

**BASIC PRINCIPLES OF LANDSCAPE AND VISUAL IMPACT
ASSESSMENT
FOR SPONSORS OF DEVELOPMENT**



**Shetland Islands Council
January 2006**

These guidelines have been produced to highlight the significance of Shetland's landscape heritage when assessing planning applications. The aim is to ensure that the landscape and visual impacts of proposals are fully considered in the decision-making process.

1. Introduction

Visual and Landscape Impact Assessments have become a statutory requirement of Environment Impact Assessment (EIA). For example, large scale developments such as windfarms, landfill sites and large industrial proposals require an EIA, and a visual and landscape impact assessment will form part of this. The Planning Authority will also consider the use of visual and landscape impact assessment for significant applications in National Scenic Areas or for proposals that may impact upon important views, landscapes and settlements.

The publication 'Guidelines for Landscape and Visual Impact Assessment' was first published in 1995 and was a joint initiative between the Institute of Environmental Assessment and the Landscape Institute. These guidelines have provided the Council with an integral mechanism in devising their own 'Principles for Landscape Assessment' and the Shetland Islands Council therefore wishes to acknowledge the publishers in the production of this publication.

Shetland's landscape heritage is unique and should be celebrated. Indeed, the landscape of Shetland is equally important as its cultural identity. For example the distinctive geology, archaeology and music are all key components of Shetland's culture.

As landscape heritage is so important it is recognised in a number of policies and plans:

Corporate Improvement Plan 2004-2008, Shetland Islands Council, 2004

Under the title 'Looking after where we live' the Corporate Plan contains reference to the protection of Shetland's landscape. It states, "because of its geography and history Shetland has a unique and distinctive landscape, we need to conserve and improve that to benefit us all". The Council is committed to doing this through encouraging a high standard of design and implementing the policies contained within the Shetland Structure and Local Plans.

SIC Cultural Strategy, Shetland Islands Council, 2004

Landscape is covered under Aim 2.4 of the Strategy, which is to "Safeguard, promote and ensure access to the natural environment of Shetland and its outstanding landscape, flora and fauna".

Shetland Structure Plan 2000, Shetland Islands Council, July 2000

The Shetland Structure Plan (Para 3.2) states " A healthy and sustainable landscape, like a vibrant community is dynamic. Some change is not only inevitable, it is desirable, but the emphasis must be on the appropriateness of the change and the balance or equity between the needs on conservation and those of development." A number of specific policies, which aim to protect and enhance the natural and built environment, have been attached at the end of these guidelines. Please refer to Policies GDS4, SPNE1 & 2.

Shetland Local Plan 2004, Shetland Islands Council, June 2004

Appendix F of the Local Plan – 'Siting and Design Guidance and Principles', contains criterion on development affecting national scenic areas, important views and landscapes.

Policy LP NE10 of the Local Plan is central to all proposals. It embraces sustainable development and aims to protect the natural and built environment.

Policy LP BE13 covers 'Design' and therefore links in with Appendix F of the Local Plan. It states that the most obvious impact any development has on the environment is the way it looks and this is especially the case in Shetland's open landscape.

'The Shetland House', Shetland Islands Council Planning Dept, February 2005

The Shetland house was recently adopted by the Council as Supplementary Planning Guidance to the Shetland Local Plan. The aim of the document is to encourage a high standard of design, therefore mitigating any adverse visual and landscape impact. In addition, it highlights the benefits of good siting, use of materials, landscaping and energy efficiency.

There is a separate paragraph given to Landscape Impact in The Shetland House, and the document recommends, "Where a proposed development is likely to have a significant effect a Landscape Impact Assessment can be helpful".

Gillespies 1998, 'A Landscape Assessment of The Shetland Isles', Scottish Natural Heritage Review No 93

This document was part of the National Programme of Landscape Character Assessment that was carried out by SNH in partnership with local authorities and other organisations. The principle aim was to provide a clear and concise description of the landscape character of Shetland in written and map form. It should be read alongside these guidelines when assessing planning applications and Visual & Landscape Impact Assessments.

National Planning Policy Guidance 14, 'Natural Heritage', Scottish Executive, 1999

This provides guidance on how the government's policies for the conservation and enhancement of Scotland's natural heritage should be reflected in land use planning. It defines Scotland's natural heritage as both physical attributes and aesthetic values. For example, its plants and animals, landforms and geology, natural beauty and amenity that have evolved over time through interaction between human communities and the land.

Of particular importance to the Shetland context is the advice for assessing impacts of developments on the edge of existing settlements, open countryside and sensitive landscapes.

Planning Advice Note 60 - 'Planning for Natural Heritage, Scottish Executive, August 2000

This Planning Advice Note "provides advice on how development and the planning system can contribute to the conservation, enhancement, enjoyment and understanding of Scotland's natural environment and encourages developers and planning authorities to be positive and creative in addressing natural heritage issues". (Paragraph 2).

It contains a section on the use of Landscape Character Assessment and provides a case study example.

2. Landscape & Visual Impact Assessment an Introduction

What are Landscape and Visual Impacts? Before we describe the key principles for Landscape and Visual Assessment it is necessary to explain the importance of, and distinguish between, landscape and visual impact.

Landscape and visual impacts are two separate but closely related elements:

‘Landscape’ refers to the appearance of the land, including its, shape, texture and colours. It also reflects the way these components combine to create specific patterns and pictures that are distinctive to certain areas. For example ‘The Landscape Assessment of the Shetland Isles’* (Gillespies, 1998, p.60) distinguishes seven landscape types and character areas in Shetland:

- A – Major uplands e.g. Ronas Hill, East and West Kames
- B – Peatland & Moorland e.g. Yell
- C – Undulating Moorland with lochs e.g. West Mainland
- D – Inland Valleys e.g. Tingwall, Wester Quarff
- E – Farmed and settled lowlands and coast e.g. South Mainland
- F – Farmed and settled voes and sounds e.g. Unst & Fetlar Grassland
- G – Coastal edge – usually undeveloped areas e.g. Eshaness

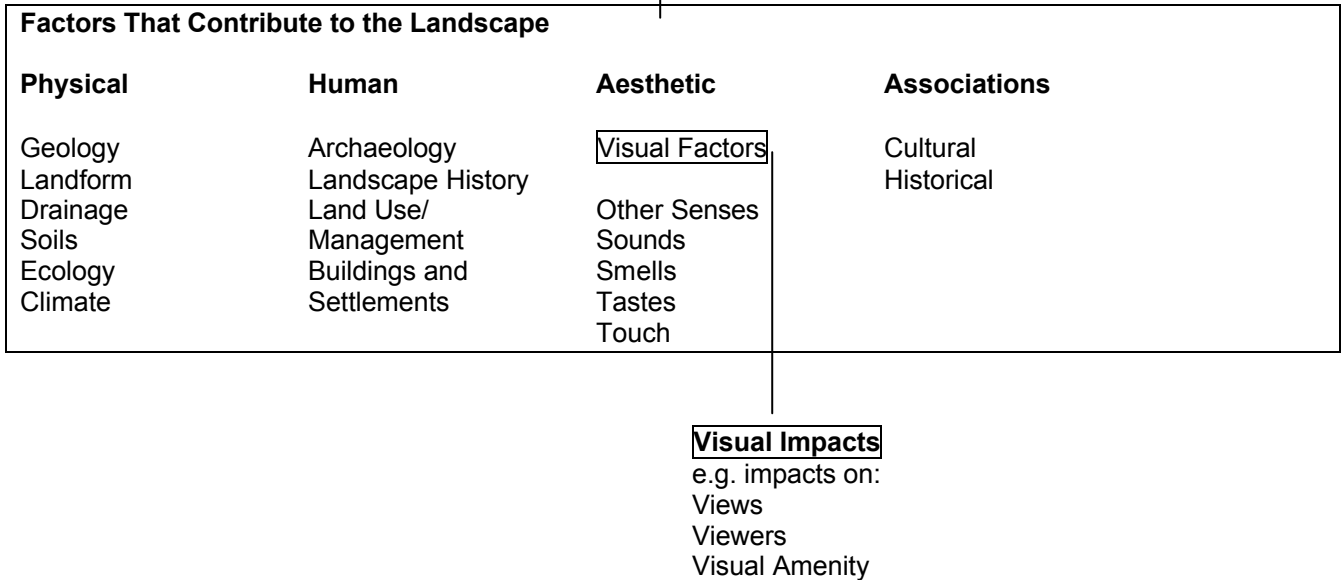
* Refer to the publication for more detailed explanation.

Landscape is not just a visual, phenomenon it relies on a number of other features/influences that will have shaped its character. For example topography, geology, ecology, land management and architecture all play a part in the formation of a landscape.

In addition to this, landscape is not just confined to rural areas. The Lerwick old town is an example of an urban landscape formed by the interrelationship between buildings, open spaces, plants and other elements.

LANDSCAPE IMPACTS

e.g. impacts on
Landscape Elements
Local Distinctiveness
Regional Context
Special Interests



The above chart, (Institute of Environmental Assessment and Landscape Institute, 1995, p.13) highlights the interrelationship between landscape and visual impact:

They can be summarised as follows:

Landscape Impacts: “Changes in the fabric, character, and quality of the landscape as a result of a development”.

- Direct impact upon specific landscape elements
- Subtler effects upon the overall patterns of elements that give rise to landscape character and regional and local distinctiveness.
- Impacts upon acknowledgement, special interests or values such as designated landscapes, conservation sites and cultural associations

Visual Impacts: “Relate solely to changes in available views of the landscape, and the effect of those changes on people”:

- The direct impacts of the development upon views of the landscape through intrusion or obstruction.
- The overall impact on visual amenity, be it degradation or enhancement.
- The reaction of viewers who may be affected.

Impacts do not necessarily coincide

For example, a development may be screened from receptors by plantation or bunding but the landscape character will inevitably change within the site.

Impacts can arise from a variety of sources

For example, the development of a windfarm will involve mineral extraction, the creation of roads and land drainage.

Impacts vary during the development process

For example, during the construction of a large housing scheme machinery and earth movements will be the predominant impact. Eventually housing, roads and plantations will replace this.

3. Establishing the scope and context of a landscape and visual impact assessment

It is essential to contact the council, and other relevant bodies, such as SNH, at an early stage so that an agreement can be reached on what should be covered in the assessment.

It is recommended that the process follows these steps:

Stage 1 – Initial Discussions

Informal discussions should commence with the SIC Planning Department to distinguish the policy context affecting landscape and visual resources. For example whether the proposal lies in a National Scenic Area, Conservation Area etc.

In addition to contacting the Council advice should be sought from statutory consultees, amenity groups and communities

Stage 2 – Scope of the study

The scope of the study, terms of reference assessment techniques and methodology should be agreed. It should include:

- Characteristics of the proposal
- Limits of the study area
- Key issues which need to be addressed
- Level of detail required for baseline studies
- Principal viewpoints to be covered
- Systems for judging impact significance
- Alternatives
- Other developments (if cumulative impacts need to be assessed)

Stage 3 – Provide a description of the development

The benefits of a well-described development cannot be underestimated as it can vastly improve the effectiveness and credibility of the study.

The description should focus on a factual explanation of the basic elements such as access, layout, buildings and structures, ground modelling and description of the way these elements affect landscape and visual resources.

It is recommended that the benefits of design proposals and the philosophy for design be left to the 'mitigation' section of the assessment.

Assessment of Alternatives

Alternatives should be addressed in this section of the assessment.

For example, difference:

- Location and sites
- Sizes/scales of development
- Site layouts, access and servicing
- Scheme design and processes

We also recommend that issues such as energy use, transport and overall strategies for siting are covered.

The assessment of alternatives must also include a 'do nothing scenario' against which the project will be compared, it will be of great benefit to all involved in the assessment if the description covers the 3 stages of the project life-cycle as each stage will have varying elements and impacts.

The 3 stages of the life cycle that should be covered are:

- The construction stage e.g. access, plant, material origin and disposal
- The operational stage – infrastructure, buildings, landscaping
- The decommissioning and restoration stage – after use, disposal, restoration

Note that both qualitative and quantitative data will be required to describe the project life-cycle.

Finally the description of Development should include a section on off-site and indirect impacts. Issues to be covered may consist of:

- Transport implications/infrastructure implications
- Cumulative Impacts
- Mineral Extraction
- Waste Disposal

4 - Undertaking a Baseline Study

In order to review the significance and magnitude of the predicted landscape and visual impacts a 'baseline study' will form the centrepiece of the assessment. The purpose of baseline studies is to record and analyse the existing character, quality, enhancement potential and sensitivity of the landscape and visual resources in the vicinity of the development. This will involve 3 stages.

1. Description - Collect and present information about landscape and visual resources in a systematic manner.
2. Classification - An analytical process where resources are sorted into units of distinct recognisable character.
3. Evaluation - Attracting a (non monetary) value to a landscape or visual resource, by reference to specified criteria

The level of detail required must be appropriate to the scale of development and the stage of the assessment process.

Baseline studies will usually cover:

The 'Desk Study'

The planning authority will provide the basis of information for this part of the study. Sources of info will include: Structure and Local Plans, informal planning documents, ecology, construction designations and rights of way. Other useful data should be sought from bodies such as Scottish Natural Heritage and Shetland Amenity Trust.

The desk study will provide the basis for the field survey. Field surveys should be carried out on site and by more than one person to gain a consensus opinion.

Assessing Visibility:

- This should include landscape elements and features that will be directly affected by the development.
- Landscape features include – topography, geology, drainage, vegetation and cultural features.
- Visual receptors include types and numbers of viewers affected, duration and seasonal screening.

Compilation and Analysis

The presentation of findings should be presented in a clear, structured way, as they will play a key point in the assessment. Once complete it should be communicated to all involved in the development of the assessment.

The findings should include sections on:

- Scale and character – This should include reviews on existing character, classification of distinctive elements of the landscape, photographic and sketch analysis.
- Condition and importance – Drawing upon desk and field studies a qualitative analysis on the assessment of landscape condition and its aesthetic and cultural value is required. Again, this should be supported by illustration and documentary evidence.
- Sensitivity – Conclusion should be drawn on the overall sensitivity of the landscape and visual environment to the proposed development.
- Change/enhancement potential – The desirability for landscape enhancement should be assessed. For example, analysis for character, condition and visual quality.
- Visual analysis – Following the field survey it will be necessary to present on a plan the extent to which the development will be visible from surrounding areas and viewpoints, and how specific elements (landform) will affect views.

5. The Impact Assessment

The aim of the impact assessment is to:

- Identify systematically all the potential landscape and visual impacts associated with the development.
- Predict and estimate their magnitude
- Assess their significance in a logical well-structured fashion.

The impact assessment must cover landscape impacts, which amount to changes in the fabric and character of the landscape and visual impacts, for example, changes in available views of the landscape and the effect the changes will have on people.

- Matrices can be a useful tool in this process and aid to concisely present large amounts of information.
- The impacts of the life cycle of the development must be covered.
- Direct impacts can be shown on a plan and should include factual data e.g. extent/duration of any damage or loss. This data will be especially useful when comparing different scheme options.
- Wider impacts, such as how the development may alter existing patterns of landscape elements and features should be arrived at by referring back to the baseline studies, maps and illustrations.

Assessing Visual impacts

These can be aided through quantifiable data and visual aids such as photomontages, annotations and videos presentations/animation.

The main requirements of the visual impact assessment will be to show:

- The extent of potential/theoretical visibility
- The views/viewers affected
- The distance of view
- The degree of visual intrusion of obstruction caused
- The impacts upon character and quality of views

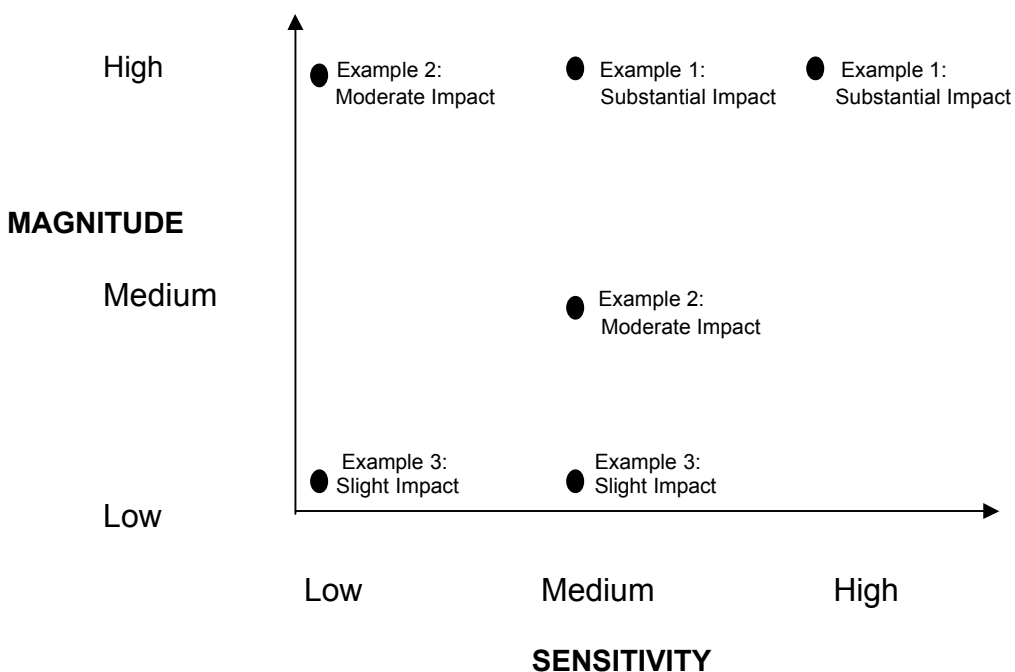
Assessing 'significance'

Conclusions should be based upon sound and reasoned judgement and include reference to the following:

- The sensitivity of the affected landscape and visual resources
- Impact magnitude
- Determination of whether impacts are adverse or beneficial
- Professional judgement
- The views expressed through the consultation process

Reaching a conclusion

While every development will have its own set of thresholds it is beneficial to devise a standardised system to assess impact significance. The following example* is given for use in determining impacts and shows the relationship between sensitivity and magnitude in defining significant thresholds:



- Example 1: 'Substantial' impacts can be a product of high sensitivity or magnitude.
- Example 2: 'Moderate' impacts can result from medium sensitivity and magnitude or low sensitivity with high magnitude
- Example 3: 'Slight' impacts can be a product of low sensitivity or low magnitude

Magnitude – Can be defined as a combination of the scale, extent and duration of any impact.

Sensitivity (landscape or visual) - Can be defined as the extent to which a landscape or visual composition can accommodate of a particular type and scale without adverse effects on its character or value.

The significance of a landscape and visual impact 'is a function of the sensitivity of the affected landscape and visual receptors and the magnitude of change that they will experience'

Receptors may include the following:

- Viewers of the landscape – e.g. Residents and Tourists
- Specific landscapes elements e.g. Coastline hilltops
- Other conservation interests – e.g. Historic Gardens and Landscapes
- Valued Landscapes – e.g. National Scenic Areas and Local Protection Areas
- Areas of distinctive landscape character

*(Institute of Environmental Assessment and Landscape Institute, 1995, p.53)

6. Mitigation

“Mitigation is a design skill that should start at the very inception of a project with the analysis of environmental opportunities and constraints”. (Institute of Environmental Assessment and Landscape Institute, 1995, pg 54).

The 3 rules for successful mitigation are that it should be effective, appropriate and feasible. An initial assessment should address whether enhancement proposals can:

- Meet Local Authorities objectives for the area?
- Lead to better management for restoration of landscapes?
- Create new landscapes, habitat and recreational areas?

Principles for improving the effectiveness of Mitigation

- Mitigation measures should be designed to suit the existing landscape and should not have a negative impact themselves.
- All significance adverse impacts should be considered for mitigation.
- The developer should demonstrate a commitment to the implementation of mitigation measures.
- Mitigation should cover all of the developments life cycle.
- Not all mitigation measures are immediately effective e.g. planning/phasing.
- Contingency plans should be included if mitigation is not successful.
- A programme of monitoring should be agreed.

Mitigation Strategies include:

Avoidance of impact

Serious environmental constraints should be identified and avoided through careful siting, planning and design.

Reduction of Impact

Impact can be reduced by paying attention to layout and site levels. Landform should be used to set developments i.e. buildings into the ground and reduce proportions and visual impact on receptors.

Well designed landscaping may reduce impacts but poorly designed landscaping schemes can make impacts worse. Landscaping should replicate natural features and not appear alien in the landscape.

Compensation for impact

This should be regarded as a last resort as it will never replace what is to be lost. If habitat re-creation is necessary expert advice must be sought. Developments can be mitigated through sensitive:

- Layout
- Choice of site level
- Ground levelling
- Choice of colour

7. Presentation of the Assessment

The presentation of findings is a crucial part of the landscape and visual impact assessment, as it will help those involved to arrive at a decision on the acceptability of the development from a landscape and visual perspective. The principal aim of the presentation will be illustrate how the development will affect the landscape i.e. before, during and after the development.

There are a number of presentation techniques that can be used:

Text

The text contained within the presentation should be succinct and understandable. The criteria for thresholds, sensitivity, magnitude and significance must be clearly explained to allow a decision to be made.

Illustrations

These should be closely linked to the text. Illustrations include maps, plans and photographs and they can be most beneficial in explaining landscape and visual impacts where text would be more difficult to convey a message.

Photographs

The use of photographs can be most beneficial when assessing landscape and visual impacts. However, great care should be taken when choosing viewpoints as the impact can be misinterpreted. Reasons should be given for the choice of viewpoint, and a map should highlight the location from where the photograph was taken. The direction it was taken can be shown on the map by an arrow.

Charts and Tables

These can be used to convey complex information and allow for comparisons to be made. For example, landscape data, impact magnitude and significance can all be conveyed through charts and tables.

Visualisations

Photomontages aided by computer-generated models are now one of the most widely used, and probably, most effective way of conveying the development's landscape and visual impacts. Accuracy is therefore essential and viewpoints should be selected with great care.

It should be remembered that a photograph or visualisation can never replicate the experience of a view on site and that the size of an image used, should be determined on a case by case basis.

8. Consultation

The Shetland Islands Council 'Guidelines for Consultation' (2004) should provide a starting point for who should be consulted.

At the outset consultation should involve the Planning Authority, who will determine whether the development is acceptable in principle, whether the chosen site(s) are appropriate and whether an EIA or just a Visual and Landscape Assessment is required. Consultation should then involve statutory consultees such as SNH. They will be able to provide advice on the information that should be submitted and the techniques that should be used.

Consultation should be recognised as playing a pivotal role in the landscape and visual impact assessment process. Consultation presents the opportunity to gain a wide range of advice, views and opinions from a wide range of organisations.

Consultation methods include:

- Face-to-face discussion
- Correspondence
- Presentations and informal public meetings
- Exhibitions
- Leaflets and Mailings, including questionnaires

9. Conclusion

Landscape and Visual Impact Assessment requires a structured and consistent approach, as unlike other aspects of EIA, landscape and visual impact assessment relies less upon measurement than experience and judgement. It is therefore necessary to differentiate between judgement on the significance of change, which is largely a subjective matter, and the measure of magnitude of change, which is usually more objective and measurable.

Unlike less obvious impacts, for example effects on air quality, changes in landscape can have a direct and noticeable effect upon the public surrounding and as such may invoke strong feelings and objections. It is therefore essential that landscape and visual impacts are assessed in a measured and controlled manner.

The Planning Authority hopes that these guidelines will be useful in the compilation of a Landscape and Visual Impact Assessment. In addition to this we cannot underestimate the value of thorough consultation with decision-making authorities and the public throughout the planning application and EIA and or Assessment process. A well-presented and understandable development can be beneficial to all of the stakeholders and will hopefully lead to a vastly improved proposal.

For further information please refer to the publications referenced in the introduction. Further information can also be obtained from:

Planning
Infrastructure Services Department
Grantfield
Lerwick
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