow, alternating with some areas of flat land.</p> <p>The valley is contained by a ridge of smooth, gently undulating hilltops, some of which are the summits of stand-alone hills, others which merge into elevated plateaux of neighbouring types.</p>	<p>The complex areas of landform and the steep sided, convex slopes which dominate this character area are sensitive to this typology. The construction of access roads on steep and convex slopes would be an additional constraint for this typology.</p>	High	<p>The complex areas of landform and the steep sided, convex slopes which dominate this character area are sensitive to this typology. The construction of access roads on steep and convex slopes would be an additional constraint for this typology.</p>	High
Landscape pattern	<p>Fields extend to the top of the valley sides. Medium scaled woodlands include mixed woodland and more extensive areas of conifer woods on the steeper slopes. Broadleaves extend up the watercourses and small pockets of trees and shelterwoods on the lower valley sides reinforce the field pattern, which becomes more open across the upper slopes.</p> <p>More diverse woodland, and smaller scale fields are sometimes to be found within the smaller side valleys.</p>	<p>The diversity of the pattern of vegetation limits opportunities for this typology across much of this area which could detract from the integrity of the sequential pattern of open fields and enclosed woodland along the valley.</p>	High-Medium	<p>The diversity of the pattern of vegetation limits opportunities for this typology across much of this area which could detract from the integrity of the sequential pattern of open fields and enclosed woodland along the valley.</p> <p>The lower height of this typology means it could be sited where it will have less impact on diverse landscape pattern.</p>	Medium

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Built environment	Settlement, including houses and small villages, is largely focussed along the valley floor. Occasional farms, including some large farm buildings, can be found on the upper slopes, overlooking the valley. The main A1 and the east coast railway extend along the valley floor, while the side valleys and upper farms are accessed by a network of small roads. Grantshouse is the junction for the more major A6112. Some of the public and private roads are relatively narrow and winding.	The less settled upper slopes are less of a constraint to turbine development, as there may be scope to site turbines without impacting on the setting of built features. However, this size of typology is likely to still be difficult to accommodate without incurring some impacts on setting.	High-Medium	The less settled upper slopes are less of a constraint to turbine development, as there may be scope to site turbines without impacting on the setting of built features. However, this size of typology is likely to still be difficult to accommodate without incurring some impacts on setting.	High-Medium
Perceptual qualities	This landscape is largely farmed with no sense of seclusion or exceptionally dramatic character.	The presence of settlement, infrastructure and farmed land reduces creates a context of developed landscape which provides scope for further development.	Low	The presence of settlement, infrastructure and farmed land reduces creates a context of developed landscape which provides scope for further development.	Low

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Visual amenity	<p>The sinuous valley form limits potential for sustained views. The woodland and convex slopes limit visibility to intermittent views especially from the valley floor. Both the A1 and the railway are sometimes in cuttings. However, some of the settlement is located on elevated sites overlooking the valley and the area is well roaded, with a network of small roads, especially up the side valleys increasing visibility. The Southern Upland Way passes through part of this landscape.</p> <p>The upper rim of the valley forms a distinct and prominent skyline which is very visible from within the valley.</p>	<p>The winding form of the valley as well as the woodland and landform often limits views especially from the more contained stretches of the valley floor.</p> <p>Views of this height of turbine are therefore likely to be intermittent and reduced by the screening effects of landform and trees in these more enclosed areas.</p> <p>Nevertheless, the height of this typology means that it is likely to appear above many of the smaller features and will be widely visible.</p>	High-Medium	<p>The winding form of the valley as well as the woodland and landform often limits views especially from the more contained stretches of the valley floor.</p> <p>Views of this height of turbine are therefore likely to be intermittent and reduced by the screening effects of landform and trees in these more enclosed areas.</p> <p>Nevertheless, the height of this typology means that it is likely to appear above many of the smaller features and will be widely visible.</p>	High-Medium
Cumulative effects	<p>There are three small turbines already located within this character type, set around the side valley associated with the Howpark Burn.</p> <p>In addition, blades and nacelles from the Drone Hill wind farm appear intermittently from the A6112 and from elevated minor roads and the 3 operational Brockhole turbines are also visible. The consented Quixwood and Penmanshiel wind farms will be visible from sections of this valley.</p>	<p>Significant cumulative landscape and visual effects are likely to occur around the Grantshouse area, where operational and consented large turbines already are/will be visible on sensitive skylines containing this valley. Additional turbines located within this valley would exacerbate these effects when seen in combination with large turbines sited in adjacent landscapes.</p>	High	<p>Significant cumulative landscape and visual effects are likely to occur around the Grantshouse area, where operational and consented turbines already are/will be visible on sensitive skylines containing this valley. Additional turbines located within this valley would exacerbate these effects when seen in combination with large turbines sited in adjacent landscapes.</p>	High

Character Type 26: Pastoral Upland Fringe Valley – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	<p>The Pastoral Upland Fringe Valley Type (26), lies between Coastal Farmland (19) and Coastal Moorland (20) to the east and Platform Farmland (9) to the west. It extends south to join with the Rolling Lowland Margin (16). The self containment created by the enclosure of the landform ensures that this type is not very inter-visible with adjacent landscape character types. The pattern of farmland and woodland merges with the land use pattern in those adjacent types which are similarly farmed, but the containment reinforces the small, narrow extent of this character type.</p>	<p>This landscape character type is relatively self-contained, with views into this type from neighbouring LCTs limited by the landform. The landscape type is relatively small in extent, and this typology could impact visually on adjacent landscape types, especially if located on the upper slopes of the valley. The similarity in vegetation pattern with farm land extending particularly to the west, also limits the contrast between this valley and neighbouring types. Inter-visibility is also less likely to be an issue if this height of turbine is located close to the floor of the valley.</p>	Medium	<p>This landscape character type is relatively self-contained, with views into this type from neighbouring LCTs limited by the landform. While the landscape type is relatively small in extent, this typology could be located on the lower side slopes and valley floor without impacting visually on adjacent landscape types. The similarity in vegetation pattern with farm land extending particularly to the west, also limits the contrast between this valley and neighbouring types. There would be some impact on adjacent types if this typology was located near the upper rim of the valley.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Scale and openness	<p>The relief is relatively low, as the valley floor sits at around 100m, while the upper hill slopes extend to about 230m.</p> <p>The at times steep valley sides reinforce the sense of enclosure. There are several smaller scaled side valleys.</p> <p>Medium to small scale fields alternate with diverse woodland which increases enclosure and reinforces the small scale, although the upper slopes of the valley are more open.</p> <p>Occasional farms at higher levels, and the constant presence of trees provide consistent reference points against which size of turbines can be judged, although most settlement is located along the valley floor.</p>	<p>This size of turbine would impact on the relatively small scale of much of this character type, although the scale increases as the landscape becomes more open along the higher elevations.</p> <p>In particular, this typology would impact on the low relief and enclosure within this landscape, especially within the most narrow stretches of the valley and in the smaller side valleys.</p> <p>Where small features – including trees and scattered buildings – are present, it would be difficult to accommodate this size of typology without it appearing much larger than these features.</p>	High-Medium	<p>This size of turbine could impact on the narrowest and smallest scale enclosed areas of this valley, although the scale increases as the landscape becomes more open along the higher elevations.</p> <p>It would be difficult to accommodate this size of typology close to small buildings without it appearing larger than these features and possibly diminishing their scale.</p> <p>However, on more open and less settled areas there is likely to be scope to site this size of turbine.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landform	<p>Rounded, convex, often steep-sided slopes enclose this sinuous river valley. There are several steep sided side valleys which splay out from the main valley, creating some complexity. The valley floor is often narrow, alternating with some areas of flat land.</p> <p>The valley is contained by a ridge of smooth, gently undulating hilltops, some of which are the summits of stand-alone hills, others which merge into elevated plateaux of neighbouring types.</p>	<p>More complex areas of landform and the steep sided, convex slopes are sensitive to this typology, as well as the long, undulating and prominent enclosing ridge line. More level and gentle slopes are likely to offer more scope for siting this typology.</p> <p>Terraces on long, evenly graded and gentle slopes are also likely to offer more potential.</p> <p>The construction of access roads on steep and convex slopes would be an additional constraint for this typology.</p>	High-Medium	<p>More complex areas of landform and the steep sided, convex slopes are sensitive to this typology, as well as the long, undulating and prominent enclosing ridge line. More level and gentle slopes are likely to offer more scope for siting this typology.</p> <p>Long, evenly graded and gentle slopes with occasional terraces are likely to offer more potential.</p> <p>There is likely to be additional potential to accommodate this typology on smaller terraces and changes of gradient within side valleys.</p>	Medium
Landscape pattern	<p>Fields extend to the top of the valley sides. Medium scaled woodlands include mixed woodland and more extensive areas of conifer woods on the steeper slopes.</p> <p>Broadleaves extend up the watercourses and small pockets of trees and shelterwoods on the lower valley sides reinforce the field pattern, which becomes more open across the upper slopes.</p> <p>More diverse woodland, and smaller scale fields are sometimes to be found within the smaller side valleys.</p>	<p>The diversity of the pattern of vegetation limits opportunities for this typology around the more settled, lower slopes and within the side valleys.</p> <p>More open and simple land cover, including areas where more simple woodland dominates, may provide some scope for this typology.</p>	Medium-Low	<p>The diversity of the pattern of vegetation limits opportunities for this typology around the more settled, lower slopes and within the side valleys.</p> <p>More open and simple land cover may provide some scope for this typology.</p> <p>This size of typology is less likely to interrupt or distract from the landcover pattern than taller typologies.</p>	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Built environment	Settlement, including houses and small villages, is largely focussed along the valley floor. Occasional farms, including some large farm buildings, can be found on the upper slopes, overlooking the valley. The main A1 and the east coast railway extend along the valley floor, while the side valleys and upper farms are accessed by a network of small roads. Grantshouse is the junction for the more major A6112. Some of the public and private roads are relatively narrow and winding.	There is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements. The presence of large buildings, existing turbines and infrastructure all create a pattern of existing development which could provide scope for additional development.	Medium	There is likely to be scope to site this typology without disrupting the setting of individual buildings or settlements, and it could be located where it can be associated with existing settlement pattern. The presence of large buildings, existing turbines and infrastructure all create a pattern of existing development which could provide scope for additional development. This typology may be more easily located where it can be associated with larger farm buildings without compromising the setting of individual farms and other more dispersed settlement.	Medium-Low
Perceptual qualities	This landscape is largely farmed with no sense of seclusion or exceptionally dramatic character.	The presence of settlement, infrastructure and farmed land reduces creates a context of developed landscape which provides scope for further development.	Low	The presence of settlement, infrastructure and farmed land reduces creates a context of developed landscape which provides scope for further development.	Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Visual amenity	<p>The sinuous valley form limits potential for sustained views. The woodland and convex slopes limits visibility to intermittent views especially from the valley floor. Both the A1 and the railway are sometimes in cuttings. The Southern Upland Way passes through part of this landscape.</p> <p>However, some of the settlement is located on elevated sites overlooking the valley and the area is well roaded, with a network of small roads, especially up the side valleys increasing visibility.</p> <p>The upper rim of the valley forms a distinct and prominent skyline which is very visible from within the valley.</p>	<p>The winding form of the valley as well as the woodland and landform often limits views especially from the more contained stretches of the valley floor.</p> <p>Views of this height of turbine are therefore likely to be intermittent and reduced by the screening effects of landform and trees in these more enclosed areas.</p> <p>From more open areas, generally along the upper reaches of the valley, the height of this typology means that it is likely to appear above many of the smaller features and may be widely visible.</p> <p>The key visual sensitivity is the skyline, the prominent rim of the valley, which is sensitive to any development.</p> <p>The smaller turbines in this typology range would have less visual impact.</p>	High-Medium	<p>The winding form of the valley as well as the woodland and landform often limits views especially from the more contained stretches of the valley floor.</p> <p>Views of this height of turbine are therefore likely to be intermittent and reduced by the screening effects of landform and trees in these more enclosed areas.</p> <p>From more open areas, generally along the upper reaches of the valley, the height of this typology means that it is likely to appear above many of the smaller features and may be widely visible.</p> <p>The key visual sensitivity is the skyline, the prominent rim of the valley, which is sensitive to any development.</p> <p>Nevertheless, this typology is smaller in height and will be less widely visible. The smaller turbines in this typology range would have less visual impact.</p>	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Cumulative effects	<p>There are three small turbines already located within this character type, set around the side valley associated with the Howpark Burn.</p> <p>In addition, blades and nacelles from the Drone Hill wind farm appear intermittently from the A6112 and from elevated minor roads and the 3 operational Brockhole turbines are also visible. The consented Quixwood and Penmanshiel wind farms will be visible from sections of this valley.</p>	<p>Significant cumulative landscape and visual impacts are most likely to occur around the Grantshouse area, where already a range of sizes and designs of turbines and wind farms are/will be visible. This typology could have significant effects on views from the A1 and railway, with turbines towards the upper height band appearing large in close views from these routes and likely to dominate the confined space of this valley when seen either simultaneously or sequentially with other wind farms visible on containing skylines.</p>	High-medium	<p>This size of turbine would be less likely to incur negative cumulative landscape and visual impacts with larger turbines/wind farms visible on the skyline of hills containing this valley although they should be sited well away from these developments.</p>	Medium

15.2 Summary of sensitivity

The Pastoral Upland Fringe Valley landscape character type (26) lies between the Coastal Farmland (19) and Coastal Moorland (21) to the east and the Platform Farmland (9) to the west. It extends south to join with the Rolling Lowland Margin (16). The valley is well defined, and for the most part clearly enclosed with often steep, convex slopes rising up to a prominent, undulating ridgeline. It shares a land use pattern of cultivated farmland with the farmland types, notably the Rolling Lowland Margin and to a lesser extent the Platform Farmland (9) and the Coastal Farmland (19). The land use pattern in the Pastoral Upland Fringe Valley (26) is medium to small scale, with woodland reinforcing enclosure and diverse tree cover increasing land use complexity, especially at junctions with the more enclosed side valleys.

Settlement is largely located on the valley floor, although there are farms which are located along the higher slopes and also within the more accessible side valleys.

The enclosed, often narrow and sinuous valley form, the relatively low relief, the smaller scale of the side valleys, the diverse pattern of land use and the presence of some small scale features against which the height of a turbine can be readily assessed are key sensitivities. The prominent, containing skyline ridge, which is/will be adversely affected by the operational Brockholes turbines and the consented Quixwood and Penmanshiel wind farms and to a lesser degree by the operational Drone Hill wind farm, is also highly sensitive and cumulative effects with these developments is a key constraint. The valley accommodates settlement and a network of roads on valley sides as well as the A1 and the railway. While visibility is intermittent due to landform and woodland cover, tall structures are likely to be relatively easily seen, although not for sustained periods. This landscape character type therefore has a **High** sensitivity to both large (80m – 140m) and medium (50m – 80m) typologies, a **High-Medium** sensitivity to the small-medium (35m – 50m) typology and a **Medium** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be more readily accommodated within the farmed areas within this landscape type.

15.2.1 *Potential cumulative issues*

There is potential for significant cumulative landscape and visual effects to occur within this character type, especially in terms of potential sequential visual impacts when travelling along the A1 or the east coast main line, both of which are 'gateways' to Scotland when travelling from the south. Operational and consented wind farms in adjacent landscape character types already are/will be prominent on the skyline of containing ridges and additional turbines would be likely to exacerbate significant cumulative effects in the Grantshouse area.

Key cumulative issues that may arise within the Pastoral Upland Fringe Valley (26) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type which may create unnecessary clutter
- Sequential visual impacts experienced when travelling through the landscape, especially from the A1 and the railway where the operational Brockholes and Drone Hill developments are already visible and the consented Quixwood and Penmanshiel wind farms will significantly contribute to cumulative effects of large turbines seen on sensitive skylines.
- Cumulative visual impacts and clutter associated with additional turbines sited on upper valley sides and seen together with large turbines located in neighbouring character types which appear over the skyline.

15.2.2 *Constraints*

- The low relief which could easily be overwhelmed by tall structures
- The convex slopes and steep sides of the main valley
- The often smaller scale of the side valleys, where landform may also be more complex
- The diverse pattern of land use, especially the pattern of small woodlands, along some of the lower valley sides and along the side valleys
- The small size of farms and woodlands, especially along the upper slopes, against which the size of turbines can be easily assessed
- The prominent containing ridge of the valley, or skyline, as viewed from within the valley
- The setting of villages
- Views from the 'gateway' A1 and the railway
- The presence of existing turbines of different sizes and designs around the Granthouse area, which increases sensitivity to cumulative issues

15.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of features
- Areas of more simple vegetation pattern
- Larger buildings, where small turbines can be located to create a small 'development cluster'
- Terraces and distinct changes in gradient which offer opportunities for siting development on natural platforms

15.3 **Guidance for development**

There is some scope for the small (20m – 35m) development typology to be sited within this character type.

Turbines should avoid the steep and convex landforms, and be located on the more open, broader, very gently sloping landform containing natural platforms.

Turbines should also avoid breaching skylines as viewed from the valley floor, intruding into the setting of key features and the setting of buildings and small features.

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of the Main Report.

No scope for the large (80m+), medium (50m – 80m) and small-medium (35m – 50m) typologies has been identified in this assessment.

16 CHARACTER TYPE 28: WOODED UPLAND FRINGE VALLEY

16.1 Introduction

The Wooded Upland Fringe valley (28) landscape character type is present in five areas within the Scottish Borders. Only one of these areas – the Middle Whiteadder – lies within the Berwickshire study area.

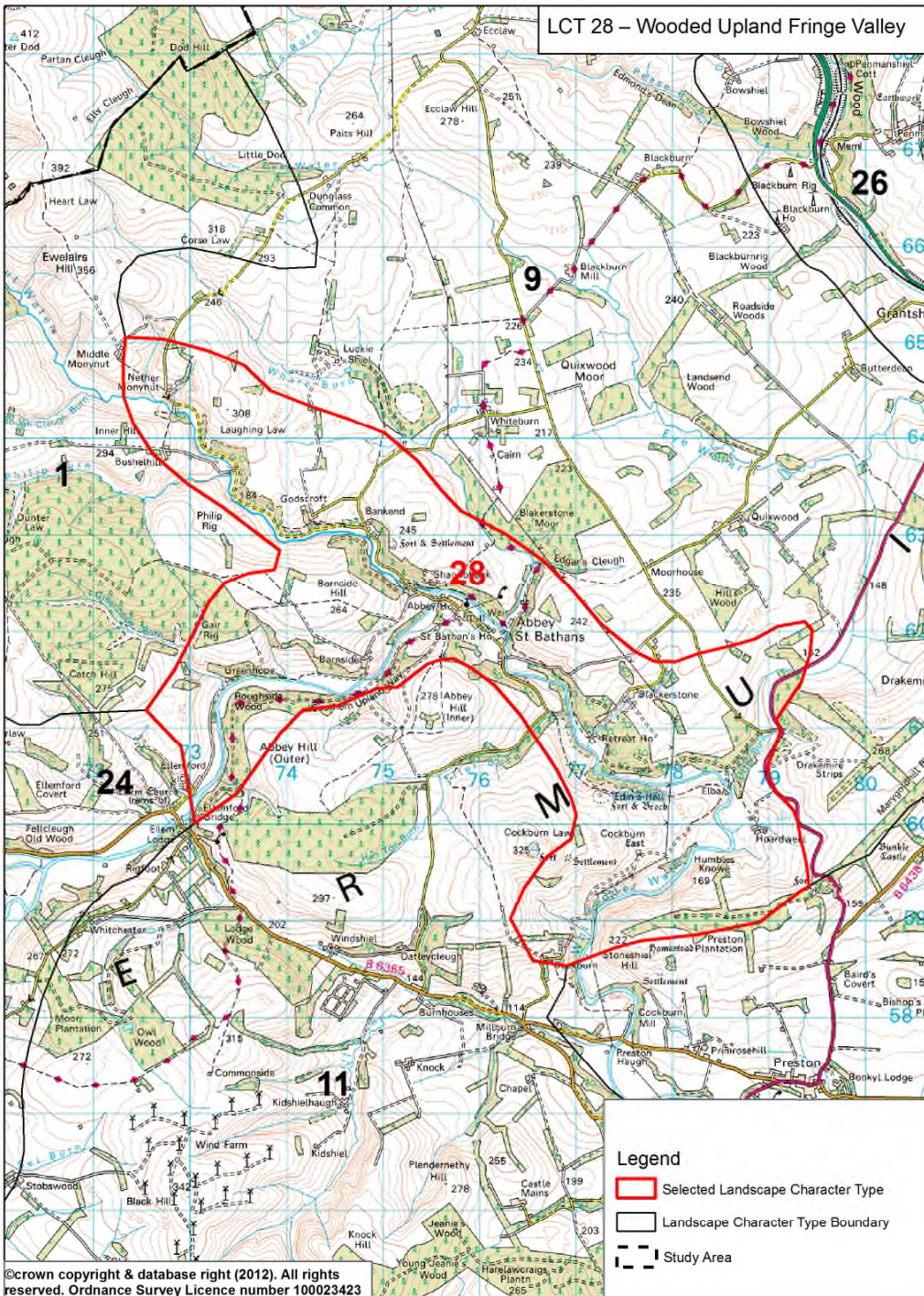
For the purposes of this study, the valley type has been extended to include the containing rim of the steep containing slopes of the Whiteadder valley to the very southern end of the type, at Humbles Knowe. Although these slopes are less wooded, they are similar in landform and a continuation of the middle Whiteadder valley.

16.1.1 *Operational/consented wind farm development*

One consented wind turbine is located in this character type, at the transition with the neighbouring Platform Farmland (9). This turbine is between 30m and 60m in height. The Black Hill wind farm (22 turbines at 78m height to blade tip) is located in the adjacent Grassland with Hills (11) character type, and is visible at the head of the valley of the Whiteadder Water as viewed from the elevated A6112.

The operational and consented Weirburn (2 turbines, 54m), Drone Hill (22 turbines, 76m high) and Quixwood wind farm (13 turbines, 100-115m high) are/will be visible from higher hill slopes within this character type. Aikengall I and II (35 turbines, 125-145m high) and the blade tips of the Hoprigshiel and Kinegar Quarry turbines (5 turbines, 110-115m high) will also be visible from elevated walking routes such as those on Cockburn Law.

LCT 28 – Wooded Upland Fringe Valley



Character Type 28: Woodland Upland Fringe Valley – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape context	<p>The Woodland Upland Fringe Valley Type (28) lies between Platform Farmland (9), Grassland with Hills (11) and Dissected Plateau Moorland (1). The Whiteadder Water also extends into the to adjacent Upland Valley with farmland (24) to the west and to the Rolling Lowland Margin (16) to the south.</p> <p>This valley is very enclosed and self contained because of the steep valley sides and the abrupt transition between the deep ‘trench’ which forms the valley and the more elevated surrounding landscapes. This forms a distinct ‘rim’ around the valley. This type is therefore generally not inter-visible with adjacent landscape character types.</p> <p>The pattern of farmland and more scattered woodland on the upper slopes merges with the land use pattern in adjacent farmed landscape types.</p> <p>The type as a whole is small, well contained and linear in extent.</p>	<p>This landscape character type is very self-contained, with views into this type from neighbouring LCTs limited by the abrupt change in landform along the rim of the valley. Nevertheless, the height of this typology means that it would impact visually on adjacent landscape types</p> <p>The landscape type is small in extent, and the size of this typology would be difficult to absorb within the limited extent of this landscape type.</p>	High	<p>This landscape character type is very self-contained, with views into this type from neighbouring LCTs limited by the abrupt change in landform along the rim of the valley. Nevertheless, the height of this typology means that it would impact visually on adjacent landscape types</p> <p>The landscape type is small in extent, and the size of this typology would be difficult to absorb within the limited extent of this landscape type.</p>	High

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Scale and openness	<p>The deeply enclosed, steep sided narrow valley creates a contained, small scale landscape with low relief, the height from the rivers to the tops of the containing ridges is often about 150m. This containment is further emphasised by the enclosure of the woodland and the small fields and intimate setting of the villages, settlement and the rivers.</p> <p>The steep slopes and woodland in the immediate river valleys further reinforce the sense of enclosure.</p> <p>The sinuous form of the valleys reinforces the experience of the valleys as a sequences of small scale spaces.</p> <p>The constant presence of trees and buildings provide consistent reference points against which size of turbines can be judged.</p>	<p>This size of turbine would significantly impact on the small scale and enclosed character of this character type, as well as the scale of individual features.</p>	High	<p>This size of turbine would significantly impact on the small scale and enclosed character of this character type, as well as the scale of individual features.</p>	High

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landform	<p>The river valleys are sinuous, winding between the steep slopes of broadly convex landforms which rise to low summits and long ridges. The sinuous form creates some complexity, and is experienced as a sequence of small, revealed spaces, with slopes rising up from flat bottomed valley floors. Other landform features include deep cleughs or side valleys containing tributaries of the main rivers. The valleys are overlooked by long skylines and the prominent landmark hill of Cockburn Law which sits on the southwest boundary of this type.</p>	<p>The steep sided river valleys and outward facing convex slopes are sensitive to this typology and associated infrastructure, including roading. The setting of the smaller, incised cleughs and Cockburn Law are also sensitive.</p>	High	<p>The steep sided river valleys and outward facing convex slopes are sensitive to this typology and associated infrastructure, including roading. The setting of the smaller, incised cleughs and Cockburn Law are also sensitive.</p>	High
Landscape pattern	<p>Very wooded, with conifer and mixed woodland occupying the many steeper slopes and riparian and semi-natural woodland associated with the setting of the rivers. There are occasional policy trees and features. In addition, there are occasional shelterbelts framing the largely farmed landscape, which is dominated by pasture. The upper slopes are less wooded, with fields extending onto the more accessible, gently graded ridges which form the outer rim of the farmed plateaux of adjacent foothill types.</p>	<p>The diversity of the pattern of vegetation limits opportunities for this typology, which could detract from the integrity of the sequential pattern of open fields and enclosed woodland along the river valleys. The integrity of policy woodland features is a further constraint.</p>	High	<p>The diversity of the pattern of vegetation limits opportunities for this typology, which could detract from the integrity of the sequential pattern of open fields and enclosed woodland along the river valleys. The integrity of policy woodland features is a further constraint.</p>	High

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Built environment	<p>The settlement distribution varies from more sparsely settled upper slopes to more settled valley floors. Small communities are located along the valley bottom and farms are either located on terraces overlooking tributary valleys and more accessible upper slopes or in the valley close to flat pastures.</p> <p>There are a large number of hill forts and historic buildings within this character type, including around Abbey St Bathans and the Edin's Hall broch. There are several minor roads and tracks which wind along the floors of the valley, but which exit the valley on higher passes.</p>	<p>The less settled upper slopes are less of a constraint to turbine development, as there may be scope to site turbines without impacting on the setting of built features. However, this size of typology is likely to still be difficult to accommodate without incurring some impacts.</p> <p>However, the setting of villages and valley floor settlements are nevertheless still a sensitivity</p> <p>The numerous historic buildings and sites and their settings are an additional sensitivity.</p> <p>The narrowness and sinuous shape of the road network is a significant constraint, as alterations to size and alignment would have a significant effect on character.</p>	High-Medium	<p>The less settled upper slopes are less of a constraint to turbine development, as there may be scope to site turbines without impacting on the setting of built features. However, this size of typology is likely to still be difficult to accommodate without incurring some impacts.</p> <p>However, the setting of villages and valley floor settlements are nevertheless still a sensitivity</p> <p>The numerous historic buildings and sites and their settings are an additional sensitivity.</p> <p>The narrowness and sinuous shape of the road network is a significant constraint, as alterations to size and alignment would have a significant effect on character.</p>	High-Medium
Perceptual qualities	<p>The most striking features are the steep-sided river valleys, which are dramatic and naturalistic in character. In addition, the enclosed and wooded character, and 'hidden' nature of the valley creates a relatively secluded character.</p> <p>The presence of numerous historic features and settlements also contribute to a distinct character.</p>	<p>This typology could affect the sense of seclusion in this landscape, and the sense of naturalness and drama associated with the river valleys.</p> <p>The historic character is a further constraint.</p>	High	<p>This typology could affect the sense of seclusion in this landscape, and the sense of naturalness and drama associated with the river valleys.</p> <p>The historic character is a further constraint.</p>	High

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Visual amenity	<p>The woodland and the steep sided landform, as well as the sinuous shape of the valleys all limit visibility, with long views from the road or the Southern Upland Way in the valley floors frequently curtailed by the winding topography or woodland. Views from more elevated sections of road, and from key viewpoints such as Edin's Hall Broch are more extensive, and look along the length of the valleys.</p> <p>The prominent skyline ridge, or visual horizon, as viewed from the valley floor is an additional sensitivity.</p>	<p>Woodland and landform limit views especially along the more contained stretches of the valley. Views from the valley floor are therefore likely to be reduced by the screening effects of landform and trees in these more enclosed areas. From elevated viewpoints the height of this typology means that it is likely to appear above many of the smaller features and may be widely visible.</p> <p>Key visual sensitivities, such as the river valleys and the historic buildings and the skyline rim of the valley, are all sensitive to this typology.</p>	High	<p>Woodland and landform limit views especially along the more contained stretches of the valley. Views from the valley floor are therefore likely to be reduced by the screening effects of landform and trees in these more enclosed areas. From elevated viewpoints the height of this typology means that it is likely to appear above many of the smaller features and may be widely visible.</p> <p>Key visual sensitivities, such as the river valleys and the historic buildings and the skyline rim of the valley, are all sensitive to this typology. Turbines towards the lower height band will have less of an impact.</p>	High-Medium
Cumulative effects	<p>The Black Hill wind farm, on the neighbouring Grassland with Hills (11) landscape type, can be seen at the focal point head of the Whiteadder valley from the elevated A6112.</p> <p>The Weirburn turbines and Quixwood wind farm would be visible from upper hill slopes in relative proximity while the Aikengall I and II and Drone Hill wind farms would also be visible at distance from elevated hill slopes.</p>	<p>Additional turbines located in the Whiteadder valley west of the A6112 would create significant cumulative visual impacts with Black Hill wind farm. Significant cumulative effects would also occur with other operational and consented wind farms seen from popular walking routes such as Cockburn Law and Edin's Hall Broch.</p>	High	<p>Additional turbines located in the Whiteadder valley west of the A6112 would create significant cumulative visual impacts with Black Hill wind farm. Significant cumulative effects would also occur with other operational and consented wind farms seen from popular walking routes such as Cockburn Law and Edin's Hall Broch.</p>	High

Character Type 28: Woodland Upland Fringe Valley – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m – 50m)	Sensitivity rating	Assessment of small typology (20m – 35m)	Sensitivity rating
Landscape context	<p>The Woodland Upland Fringe Valley Type (28), lies between Platform Farmland (9), Grassland with Hills (11) and Dissected Plateau Moorland (1). The Whiteadder Water also extends into the to adjacent Upland Valley with farmland (24) to the west and to the Rolling Lowland Margin (16) to the south.</p> <p>This valley is very enclosed and self contained because of the steep valley sides and the abrupt transition between the deep ‘trench’ which forms the valley and the more elevated surrounding landscapes. This forms a distinct ‘rim’ around the valley. This type is therefore generally not inter-visible with adjacent landscape character types.</p> <p>The pattern of farmland and more scattered woodland on the upper slopes merges with the land use pattern in adjacent farmed landscape types.</p> <p>The type as a whole is small, well contained and linear in extent.</p>	<p>This landscape character type is small in extent and very self-contained, with views into this type from neighbouring LCTs limited by the abrupt change in landform. Nevertheless, the height of this typology means that it could easily impact visually on adjacent landscape types, especially if located on the more exposed upper slopes</p> <p>Inter-visibility is less likely to be an issue if this height of turbine is located close to the floor of the valley.</p>	High-Medium	<p>This landscape character type is small in extent and very self-contained, with views into this type from neighbouring LCTs limited by the abrupt change in landform. Nevertheless, the height of this typology means that it could easily impact visually on adjacent landscape types, especially if located on the more exposed upper slopes</p> <p>Inter-visibility is less likely to be an issue if this height of turbine is located close to the floor of the valley.</p> <p>The smaller size of this turbine increases the opportunity for siting this typology without impacting on neighbouring landscape types.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m – 50m)	Sensitivity rating	Assessment of small typology (20m – 35m)	Sensitivity rating
Scale and openness	<p>The deeply enclosed, steep sided narrow valley creates a contained, small scale landscape with low relief, the height from the rivers to the tops of the containing ridges is often about 150m. This containment is further emphasised by the enclosure of the woodland and the small fields and intimate setting of the villages, settlement and the rivers.</p> <p>The steep slopes and woodland in the immediate river valleys further reinforce the sense of enclosure.</p> <p>The sinuous form of the valleys reinforces the experience of the valleys as a sequences of small scale spaces.</p> <p>The constant presence of trees and buildings provide consistent reference points against which size of turbines can be judged.</p>	<p>This size of turbine would significantly impact on the small scale and enclosed character of this character type, as well as the scale of individual features.</p> <p>The consistent presence of small features – including trees and buildings – would make it difficult to accommodate this size of typology without it appearing much larger than these features.</p>	High	<p>This size of turbine would significantly impact on the small scale and enclosed character of this character type, as well as the scale of individual features.</p> <p>The consistent presence of small features – including trees and buildings – would make it difficult to accommodate this size of typology without it appearing much larger than these features.</p> <p>The smaller size of this turbine increases the opportunity for siting this typology without impacting on the scale of individual features, especially on the upper slopes of the valley.</p>	High-medium

Topic	Summary description	Assessment of small-medium typology (35m – 50m)	Sensitivity rating	Assessment of small typology (20m – 35m)	Sensitivity rating
Landform	<p>The river valleys are sinuous, winding between the steep slopes of broadly convex landforms which rise to low summits and long ridges. The sinuous form creates some complexity, and is experienced as a sequence of small, revealed spaces, with slopes rising up from flat bottomed valley floors.</p> <p>Other landform features include deep cleughs or side valleys containing tributaries of the main rivers.</p> <p>The valleys are overlooked by long skylines and the prominent landmark hill of Cockburn Law which sits on the southwest boundary of this type.</p>	<p>The steep sided river valleys and outward facing convex slopes are sensitive to this typology and associated infrastructure, including roading.</p> <p>The setting of the smaller, incised cleughs and Cockburn Law are also sensitive.</p> <p>The very few more level and gentle slopes may offer scope for siting this typology. These are located along the upper edge of the valley.</p>	High-Medium	<p>The steep sided river valleys and outward facing convex slopes are sensitive to this typology and associated infrastructure.</p> <p>The setting of the smaller, incised cleughs and Cockburn Law are also sensitive.</p> <p>The very few more level and gentle slopes may offer scope for siting this typology. These are located along the upper edge of the valley.</p>	High-Medium
Landscape pattern	<p>Very wooded, with conifer and mixed woodland occupying the many steeper slopes and riparian and semi-natural woodland associated with the setting of the rivers. There are occasional policy trees and features.</p> <p>In addition, there are occasional shelterbelts framing the largely farmed landscape, which is dominated by pasture.</p> <p>The upper slopes are less wooded, with fields extending onto the more accessible, gently graded ridges which form the outer rim of the farmed plateaux of adjacent foothill types.</p>	<p>The diversity of the pattern of vegetation limits opportunities for this typology, which could detract from the integrity of the sequential pattern of open fields and enclosed woodland along the river valleys.</p> <p>The integrity of policy woodland features is a further constraint.</p> <p>This height of typology is less likely than taller typologies to interrupt or distract from the more open field patterns on the upper slopes of the valley sides.</p>	High-medium	<p>The diversity of the pattern of vegetation limits opportunities for this typology, which could detract from the sequential pattern of open fields and enclosed woodland along the river valleys.</p> <p>The integrity of policy woodland features is a further constraint.</p> <p>The more open and simple landscape pattern, especially along the upper slopes of the valley sides, may offer limited scope for this typology.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m – 50m)	Sensitivity rating	Assessment of small typology (20m – 35m)	Sensitivity rating
Built environment	<p>The settlement distribution varies from more sparsely settled upper slopes to more settled valley floors.</p> <p>Small communities are located along the valley bottom and farms are either located on terraces overlooking tributary valleys and more accessible upper slopes or in the valley close to flat pastures.</p> <p>There are a large number of hill forts and historic buildings within this character type, including around Abbey St Bathans and the Edin's Hall broch.</p> <p>There are several minor roads and tracks which wind along the floors of the valley, but which exit the valley on higher passes.</p>	<p>The less settled upper slopes are less of a constraint to turbine development, as there may be scope to site turbines without impacting on the setting of built features.</p> <p>However, the setting of villages and valley floor settlements are nevertheless still a sensitivity</p> <p>The numerous historic buildings and sites and their settings are an additional sensitivity.</p>	Medium	<p>The less settled upper slopes are less of a constraint to turbine development, as there may be scope to site turbines without impacting on the setting of built features.</p> <p>However, the setting of villages and valley floor settlements are nevertheless still a sensitivity</p> <p>The numerous historic buildings and sites and their settings are an additional sensitivity.</p>	Medium-Low
Perceptual qualities	<p>The most striking features are the steep-sided river valleys, which are dramatic and naturalistic in character. In addition, the enclosed and wooded character, and 'hidden' nature of the valley creates a relatively secluded character.</p> <p>The presence of numerous historic features and settlements also contribute to a distinct character.</p>	<p>This typology could affect the sense of seclusion in this landscape, and the sense of naturalness and drama associated with the river valleys.</p> <p>The historic character is a further constraint.</p> <p>There may be opportunities to site this typology without impacting significantly on this attribute.</p>	High-Medium	<p>This typology could affect the sense of seclusion in this landscape, and the sense of naturalness and drama associated with the river valleys.</p> <p>The historic character is a further constraint.</p> <p>There are likely to be opportunities to site this typology, especially smaller sizes, without impacting significantly on this attribute.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m – 50m)	Sensitivity rating	Assessment of small typology (20m – 35m)	Sensitivity rating
Visual amenity	<p>The woodland and the steep sided landform, as well as the sinuous shape of the valleys all limit visibility, with long views from the road or the Southern Upland Way in the valley floors frequently curtailed by the winding topography or woodland. Views from more elevated sections of road, and from key viewpoints such as Edin's Hall Broch are more extensive, and look along the length of the valleys.</p> <p>The prominent skyline ridge, or visual horizon, as viewed from the valley floor is an additional sensitivity.</p>	<p>Woodland and landform limit views especially along the more contained stretches of the valley. Views from the valley floor are therefore likely to be reduced by the screening effects of landform and trees in these more enclosed areas. From elevated viewpoints the height of this typology means that it is likely to appear above many of the smaller features and may be widely visible.</p> <p>Key visual sensitivities, such as the river valleys and the historic buildings and the skyline rim of the valley, are all sensitive to this typology. The smaller sizes of this typology are likely to have less visual impact than the larger sizes.</p>	High-medium	<p>Woodland and landform limit views especially along the more contained stretches of the valley. Views from the valley floor are therefore likely to be reduced by the screening effects of landform and trees in these more enclosed areas. From elevated viewpoints this typology may be widely visible. Key visual sensitivities, such as the river valleys and the historic buildings and the skyline rim of the valley, are all sensitive to even this typology.</p> <p>The smaller sizes of this typology are likely to have less visual impact than the larger sizes.</p>	Medium
Cumulative effects	<p>The Black Hill wind farm, on the neighbouring Grassland with Hills (11) landscape type, can be seen at the focal point head of the Whiteadder valley from the elevated A6112.</p> <p>The Weirburn turbines and Quixwood wind farm would be visible from upper hill slopes in relative proximity while the Aikengall I and II and Drone Hill wind farms would also be visible at distance from elevated hill slopes.</p>	<p>Additional turbines located in the Whiteadder valley west of the A6112 would result in significant cumulative visual impacts with Black Hill wind farm. Significant cumulative effects would also occur with other operational and consented wind farms seen from popular walking routes such as Cockburn Law and Edin's Hall Broch.</p>	High	<p>The smaller turbines of this typology would have minimal cumulative effects with operational and consented wind energy developments although they should be sited away from the Whiteadder valley west of the A6112 and from upper eastern hill slopes at the transition with the Platform Farmland (9) character type.</p>	Medium

16.2 Summary of sensitivity

The Wooded Upland Fringe Valley landscape character type (28) is small in extent, a narrow, sinuous, steep sided valley which lies tucked away between the elevated plateaux landscape of the Platform Farmland (9) and the higher foothills of the Grassland with Hills (11) as well as a small stretch of the Dissected moorland Plateau (1). The continuation of the Whiteadder valley links this type to the Upland Valley with Farmland (24) and the Rolling Lowland Margin (16).

The steep slopes which enclose the valleys are often wooded, with varied woodland types, including semi-natural and policy woodland, which also increase the sense of seclusion characteristic of this type. This woodland increases the enclosure and emphasises the small scale and narrowness of the valleys. Open fields, dominated by pasture, extend over the upper slopes, which are more gentle and accessible. There are occasional shelterbelts even on these upper slopes.

Settlement is varied, most of it located in the valley floors, with occasional farms dispersed along the upper slopes. The area is a particular focus for historic sites and buildings.

The small extent, low relief, enclosure and intimate scale of this landscape is reinforced by the woodland which extends across the steeper slopes. While gentle slopes are more common around the upper slopes of the valleys, these slopes are more widely visible, forming the important skyline as viewed from the valley floors. Additional features, such as incised cleughs, small woodland features and the settlements are also small. A further sensitivity is the narrow winding roads which may need to be widened to accommodate development, and the steep and convex landforms which would be affected by any additional roading. The secluded character and presence of numerous historic features increase sensitivity of this type, although the area is not well settled. Views along the valleys from elevated roads and viewpoints are a particular sensitivity, although views from the sinuous valley floor are limited in extent by topography and woodland, each space revealed in sequence. This landscape character type therefore has a **High** sensitivity to large (80m – 140m), medium (50m – 80m) typologies and small-medium (35m – 50m) typology and a **High-Medium** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be more readily accommodated if sited associated with the farms on the upper slopes, although sensitivities about the setting of historic features and breaking the visual skyline remain.

16.2.1 *Potential cumulative issues*

There is some potential for cumulative landscape and visual effects to arise in the future if different heights and designs of turbines are located within this character type. In addition, there are potential cumulative visual impacts when travelling along the A6112, especially associated with Black Hill wind farm, or as

a sequential visual impact with the Quixwood, Weirburn and Aikengall wind energy developments seen along the length of this road across.

Turbines should not be sited on the upper rim, or skyline, of the valley to avoid visual interaction and potential visual cumulative effects with turbines located in neighbouring landscape character types.

Well-sited turbines of less than 20m and a consistent relationship between these small turbines and the farm clusters are likely to further minimise potential cumulative impacts. Small turbines are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Wooded Upland Fringe Valley (28) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting
- Sequential visual impacts experienced when travelling through the landscape, especially on the low valley roads and the A6112
- Visual cumulative effects between this type and neighbouring types which could be exacerbated with turbines appearing on the skyline, and therefore being visible from neighbouring character types as well as overlooking the enclosed valley.
- Cumulative effects with the operational and consented wind energy developments of Weirburn, Quixwood, Aikengall I and II, Black Hill, Hoprigshiels and Kinegar Quarry seen from popular elevated walking routes such as Edin's Hall Broch and Cockburn Law.
- Inconsistency of design and siting policy between this character type and the neighbouring valley and foothill types, in particular, which are experienced as a sequence.

16.2.2 *Constraints*

- The low relief and steep sided, sinuous valleys which characterise this landscape and create a small scale landscape
- The diverse woodlands, which further reinforce the enclosure of this landscape as well as emphasise the sense of seclusion and the semi-natural qualities
- The distribution and small size of farms and woodlands, which provide features against which the size of turbines can be readily assessed
- The steep and often convex slopes which are difficult to excavate for roads and platforms without creating large areas of cut and fill material;
- The sense of semi-naturalness and seclusion
- The setting of historic buildings, features and the settlement of Abbey St Bathans
- The visual horizon of the valley, or skyline, as viewed from within the valley

- Cumulative effects with the operational and consented wind energy developments of Weirburn, Quixwood, Aikengall I and II, Black Hill, Hoprigshiels and Kinegar Quarry which are seen from upper hill slopes.
- Views from the Southern Upland Way, the elevated roads which offer views a along the valleys and views from key historic features.

16.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of key features, including historic features and the wooded river valleys;
- Farms where turbines can be sited to create a ‘development cluster’;
- The intermittent visibility created by the more enclosed topography and the woodland

16.3 **Guidance for development**

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These could be sited to be associated with farms if they can be located where they do not break the skyline. Turbines should avoid intruding into the setting of key historic features and the setting of the river valleys and settlements. These turbines should be located to avoid impacts on views from and to historical buildings and features.

Individual turbines are likely to be easier to accommodate than groups, which should be limited to no more than three turbines, and care should be taken to avoid cumulative sequential effects.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of the Main Report.

No scope for the large (80m+), large-medium (50m – 80m), small-medium (35m- 50m) and small (20m – 35m) typologies has been identified in this assessment.

17 CHARACTER TYPE 30: COASTAL VALLEY

17.1 Introduction

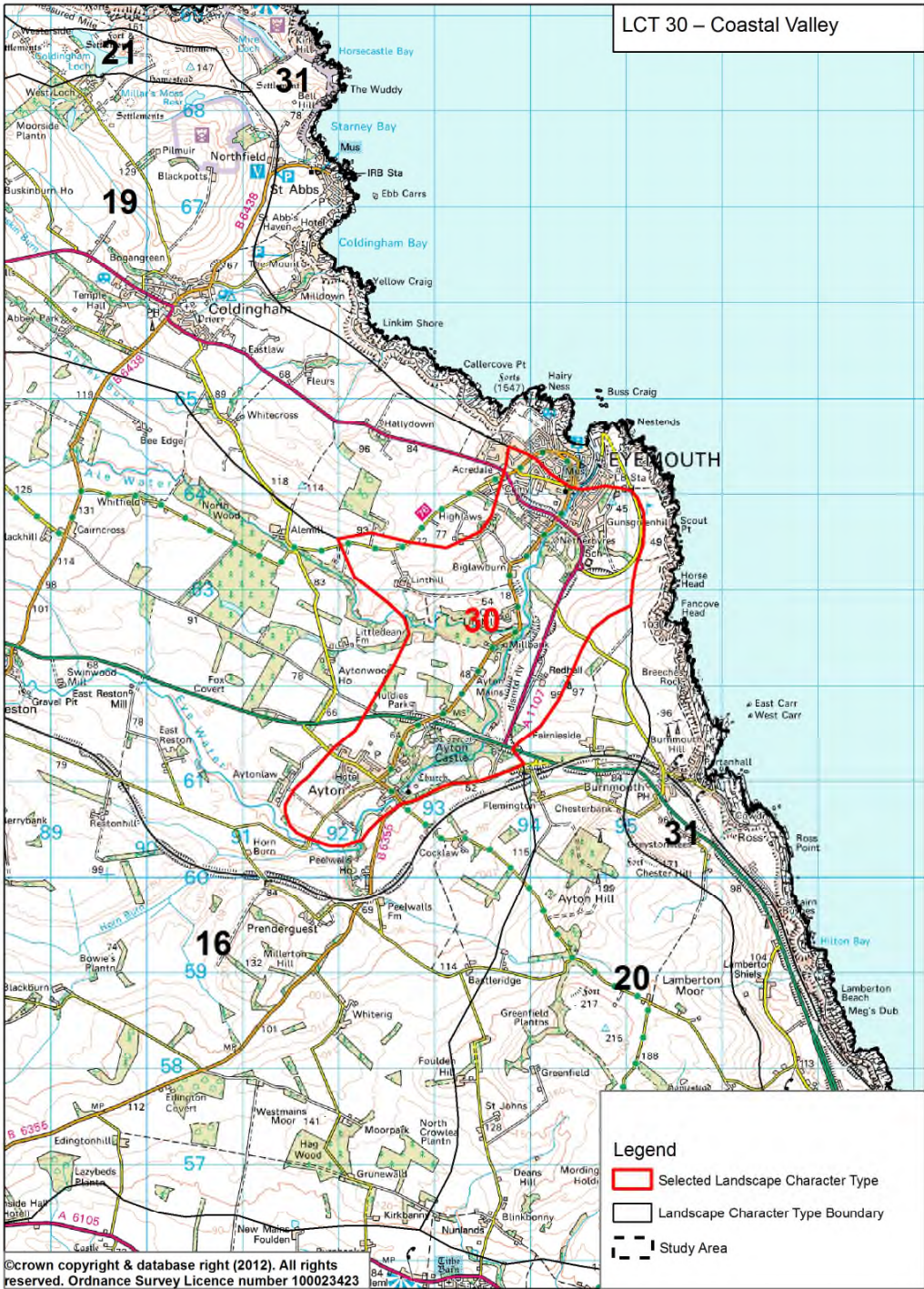
The Coastal Valley (30) landscape character type is only present in one area, the Lower Eye Water, within the Scottish Borders. The Lower Eye Water area lies within the Berwickshire study area.

For the purposes of this study, the valley type has been extended to include the containing rim of the upper side slopes of the valley to the south, which also more comprehensively includes the setting of Eyemouth.

17.1.1 *Operational/consented wind farm development*

No operational or consented wind turbines are located in this character type. The containment of this valley limits visibility of the nearby Drone Hill wind farm sited in the Coastal Moorland (21) character type and other wind turbine/wind farm developments in the Berwickshire study area.

LCT 30 – Coastal Valley



Character Type 30: Coastal valley – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landscape context	<p>The Coastal Valley Type (30), lies between Coastal Farmland (19) and Coastal Pasture (20), and extends inland into the Rolling Lowland Margin (16). The coastal fringe lies within the Coastal Margin (31).</p> <p>The self containment created by the higher rim of the upper valley edge ensures that this type is not very inter-visible with adjacent landscape character types.</p> <p>The pattern of farmland and woodland merges with the land use pattern in adjacent types.</p> <p>Nevertheless, the type is small in extent.</p>	<p>This landscape character type is relatively self-contained, with views into this type from neighbouring LCTs limited by the landform.</p> <p>The height of this typology means that it would impact visually on adjacent landscape types.</p> <p>The landscape type is small in extent, and the size of this typology would be difficult to absorb within the limited extent of this landscape type. It would dominate the whole area very quickly.</p>	High	<p>This landscape character type is relatively self-contained, with views into this type from neighbouring LCTs limited by the landform.</p> <p>The height of this typology means that it would impact visually on adjacent landscape types.</p> <p>The landscape type is small in extent, and the size of this typology would be difficult to absorb within the limited extent of this landscape type. It would dominate the whole area very quickly.</p>	High

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Scale and openness	<p>Small scale, rounded landforms, low hills and generally low relief (the highest hill is only 97m) extend around a narrow, incised and steep-sided river valley.</p> <p>Relatively small fields and diverse woodland reinforce the small scale, although the upper slopes of the valley are more open.</p> <p>The steep slopes and woodland in the river valley emphasises the sense of enclosure.</p> <p>The constant presence of trees and buildings provide consistent reference points against which size of turbines can be judged. There are several larger buildings on the outskirts of Eyemouth.</p>	<p>This size of turbine would impact on the small scale of much of this character type.</p> <p>In particular, this typology would dominate the low relief and small scale landforms within this landscape.</p> <p>The consistent presence of small features – including trees and buildings – would make it difficult to accommodate this size of typology without it appearing much larger than these features.</p>	High	<p>This size of turbine would impact on the small scale of much of this character type.</p> <p>In particular, this typology would dominate the low relief and small scale landforms within this landscape.</p> <p>The consistent presence of small features – including trees and buildings – would make it difficult to accommodate this size of typology without it appearing much larger than these features.</p>	High

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Landform	Complex, interlocking, rounded landforms, including small stand-alone hills, contain the sinuous, sometimes steep-sided river valleys of the Eye and Ale Waters.	The complex interlock of the landforms and the steep sided river valleys and their immediate setting are sensitive to this typology. The areas of more gentle topography are not large enough to create a setting for this height of turbine.	High	The complex interlock of the landforms and the steep sided river valleys and their immediate setting are sensitive to this typology. The areas of more gentle topography are not large enough to create a setting for this height of turbine.	High
Landscape pattern	Relatively small, cultivated fields enclosed by hedges extend across the low hills and rolling landform. The immediate river valleys and their setting are well wooded. Further small woodlands and more extensive policy woods associated with the historic landscape of Ayton Castle add to visual diversity.	The diversity limits opportunities for this typology, which could detract from the sequential pattern of fields and woodland especially along the valley of the Eye Water. The integrity of the policy woodland, including individual or small group landmark trees, the wooded setting of the river valleys and their wooded surroundings is additionally sensitive.	High	The diversity limits opportunities for this typology, which could detract from the sequential pattern of fields and woodland especially along the valley of the Eye Water. The integrity of the policy woodland, including individual or small group landmark trees, the wooded setting of the river valleys and their wooded surroundings is additionally sensitive.	High

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Built environment	<p>Farms are dispersed across this landscape at all elevations. Eyemouth extends into the valley from the coast, and includes larger buildings on the outskirts of the town. Ayton is smaller and more contained.</p> <p>There are additional historic buildings and features associated with the estate at Ayton Castles.</p> <p>The main A1, the east coast railway, the A1107 and a network of smaller roads provide access to this area. Some of the public and private roads are relatively narrow and winding.</p>	<p>The relatively settled landscape is a constraint to this typology as it is difficult to site this size of typology without impacting on the setting of settlement.</p> <p>Historic buildings and their settings are an additional sensitivity.</p>	High	<p>The relatively settled landscape is a constraint to this typology as it is difficult to site this size of typology without impacting on the setting of settlement.</p> <p>Historic buildings and their settings are an additional sensitivity.</p>	High
Perceptual qualities	<p>The most striking features are the steep-sided river valleys, which are dramatic and naturalistic in character. In addition, the more enclosed and wooded areas are relatively secluded in character.</p> <p>The presence of historic features around Ayton influences the character of this area.</p> <p>Elsewhere, the presence of settlement, infrastructure and farmed land creates a context of developed landscape.</p>	<p>This height of typology would affect the sense of seclusion in this landscape, and the sense of naturalness and drama associated with the river valleys.</p> <p>The historic character of Ayton is a further constraint.</p>	High-Medium	<p>This typology would affect the sense of seclusion in this landscape, and the sense of naturalness and drama associated with the river valleys.</p> <p>The historic character of Ayton is a further constraint.</p>	High-Medium

Topic	Summary description	Assessment of large typology (80m +)	Sensitivity rating	Assessment of medium typology (50m – 80m)	Sensitivity rating
Visual amenity	<p>The woodland and the rolling landform limits visibility, especially from the narrow floor of the river valley. Both the A1 and the railway are largely in cuttings.</p> <p>However, the area is well settled and well roaded, with a network of small roads allowing access and increasing the visibility of the area. Views from the more elevated A1107, the main approach to Eyemouth from north and south, are important – they are open and semi-panoramic.</p> <p>The upper rim of the valley, where the valley meets the adjacent coastal farmland types, forms a distinct skyline which is very visible and prominent from within the valley, and from the A1107.</p>	Woodland and landform limit views especially along the more contained stretches of the valley. Nevertheless, the height of this typology would mean that turbines would be widely visible and visually dominant.	High	Woodland and landform limit views especially along the more contained stretches of the valley. Nevertheless, the height of this typology would mean that turbines would be widely visible and visually dominant.	High
Cumulative effects	<p>There are no consents for turbines within this type.</p> <p>No other turbines in adjacent landscape types impact on the landscape character or visual amenity of this type.</p>	There is no significant landscape or visual cumulative effect arising from existing consents.	Low	There is no significant landscape or visual cumulative effect arising from existing consents.	Low

Character Type 30: Coastal valley – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	<p>The Coastal Valley Type (30), lies between Coastal Farmland (19) and Coastal Pasture (20), and extends inland into the Rolling Lowland Margin (16). The coastal fringe lies within the Coastal Margin (31).</p> <p>The self containment created by the higher rim of the upper valley edge ensures that this type is not very inter-visible with adjacent landscape character types.</p> <p>The pattern of farmland and woodland merges with the land use pattern in adjacent types.</p> <p>Nevertheless, the type is small in extent.</p>	<p>This landscape character type is relatively self-contained, with views into this type from neighbouring LCTs limited by the landform.</p> <p>The landscape type is relatively small in extent, and this typology could impact visually on adjacent landscape types, especially if located on the upper slopes of the valley. Inter-visibility is less likely to be an issue if this height of turbine is located close to the floor of the valley.</p>	High-Medium	<p>This landscape character type is relatively self-contained, with views into this type from neighbouring LCTs limited by the landform.</p> <p>While the landscape type is relatively small in extent, this typology could be located on lower valley sides without impacting visually on adjacent landscape types.</p> <p>There would be some impact on adjacent types if this typology was located near the upper rim of the valley.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Scale and openness	<p>Small scale, rounded landforms, low hills and generally low relief (the highest hill is only 97m) extend around a narrow, incised and steep-sided river valley.</p> <p>Relatively small fields and diverse woodland reinforce the small scale, although the upper slopes of the valley are more open.</p> <p>The steep slopes and woodland in the river valley emphasises the sense of enclosure.</p> <p>The constant presence of trees and buildings provide consistent reference points against which size of turbines can be judged. There are several larger buildings on the outskirts of Eyemouth.</p>	<p>This size of turbine would impact on the small scale of much of this character type.</p> <p>In particular, this typology would dominate the low relief and small scale landforms within this landscape.</p> <p>The consistent presence of small features – including trees and buildings – would make it difficult to accommodate this size of typology without it appearing much larger than these features.</p>	High	<p>This size of turbine might impact on the small scale of some of the more intimately scaled areas of this character type, especially the individual small landforms and the enclosed river valley and its setting. This typology would also be difficult to site without it appearing larger than other small individual built features.</p> <p>The smaller range of this typology could be accommodated where they can be associated with larger buildings or more open upper slopes.</p>	High-Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landform	Complex, interlocking, rounded landforms, including small stand-alone hills, contain the sinuous, sometimes steep-sided river valleys of the Eye and Ale Waters.	The complex interlock of the landforms and the steep sided river valleys and their immediate setting are sensitive to this typology. More level and gentle slopes may offer scope for siting this typology. Long evenly graded and gentle slopes with occasional terraces are likely to offer more potential than areas of intricate and complex landform.	High-Medium	The complex interlock of the landforms and the steep sided river valleys and their immediate setting are sensitive to this typology. More level and gentle slopes may offer scope for siting this typology. Long evenly graded and gentle slopes with occasional terraces are likely to offer more potential than areas of intricate and complex landform. There is likely to be additional potential to accommodate this typology on the broader, gently graded side slopes of the upper valley sides.	Medium
Landscape pattern	Relatively small, cultivated fields enclosed by hedges extend across the low hills and rolling landform. The immediate river valleys and their setting are well wooded. Further small woodlands and more extensive policy woods associated with the historic landscape of Ayton Castle add to visual diversity.	The diversity limits opportunities for this typology, which could detract from the sequential pattern of fields and woodland especially along the valley of the Eye Water. The integrity of the policy woodland, including individual or small group landmark trees, the wooded setting of the river valleys and their wooded surroundings is additionally sensitive. More open and simple land cover may provide some scope for this typology.	Medium	The integrity of the policy woodland, and the setting of the dramatic gorges and their wooded surroundings are sensitive. More open and simple land cover may provide some scope for this typology. This size of typology is less likely to interrupt or distract from the landcover pattern than taller typologies.	Medium-Low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Built environment	<p>Farms are dispersed across this landscape at all elevations. Eyemouth extends into the valley from the coast, and includes larger buildings on the outskirts of the town. Ayton is smaller and more contained.</p> <p>There are additional historic buildings and features associated with the estate at Ayton Castles.</p> <p>The main A1, the east coast railway, the A1107 and a network of smaller roads provide access to this area.</p> <p>Some of the public and private roads are relatively narrow and winding.</p>	<p>The relatively settled landscape is a constraint to this typology as it is difficult to site this size of typology without impacting on the setting of settlement.</p> <p>Historic buildings and their settings are an additional sensitivity.</p> <p>The area is well developed in character, however, with large buildings and infrastructure already in place.</p>	High-Medium	<p>The relatively settled landscape still has some constraints to this typology as it is difficult to site this size of typology without impacting on the setting of smaller settlements.</p> <p>The area is well developed in character, however, with large buildings and infrastructure already in place.</p> <p>This typology may be more easily located where it can be associated with larger farm buildings without compromising the setting of individual farms and other more dispersed settlement.</p> <p>Historic buildings and their settings remain an additional sensitivity even for turbines of this height.</p>	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Perceptual qualities	<p>The most striking features are the steep-sided river valleys, which are dramatic and naturalistic in character. In addition, the more enclosed and wooded areas are relatively secluded in character.</p> <p>The presence of historic features around Ayton influences the character of this area.</p> <p>Elsewhere, the presence of settlement, infrastructure and farmed land creates a context of developed landscape.</p>	<p>This typology could affect the sense of seclusion in this landscape, and the sense of naturalness and drama associated with the river valleys.</p> <p>The historic character of Ayton is a further constraint.</p> <p>The developed landscape provides a context for further appropriately sited development.</p>	Medium	<p>This typology could affect the sense of seclusion in this landscape, and the sense of naturalness and drama associated with the river valleys.</p> <p>The historic character of Ayton is a further constraint.</p> <p>The developed landscape provides a context for further appropriately sited development.</p> <p>The smaller size of this typology provides more scope for siting this size of development without intruding on key sensitivities.</p>	Medium-low

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Visual amenity	<p>The woodland and the rolling landform limits visibility, especially from the narrow floor of the river valley. Both the A1 and the railway are largely in cuttings.</p> <p>However, the area is well settled and well roaded, with a network of small roads allowing access and increasing the visibility of the area. Views from the more elevated A1107, the main approach to Eyemouth from north and south, are important – they are open and semi-panoramic.</p> <p>The upper rim of the valley, where the valley meets the adjacent coastal farmland types, forms a distinct skyline which is very visible and prominent from within the valley, and from the A1107.</p>	<p>Woodland and landform limit views especially along the more contained stretches of the valley. Views of this height of turbine are therefore likely to be intermittent and reduced by the screening effects of landform and trees in these more enclosed areas.</p> <p>From more open areas, including the A1107, generally along the upper reaches of the valley, the height of this typology means that it is likely to appear above many of the smaller features and may be widely visible.</p> <p>Key visual sensitivities, such as the river valleys and the historic buildings and the skyline rim of the valley, are sensitive to this typology.</p> <p>The smaller turbines in this typology range would have less visual impact.</p>	High	<p>Woodland and landform often limit views especially in the inland and more contained stretches of the valley.</p> <p>Views of this height of turbine are therefore likely to be intermittent and reduced by the screening effects of landform and trees in these more enclosed areas.</p> <p>From more open areas, including the A1107, generally along the upper reaches of the valley, the height of this typology means that it is likely to appear above many of the smaller features and may be relatively widely visible.</p> <p>Key visual sensitivities, such as the river valleys and the historic buildings and the skyline rim of the valley, remain sensitive to even this typology.</p> <p>Nevertheless, this typology is smaller in height and will be less widely visible.</p>	High-Medium
Cumulative effects	<p>There are no consents for turbines within this type.</p> <p>No other turbines in adjacent landscape types impact on the landscape character or visual amenity of this type.</p>	<p>There is no significant landscape or visual cumulative effect arising from existing consents.</p>	Low	<p>There is no significant landscape or visual cumulative effect arising from existing consents.</p>	Low

17.2 Summary of sensitivity

The Coastal Valley landscape character type (30) extends inland from the coast at Eyemouth. It lies between the Coastal Farmland (19) and Coastal Pasture (20), and reaches inland to the Rolling Lowland margin (16). The coastal fringe lies within the Coastal Margin (30). It shares a land use pattern of cultivated farmland with these adjacent types, but in Coastal Valley (30), the fields extend across small scale rounded landforms which contain the higher upper slopes of the valley sides. These upper slopes frame narrow, sinuous and steep-sided wooded river valleys of the Eye and Ale Waters.

Settlement is dispersed across the whole area, with two main clusters, at Eyemouth, a substantial town which includes larger buildings on its outskirts, and Ayton, which has a strongly historical character, reinforced by the nearby presence of Ayton Castle and its policy landscape.

The small scale of the landform and its low relief, the diverse pattern of land use, the enclosed drama of the incised river valleys, the more semi-natural stretches of coast, the presence of numerous small scale features against which the height of a turbine can be readily assessed and the historic character around Ayton are key sensitivities of this character type. The area is well settled and with a network of roads, including trunk roads, and some footpaths, and while visibility can be intermittent from the lower river valley, tall structures are likely to be relatively easily seen, especially from the A1107. The skyline of the valley, as seen from this road and on arrival to Eyemouth, is particularly sensitive. This landscape character type therefore has a **High** sensitivity to large (80m – 140m), medium (50m – 80m) typologies and the small-medium (35m – 50m) typology and a **High-Medium** sensitivity to the small (20m – 35m) typology.

Turbines of up to 20m could be more readily accommodated within the farmed areas and with large buildings on the outskirts of Eyemouth within this landscape type.

17.2.1 *Potential cumulative issues*

There is some potential for cumulative landscape and visual effects to arise in the future if different heights and designs of turbines are located within this character type. In addition, there are potential sequential visual impacts when travelling along the A1 or the east coast main line, both of which are 'gateways' to Scotland when travelling from the south. Care should be taken to develop a careful and consistent approach to turbine style and siting, preferably consistent also with siting criteria and design of turbines in neighbouring character types, to limit negative impacts on landscape character.

Turbines should not be sited on the upper rim, or skyline, of the valley to avoid visual interaction and potential visual cumulative effects with turbines located on neighbouring coastal character types.

Well-sited turbines of less than 20m and a consistent relationship between these small turbines and the farm cluster are likely to further minimise potential cumulative impacts. Small turbines are also more readily visually screened by topography and woodland, which is likely to limit their cumulative visual impact.

Key cumulative issues that may arise within the Coastal Valley (30) are likely to include:

- Variations in the type and size of single and small groups of small turbines proposed within the landscape type
- Inconsistent relationship with other built elements in this landscape, and lack of overall consistent approach to siting
- Sequential visual impacts experienced when travelling through the landscape, especially on the A1 and the railway
- Visual cumulative effects between this type and neighbouring types which could be exacerbated with turbines appearing above the skyline, and therefore being visible from neighbouring coastal character types
- Inconsistency of design and siting policy between this character type and the neighbouring coastal types, in particular, which are often experienced as a sequence.

17.2.2 *Constraints*

- The low relief, small rounded landforms and steep sided river valleys which characterise of this landscape
- The diverse pattern of land use, especially the pattern of small woodlands, which further reinforce the small scale of this landscape;
- The distribution and small size of farms and woodlands, which provide features against which the size of turbines can be readily assessed;
- The sense of naturalness associated with the wooded river valleys and the coast
- The setting of historic buildings, features and designed landscape around Ayton
- The upper rim of the valley, or skyline, as viewed from within the valley, and from the A 1107
- Views from the 'gateway' A1 and the railway.

17.2.3 *Opportunities*

- Gently graded, more open slopes away from the setting of key features, including historic features, the coast and the wooded river valleys
- Larger buildings, including farm buildings, where turbines can be located to create a small 'development cluster'
- The intermittent visibility created by the more enclosed topography and the woodland

17.3 **Guidance for development**

Well-sited turbines of less than 20m could be sited to reflect the dispersed settlement pattern, and would fit in well with the scale of this landscape. These could be sited to be associated with farms or larger buildings on the outskirts of Eyemouth. Turbines should avoid intruding into the setting of key features and

the setting of the narrow river valleys, the coast and more complex landforms. These turbines should be located to avoid impacts on the settings of, and views from and to, historical buildings and features.

Individual turbines are likely to be easier to accommodate than groups, which should be limited to no more than three turbines, and care should be taken to avoid cumulative sequential effects.

Micro siting of smaller turbines should follow the guidance set out in Section 22 of the Main Report.

No scope for the large (80m+), large-medium (50m – 80m), small-medium (35m- 50m) and small (20m – 35m) typologies has been identified in this assessment.

18 CHARACTER TYPE 31: COASTAL MARGIN

18.1 Introduction

The Berwickshire coast has been defined as a separate landscape character – Coastal Margin (31) for the purposes of this assessment due to its specific sensitivities to wind turbine development. It extends along the fringe of the Berwickshire coast.

18.1.1 *Operational/consented wind farms*

No operational or consented wind turbines are located in this character type. The operational Drone Hill wind farm (22 turbines, 76m high to blade tip) and the consented Penmanshiel wind farm (14 turbines, 100m high) and Moor House turbines (2 turbines, 77.9m high) are located in the adjacent Coastal Moorland (21) landscape character type although visibility of these developments from the Coastal Margin (31) landscape character type is restricted.



Character Type 31: Coastal Margin – Sensitivity assessment for large and medium typologies

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landscape context	This landscape forms a narrow coastal margin. This is defined in the south by the top of steep slopes which form the immediate skyline seen from the A1 corridor above the coast. This character type constricts in the Eyemouth area but broadens between St Abbs and Bowlaw where a series of small knolly hills and ridges mark the transition with the adjacent 'Coastal Moorland' (21) and 'Coastal Farmland' (19) character types. Inter-visibility with adjacent character types is often limited by landform although Fast Castle Head is a prominent feature seen from the east in views from the 'Coastal Farmland' (19) and from East Lothian.	The landscape type is small in extent, and the size of this typology would be difficult to absorb within the limited extent of this landscape type. Turbines of this size would be likely to significantly impact on views from adjacent character types. They would also detract from views to the prominent headland of Fast Castle seen from the Coastal Farmland (19) and East Lothian if located in this part of the Coastal Margin.	High	The landscape type is small in extent, and the size of this typology would be difficult to absorb within the limited extent of this landscape type. Turbines of this size could impact on views from adjacent character types if sited on prominent ridges and the knolly hill tops which form the immediate hinterland to the coast. They would also detract from views to the prominent headland of Fast Castle seen from the Coastal Farmland (19) and East Lothian if located in this part of the Coastal Margin.	High-medium
Scale and openness	Although the sea gives a sense of expansiveness, the intricate nature of the indented rocky coast reduces scale. Hills adjacent to the coast are small and cliffs and steep slopes are not particularly high, despite their rugged and dramatic character. Small, irregular pastures fringe the top of low cliffs south of Burnmouth. Settlements and some dispersed farms are located within parts of this character type.	This typology would dominate the relatively low relief of knolly hills, cliffs and steep slopes and small scale of coves and promontories and fringing pastures. Turbines of this size would also overwhelm the scale of small settlements and farms where these are present.	High	This typology would dominate the relatively low relief of knolly hills, cliffs and steep slopes and small scale of coves and promontories and fringing pastures. Turbines of this size would also overwhelm the scale of small settlements and farms where these are present.	High

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Landform	The coastal margin has a diverse and rugged landform featuring rocky cliffs, small promontories and coves, rocky platforms and rare sandy beaches often backed by sheer vegetated slopes. A complex interlocking pattern of knolly hills and lochans backs the coast between St Abbs and Bowlaw Farm.	The complex landform of this rugged and often dramatic coastline increases sensitivity to this typology.	High	The complex landform of this rugged and often dramatic coastline increases sensitivity to this typology.	High
Landscape pattern	Pastures, often enclosed by stone walls, slope gently down to rocky cliffs. Rougher pasture and grass/heather moor increasingly occurs to the north. Gorse scrub colonises cliff tops and small knolls although woodland is rare.	More diverse moorland and species rich pastures would have increased sensitivity especially to developments of multiple turbines.	Medium	More diverse moorland and species rich pastures would have increased sensitivity especially to development of multiple turbines.	Medium
Built environment	There is a distinct identity to the historic core of settlements such as Eyemouth, Burnmouth, Cove and St Abbs which are strongly associated with the coast. A number of landmark buildings and archaeological features also occur and include the lighthouse at St Abbs Head and the ruinous Fast Castle. Newer housing is orientated to overlook the coast on east facing slopes below Lamberton Moor close to the A1.	This typology would dominate the setting of architecturally distinctive settlements if sited nearby and/or on containing skylines. Landmark buildings and archaeological features would also be highly sensitive to this typology.	High	This typology would dominate the setting of architecturally distinctive settlements if sited nearby and/or on containing skylines. Landmark buildings and archaeological features would also be highly sensitive to this typology.	High
Perceptual qualities	A strong sense of wildness can be experienced along the coast between St Abbs and Fast Castle where there is little settlement and the terrain is particularly rugged.	Turbines of this size would intrude on the sense of seclusion and naturalness experienced along parts of this coast.	High	Turbines of this size would intrude on the sense of seclusion and naturalness experienced along parts of this coast.	High

Topic	Summary description	Assessment of large typology (80m+)	Sensitivity rating	Assessment of medium typology (50-80m)	Sensitivity rating
Visual amenity	<p>The Coastal Margin is popular for recreation with St Abbs Head and Coldingham Bay forming key destinations for visitors. There are views along the coast from St Abbs Head where well-used walks are located.</p> <p>The A1 and East Coast railway line south of Burnmouth features open views over the coast and sea where this landscape forms an attractive threshold to Scotland.</p>	This size of turbine would be highly visible from roads, settlement and recreational areas within this character type where it would form a dominant feature and detract from key views.	High	This size of turbine would be highly visible from roads, settlement and recreational areas within this character type where it would form a dominant feature and detract from key views.	High
Cumulative effects	A number of wind farms are located in the adjacent Coastal Moorland (21) landscape character type. Views of the Drone Hill wind farm from the Coastal Margin are limited to the north-facing coast between Dowlaw Farm and Pease Bay. The Moor House turbines may introduce views of turbines to a section of the more sensitive rugged and wild coast between Souter and Heathery Carr. Visibility of the Penmanshiel wind farm from the coast would be more restricted.	This typology would have cumulative effects on views and landscape character where inter-visible with these operational and consented developments.	Medium	This typology would have cumulative effects on views and landscape character where inter-visible with these operational and consented developments.	Medium

Character Type 31: Coastal Margin – Sensitivity assessment for small-medium and small typologies

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landscape context	This landscape forms a narrow coastal margin. This is defined in the south by the top of steep slopes which form the immediate skyline seen from the A1 corridor above the coast. This character type constricts in the Eyemouth area but broadens between St Abbs and Bowlaw where a series of small knolly hills and ridges mark the transition with the adjacent 'Coastal Moorland' (21) and 'Coastal Farmland' (19) character types. Inter-visibility with adjacent character types is often limited by landform although Fast Castle Head is a prominent feature seen from the east in views from the 'Coastal Farmland' (19) and from East Lothian.	Turbines of this size could be sited to avoid significant impact on adjacent character types. However, they could still detract from views to the prominent headland of Fast Castle seen from the Coastal Farmland (19) and East Lothian particularly if located on sensitive skylines.	Medium	Smaller turbines would have less of an effect on adjoining landscapes and on views from East Lothian provided they were sensitively sited.	Medium-low
Scale and openness	Although the sea gives a sense of expansiveness, the intricate nature of the indented rocky coast reduces scale. Hills adjacent to the coast are small and cliffs and steep slopes are not particularly high, despite their rugged and dramatic character. Small, irregular pastures fringe the top of low cliffs south of Burnmouth. Settlements and some dispersed farms are located within parts of this character type.	This typology would appear overly large in relation to small knolly hills, lower cliffs and small scale pastures. Turbines of this size would also dominate small settlements and farms where these are more evident.	High-medium	Sensitivity would be reduced in terms of scale to this typology because of greater opportunities to site these smaller turbines (and particularly turbines towards the lower height band of 20m) to avoid conflicts of scale with smaller coastal features and with settlement.	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Landform	The coastal margin has a diverse and rugged landform featuring rocky cliffs, small promontories and coves, rocky platforms and rare sandy beaches often backed by sheer vegetated slopes. A complex interlocking pattern of knolly hills and lochans backs the coast between St Abbs and Bowlaw Farm.	The complex landform of this rugged and dramatic coastline increases sensitivity to this typology.	High	The complex landform of this rugged and dramatic coastline would be sensitive even to this small typology.	High-medium
Landscape pattern	Pastures, often enclosed by stone walls, slope gently down to rocky cliffs. Rougher pasture and grass/heather moor increasingly occurs to the north. Gorse scrub colonises cliff tops and small knolls although woodland is rare.	More diverse moorland and species rich pastures would have increased sensitivity especially to developments of multiple turbines.	Medium	There is increased scope to locate this typology to avoid impact on more diverse vegetation pattern.	Medium-low
Built environment	There is a distinct identity to the historic core of settlements such as Eyemouth, Burnmouth, Cove and St Abbs which are strongly associated with the coast. A number of landmark buildings and archaeological features also occur and include the lighthouse at St Abbs Head and the ruinous Fast Castle. Newer housing is orientated to overlook the coast on east facing slopes below Lamberton Moor close to the A1.	This typology would dominate the setting of architecturally distinctive settlements if sited nearby and/or on containing skylines. Landmark buildings and archaeological features would also be highly sensitive to this typology. There may be limited scope to site turbines of this size to minimise impacts on setting.	High-medium	This typology could dominate the setting of architecturally distinctive settlements if sited nearby and/or on containing skylines. Landmark buildings and archaeological features would be sensitive to turbines sited nearby. There is likely to be increase scope to site smaller turbines to avoid impacts on setting.	Medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Perceptual qualities	A strong sense of wildness can be experienced along the coast between St Abbs and Fast Castle where there is little settlement and the terrain is particularly rugged.	Turbines of this size could intrude on the sense of seclusion and naturalness experienced along parts of this coast.	High-medium	Turbines of this size could intrude on the sense of seclusion and naturalness experienced along parts of the coastline although there is increased scope for smaller turbines to be set back from the more sensitive coastal edge and thus minimise impacts on perceptual qualities.	Medium
Visual amenity	The Coastal Margin is popular for recreation with St Abbs Head and Coldingham Bay forming key destinations for visitors. There are views along the coast from St Abbs Head where well-used walks are located. The A1 and East Coast railway line south of Burnmouth features open views over the coast and sea where this landscape forms an attractive threshold to Scotland. Views to this coast are also a feature from the A1 between Torness and Dunglass and from the promoted scenic coastal route the A1107.	This typology would be likely to be visible from roads, the railway, settlement, coastal paths and recreational areas where it would form a prominent feature and could detract from key views.	High	Even turbines of this size could be intrusive from roads, the railway, settlement, coastal paths and areas used for recreation where they could intrude on key views along the coast and out to sea.	High-medium

Topic	Summary description	Assessment of small-medium typology (35m-50m)	Sensitivity rating	Assessment of small typology (20m-35m)	Sensitivity rating
Cumulative effects	A number of operational and consented wind farms are located in the adjacent Coastal Moorland (21) landscape character type. Views of the Drone Hill wind farm from the Coastal Margin are limited to the north-facing coast between Dowlaw Farm and Pease Bay. The Moor House turbines may introduce views of turbines to a section of the more sensitive rugged and wild coast between Souter and Heathery Carr. Visibility of the Penmanshiel wind farm from the coast would be more restricted.	This typology would have cumulative effects on views and landscape character where inter-visible with these operational and consented developments.	Medium	This typology would be unlikely to have significant cumulative effects with operational and consented developments due to the appreciably smaller size of turbines and their likely clear association with farms and other buildings which would limit visual clutter of disparate built features.	Medium-low

18.2 Summary of sensitivity

This diverse rocky coastal margin has a rugged and elemental character, particularly to the north between St Abbs and the headland of Fast Castle, where higher cliffs and steep vegetated slopes plunge dramatically to the sea. The immediate hinterland to the coast is also complex in this northern area, comprising small lochans and interlocking knolly hills and ridges. A strong sense of wildness can be experienced in the north between St Abbs Head and Fast Castle. The southern part of this coastal landscape is more developed, forming a major transport corridor with rail and road links between Scotland and England. There are a number of distinctive historic settlements closely associated with this coast and the area is also rich in archaeology with the St Abbs lighthouse and the ruinous Fast Castle forming landmark features. This seascape forms an attractive threshold to Scotland when travelling north with close views of small irregularly shaped pastures perched above a fragmented rocky coastline being particularly dramatic when viewed from the train. The Fast Castle headland is prominent in views from East Lothian and the A1 from the east where the rugged character of the Berwickshire coast can be appreciated.

The scenic diversity and perceived naturalness of this coastline, its popularity for tourism and recreation and the prominence of parts of the coast in views from the A1 and East Coast Railway are key constraints to wind turbine development. There would be a **High** sensitivity to the large, medium and the small-medium typology (turbines above 35m high). Sensitivity to the small typology (turbines 20m-35m) would be **High-medium**.

18.2.1 *Potential cumulative issues*

Potential cumulative effects with the Drone Hill, Penmanshiel and Moor House wind farms located in the adjacent Coastal Moorland (21) could occur. The Drone Hill and Penmanshiel developments have limited visibility from the Coastal Margin although the Moor House turbines may intrude on parts of the more sensitive rugged east coast. Any additional development of larger typologies in this character type would have cumulative effects with these operational and consented developments on views from coastal Core Paths and from settlement and transport routes, including the A1, from the north-east.

18.2.2 *Constraints*

- The narrowness of the Coastal Margin which limits scope for larger and multiple turbine developments to be physically accommodated.
- The often small scale of this complex indented rocky coastline and the relatively lowly height of cliffs, steep slopes and knolly hills.
- The rich diversity of landform including the dramatic craggy indented cliffs of St Abbs Head, rugged promontories alternating with narrow inlets and coves and rare sandy bays.

- A strong sense of wildness associated with the less developed coastline between St Abbs Head and Fast Castle which can feel remote and elemental, heightened by the ruggedness of landform.
- The attraction of the Berwickshire coast for recreation, increasing sensitivity to turbines which would be seen in views from roads and well-used paths along the coast.
- The rich architectural integrity of coastal settlements, including St Abbs, the historic core of Eyemouth, Cove and Burnmouth, but also landmark and archaeological features where turbines could affect their setting.
- Views from the A1 to the prominent headland of Fast Castle when travelling south-east and the importance of this landscape in providing an attractive threshold to Scotland (see from the East Coast railway and A1) close to the border with England.

18.2.3 *Opportunities*

- There are no opportunities for turbines over 20m high to be accommodated within this character type.

18.3 **Guidance for development**

Small turbines below 20m high could be accommodated but should be sited where they can be clearly associated with existing built development to minimise visual clutter in this highly sensitive coastal landscape. They should avoid coastal areas with perceived qualities of wildness and be sited well away from more complex small scale and diverse coastal landforms which often form the immediate hinterland to the coastal edge. Turbines should not be sited on the top of small knolls, ridge tops, promontories or above abrupt cliff edges where they would be likely to be more prominent. They should also not be sited on the small pastures between the East Coast railway south of Burnmouth in order to avoid intrusion on views over the coast and sea.

Special care is needed to ensure that only well-designed turbines are used in this highly sensitive coastal landscape with limits on the range of designs used in order to minimise cumulative landscape and visual effects. There is limited scope for multiple developments in this landscape character type.

This landscape is highly sensitive to intrusion from any larger turbine typologies sited in adjacent character types.

Detailed siting and design should accord with the guidance set out in Section 22 of the Main Report.

No scope has been identified for turbines above 20m height in this assessment.

