Mossy Hill Wind Farm Substation

Supplementary Environmental Information Report

Appendix 3 – Landscape and Visual Assessment

Mossy Hill Wind Farm Substation

Landscape and Visual Appraisal

Prepared for

December 2024
3683-01-LVA

Document Control

Revision	Date	Prepared By	Reviewed / Approved By
3683-01-LVA	06/12/2024	SR	JMee

Well House Barns, Chester Road, Bretton, Chester, CH4 0DH

Camelia House, 76 Water Lane, Wilmslow, Cheshire, SK9 5BB

T: 0344 8700 007
enquiries@axis.co.uk
www.axis.co.uk

CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 Introduction

1.1.1 Axis has been appointed to undertake a Landscape and Visual Appraisal (LVA) of a Proposed Substation ('the Proposed Development').

1.1.2 The Proposed Development is located approximately 600 m north-west of the centre of Lerwick and 5.3 km to the north-east of Scalloway.

1.1.3 This standalone LVA report appraises the effects of the Proposed Development upon landscape character and visual amenity.

1.2 The Proposed Development

1.2.1 The Proposed Development is an alternative to two smaller substations which were consented as part of Mossy Hill Wind Farm (Planning Reference 2018/186/PPF). The Proposed Development includes two new substation buildings to facilitate the connection of the Mossy Hill Wind Farm to the electricity grid by transforming the wind farm's voltage from 33 kV to 132 kV.

1.2.2 A full description is provided within the Supporting Environmental Information Report, however the following are key elements of the description which are relevant to this LVA:

i) The Proposed Development would comprise two main buildings in the east of the Site: a larger one, housing the majority of the electrical switchgear, and a smaller one, containing a transformer to step up the voltage. Two additional smaller buildings will be included: a control and welfare building for SSENT, and a Statkraft building comprising of a 33kV switchroom, control room and staff welfare facilities.
ii) The scale of the two transformer buildings is as follows:
    a) SSENT's would be 105.1 m (length) x 47.4 m (width) x 10.7 m (height); and
    b) Statkraft's would be 42.0 m (length) x 28.8 m (width) x 12.0 m (height).
iii) The switchgear and control buildings, would have maximum footprints of
    a) SSENT's 18.9 m (length) x 12 m (width) x 6.2 m (height); and
    a) Statkraft's 37.0 m (length) x 6.0 m (width) x 8.2 m (height) respectively.

iv) An access track and an area of hardstanding surrounding the buildings with car parking and security fencing.
v) The buildings would be simple in form, similar to agricultural buildings, and would be painted in a muted green colour.

1.3 Purpose of this report

1.3.1 This is a Landscape and Visual Appraisal (LVA) and it provides:

i) A description of the landscape and visual baseline.
ii) A summary of landscape and visual mitigation embedded within the site selection, layout, and design.
iii) An appraisal of the landscape and visual effects likely to be associated with the Proposed Development.

2.0 LEGISLATION AND POLICY CONTEXT

2.1 Introduction

2.1.1 A review of national and local landscape policies and planning guidance that are specifically relevant to the LVA has been carried out and are summarised below.

2.2 European Landscape Convention

2.2.1 The UK Government is a signatory of the European Landscape Convention[1] (ELC), which became binding in March 2007. The ELC is aimed at the protection, management and planning of all landscapes and raising awareness of the value of a living landscape. It relates chiefly to public bodies and to the policies, plans and programmes produced by these.

2.2.2 The LVA is a development specific process which accords with Article 6C. The LVA is informed by extant Landscape Character Assessment studies which more directly relate to the provisions of Article 6C.

[1] *Available at https://www.coe.int/en/web/landscape/home*

2.3 National Planning Policy

2.3.1 National planning policy relevant to the potential landscape and visual effects of the Proposed Development is found within National Planning Framework 4 (NPF4) (The Scottish Government, 2023).

2.3.2 NPF4 sets out a list of national planning policies to assess applications, alongside national developments and spatial priorities for different regions within Scotland. NPF4 is an outcome focused document, with each of the 33 planning policies accompanied by statements on 'Policy Intent' and 'Policy Outcomes'.

2.3.3 The relevant polices for the LVA are listed below and further addressed in the Planning Statement.

i) NPF4 – Policy 4 Natural Places
ii) NPF4 – Policy 11 Energy

2.4 Local Planning Policies and Supplementary Planning Guidance

2.4.1 The Local Planning Authority is Shetland Islands Council. As such the relevant plan is: Shetland Local Development Plan (Shetland Council, 2014).

2.4.2 The policies of relevance to this LVA are:

Policy GP2 – General Requirement for All Development

2.4.3 Policy GP2 states that applications for new buildings or for the conversion of existing buildings should meet a set of General Requirements which includes:

"a. Developments should not adversely affect the integrity or viability of sites designated for their landscape and natural heritage value."

2.4.4 One of the reasons for setting out the General Requirements is to:

"Maintain and enhance the natural heritage and landscape character of Shetland."

Policy H5 Siting and Design

2.4.5 Polic H5 considers the fit of development within its host environment:

"Development will be supported if it fits well into the surrounding landscape and settlement pattern. For example, where the settlement pattern dictates, dwellings should be sited within or adjoining a group of at least two or more buildings of domestic scale."

Policy RE1 Renewable Energy

2.4.6 Policy RE1 states:

"The Council is committed to delivering renewable energy developments that contribute to the sustainable development of Shetland. Proposals for renewable energy developments will be supported where it can be demonstrated that there are no unacceptable impacts on people (benefits and disbenefits for communities and tourism and recreation interests) the natural and water environment, landscape, historic environment and the built environment and cultural heritage of Shetland. All proposals for renewable energy developments will be assessed with consideration of their cumulative impacts."

CF 1 Community Facilities and Services (incl. Education)

2.4.7 Policy CF1 states that

"The Council encourages proposals for the provision of community facilities, services and infrastructure that respect Shetland's culture and natural and historic environment. Proposals should relate sympathetically to the landscape of which they are a part, and to the scale and existing level of activity in the locality."

2.5 Key landscape related policy issues

2.5.1 The site and its surroundings are not located within any national or local landscape designation. However, local policy places value in preserving local landscape character and enhancing the natural environment where possible. Local policies indicate that this LVA should clearly describe potential effects on landscape character to ensure that the host environment has been considered when designing the Proposed Development.

3.0 APPRAISAL METHODOLOGY

3.1 Guidance

3.1.1 The method of appraisal is based on the principles established in the best practice guidance, the Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3). GLVIA3 states that any assessment of effects should be tailored to the specific nature and likely potential effects of the development proposed.

3.1.2 This LVA has followed a methodology which has been developed using the published good practice guidelines set out in the GLVIA3. A detailed methodology followed in undertaking this LVA is set out in **Appendix A**.

3.2 Scope of the Appraisal

3.2.1 This appraisal considers the likely landscape and visual effects of the Proposed Development. The appraisal focuses on landscape character (the effect on the landscape resource) and visual amenity (the visual effect on people in specific locations).

3.2.2 The appraisal appraises the operational phase effects of the Proposed Development and considers effects immediately after completion of construction in general terms but focuses principally on the longer-term residual level of effect likely to persist.

3.2.3 The LVA assesses the operational stage of the Proposed Development only, as the construction and decommissioning stages would be of short and temporary duration. Any potential effects brought about by the construction and decommissioning stages would be less than those assessed during operation due to the temporary nature of construction.

3.2.4 LVA acknowledges the contribution of heritage features to the landscape and visual baseline but excludes specific appraisal of any effect on the setting of the cultural heritage assets.

3.3 Study Area

3.3.1 The Study Area comprises a 5 km radius around the Proposed Development and is presented in **Figures 1 and 2**. The Study Area extent has been determined through a combination of analysis of a Zone of Theoretical Visibility (ZTV), as presented in

Figure 2, and through professional judgement based on experience from previous appraisals.

3.3.2 The 5 km radius Study Area captures most areas that fall within the ZTV of the Proposed Development as shown on **Figure 2**. Outside of this Study Area, whilst visibility is theoretically possible over longer distances, the level of visual effect will diminish with distance and is unlikely to be considered material to the decision maker.

3.4 Appraisal Criteria

3.4.1 Having applied professional judgement to assess the sensitivity of the baseline landscape and visual environment and to consider the magnitude of potential change that the Proposed Development would cause, these are then combined using further professional judgement to appraise the level of effect.

3.4.2 As this LVA does not form part of an Environmental Impact Assessment (EIA) 'significant effects' are not identified. It is however still appropriate to draw attention to any changes to landscape character or visual amenity which may be of particular note to the determining authority when considering the acceptability of the proposal. This approach is supported by GLVIA3 and subsequent clarifications provided by the Landscape Institute.

3.4.3 The level of effect can only be defined in relation to each particular development and its specific location. It is for each LVA to determine how judgements about receptor sensitivity and the magnitude of change should be combined to derive the level of effect and to clearly explain how this appraisal has been made.

3.4.4 Refer to **Appendix A** which provides further explanation as to how sensitivity and magnitude are combined to identify the level of effect upon a receptor.

3.5 Limitations

3.5.1 There were no notable limitations to the production of this LVA.

3.6 Data Collection

3.6.1 Baseline data for this LVA has been gathered by both desk and field-based surveys. These have included reviews of extant landscape character assessment studies (see

below) and a field visit in June 2024 to gain an understanding of the landscape and visual context of the Site and to take photographs.

3.7 Zone of Theoretical Visibility (ZTV)

3.7.1 ZTV mapping has been used to help identify the extent of expected visibility of the Proposed Development. The ZTV shown on **Figure 2** reflects the theoretical visibility of the Proposed Development using the total height of the Proposed Substation, which is 12.5 m AGL.

3.7.2 The ZTV was produced using a Digital Surface Model (DSM), supplied by Emapsite. This is derived from terrain information, which influences the ZTV output to the greatest extent, and also surface screening features such as buildings and vegetation.

3.7.3 This data source gives a reasonably accurate analysis of visibility of the Proposed Development. However, it should be noted that any ZTV analysis should be seen as a tool which aids desk and site studies rather than being an absolute indicator of visibility.

3.8 Visualisations Methodology

Introduction

3.8.1 A photo-realistic visualisation, or 'photomontage,' has been produced for Viewpoints 7 and 8. The following is a description of the methodology adopted to produce the photomontages.

Photography

3.8.2 All photography for this appraisal was taken using a Canon EOS 6D Mark II digital single lens reflex (DSLR) camera with a full-frame sensor, using a 50 mm lens. Camera height was 1.6 m above the ground in accordance with TGN 06/19.

3.8.3 Photographs were taken over a full 360-degree sweep from each viewpoint location. The precise location of each photograph was recorded by taking GPS co-ordinates and use of aerial mapping.

Photomontage Production

3.8.4 A digital model of the Proposed Development was created based upon final scheme design drawings. This was imported into industry standard software, Autodesk 3DStudioMax, along with the viewpoint data recorded on site. This enables a series of 'camera' points to be created within the model, reflecting the view from each viewpoint towards the Proposed Development.

3.8.5 A series of markers were added to the model, representing real-world locations such as topographic features, vegetation and buildings. The locations of these markers were determined via the use of aerial imagery (e.g. Google Earth), Environment Agency LIDAR data, and OS Mastermap data. The models were then lined up with the individual photograph that focuses on the Site. The markers were used to ensure that the model lines up both horizontally and vertically as accurately as possible with the photograph (by matching the markers with the real-world equivalent), and to assist with identifying which features in the photograph would appear 'in front' of the Proposed Development, which would appear 'behind' and which, if any would be removed.

3.8.6 Once the models are lined up as accurately as possible, the Proposed Development was rendered, having regard to the particular materials and colours that are to be used, and to reflect light conditions typical of the time and date of the photography. Photomontages are computer-generated images, showing images of the Proposed Development superimposed upon the existing photography, with the aim of producing a visualisation that should give a realistic impression of how the Proposed Development would appear within the landscape.

3.8.7 Following the lining up of the 3D model with the photograph that includes the Site, and the rendering of the Proposed Development, the full sweep of photos taken from each viewpoint were stitched together using the software package PTGui. The software reads the data attached to each individual photograph file to identify the specifications of the camera and lens, ensuring accurate production of the stitched panoramic image.

3.8.8 The resulting stitched viewpoint image was loaded into Adobe Photoshop. Any parts of the Proposed Development that would not be visible from an individual viewpoint due to the presence of intervening features were cropped out.

Mossy Hill Wind Farm

3.8.9 As stated in the Introduction, the Proposed Development would comprise a Substation to facilitate a consented Wind Farm at Mossy Hill, near Lerwick (Ref: 2018/186/PPF). The consented wind farm consists of 12 turbines with a tip height of 145 m and associated infrastructure.

3.8.10 The Applicant now proposes to submit a new planning application which varies Mossy Hill Wind Farm by deleting the four western-most turbines from the layout and increasing the tip height of the remaining eight to 155 m. All eight retained turbines would remain in the same locations as consented.

3.8.11 The two photomontages included in this LVA have included Mossy Hill Wind Farm as the Proposed Development is intrinsically linked to the Wind Farm. It was decided that the proposed 155 m turbine layout should be shown in photomontages as the 'worst-case' in terms of scale of development within the two views selected.

Limitations

3.8.12 It should be understood that photography can never provide an exact match to what is experienced in reality. Visualisations are tools in the appraisal process but independent from it. They illustrate the view in the context of a specific date, time and weather conditions, which would be seen within a photograph and not as seen by the human eye. As such, visualisations need to be used in conjunction with site visits and should be considered in the context of the totality of views experienced from the viewpoint and not just focussed on the Proposed Development.

Presentation & Viewing

3.8.13 The viewpoint photography is inserted into a Figure template (see **Figure 3.1** as an example), which also includes information about the viewpoint, including the date and time of photography, and details of the camera used.

3.8.14 A baseline photograph at 90 degrees horizontal field of view and 18.2 vertical field of view is presented with the visible portion of the Proposed Development.

3.8.15 Each sheet should be printed at the size stated on it. All printed sheets should be viewed held flat at a comfortable arm's length.

3.9 Site Visit

3.9.1 A Site visit was carried out in June 2024.

3.9.2 During the Site visit, viewpoint photography was captured and the assessor gained familiarity with the wider Study Area by walking along public footpaths, across open access land, and by walking and driving along lanes and roads.

3.9.3 Viewpoint locations were refined during the Site visit to avoid localised screening and to select camera positions to illustrate the most representative views.

3.10 Consultation

3.10.1 Consultation was held with the Natural Heritage/Planning team at Shetland Islands Council regarding viewpoint selection via email, prior to site work being undertaken. A provisional plan of six viewpoints, including the ZTV, was issued to the Council for comment and in May 2024 and the following comments were received:

i) That the ZTV shows that the site is likely to be relatively visually contained and that the proposed viewpoints are reasonable.
ii) It would be beneficial to add an additional viewpoint along the A970 to the east of the proposed site.
iii) With regards a viewpoint on the Cunningham Way, consider a location when on site at the track to the east (approx. HU 462 418) as this links Staney Hill to the town and is more heavily used than Cunningham Way.

3.10.2 In response to these comments:

i) An additional viewpoint was added at VP7 on the A970 to the east of the Site.
ii) An additional viewpoint was added at VP8 in the vicinity of Staney Hill.

3.10.3 Following the completion of site work, two viewpoints were selected to be illustrated with photomontages showing a photo-realistic view of the Proposed Development, viewpoints 7 and 8. An email was sent to the Natural Heritage/Planning team at Shetland Islands Council in October 2024 to request any comment on this selection and the following was received which confirmed the selection:

"…these [the viewpoints] should be most helpful for the purpose, both giving clear views of the proposed development site. In addition to your valid points, VP7 is fairly

close and will help viewers appreciate the scale of the proposed development, while VP8 will have additional benefit in the appreciation of landscape impacts and context of the proposals."

3.11 Competence

3.11.1 The LVA was co-ordinated and reviewed by a Chartered Member of the Landscape Institute (CMLI) with a master's degree in landscape planning and management and over twenty years' experience in landscape and visual assessment/appraisal of a variety of development types, including electrical infrastructure. Input was also provided by a Landscape Architect with 6 years' experience in landscape consultancy, including appraisal of renewable energy developments.

4.0 BASELINE

4.1 General Landscape Context

4.1.1 The Site is located on the outskirts of Lerwick, approximately 600 m north-west of the town centre. The Site comprises a parcel of sloping moorland and is currently accessed from Ladies Drive to the south eastern corner of the area, which, in turn connects to the A970 at the northern extent of the Site.

4.1.2 The Site is located across a steeply undulating landform with a high point of approximately 140 m above ordnance datum (AOD) in the southern extent of the Site which then falls to approximately 95 m AOD on the northern site boundary.

4.1.3 The Site is devoid of tree cover and is bound by post and wire fencing, therefore giving it an exposed, open character that is influenced by the adjacent A970 to the north and Ladies Drive to the east. A quarry also cuts into the adjacent side of the slope to the south of the Site.

4.1.4 Notable features of the wider landscape include several industrial sites along Ladies Drive which include a recycling centre, brewery and a larger estate with a variety of warehouses and supply stores. There is one residential property within 1 km of the Proposed Development and two residential estates located either side of Cunningham Way, approximately 1.1 km to the south-east of the Site. Shetland Golf Club is also located further west along the A970, 830 m from the Site. Individual wind turbines are also evident within the study area.

4.2 Landscape Character Context

National

4.2.1 Shetland is identified by seven different Scottish Landscape Character Types (LCTs) which have been identified by NatureScot. Details of each Character Type are available via the NatureScot website[1].

[1] https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions (accessed June 2024).

4.2.2 This NatureScot landscape character assessment defines the understanding of landscape character in the study area and will be used as a basis for the landscape appraisal.

4.2.3 From a review of the ZTV shown on **Figure 2**, in conjunction with the LCTs shown on **Figure 1**, the Proposed Development is most likely to result in landscape effects on **LCT 349: Major Uplands**, which is the 'host' character type for the Site.

4.2.4 An adjacent character type may also be affected, as indicated by the ZTV coverage, which is: LCT 354: Farmed and Settled Voes and Sounds

4.2.5 The characteristics and sensitivity of each of these LCTs is set out subsequently in Section 6.

4.2.6 From all other LCTs, there would be negligible visibility of the Proposed Development and therefore at most negligible landscape effects. It is noted that there is an area of ZTV coverage within the Inland Valleys LCT which is located approximately 0.6 km west of the Site, however any views of the Proposed Development would be of the very top of buildings, above the intervening landform, and the landscape effect would be minimal. All other LCTs have therefore been scoped out of the landscape appraisal.

4.3 Landscape Designations

4.3.1 The Site is not covered by any statutory or local landscape designations.

4.3.2 Within the 5 km Study Area:

i) The Shetland National Scenic Area (NSA) is located at the very western extent of the Study Area. However, as shown on Figure 2, the NSA does not fall within the ZTV and there would be no views of the Proposed Development from it. The NSA is therefore scoped out of this LVA.

ii) There is a Designed Landscape located at Gardie House, approximately 3.7 km east of the Site. However, there is only partial ZTV coverage within the boundary of the designed landscape, as shown on Figure 2, and where the Proposed Development would be theoretically visible, the view would be at long-distance and would only comprise the top of the buildings, with the majority screened by

intervening landform. The Gardie House Designed Landscape is therefore also scoped out of this LVA.

4.4 Visual

General visual context and ZTV

4.4.1 The ZTV included on **Figure 2** demonstrates that visibility of the Proposed Development would be strongly influenced by topography and that overall visibility would be very limited within the Study Area.

4.4.2 The Site is undulating with higher ground immediately to the south and west of the Site which would contain the majority of the view of the Proposed Development. A hill located 0.5 km to the north, Hill of Tagdale, screens views from the majority of the northern extent of the Study Area.

4.4.3 The following are noted areas of visibility within the Study Area, including reference to publicly accessibly locations within the ZTV, which are very limited:

i) An area within 1 km to the north, north-east and east of the Site which extends up to the Hill of Tagdale. Within this area the publicly accessible location in which people would experience views of the Proposed Development is the A970 road.
ii) The area of immediate visibility extends east, north-eastwards down into the northern extent of Lerwick, in the vicinity of the Hill of Greenhead and an industrial area beside the Lerwick coastline, Gremista Industrial Estate.
iii) At South Staney Hill and North Staney Hill 1.5 km south-east of the Site. A track, Cunningham Way, connects these hills and is used by walkers from within the nearby residential area, as is the nearby Stanley Hill Road.
iv) At the Hill of Shurton, located 2 km south of the Site. This is a small area of ZTV coverage in the vicinity of radio masts, albeit there is not understood to be public use of this area.
v) From the north-western extent of Bressay, 3 km east of the Site, there would be theoretical, long-range visibility from local roads, including Heogan Road, and a very small number of residential properties.
vi) To the west of the Site, the ZTV coverage is very limited. However, a small area of theoretical visibility is indicated a 1.5 km west of the Site, in the vicinity of Burradale Wind Farm, just west of Dale Golf Course. However, if views are

possible, the Proposed Development would be largely screened by the intervening Hill of Dale and there would be, at most, glimpsed views of the top of the Proposed Development from this small area.

Visual Receptors and Representative Viewpoints

4.4.4 For the purposes of this LVA, eight representative viewpoints have been selected to form the basis of the visual appraisal. The viewpoints are set out in the table below. The locations of the viewpoints are shown on **Figure 2**.

Table 4.1: Viewpoints

No.	Name	British National Grid Coordinates	Receptors
1	A970	444236 ,1142756 Altitude: 91m	Vehicle users
2	Ladies Drive	444748 ,1142820 Altitude: 96 m	Vehicle users
3	Entrance to Shetland Golf Club	442967 ,1142641 Altitude: 60 m	Visitors to the Golf Club
4	Cunningham Way	445709 ,1141410 Altitude: 104 m	Pedestrians walking the path
5	Gremista Road	446485 ,1143387 Altitude: 22 m	Vehicle users
6	Heogan Road (Bressay)	447826 ,1143235 Altitude: 24 m	Vehicle users
7	A970	445264, 1143031 Altitude: 68 m	Vehicle users
8	Stanley Hill Road	446130, 1141896 Altitude: 84 m	Pedestrians walking the path

5.0 MITIGATION

5.1 Description of Embedded Mitigation

5.1.1 The advantages of the Site location from a landscape and visual perspective are that it:

i) Is located away from many visual receptors, such as residential receptors, with the closest receptors being relatively fast-moving car users on the A970 to the west of Lerwick.
ii) It takes advantage of the hillside screening directly adjacent, screening views from the majority of the northern, western and southern extents of the Study Area.
iii) While slightly separated from Lerwick, it would partially associate with built form within the town, particularly in views from the east, as opposed to a position which would be much more isolated within the more open parts of the island.

5.1.2 Aside from the locational advantages, the key elements of the design which have considered the potential landscape and visual effects are:

i) The selection of a substation design which utilises buildings to contain the internal components. This creates a simpler form, which is more consistent with large, modern agricultural buildings than that of a typical substation which would comprise a more complicated array of electrical infrastructure.
ii) The use of a muted green colour which blends more with the earthier tones of the Shetland landscape and assimilates the buildings more successfully. This is clearly evident in the photomontage provided for Viewpoint 7 (**Figure 3.7**).

5.1.3 Overall, the Applicant has made best efforts to design the Proposed Development to limit its landscape and visual effects as far as is reasonably possible, while acknowledging that the substation is required to be positioned within the vicinity of the Site to achieve optimum functionality for the wind farm. The embedded mitigation described here has been taken into account in subsequent appraisals of effect which are therefore residual effect appraisals.

6.0 APPRAISAL OF EFFECTS

6.1 Introduction

6.1.1 This section appraises the level of landscape and visual effects that the Proposed Development would cause, taking account of the embedded mitigation set out in the previous section.

6.2 Landscape Character Effects

6.2.1 The Proposed Development would introduce an electrical substation development into the Site, mainly comprising a set of buildings with a functional appearance. No mature vegetation would be removed to facilitate construction, such as trees, albeit there would be loss of comprises rough grazing, acid grassland and blanket bog, which covers the Site at present. The main change to the landscape fabric of the Site would be landform alterations to create a level pad for the development. The Proposed Development would require cut into the landform and, once the level pad has been created at the eastern extent of the Site, it would be graded back into the existing landform.

6.2.2 Landscape effects due to the Proposed Development predominantly relate to the potential change to the landscape character types within the Study Area, which were identified in Section 4.2. However, the following appraisals take into account the physical changes to the Site that are required, i.e. landform alterations and the introduction of new buildings.

LCT 349: Major Uplands

6.2.3 The Site is located within the Major Uplands LCT. Viewpoints 1 (**Figure 3.1**), 2 (**Figure 3.2**) and 7 (**Figure 3.7.1**) are located within this LCT and provide photographic reference to the baseline landscape character described here. The summary description of the Major Uplands LCT is:

6.2.4 "The Shetland Islands are generally low-lying, such that distinct areas of high land are more prominent. The Major Uplands Landscape Character Type occurs as several upland hill masses incorporating the highest land in Shetland, forming the main physical structure of Shetland. The Landscape Character Type occupies large parts of central and south Shetland Mainland, with western and eastern outliers at

Bressay, Sandness Hill, Ronas Hill, Foula, Fair Isle and in the north at Unst. The landcover is dominated by peatland and heather moorland peaty mires."

6.2.5 Its key characteristics are:

i) "Rounded hills, occurring either in series connected by high level rounded ridges along a linear band, or as isolated single hills or hill groups.

ii) Often steep slopes at the coast, or cliff edges with dramatic natural coastal landforms.

iii) Mainly simple landcover of peat bog and heather moorland grading to rough grassland on some lower slopes, contrasting with the ordered fields of adjoining lowlands and the intricate coastline.

iv) Hill grazing and low-key peat cutting.

v) Mainly uninhabited and often difficult to access on foot or by road, with roads mainly absent on higher land.

vi) In some areas tracks ascend to hillside or hilltop features such as masts, wind turbines, isolated farms and peat cuttings.

vii) Exposed high land with panoramic views, forming landmark features which themselves are often visible for miles.

viii) Relatively expansive, although scale is difficult to discern and reduced by the presence of manmade structures.

ix) A sense of remoteness and wild character in places."

6.2.6 The defining characteristics of the Major Uplands LCT which indicate its susceptibility to the type of changes associated with the Proposed Development are:

i) Rounded hills comprising a simple landcover of peat bog and heather moorland, indicating a higher level of susceptibility to the type of development proposed.

ii) The undulating topography of the area contains views and prevents wider intervisibility with the surroundings, ensuring the existing character of remoteness is largely retained and indicates a moderate level of susceptibility to change.

iii) This part of the LCT is influenced by urban development, particularly located within Lerwick, just to the east of the Site. This includes industrial uses such

as the quarry immediately to the south of the Site and commercial/industrial sites further south-east within Lerwick. The A970 road is located directly to the north of the Site and this part of the LCT also includes several individual wind turbines. This indicates that the Proposed Development would not comprise an isolated element of human influence within the LCT, reducing its susceptibility to change.

6.2.7 Taking these characteristics into account, the susceptibility of this LCT to the type of development proposed is considered to be **Medium.**

6.2.8 There is no landscape designation within this part of the LCT (the Shetland NSA is located in a different part of this LCT, mainly outside the LCT) and is therefore considered to be of local, or **Low,** value. Considering the susceptibility of the landscape and its value, the overall sensitivity is judged to be **Medium** to the type of development proposed.

6.2.9 The Proposed Development would be directly located within the Major Uplands LCT and given its utilitarian appearance and position within a current undeveloped location, would contribute to landscape change. The selection of a design which comprises simple built form to surround the internal electrical infrastructure, painted in a sympathetic green colour, would limit landscape change and create more of an appearance of an agricultural building than of a typical substation.

6.2.10 In addition, the Proposed Development would form a conspicuous element within a relatively small extent of this LCT. The ZTV on **Figure 2** illustrates that the visual influence would be focused within close proximity of the Site, resulting in a relatively small scale effect which is contained to the south eastern extents of the much wider area of the LCT.

6.2.11 While wild and remote in places, a notable extent of this LCT is affected to some extent by the presence of man-made structures such as wind turbines and masts and this specific part of the LCT features a large quarry, some residential properties and several commercial buildings. These features would reduce the influence of the Proposed Development and limit change to any key characteristics.

6.2.12 The degree of landscape change is therefore considered to be **Small.** The Proposed Development would alter a relatively small geographical area in the context of this

landscape and therefore the change is considered to be **Localised**. The duration of operation would be **Long-Term**. The landscape effect would be **Partially reversible**, due to the localised landform changes, albeit there would be no loss of landscape features, such as trees, required for construction.

6.2.13 Combining all these criteria, it is considered that there would be a **Minor Adverse** level of landscape effect on the *Major Uplands LCT*, particularly given the limited ZTV of the Proposed Development across the much broader LCT.

LCT 354: Farmed and Settled Voes and Sounds

6.2.14 This LCT is located within the eastern, western and northern extents of the study area. Viewpoints 5 (**Figure 3.5**) and 6 (**Figure 3.6**) are located within this LCT and provide photographic illustration of the landscape character. The summary description of the Farmed and Settled Voes and Sounds LCT is:

"The Farmed and Settled Voes and Sounds Landscape Character Type occurs in Shetland around the enclosed coastal waters which are distributed around most parts of the islands except for the south of Shetland Mainland; the far west coast of Walls; Eshaness and North Roe and the outer small islands such as Whalsay. They are dominated by pasture and rough grassland resulting from long established farming. The type includes Shetland's main towns and many harbour settlements. Along with the Farmed and Settled Lowlands and Coasts, these areas constitute the majority of Shetland's most productive farmland."

6.2.15 The key characteristics of the *Farmed and Settled Voes and Sounds* are:

i) *"Narrow, low lying coastal strips of gently sloping or undulating land around enclosed waters. Complex, indented coastline which provides shelter.*

ii) *Mainly agricultural land use on improved and unimproved pastures with heathland, wetland and wet pastures which add variety.*

iii) *Scarce broadleaf tree cover found in very small remnant woodland patches and recent plantations.*

iv) *Mostly traditional crofting in linear or scattered patterns, with some estates.*

v) *Larger settlements around harbours with historic built heritage.*

vi) Mainly inland, minor road network with branches to beaches and harbours.

vii) Abundant archaeology across all periods of human settlement.

viii) Rural areas provide a contrasting backdrop and setting for settlements.

ix) Rural areas and settlements contrast with the surrounding, large scale hill land.

x) Views are ever-changing due to the complex coastline and interlocking landforms.

xi) Remote settlements have a strong sense of isolation and tranquillity."

6.2.16 The defining characteristics of the Farmed and Settled Voes and Sounds LCT which indicate its susceptibility to the type of change proposed are that, while this is a broadly agricultural character type, located in low lying coastal strips, this area features towns such as Lerwick and other coastal settlements which indicate that the built form is a common feature of the surroundings, reducing the sensitivity of the landscape in this locality. Taking these characteristics into account, the susceptibility of this LCT is considered to be **Low-Medium.**

6.2.17 Aside from the relatively small designed landscape located on the western coast of Bressay (Gardie House), there is no other landscape designation within this part of the LCT is therefore considered to be of local, or **Low,** value. Considering the susceptibility of the landscape and its value, the overall sensitivity is judged to be **Low-Medium** to the type of development proposed.

6.2.18 The Proposed Development is not directly within this LCT, however, the ZTV on **Figure 2** illustrates its visual influence is likely to have a very small effect on the overall area of the Farmed and Settles Voes and Sounds LCT. The settled nature of this LCT would reduce the influence of the Proposed Development and avoid notable change to any key characteristics. The degree of landscape change is therefore considered to be **Small.**

6.2.19 The Proposed Development would alter a relatively small geographical area in the context of this landscape and therefore the change is considered to be **Localised**. The duration of operation would be **Long-Term**.

6.2.20 Combining all these criteria, it is considered that there would be a **Minor Adverse** level of landscape effect on the Farmed and Settled Voes LCT, particularly given the limited ZTV coverage across this area.

6.3 Visual effects

Representative Viewpoints

6.3.1 The following section identifies the residual visual effects of the Proposed Development from the eight identified representative viewpoints. Viewpoint locations are illustrated on **Figure 2**. Baseline views from each representative viewpoint are provided by **Figures 3.1** to **3.8.**

Table 6.1: Effects on Representative Viewpoints

Criteria	Description of visual effect
Viewpoint 1 – A970 (West)	
Approximate distance & direction from the Site	Adjacent to the north-west of the Site
Receptors	Vehicle users
Baseline view	The view comprises the A970 travelling east towards Lerwick. The landform on each side of the road consists of sloping moorlands bound by post and wire fencing along the roadsides. In addition to the road, other detracting features of the view include telephone posts and associated cables which cross the landscape from north to south east.
Sensitivity	This viewpoint is representative of vehicle users whose primary focus is on the road and less so on the surrounding landscape, also experiencing fleeting views as they pass the Site. The susceptibility to change is therefore Low. There is no notable value attributed to the view as it predominantly features an A-road, therefore the value is Low. The overall sensitivity is considered to be **Low.**
Magnitude of visual change and level of effect	The Proposed Development would be almost entirely screened by the intervening landform when approach from the west. At most there would be a glimpsed view of the top of the buildings within the Site above the hill and, given their simple design and green colouring, would assimilate well within the view if glimpsed. The Proposed Development would give rise to a **Negligible** magnitude of change to the view from the A970 at this point. The level of visual effect would therefore be **Negligible**.
Viewpoint 2 – Ladies Drive	
Approximate distance & direction from the Site	Adjacent to the north of the Site
Receptors	Vehicle users

Baseline view	The view is taken from the end of Ladies Drive, beside the A970, and would be experienced by car uses travelling west from Lerwick. The view comprises the roads which are bound by post and wire fencing. To the west, there are open views of the Site which comprises moorland sloping which rises gently to the west and which forms the visible horizon.
Sensitivity	This viewpoint is representative of vehicle users whose primary focus is on the road and less so on the surrounding landscape, also experiencing fleeting views as they pass the Site. The susceptibility to change is therefore Low. There is no notable value attributed to the view as it predominantly features an A-road, therefore the value is Low. The overall sensitivity is considered to be **Low.**
Magnitude of visual change and level of effect	The Proposed Development would be evident at close-range from this location. It would comprise a set of buildings which would be set into the sloping landform given the required cut required to establish a level pad. At close range, the Proposed Development would comprise a change which introduces an obvious new feature, albeit which would be seen in a relatively small part of the wider view. The magnitude of change would therefore be **Medium-Large**. The Viewpoint represents Low sensitivity receptors, and combining this with the Medium-High change to the view, the overall level of effect is judged to be **Moderate Adverse**.
Viewpoint 3 – Entrance to Shetland Golf Club	
Approximate distance & direction from the Site	1.8 km west of the Site
Receptors	Vehicle users/Visitors to the Golf Club
Baseline view	This is a long range view towards the Site comprising open, undulating hillsides which flank the A970 to the north and south. The road continues to wind around the hills to the south. Another construction access road can be seen leading towards the coastline to the north. Two small dwellings can be seen nestled into the hillsides and are partially concealed by tree planting. In the foreground of the view, the golf course visitor/entrance buildings can be seen.
Sensitivity	This viewpoint is primarily representative of users of the golf club whose focus is on the access road and less so on the surrounding landscape. The susceptibility to change is therefore Low. There is no designated landscape within the view, however the, albeit glimpsed duration, panoramic view afforded towards the coastline would likely be valued by local users and therefore it is considered to be of Medium value. The overall sensitivity is considered to be **Low-Medium.**
Magnitude of visual change and level of effect	The Proposed Development would be almost entirely screened by the intervening landform looking eastwards. At most there would be a glimpsed view of the top of the buildings within the Site above the hill and, given the long-distance from the Site and the simple design and green colouring of the buildings, they would assimilate well within the view if glimpsed. The Proposed Development would give rise to a **Negligible** magnitude of change to the view from this viewpoint. The level of visual effect would therefore be **Negligible**.
Viewpoint 4 – Cunningham Way	
Approximate distance & direction from the Site	1.4 km south-east of the Site

Receptors	Footpath users
Baseline view	Views show open, moorland uplands punctuated by occasional built form including industrial buildings. To the north-west, the scarp of a large quarry can be seen on the horizon with several buildings, containers and vehicles surrounding it. To the north-east, several commercial/industrial units can be seen along Ladies Drive which leads to the A970 to the north. A wind turbine also sits prominently on higher ground in this direction. Other wind turbines are evident within the view from this aspect, with a larger number glimpsed across distant hillsides.
Sensitivity	This viewpoint is located on a footpath and is therefore of Medium to High susceptibility to change as the focus of walkers is on the surrounding views of the landscape. There are no designated landscapes within the view, therefore the value is Low. The overall sensitivity is considered to be **Medium.**
Magnitude of visual change and level of effect	The Proposed Development would be almost entirely screened by the intervening landform when looking from the south-east. At most there would be a glimpsed view of the top of the buildings within the Site above the hill and, given the long-distance from the Site and the simple design and green colouring of the buildings, they would assimilate well within the view if glimpsed. Various built features are scattered throughout the landscape, including industrial buildings and wind turbines, limiting the change due to the glimpse of the Proposed Development. The Proposed Development would give rise to a **Negligible** magnitude of change to the view from this viewpoint. The level of visual effect would therefore be **Negligible**.
Viewpoint 5 – Gremista Road	
Approximate distance & direction from the Site	2.1 km east, north-east of the Site
Receptors	Vehicle users
Baseline view	This view is along Gremista Road leading south towards Lerwick near to a large industrial site. Commercial warehouses dominate the view in the foreground, flanked by steep hillsides to the south and west. Two large wind turbines can be seen on the horizon in the distance, the verticality of which is echoed in the foreground by the lighting posts which follow the road.
Sensitivity	This viewpoint is representative of vehicle users whose primary focus is on the road and less so on the surrounding landscape. The susceptibility to change is therefore Low. There is no is no notable value attributed to the view as it predominantly features a road and adjacent industrial buildings, therefore the value is Low. The overall sensitivity is considered to be **Low.**
Magnitude of visual change and level of effect	The ZTV illustrates that this viewpoint is located within a small area of theoretical visibility of a small extent of the Proposed Development which would be largely screened by the intervening landform when looking from the east. At most there would be a glimpsed view of the top of the buildings within the Site above the hill and, given the long-distance from the Site and the simple design and green colouring of the buildings, they would assimilate well within the view if glimpsed. Various built features are scattered throughout the landscape, including industrial buildings and wind turbines, limiting the change due to the glimpse of the Proposed Development. The Proposed Development would give rise to a **Negligible** magnitude of change to the view from this viewpoint.

	The level of visual effect would therefore be **Negligible**.
Viewpoint 6 – Heogan Road (Bressay)	
Approximate distance & direction from the Site	3.0 km east of the Site
Receptors	Vehicle users
Baseline view	This is a long distance view towards the Site from the adjacent island of Bressay. The foreground of the view shows rough pasture bound by stone walls. In the far-distance, the coastline of Lerwick can be seen. This predominantly features the industrial nature of Lerwick harbour and the Gremista estate which detract heavily from the quality of the view. The Site is hidden behind intervening landform undulations.
Sensitivity	This viewpoint is primarily representative of users of the road whose view would be focused on the road and less so on the surrounding landscape. The susceptibility to change is therefore Low. There is no designated landscape within the view, however the panoramic view afforded towards the Lerwick coastline would likely be valued by local users and therefore it is considered to be of Medium value. The overall sensitivity is considered to be **Low-Medium.**
Magnitude of visual change and level of effect	The ZTV illustrates that this viewpoint is located within a broad area of theoretical visibility of the Proposed Development on Bressay, albeit the lower vertical extent of the buildings would be screened by the intervening landform. There would likely be a view of the top of the buildings within the Site in a relatively prominent position on the skyline, set slightly apart from Lerwick built form. However, given the long-distance from the Site and the simple design and green colouring of the buildings, they would assimilate well within the view where glimpsed. Various built features are scattered throughout the landscape, including industrial buildings and wind turbines, limiting the change due to the Proposed Development. Given the position of the Proposed Development on the skyline, set slightly away from Lerwick built form, it would give rise to a **Small** magnitude of change to the view from this viewpoint. The level of visual effect would therefore be **Minor Adverse**.
Viewpoint 7 – A970 (East)	
Approximate distance & direction from the Site	0.5 km east of the Site
Receptors	Vehicle users
Baseline view	The view to the west is along the A970 towards the Site. The landform rises to the west and screens further views in this direction, with the Site located in the vicinity of the visible horizon. Rolling moorlands bound the roadsides, punctuated by occasional built form such as several transmission poles and cables and a small group of buildings close to the south of the Site which interrupt the skyline.
Sensitivity	This viewpoint is representative of vehicle users whose primary focus is on the road and less so on the surrounding landscape, also experiencing fleeting views as they pass the Site. The susceptibility to change is therefore Low. There is no notable value attributed to the view as it predominantly features an A-road, therefore the value is Low. The overall sensitivity is considered to be **Low.**
Magnitude of visual change and level of effect	The Proposed Development would be evident at medium-range from this location. It would comprise a set of buildings which would be set into the sloping landform given the required cut required to establish a level pad.

	The base of the buildings would be screened by the intervening landform and only the tops of buildings would evident, albeit on the skyline. The Proposed Development would comprise a change which introduces an obvious new feature at medium-range, albeit which would be seen in a relatively small part of the wider view. The magnitude of change would therefore be **Medium**. The Viewpoint represents Low sensitivity receptors, and combining this with the Medium-High change to the view, the overall level of effect is judged to be **Minor-Moderate Adverse**.
Viewpoint 8 –Stanley Hill Road	
Approximate distance & direction from the Site	1.4 km south-east of the Site
Receptors	Footpath users
Baseline view	The view comprises open, undulating moorlands interrupted by a large industrial site and the rooftops of residential dwellings to the west. In the distance the scarp of the quarry which bounds the southern extents of the site can be seen. Two wind turbines are evident on the horizon from this aspect and the fringe of a small residential estate can be seen at the end of Stanley Hill Road.
Sensitivity	This viewpoint is located on a footpath and is the therefore of Medium to High susceptibility to change as the focus of walkers is on the surrounding views of the landscape. There are no designated landscapes within the view, therefore the value is Low. The overall sensitivity is considered to be **Medium**.
Magnitude of visual change and level of effect	The Proposed Development would be mostly screened by the intervening landform when looking from the south-east. At most there would be a glimpsed view of the top of the buildings within the Site above the hill and, given the long-distance from the Site and the simple design and green colouring of the buildings, they would assimilate well within the view if glimpsed. Various built features are scattered throughout the landscape, including industrial buildings and wind turbines, limiting the change due to the glimpse of the Proposed Development. The Proposed Development would give rise to a **Negligible** magnitude of change to the view from this viewpoint. The level of visual effect would therefore be **Negligible**.

Summary of visual effects

6.3.2 The production of a ZTV and the detailed appraisal of the eight representative viewpoints have established the following with regards the key visual effects of the Proposed Development within the Site, i.e. the Substation and associated infrastructure:

i) The ZTV is relatively limited and views of the Proposed Development would be limited to locations which aren't screened by topographic undulations. The screening effect of the hillside to the south and west of the Site is very effective

in screening views of the Proposed Development within the Study Area given its relatively low height, set beneath the hill.

ii) Where views would be possible, there would also be other built form typically evident within the view, reducing the susceptibility of views and the change that would be experienced.

iii) The embedded mitigation within the design of the Proposed Development, i.e. its position set within the base of the sloping landform, its simple agricultural style design and 'earthy' green exterior colouring has been found to limit likely effects from viewpoints within the appraisal.

iv) The vast majority of the northern, southern and western extents of the Study Area fall outside the ZTV and would not be subject to views of the Proposed Development. Exceptions to this are:

    a) A possible glimpsed view of the top of the Proposed Development from the entrance to Shetland Golf Club, however the appraisal of effects on Viewpoint 3 has identified a Negligible change to the view from this location.

    b) Glimpsed views from paths on South Staney and North Staney Hills to the south and south-east of the Site. These paths are used by residents living on the western edge of Lerwick. However, Viewpoints 4 and 8 have established that views would be limited to the very top of the substation buildings, above the intervening landform.

v) From nearby Lerwick, which is set in a lower position in relation to the east of the Site is largely outside the ZTV. Viewpoint 5 is located at the northern extent of Lerwick, near to Hill of Greenhead, in an area of industrial buildings and there would be at most a glimpsed view of the Proposed Development in the long-distance. A Negligible level of effect has been identified on Viewpoint 5.

vi) Residential areas are largely outside the ZTV and it is unlikely that any notable visual effects due to the Proposed Development would be experienced by residents in their homes.

vii) There is reasonable ZTV coverage on Bressay, approximately 3 km east of the Site. A Minor Adverse level of effect has been identified on Viewpoint 6, which is located at the western extent of Bressay. Despite the distance from the Site, a slightly higher level of effect was identified on Viewpoint 6 when compared to others to the east, such as Viewpoint 5, which is due to the position of the Proposed Development on the skyline, set slightly away from Lerwick built form.

However, overall effects on Bressay would be relatively limited and the Proposed Development would form a very small part of the views back towards the town of Lerwick.

viii) The main views of the Proposed Development would be from the adjacent roads, the A970 and Ladies Drive, and Viewpoints 1, 2 and 7 have been included to represent different views from these locations:

ix) Viewpoint 1 illustrates a view from the west and that the Proposed Development would be largely screened by the intervening landform which results in a Negligible level of visual effect.

x) Viewpoint 2 illustrates a very close range view of the Proposed Development and the highest level of effect recorded, Moderate Adverse. However, this is one position which would experience views of the Proposed Development at close range and the change would consist of an obvious new feature, albeit which would be seen in a relatively small part of the wider view.

xi) Viewpoint 7 is located on the A970, approaching from Lerwick in the east. A Minor-Moderate Adverse level of effect has been identified as the Proposed Development would comprise an obvious new feature at medium-range, albeit which would be seen in a relatively small part of the wider view.

6.3.3 Overall, there would be some close-range views of the Proposed Development from the roads adjacent to the Site, experienced by car users. However, the overall visual envelope of the Proposed Development would be relatively limited, with only occasional, glimpsed views from more elevated locations, such as North and South Staney Hills, the very northern, industrial part of Lerwick, and from the western extent of Bressay. The embedded mitigation within the Proposed Development design would enable the buildings to integrate within views and limit visual change.

7.0 SUMMARY AND CONCLUSIONS

7.1.1 Within this appraisal, judgements have been made regarding the likely landscape and visual effects of the Proposed Development. Landscape and visual mitigation is embedded in the design to minimise both the short and long-term landscape and visual effects. Mitigation focuses on the design of the Proposed Development which would mainly comprise a set of buildings with an agricultural appearance, set into the adjacent hillside and painted a muted green. The Proposed Development would be set away from any notable vegetation cover, such as trees, and benefits from visual containment by the surrounding landform, particularly to the south and west.

7.1.2 The appraisal has concluded that the level of residual landscape effects of the Proposed Development would be limited. The Proposed Development would introduce an electrical substation development into the Site, mainly comprising a set of buildings with a functional appearance. No mature vegetation would be removed to facilitate construction, such as trees, albeit there would be loss of grassland and bog which covers the Site at present. The main change to the landscape fabric of the Site would be landform alterations to create a level pad for the development. The Proposed Development would require cut into the landform and, once the level pad has been created at the eastern extent of the Site, it would be graded back into the existing landform. Landscape effects due to the Proposed Development predominantly relate to the potential change to the landscape character types within the Study Area, which comprise LCT 349: Major Uplands LCT and LCT 354: Farmed and Settled Voes and Sounds. A Minor Adverse level of effect has been identified on both of these LCTs and overall, the Proposed Development would not compromise the key characteristics of the surrounding landscape character.

7.1.3 With regards residual visual effects, the appraisal has also concluded there would be some close-range views of the Proposed Development from the A970 and Ladies Drive. However, the effect on the wider setting and views will be very limited due to the screening effect of topographic undulations. The overall ZTV coverage is fairly contained and potential changes to views from within the Study Area would be occasional and limited in extent.

7.1.4 Overall, despite some localised adverse effects due to the introduction of the Proposed Development, this would be a visually contained development which would give rise to a limited change to existing landscape character and visual amenity.

8.0 REFERENCES

i) Landscape Institute and Institute for Environmental Management and Assessment (3rd edition, 2013). Guidelines for Landscape and Visual Impact Assessment.

ii) Landscape Institute (2024). Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third edition (GLVIA3) ('LITGN-2024-01').

iii) Landscape Institute (2019). Visual Representation of Development Proposals. Technical Guidance Note 06/19 ('TGN 06/19').

iv) Landscape Institute (2020). Infrastructure: Technical Guidance Note 04/2020 ('TGN 04/20').

v) Landscape Institute (2021). Assessing landscape value outside national designations. Technical Guidance Note 02/21 ('TGN 02/21').

vi) NatureScot (2022). Landscape Sensitivity Assessment Guidance.

vii) SNH (*now NatureScot*) and The Countryside Agency (*now Natural England)* (2002). Landscape Character Assessment - Guidelines for England and Scotland.

Appendix A – LVA Methodology

1.0 METHODOLOGY

1.1 Introduction

1.1.1 Landscape and Visual Appraisal (LVA) is a tool used to systematically identify and assess the nature of the effects of a Proposed Development upon the landscape and upon views and visual amenity. The purpose of the LVA is to identify the level and nature of effect arising from a Proposed Development and if necessary, through an iterative design process, to inform changes to the development and evolution of mitigation strategies which minimise effects wherever possible.

1.1.2 The methodology for this LVA is informed by guidance contained within the Guidelines for Landscape and Visual Impact Assessment (The Landscape Institute and Institute of Environmental Assessment, 3rd Edition, 2013), often referred to as 'the GLVIA'. The LVA aims to establish the following:

i) A clear understanding of the development Site and its context, in respect of the physical and perceived landscape and of views and visual amenity.
ii) An understanding of the Proposed Development in terms of how this would relate to the existing landscape and views.
iii) An identification of likely effects of the Proposed Development upon the landscape and upon views, throughout the life cycle of the development, including cumulative interactions with other developments.
iv) Those mitigation measures necessary to reduce or eliminate any potential adverse effect on the landscape or views arising as a result of the Proposed Development.
v) A conclusion as to the residual likely effects of the Proposed Development.

1.1.3 Professional judgement is a very important part of the LVA process at every stage of the assessment. This judgement is exercised within an assessment framework that transparently sets out the steps in the assessment process which have led to the overall conclusions. This is emphasised in Box 3.1 (page 37) of the GLVIA, which advocates a structured approach that considers the sensitivity of the receptor and magnitude of the effect.

1.1.4 To ensure the transparency of the assessment and professional judgements made, the LVA follows a standard approach, namely:

i) The establishment of the baseline conditions, against which the effects of the Proposed Development will be assessed.

ii) The determination of the nature of the receptor likely to be affected, i.e. its sensitivity.

iii) The prediction of the nature of the effect likely to occur, i.e. the magnitude of change.

iv) An appraisal of the level of which effect would occur upon any receptor, by considering the predicted magnitude of change together with the sensitivity of the receptor, taking into account any proposed mitigation measure.

1.1.5 The GLVIA clarifies that the guidance concentrates on:

"…principles while also seeking to steer specific approaches where there is a general consensus on methods and techniques. It is not intended to be prescriptive, in that it does not provide a detailed 'recipe' that can be followed in every situation. It is always the primary responsibility of any landscape professional carrying out an assessment to ensure that the approach and methodology adopted are appropriate to the particular circumstance."

1.1.6 As set out above, use of professional judgement within a structured assessment framework is a very important element of the assessment of landscape and visual effects. As discussed in the GLVIA:

[2.23] "…Whilst there is some scope for quantitative measurement of some relatively objective matters, …much of the assessment must rely on qualitative judgement, for example about what effect the introduction of a new development or land use change may have on visual amenity, or about the significance of change in the character of the landscape and whether it is positive or negative."

[2.24] "…In all cases there is a need for the judgements that are made to be reasonable and based on clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others…"

[2.26] "…In carrying out an LVIA the landscape professional must always take an independent stance, and fully and transparently address both the negative and positive effects of a scheme in a way that is accessible and reliable for all parties concerned."

1.1.7 Landscape and visual matters are separate issues, although closely related and interlinked, are dealt with as such throughout the LVA. The methodologies for assessing both are outlined separately below.

2.0 LANDSCAPE ASSESSMENT

2.1 Introduction

2.1.1 The landscape assessment considers the potential effects of the Proposed Development on the components of the landscape as an environmental resource. Landscape receptors which could be affected by a Proposed Development may include:

i) Individual constituent elements and features of the landscape (sometimes referred to as landscape fabric).
ii) Specific aesthetic and perceptual qualities of the landscape.
iii) The overall character and key characteristics of the landscape as experienced in different areas (e.g. landscape character areas or types).

2.2 Sensitivity

2.2.1 The nature of a landscape receptor likely to be affected, i.e. its sensitivity is determined by considering two factors, namely:

i) Susceptibility to change.
ii) Value.

Susceptibility to Change

2.2.2 Susceptibility to change is defined in the GLVIA as follows:

[5.40] "This means the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning polices and strategies."

[5.41] "The assessment may take place in situations where there are existing landscape sensitivity and capacity studies, which have become increasingly common. They may deal with the general type of development that is proposed, in which case they may provide useful preliminary background information for assessment. But they cannot provide a substitute for the individual assessment of the susceptibility of the receptors in relation to change arising from the specific development proposal."

2.2.3 To understand susceptibility to change, the various characteristics/factors that make up a particular landscape must be identified and consideration given as to how these will be affected by the specific characteristics of the Proposed Development. A landscape may have different levels of susceptibility to different scales and types of development (e.g. new houses; wind turbines; power lines). Consideration is given to physical and perceptual factors which are considered together to derive an overall susceptibility to the specific type of change. Factors influencing the susceptibility of a landscape to change are set out below, with specific reference made to electrical substation type development where applicable:

i) Scale: A larger scale landscape (relative to the development proposed) will typically be less susceptible than a smaller scale landscape.

ii) Pattern/Complexity: The susceptibility of a receiving landscape to change will be influenced by the specific pattern of features and elements present and by the complexity of this pattern. A simpler landscape pattern will typically be more susceptible than a complex one. With specific reference to relatively low level electrical substation developments, the nature of the pattern relative to the layout of buildings may be a factor e.g. whether the predominant pattern is horizontal or vertical

iii) Development/Human Influence: A landscape that includes obvious alterations to natural ground levels, includes many contemporary development elements or structures, or that is clearly functional/utilitarian in its land use will typically be less susceptible to change that introduces contemporary structures than one where development is either absent or more traditional in style, or where natural influences and natural or long-established landforms are predominant.

iv) Connections with adjacent areas: A landscape which has a clear relationship with other surrounding landscapes, for example in relation to views in and out, will typically be more susceptible than one that is more enclosed where such intervisibility not present.

v) Visual Interruption: A landscape where views are frequently interrupted by screening features, for example vegetation cover or variations in landform, will typically be less susceptible than one where there are few / no screening features.

vi) A particular landscape may have different characteristics that are more or less susceptible to change. As such, the overall susceptibility to change is allocated using professional judgement based upon consideration of the various factors outlined above and the relative weight attached to these (which will vary from

landscape to landscape). The assessment of susceptibility is expressed using a three point verbal scale of high, medium or low. Where appropriate, intermediate levels such as medium/high or low/medium are used to refine the assessment. The rationale in support of the assessment of susceptibility is set out for each receptor in the assessment, so that it is clear how each judgement has been made.

Value

2.2.4 The value of the landscape receptor is independent of any development proposal. The absence of a formal landscape designation does not necessarily imply that a landscape is of lower value. Value is defined in the GLVIA as:

[5.19] "…the relative value that is attached to different landscapes by society, bearing in mind that a landscape may be valued by different stakeholders for a whole variety of reasons…Landscapes or their component parts may be valued at the community, local, national or international levels…"

2.2.5 Factors that can help in identifying valued landscapes include:

i) Presence/absence of statutory landscape designations.
ii) Presence/absence of local landscape designations and associated policies.
iii) Landscape quality/condition.
iv) Scenic quality.
v) Rarity of particular elements/features.
vi) Representativeness.
vii) Conservation interest.
viii) Recreation value.
ix) Perceptual aspects.
x) Cultural associations.

2.2.6 The assessment of value is expressed on a similar basis to that described for susceptibility of change above. Table 2.1 indicates how the above factors have been used to determine landscape value.

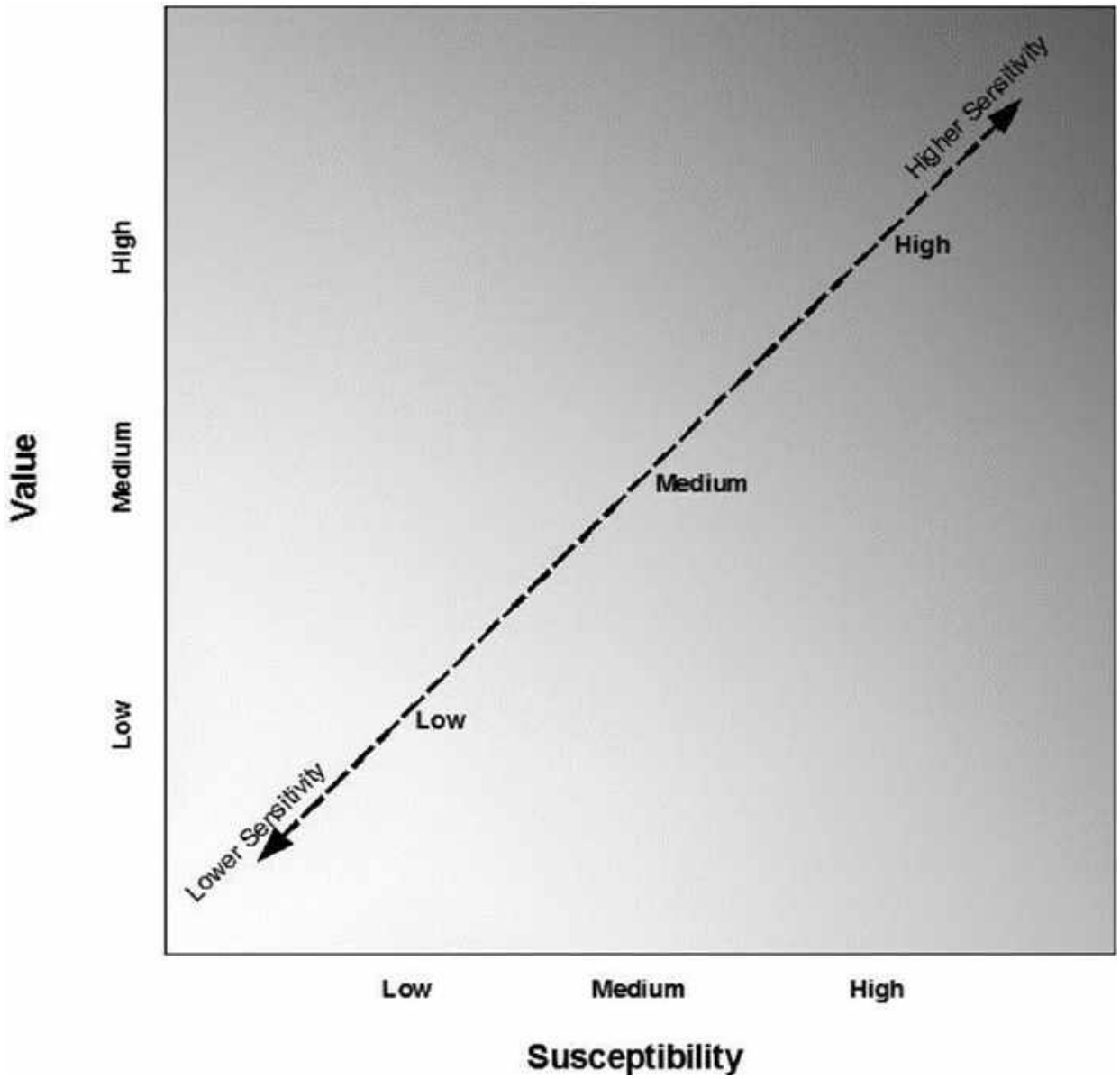
Table 2.1: Landscape Value Criteria

	Criteria tending towards higher or lower value	
	Higher	Lower
Value	Unique, and/or strongly positive landscape character, often with strong associations or (non-landscape) environmental designations. Nationally designated landscape (protected by statute).	Widespread or common landscape character. Negative character Lack of other environmental qualities Landscape without formal designation and with limited positive contribution to the locality.

Sensitivity

2.2.7 Susceptibility to change and value are considered together to determine the sensitivity of the receptor. It should be noted that the relationship between susceptibility to change and value can be complex and is not linear. For example, a highly valued landscape (such as a National Park or Area of Outstanding Natural Beauty) may have a low susceptibility to change, due both to the characteristics of the landscape and the nature of the change proposed. Figure 2.1 provides a guide as to how susceptibility and value can be combined to assess sensitivity (with the grey shading indicative of the increasing sensitivity of receptors with increasing susceptibility and / or value). However, it must be emphasised that this is only a guide and that the final assessment of sensitivity is one of professional judgement.

Figure 2:1 Indicative Sensitivity Assessment



2.3 Magnitude

2.3.1 The magnitude of change is determined by considering four separate factors, namely:

i) Size/scale.
ii) Geographical extent.
iii) Duration.
iv) Reversibility.

2.3.2 The **size and scale** of an effect is determined by considering the amount of change experienced by a receptor, including:

i) The extent of existing landscape elements that would be lost, the proportion of the total extent that this represents and the contribution of that element to the wider character
ii) The degree to which aesthetic or perceptual aspects of the landscapes are altered by the removal, or introduction of new landscape components.
iii) Whether change affects the key characteristics of a landscape.

2.3.3 The **geographical extent** of an effect is the area over which effects will be experienced. It is not the same as size / scale, as a small-scale change may be experienced over a wider area, or vice-versa.

2.3.4 The **duration** of the landscape effect likely to arise as a result of the Proposed Development on landscape elements or within different landscape areas is categorised as Long-term, Medium-term or Short-term. This consideration is used to qualify and contextualise the assessment of scale of landscape effect and therefore informs the overall judgement regarding level of effect. The following definitions have been adopted within this assessment:

i) Long-term landscape effect: a change typically lasting 10 or more years.
ii) Medium-term landscape effect: a change typically likely to persist for more than three years but less than ten years.
iii) Short-term landscape effect: a change unlikely to persist for more than three years.

2.3.5 Long-term effects are of sufficient length that they may be considered in some instances to have the same influence as a Permanent effect on the consideration of overall level of landscape effect. However, it is important that a distinction is made between a truly permanent effect and one which is long-term to ensure there is clarity when subsequently considering Reversibility of the effect. Duration and Reversibility of effect are separate, but interlinked considerations and so it is important that clarity on terminology used supports their different influence on the overall effect.

2.3.6 The **reversibility** of an effect relates to whether or not when the Proposed Development reaches the end of its operational life and is demolished or removed, there will be a lasting effect on the landscape. If it can be taken away and the land restored, it is reversible. If removal is impractical or unlikely it isn't reversible. In some cases partial removal will mean that there is partial reversibility.

2.3.7 The four factors contributing to magnitude are considered together to derive an overall magnitude of change in relation to each receptor, determined by use of

professional judgement. The assessment of the magnitude of change is expressed using a four point verbal scale of large, medium, small or negligible. Where appropriate, intermediate levels such as medium / large or small / medium are used to refine the assessment.

2.3.8 Table 2.2 provides some descriptors for each of the four points on the scale which indicate how the above factors can be used to inform magnitude of change. These are very much examples rather than definitive – in reality the factors combine in multiple different ways and every case will be different. As such the circumstances of each specific case are reflected in a reasoned narrative within the LVA in order to explain the particular magnitude of change allocated to each receptor.

Table 2.2: Magnitude of Landscape Character Criteria (indicative)

Magnitude	Description
Large	A substantial change or loss in landscape characteristics and/or introduction of a very incongruous feature influencing an extensive geographical area and/or which may result in a permanent and perhaps irreversible landscape impact.
Medium	A moderate change or loss in landscape characteristics and/or introduction of an incongruous feature influencing a large geographical area, and/or which may be reversible in the long term.
Small	A small change or loss in landscape characteristics and/or introduction of a feature which would influence a relatively localised geographical area, and/or which may be reversible over a short duration of time.
Negligible	A barely perceptible change or loss in landscape characteristics and/or the perception of change would be focused on a small geographical area, and/or which is almost or completely reversible.

3.0 VISUAL ASSESSMENT

3.1 Introduction

3.1.1 The visual assessment is concerned with the potential effects upon the population likely to be affected (i.e. the views experienced by people). As is the case for landscape effects (Section 2.0), the sensitivity of the receptor affected is identified, as is the magnitude of the change that would occur which are then considered together to determine the level of effect.

3.1.2 A key part of the visual assessment is the assessment of effects from a number of predetermined viewpoints, which reflect views available to different groups of people. The viewpoint itself is not the receptor; rather it is the people that would be experiencing the view. These people will generally have different responses to a change in view depending upon their location, their activity and other factors, including the weather and time of day or year. Viewpoints fall into three categories (as set out in the GLVIA):

i) Representative viewpoints (which represent the experience of different types of receptors in the vicinity).
ii) Specific viewpoints (a particular view, for example a well-known beauty spot).
iii) Illustrative viewpoints (which illustrate a particular effect or issue, which may include limited or lack of visibility).

3.1.3 Private viewpoints, such as from specific residential properties are not typically included in the LVA. It is impractical to visit all affected properties and access to private land may not be granted. Representative or specific viewpoints from nearby publicly accessible locations can typically be used to provide a suitable proxy.

3.2 Sensitivity

3.2.1 The nature of a visual receptor likely to be affected, i.e. its sensitivity is determined by considering two factors, namely:

i) Susceptibility to change.
ii) Value.

Susceptibility to Change

3.2.2 Paragraph 6.32 of GLVIA identifies susceptibility to change in view/visual amenity as:

"...mainly a function of:

The occupation or activity of people experiencing the view at particular locations.

The extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations."

3.2.3 Susceptibility to change is, in part, classified based upon the indicative criteria, provided in GLVIA, as set out in Table 3.1.

Table 3.1: Typical Visual Susceptibility to Change Criteria (indicative)

Criteria Level	Description
Susceptibility to Change	
High	Residents at home. People engaged in outdoor recreation, whose attention/interest is likely to be focused on the landscape or particular views, including from public rights of way. Visitors to heritage assets or other attractions, where views of the surrounding are an important contributor to the experience. Communities where views contribute to the landscape setting enjoyed by residents. Travellers on scenic routes.
Medium	Travellers on road, rail, or other scenic routes.
Low	People engaged in outdoor sport or recreation which does not involve or depend upon appreciation of views of the landscape. People at their place of work whose attention may be focused on their work / activity and not their surroundings.

3.2.4 It is important to note that the examples set out in GLVIA and Table 3.1 above only address the first bullet point and part of the second bullet point in paragraph 3.2.2 above (which are focused on the occupation or activity of the people and the extent to which their attention is focussed on the view).

3.2.5 As such, the assessment of susceptibility in Table 3.1 and GLVIA (pages 113 &114) needs to be adjusted to reflect the requirements of the final part of the second bullet point, namely the visual amenity that people currently experience. GLVIA identifies clearly that the division between categories of susceptibility to change:

[6.35] "…is not black and white and in reality, there will be a gradation in susceptibility to change. Each project needs to consider the nature of the groups of people who will be affected and the extent to which their attention is likely to be focused on views and visual amenity…"

3.2.6 For example, the presence of existing detracting features in any given view may reduce the visual amenity of those experiencing the view. This may therefore reduce their susceptibility to certain types of change and ultimately their sensitivity.

3.2.7 The assessment of susceptibility to change is made on the same basis as for landscape effects (Section 2.0 above). A three-point scale (with intermediate levels where appropriate) is used, supported by a reasoned narrative that explains the judgement made.

Value

3.2.8 In accordance with paragraph 6.37 of the GLVIA when considering the value of a view experienced, this should take account of:

i) Recognition of the value attached to particular views, for example in relation to heritage assets or through planning designations.
ii) Indicators of the value attached to views by visitors, for example through appearances in guidebooks or on tourist maps, provision of facilities for their enjoyment and references to them in literature or art.

3.2.9 Whilst not specifically referenced in the current edition of GLVIA, the number of people likely to be affected can influence the value assigned to a particular view.

3.2.10 The assessment of value is made on the same basis as the assessment of susceptibility to change.

Sensitivity

3.2.11 Susceptibility to change and value are considered together as was illustrated in Figure 2.1. Professional judgement determines the final judgement of sensitivity, due to the non-linear and complex relationship between susceptibility and value. A reasoned narrative is set out in the LVA in order to justify the particular sensitivity assessed for each receptor, so that it is clear how each judgement has been made.

3.3 Magnitude

3.3.1 The magnitude of change that is likely to occur is determined by considering four separate factors, namely:

i) Size/scale.
ii) Geographical extent.

iii) Duration.
iv) Reversibility.

3.3.2 The **size and scale** of an effect is determined by considering a variety of factors including:

i) the loss of or addition of features, and change in composition, and the proportion of the existing view that would be occupied by the change.
ii) The degree of contrast or integration of new features or other changes with relation to the existing or remaining elements in the view (form, scale, mass, line, height, colour, texture etc.).
iii) The nature of the view, namely the relative amount of time it would be experienced for and whether the views would be full, partial or glimpsed.

3.3.3 The **geographical extent** of an effect will vary from viewpoint to viewpoint and will reflect the following:

i) The angle of view in relation to the main activity of the receptor.
ii) The distance from the Proposed Development.
iii) The extent over which change in view would be visible.

3.3.4 The **duration** of an effect simply relates to the length of time for which it would be experienced, i.e. short, medium or long term in a similar manner as was set out for landscape effects.

3.3.5 The **reversibility** of an effect relates to the prospects and practicality of an effect being able to be wholly or partially reversed, or whether the change cannot realistically be reversed, i.e. it is permanent.

3.3.6 These four factors are then considered together to derive an overall magnitude of change for each receptor, which is determined by use of professional judgement. The assessment of the magnitude of change is expressed using a four point verbal scale of large, medium, small or negligible. Where appropriate, intermediate levels such as medium/large or small/medium are used to refine the assessment.

3.3.7 Table 3.2 indicates with some descriptive text how the above factors could be used to inform magnitude of change. As the circumstances of each specific receptor will vary, a reasoned narrative is set out in the LVA for each view in order to explain the particular magnitude of change allocated to each receptor.

Table 3.2: Magnitude of Visual Change Criteria (indicative)

Magnitude	Description
Large	A change which introduces a prominent new feature, and/or something of a larger scale to existing elements in the view, which may be seen across an extensive area or experienced from a long section of a route, and/or a longer-term effect, and/or significant contrast with the existing view.
Medium	A change which introduces an obvious new feature, and/or something at a slightly bigger scale to existing elements in the view, which may be seen across a wider area or experienced from a section of a route, and/or a medium-term effect, and/or broadly compatible with the existing view.
Small	A change affecting a smaller proportion of a view, which may be seen from a limited area or experienced from a short section of a route, and/or a shorter-term effect, and/or compatible with the existing view.
Negligible	A change which is barely perceptible in the view, and/or which is only glimpsed from a route.

4.0 LEVEL OF EFFECT

4.1 Approach

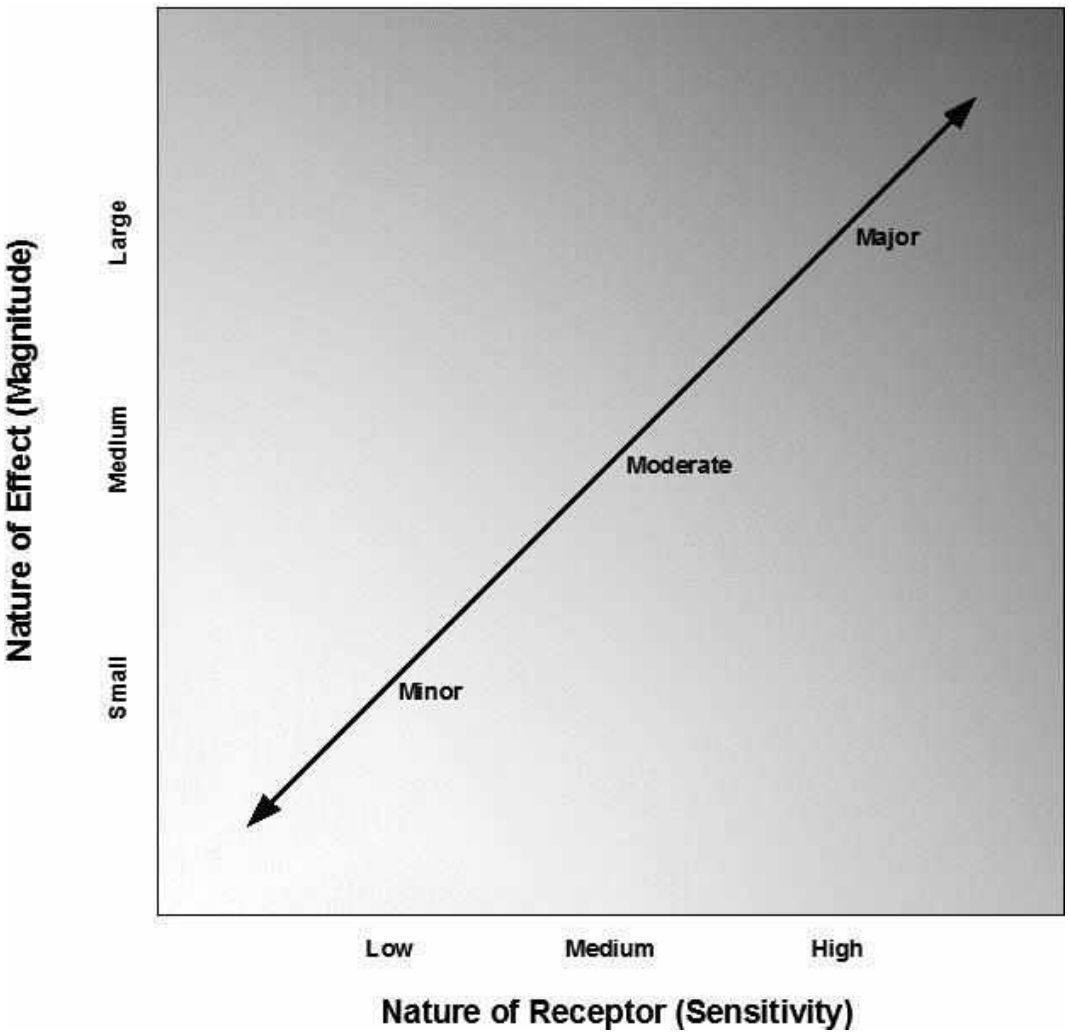
4.1.1 Having applied professional judgement to assess the sensitivity of the baseline landscape and visual environment and to consider the magnitude of potential change that the Proposed Development would cause. These are then combined using further professional judgement to consider the level of effect.

4.1.2 As the LVA is not part of an Environmental Impact Assessment (EIA) “significant effects” are not identified. It is however still appropriate to draw attention to any changes to landscape character or visual amenity which may be of particular note to the determining authority when determining the acceptability of a proposal. This approach is supported by GLVIA3 and subsequent clarifications provided by the Landscape Institute.

4.1.3 The level of effect can only be defined in relation to each particular development and its specific location. It is for each LVA to determine how judgements about receptor sensitivity and the magnitude of change should be combined to derive the level of effect and to clearly explain how this assessment has been made.

4.1.4 Figure 4.1 (following page) provides a guide as to how sensitivity and magnitude can be combined to identify the level of effect upon a receptor (with the grey shading indicative of the increasing level of effect with increasing sensitivity and/or magnitude). Ultimately the final assessment of the level of effect is one of professional judgement and should be explained with narrative rather than simply relying on a matrix or diagram.

Figure 4.1: Level of Effect Matrix (indicative)



4.1.5 It should be noted that effects may be either adverse (negative) or beneficial (positive). If change occurs, with no obvious deterioration or improvement resulting, this can be said to be neutral.