Part 2

Principles, processes and presentation

Chapter 3

Principles and overview of processes

Chapter overview

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Introduction

3.1 This chapter introduces the principles of LVIA and outlines the overall process. More detail on how the key parts of the process are carried out specifically for landscape, visual and cumulative effects are included in Chapters 5, 6 and 7 respectively. Those chapters should be read in conjunction with the overview in this chapter.

3.2 LVIA can be carried out either as part of a broader EIA, or as a standalone 'appraisal' of the likely landscape and visual effects of a proposed development. The overall principles and the core steps in the process are the same but there are specific and clearly defined procedures in EIA which LVIA must fit within.

- As a part of an EIA, LVIA is normally carried out as a separate theme or topic study. Landscape and visual matters appear as either separate or combined sections of the Environmental Statement, which presents the findings of the EIA. Landscape and visual issues may also make a contribution to other parts of the EIA, such as site selection and consideration of alternatives, and screening.
- As a standalone 'appraisal' the process is informal and there is more flexibility, but the essence of the approach – specifying the nature of the proposed change or development; describing the existing landscape and the views and visual amenity in the area that may be affected; predicting the effects, although not their likely significance; and considering how those effects might be mitigated – still applies.

Components of the LVIA process in relation to EIA

3.3 Table 3.1 summarises the main components of the impact assessment process. It shows their role in LVIA carried out both in EIA and in landscape 'appraisals' outwith the EIA process. If one of the components is shown as 'not required', especially in landscape 'appraisal', this does not mean that it is not sometimes appropriate to include this, particularly for large or complex projects. The core components of the LVIA process are highlighted. A flow chart of the EIA and LVIA process is given in Figure 3.1 (see p. 29).

Table 3.1 Components of the EIA process and the role of LVIA

Component of EIA process	*Brief description of action in this part of the process*	*LVIA role in EIA*	*LVIA role in landscape 'appraisal'*
Site selection and consideration of alternatives	Identifies opportunities and constraints relating to alternative options and makes comparative assessments of them in order to identify those with least adverse (or indeed most beneficial) effects and greatest potential for possible mitigation and enhancement.	Required (but alternatives should not be invented and it is acceptable if there are none)	May not be required but considering landscape to inform site selection is good practice
Screening	Determines whether an EIA is needed for the proposed development.	Required – by competent authority	Not required
Scoping	Makes an initial judgement about the scope of the assessment and of the issues that need to be covered under the individual topics or themes. Includes establishment of the relevant study area.	Required	Optional
Project description/ specification	Provides a description of the proposed development for the purpose of the assessment, identifying the main features of the proposals and establishing parameters such as maximum extents of the development or sizes of the elements. Normally includes description of any alternatives considered.	Required	Required
Baseline studies	Establishes the existing nature of the landscape and visual environment in the study area, including any relevant changes likely to occur independently of the development proposal. Includes information on the value attached to the different environmental resources.	Required	Required
Identification and description of effects	Systematically identifies and describes the effects that are likely to occur, including whether they are adverse or beneficial.	Required	Required

Table 3.1 continued

Component of EIA process	*Brief description of action in this part of the process*	*LVIA role in EIA*	*LVIA role in landscape 'appraisal'*
Assessing the significance of effects	Systematically and transparently assesses the likely significance of the effects identified.	Required	Not required
Mitigation	Makes proposals for measures designed to avoid/prevent, reduce or offset (or compensate for) any significant negative (adverse) effects.	Required	If required
Preparation of the Environmental Statement	Presentation of the findings of the assessment in written and graphic form.	Required	Appraisal Report
Monitoring and auditing	Monitors and audits the effects of the implementation of the proposal and of the mitigation measures proposed, especially where they are covered by conditions attached to any permission that may be given.	If required	If required

Further details of these components, and of the role that landscape and visual issues play in each, are summarised below.

Site selection and consideration of alternatives

3.4 If alternatives are considered as part of a development that is subject to EIA, landscape and visual considerations may play a part in identifying opportunities and constraints relating to site selection and making comparative assessments of the options in order to identify those with least adverse (or indeed most beneficial) effects and greatest potential for possible mitigation and enhancement. It is then important to:

- demonstrate how landscape and visual effects have been taken into consideration;
- explain the reasoning behind any decisions to reject any of the sites selected and alternatives considered in terms of their landscape and visual effects.

Screening

3.5 This step determines whether or not an EIA is required. The UK EIA Regulations set out the types of project for which an EIA is always required, known as Schedule 1

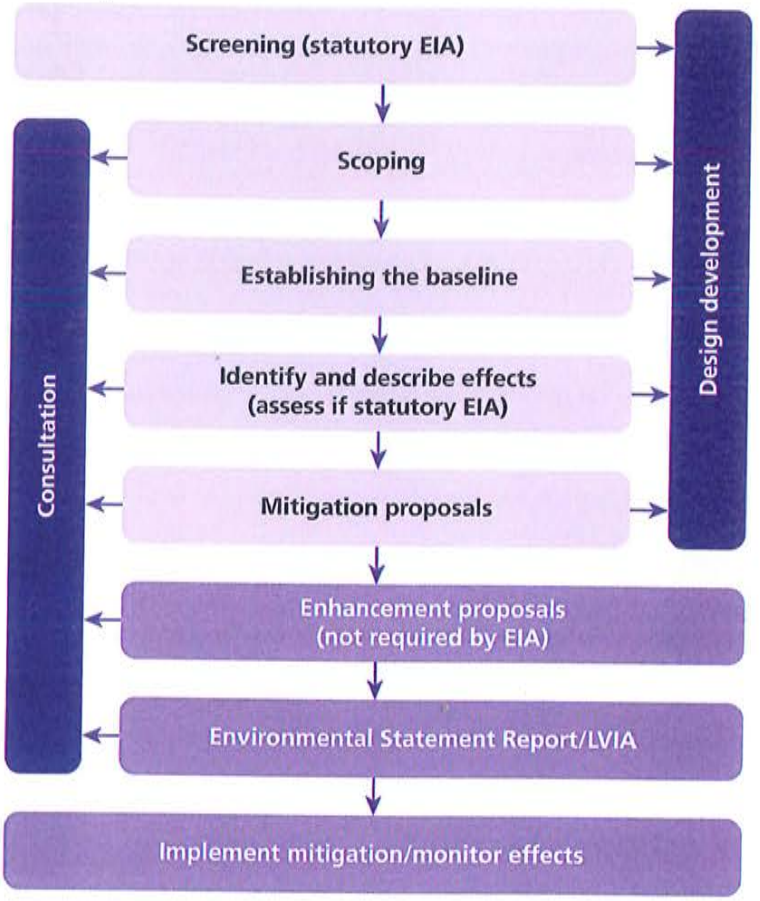


Figure 3.1 The EIA and LVIA process

development. They also include a further list of projects, in Schedule 2, which may require EIA if they are likely to have significant effects on the environment by virtue of factors such as size, nature or location. The screening process considers the characteristics of the development, its location and the characteristics of potential impacts, through reference to Schedule 3 of the Regulations and other relevant guidance, to decide whether or not an EIA is required.

The proposer of a scheme has the option to seek a screening opinion from the competent authority as to whether an EIA is required. The Regulations require that when decisions are made by the competent authority as to the need for an EIA, the criteria to be taken into account include whether or not the development is in a location that falls within a range of 'sensitive areas'. The Regulations indicate that these sensitive areas include a variety of national landscape designations. These designations, and the meaning of 'sensitivity' both in this context and in the broader context of landscape planning, are discussed further in Chapter 6. 3.6

In contributing to the screening process the landscape professional may be called upon to provide a professional opinion as to the landscape and visual considerations that 3.7

may arise in the area likely to be affected by the scheme. In making any judgements and providing such an opinion, it is important to adopt a structured and systematic approach from the outset and record all actions undertaken, information gathered and taken into consideration, assumptions made, limitations, and opinions offered, together with reasoned justifications.

Scoping

3.8 Defining the scope of the EIA study is one of the most critical parts of the process, in that it sets the context for everything else that follows. Unless a screening opinion has been sought, this may be the first opportunity for the competent authority and the developers and their advisers to make contact and ideally it should mark the beginning of an iterative dialogue. Early identification of particular concerns can lead to the resolution of issues before an application is submitted.

3.9 Scoping is the procedure by which the key topics to be examined and the areas of likely significant effects are identified. Under the Regulations, proposers of schemes may ask the competent authority for an opinion on the information to be supplied in an Environmental Statement. The objective of a scoping request is to identify what the competent authority considers to be the main likely effects of the development and to determine the topics on which the Environmental Statement should focus. The competent authority must consult a defined range of bodies (referred to as 'the consultation bodies') and consider the characteristics of the proposed development, the characteristics of the development type concerned and the environmental features likely to be affected.

3.10 An Environmental Statement is not necessarily rendered invalid if it does not cover all the matters specified in the scoping opinion provided by the competent authority. However, as the scoping opinion represents the considered view of the competent authority, a Statement which does not cover all the matters specified in the opinion will probably be subject to a request or requests for additional information. The fact that the competent authority has given a scoping opinion does not prevent them from requesting additional information at a later stage.

3.11 LVIA scoping should be expected to include several key matters, which should ideally be discussed with landscape professionals in the competent authority as well as with consultation bodies and interest groups. Views from local people may also be sought, for example through contact with parish and/or community councils. Key matters include:

- the extent of the study area to be used for assessment of landscape and visual effects (for details on how appropriate study areas are defined see Chapters 5 and 6);
- sources of relevant landscape and visual information;
- the nature of the possible landscape and visual effects, especially those deemed most likely to occur and be significant;
- the main receptors (the word used to mean those parts of the receiving landscape, and the people able to view the proposal, that may be affected by the change) of

the potential landscape and visual effects that need to be addressed in the full assessment, including viewpoints that should be assessed;
- the extent and appropriate level of detail for the baseline studies that is reasonably required to assess the landscape and visual effects of the proposed development;
- methods to be used in assessing the likely significance of the effects that may be identified;
- the requirements with respect to the assessment of likely significant cumulative landscape and visual effects.

Further details on all these matters can be found in Chapters 5, 6 and 7.

3.12 Scoping for LVIA usually requires a desk study and familiarisation with the nature of both the site and the proposed scheme and its possible effects, as well as consultations with the competent authority and the main consultation bodies. An LVIA scoping document can be produced to set out the issues and provide a focus for the competent authority's consideration. It may also include brief details on methods, assessment techniques and the presentation of information to be included in the final Environmental Statement. Although not mandatory, a scoping document can be a helpful way of providing information to the competent authority to inform their consultations with other bodies and to assist them in their considerations.

Project description/specification

3.13 An overall description of the characteristics of the proposed development, sometimes referred to as the 'project specification', makes an important contribution to an LVIA, as well as to other environmental topics in an EIA. It provides the description of the siting, layout and other characteristics and components of the development on which the landscape and visual assessment will be based. It also plays an important part in assisting understanding by all parties of exactly what is proposed. Knowledge and understanding of the proposals will grow during the course of the project. Outline information will be known at screening, and more detail at scoping and even more detail will emerge through the assessment process.

3.14 In incorporating this information into the final Environmental Statement, it is not usually necessary to repeat the information in individual sections of the Statement dealing with particular topics. Rather it is important to make sure that the project description provides all the information needed to identify its effects on particular aspects of the environment. For LVIA it is important to understand, from the project description, the essential aspects of the scheme that will potentially give rise to its effects on the landscape and visual amenity.

The key aspects of the project that need to be understood for LVIA are described in Chapter 4.

Paragraphs 3.15–3.39 describe the steps that are the core of the LVIA process illustrated in Figure 3.1.

Baseline studies

3.15 The initial step in LVIA is to establish the baseline landscape and visual conditions. The information collected will, when reviewed alongside the description of the proposed development, form the basis for the identification and description of the changes that will result in the landscape and visual effects of the proposal:

- For the landscape baseline the aim is to provide an understanding of the landscape in the area that may be affected – its constituent elements, its character and the way this varies spatially, its geographic extent, its history (which may require its own specialist study), its condition, the way the landscape is experienced, and the value attached to it.
- For the visual baseline the aim is to establish the area in which the development may be visible, the different groups of people who may experience views of the development, the places where they will be affected and the nature of the views and visual amenity at those points.

Details of baseline studies for assessment of landscape and visual effects are provided in Chapters 5 and 6 respectively.

3.16 The level of detail provided should be that which is reasonably required to assess the likely significant effects. It should be appropriate and proportional to the scale and type of development and the type and significance of the landscape and visual effects likely to occur. It should also be appropriate to the different stages of the assessment process. For example, at the site selection, screening and scoping stages a preliminary desk-based site appraisal may be adequate using primarily, for example, landscape designations, existing Landscape Character Assessments, information about historic landscapes and known sites of recreational interest. Once the preferred site has been selected more comprehensive and detailed baseline studies are usually required.

3.17 Principal sources of background information include the competent authority, the consultation bodies and local special interest groups and organisations. It is important that the information assembled is considered alongside information from other parallel studies, such as cultural heritage and ecology studies, to ensure an integrated approach. The EIA co-ordinator will usually play an important part in facilitating such integration across the topic areas.

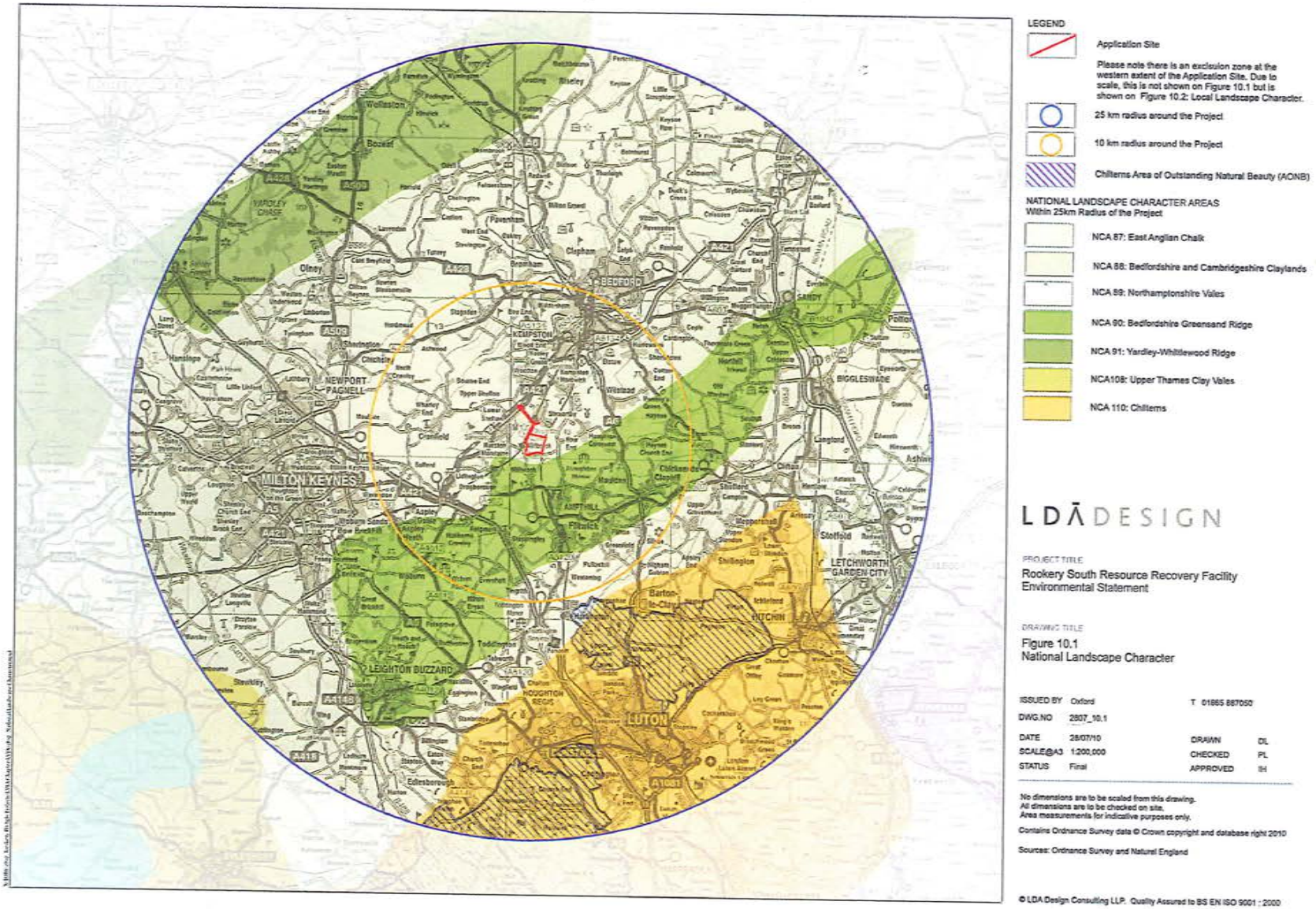


Figure 3.2 Published Landscape Character Assessment information at the national scale – part of the baseline information for an LVIA

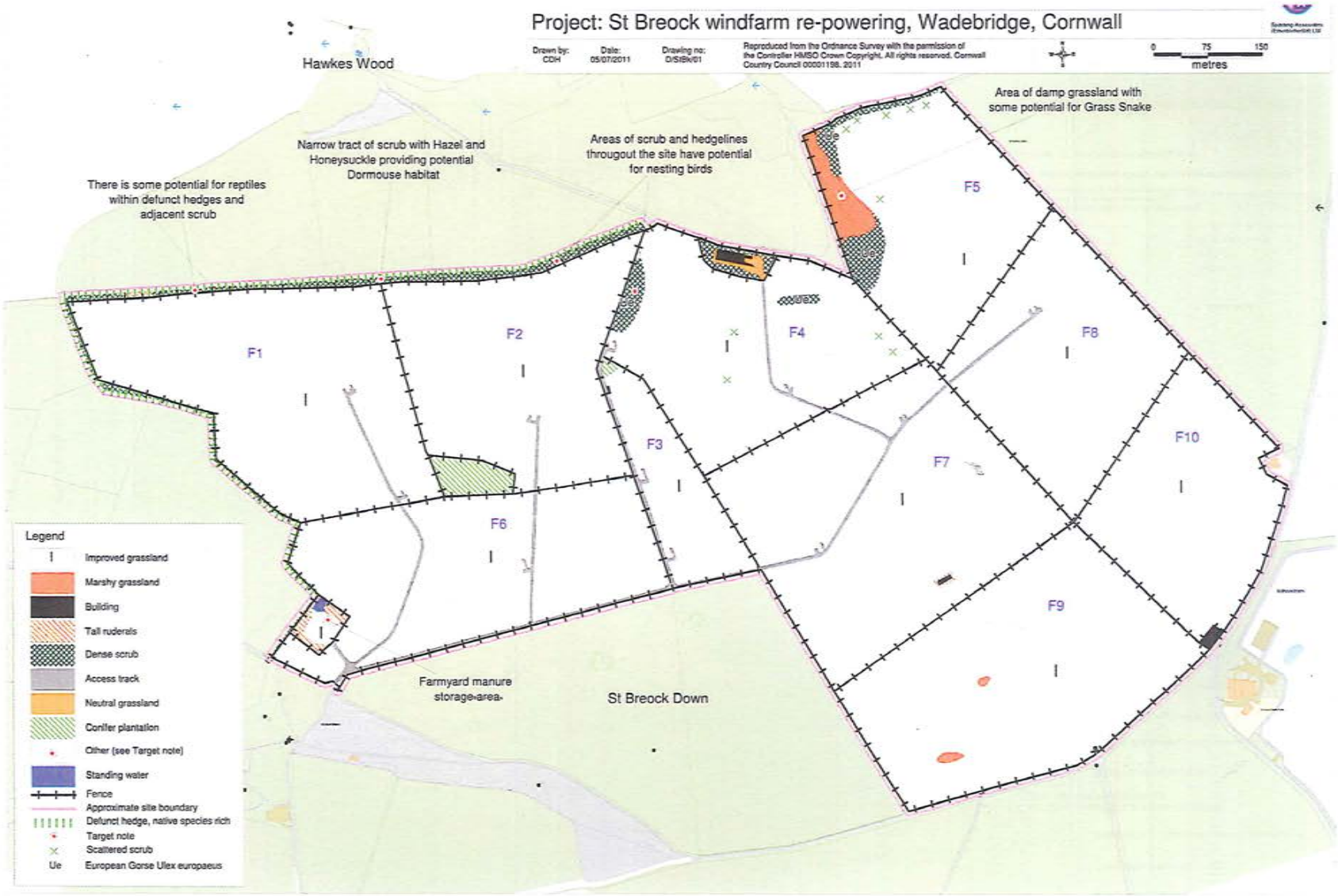


Figure 3.3 A Phase 1 habitat plan. A habitat baseline survey can assist in establishing the nature, extent and value of the landscape resource that could potentially be affected by a proposed development

Identification and description of effects

Once the key aspects of the proposed development that are relevant to landscape and visual effects have been determined, and the baseline conditions established, the likely significant effects can be predicted. There is no formulaic way of doing this. It is a matter of systematic thinking about the range of possible interactions between components of the proposed development, covering its whole life cycle (for example: for built development, usually construction, operation and decommissioning stages; for mineral extraction, usually operation, restoration and aftercare stages), and the baseline landscape and visual resource. 3.18

Some possible effects will already have been identified during the screening and/or scoping processes. Some may have been judged unlikely to occur or so insignificant that it is not essential to consider them further – this is sometimes referred to as the 'scoping out' of effects. Others may have been addressed by amendments to the scheme design through the iterative design/assessment process – either being designed out altogether or rendered not significant. Both situations must be made clear in the final Environmental Statement, so that there is transparency about how the landscape and visual considerations have influenced the final design, when compared to earlier, alternative design iterations. Other than any effects that are considered and eliminated at an earlier point, likely significant effects must be considered in the assessment stage of LVIA. 3.19

In most cases it will be essential to give detailed consideration to both: 3.20

- effects on the landscape as a resource (the **landscape effects**); and
- effects on views and visual amenity as experienced by people (the **visual effects**).

Sometimes there may be likely significant effects on the landscape resource but the development may be in a location that does not affect visual amenity significantly. It is also possible, although less common, that there may be likely significant effects on visual amenity without effects on the landscape resource.

Predicting what effects are likely depends upon careful consideration of the different components of the development at different stages of its life cycle, and identification 3.21

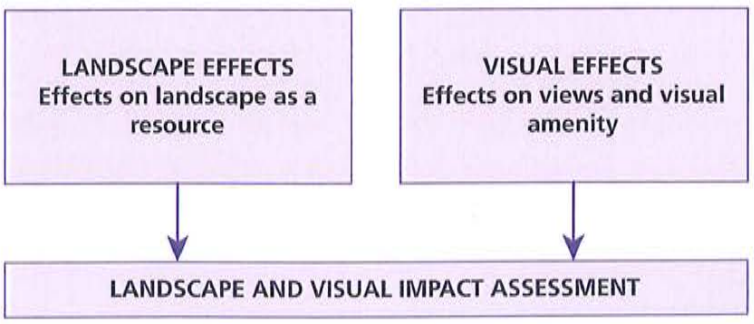


Figure 3.4 Landscape and visual effects

of the receptors that will be affected by them. In LVIA there must be identification of both:

- landscape receptors, including the constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape in different areas; and
- visual receptors, that is, the people who will be affected by changes in views or visual amenity at different places.

The effects are identified by establishing and describing the changes resulting from the different components of the development and the resulting effects on individual landscape or visual receptors.

3.22 The Regulations specify that an EIA must consider the direct effects and any indirect, secondary, cumulative, short-, medium- and long-term, permanent and temporary, positive and negative effects of the development. This means that in LVIA thought must be given to whether the likely significant landscape and visual effects:

- result directly from the development itself (**direct effects**) or from consequential change resulting from the development (**indirect and secondary effects**), such as alterations to a drainage regime which might change the vegetation downstream with consequences for the landscape, or requirements for associated development, such as a requirement for mineral extraction to supply material or a need to upgrade utilities, both of which may themselves have further landscape and visual effects;
- are additional effects caused by the proposed development when considered in conjunction with other proposed developments of the same or different types (**cumulative effects**);
- are likely to be short term or to carry on over a longer period of time;
- are likely to be permanent or temporary, in which case their duration, as above, is important;
- are judged to be positive (beneficial) or negative (adverse) in their consequences for landscape or for views and visual amenity (this is sometimes referred to as the 'valency' of the effect but as this word has a formal definition relating to chemistry it is best avoided).

Assessment of the significance of effects takes account of the nature of the effects, as well as the nature of the receptors. These topics are discussed in Paragraphs 3.23–3.36 and in more detail in Chapters 5 and 6.

Cumulative effects are discussed in detail in Chapter 7.

Assessing the significance of effects

The EIA Directive and UK Regulations refer to projects likely to have **significant** effects on the environment. This means that identifying and describing the effects of a project is not enough in itself. They must also be assessed for their significance. This is a key part of the LVIA process and is an evidence-based process combined with professional judgement. It is important that the basis of such judgements is transparent and understandable, so that the underlying assumptions and reasoning can be understood by others. 3.23

LVIA, in common with other topics in EIA, tends to rely on linking judgements about the sensitivity of the receptor and about the magnitude of the effects to arrive at conclusions about the significance of the effects. These terms are effectively a shorthand 3.24

Box 3.1

EIA significance terminology

The State of EIA Practice in the UK (IEMA, 2011b: 60–62) discusses the evaluation of significance in EIA, recognising that it is a complex and often subjective process. The factors used to evaluate significance relate to both the effect and the receptor. Ongoing IEMA research into significance has identified that problems can arise where separate topic assessments use the same or similar terminology in the evaluation of significance, but define these terms differently. Partly in response to this, and also to aid the simple communication of the complexity of significance evaluation, the terms **magnitude** and **sensitivity** have become shorthand in EIA practice for the range of factors relevant to each effect (e.g. probability, reversibility, spatial extent, etc.) and receptor (e.g. value, importance, susceptibility, resilience, etc.). This shorthand terminology can generate its own problems, particularly when it appears to be the basis for the evaluation of significance and stakeholders perceive that a wider range of factors has not been explicitly considered in assessing the significance of effects. This lack of transparency reduces the quality of the EIA's findings and can lead to objections from stakeholders that cause delays to the consenting process.

To improve transparency in EIA practice and increase discussion around the complex interaction of factors leading to the determination of a significant effect, IEMA promotes the use of new overarching terminology related to the two components of significance evaluation:

1. nature of receptor (to replace the shorthand 'sensitivity');
2. nature of effect (to replace the shorthand 'magnitude').

For further detail of the relationship between the nature of the effect and the nature of the receptor please see Figure 6.3 in IEMA (2011b).

way of describing the wider array of factors that underlie **the nature of the receptor likely to be affected** (sensitivity) and **the nature of the effect likely to occur** (magnitude). Further background to this is given in Box 3.1. Landscape professionals should assess the nature of a landscape or visual receptor's sensitivity by combining judgements about its susceptibility to change arising from the specific proposal with judgements about the value attached to the receptor. When considering the nature of a predicted effect its magnitude should be determined by combining judgements about matters such as the size and scale of the change, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term in duration. It is important to note that in this approach each judgement already combines several separate judgements.

3.25 A step-by-step process, as illustrated by Figure 3.5, should allow the identification of significant effects to be as transparent as possible, provided that the effects are identified and described accurately, the basis for the judgements at each stage is explained and the different judgements are combined in easy to follow ways.

Step 1: Assess against agreed criteria

3.26 The initial step should be to consider each effect in terms firstly of its **sensitivity**, made up of judgements about:

- the susceptibility of the receptor to the type of change arising from the specific proposal; and
- the value attached to the receptor;

and secondly its **magnitude**, made up of judgements about:

- the size and scale of the effect – for example, whether there is complete loss of a particular element of the landscape or a minor change;
- the geographical extent of the area that will be affected; and
- the duration of the effect and its reversibility.

Consideration of all these criteria should feed into a comprehensive assessment of significance.

> **In Chapters 6 and 7 the meanings of 'sensitivity' and 'magnitude' are defined as they relate to landscape effects and to visual effects respectively.**

3.27 In assessing the identified effects against these criteria, two key principles should normally apply:

1. Numerical scoring or weighting of criteria should be avoided, or at least treated with considerable caution, since it can suggest a spurious level of precision in the judgements and encourage inappropriate mathematical combining of scores.
2. Word scales, with ideally three or four but a maximum of five categories, are preferred as the means of summarising judgements for each of the contributing criteria.

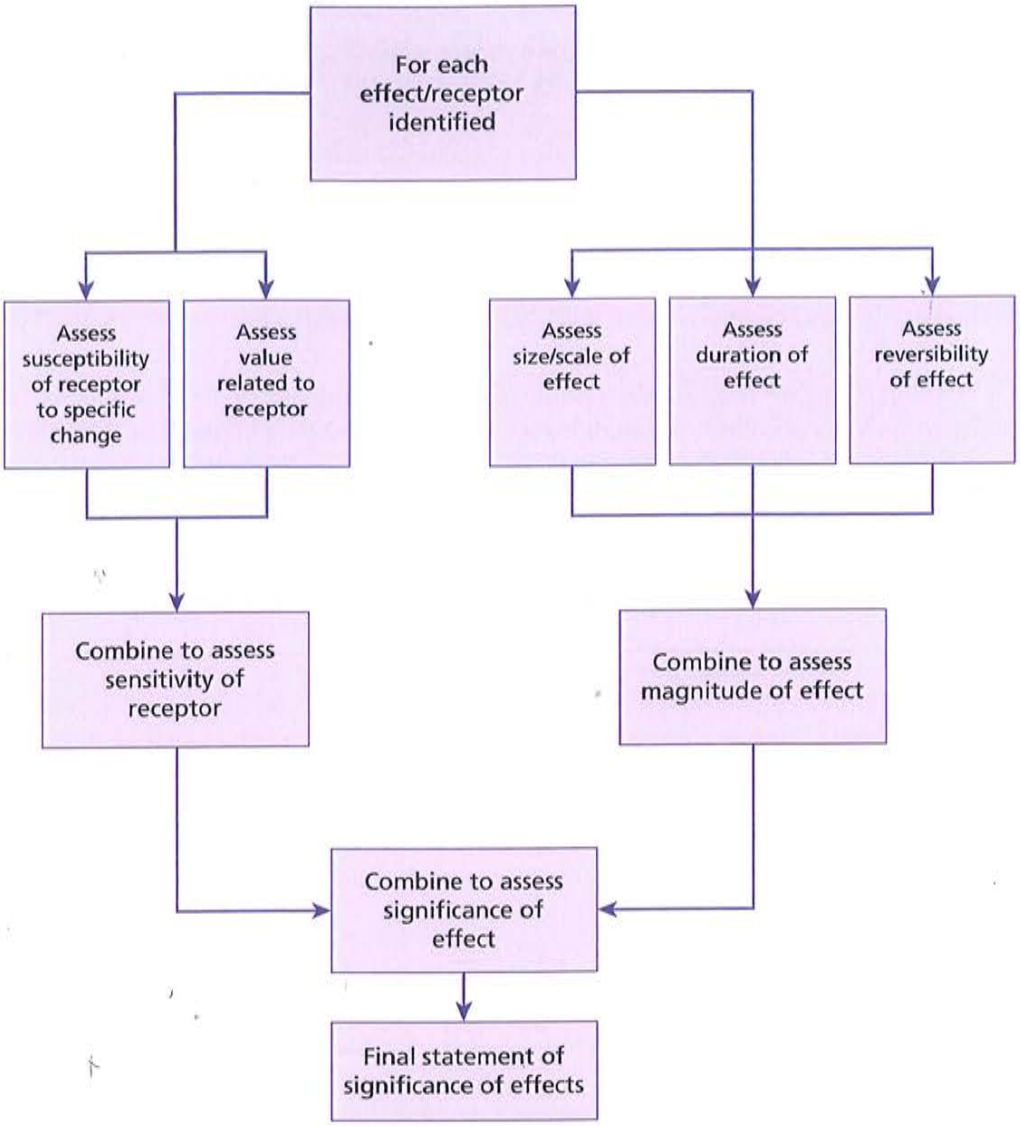


Figure 3.5 Assessing the significance of effects

The words used will usually be specific for each criterion – for example the value of landscape receptors could be categorised as international, national, regional, local authority or local community, while the duration of the effect might be categorised as short term, medium term or long term, with each specified in years. The scales that are used tend to vary from project to project but they should be appropriate to the nature, size and location of the proposed development and may need to be consistent across the different topic areas in the EIA.

Step 2: Combining the judgements

3.28 The next step is to combine the separate judgements on the individual criteria. The rationale for the overall judgement must be clear, demonstrating:

- how susceptibility to change and value together contribute to the sensitivity of the receptor;
- how judgements about scale, extent and duration contribute to the magnitude of the effects; and
- how the resulting judgements about sensitivity and magnitude are combined to inform judgements about overall significance of the effects.

3.29 Combining judgements should be as transparent as possible. It is common practice to arrive at judgements about the significance of effects simply by combining the judgements about the sensitivity of the receptor and the magnitude of the effect. This can be useful but is also an oversimplification unless it is made clear how the judgements about sensitivity and magnitude have themselves been reached.

3.30 There are several possible approaches to combining judgements, including:

- **Sequential combination:** The judgements against individual criteria can be successively combined into a final judgement of the overall likely significance of the effect, with the rationale expressed in text and summarised by a table or matrix.
- **Overall profile:** The judgements against individual criteria can be arranged in a table to provide an overall profile of each identified effect. An overview of the distribution in the profile of the assessments for each criterion can then be used to make an informed overall judgement about the likely significance of the effect. This too should be expressed in text, supported by the table.

3.31 Both of these methods have been advocated by different EIA guidance documents and both can meet the requirements of the Regulations provided that the sequence of judgements is clearly explained and the logic can be traced. The approach adopted in an LVIA will often be influenced by the overall approach in an EIA and the EIA co-ordinator will often seek internal consistency within a project.

Step 3: Judging the overall significance of the effects

3.32 The Regulations require that a final judgement is made about whether or not each effect is likely to be significant. There are no hard and fast rules about what effects should be deemed 'significant' but LVIAs should always distinguish clearly between what are considered to be the significant and non-significant effects. Some practitioners use the phrase 'not significant in EIA terms' to describe those effects considered to fall below a 'threshold' of significance but this can potentially confuse since the phrase has no specific meaning in relation to the EIA Regulations (IEMA, 2011b: 61).

3.33 It is not essential to establish a series of thresholds for different levels of significance of landscape and visual effects, provided that it is made clear whether or not they are considered significant. The final overall judgement of the likely significance of the

predicted landscape and visual effects is, however, often summarised in a series of categories of significance reflecting combinations of sensitivity and magnitude. These tend to vary from project to project but they should be appropriate to the nature, size and location of the proposed development and should as far as possible be consistent across the different topic areas in the EIA.

When drawing a distinction between levels of significance is required (beyond significant/not significant) a word scale for degrees of significance can be used (for example a four-point scale of major/moderate/minor/negligible). Descriptions should be provided for each of the categories to make clear what they mean, as well as a clear explanation of which categories are considered to be significant and which are not. It should also be made clear that effects not considered to be significant will not be completely disregarded. 3.34

In reporting on the significance of the identified effects the main aim should be to draw out the key issues and ensure that the significance of the effects and the scope for reducing any negative/adverse effects are properly understood by the public and the competent authority before it makes its decision. This requires clear and accessible explanations. The potential pitfalls are: 3.35

- over-reliance on matrices or tabular summaries of effects which may not be accompanied by clear narrative descriptions;
- failure to distinguish between the significant effects that are likely to influence the eventual decision and those of lesser concern;
- losing sight of the most glaringly obvious significant effects because of the complexity of the assessment.

To overcome these potential problems, there should be more emphasis on narrative text describing the landscape and visual effects and the judgements made about their significance. Provided it is well written, this is likely to be most helpful to non-experts in aiding understanding of the issues. It is also good practice to include a final statement summarising the significant effects. Tables and matrices should be used to support and summarise descriptive text, not to replace it. 3.36

Mitigation

Measures which are proposed to prevent, reduce and where possible offset any significant adverse effects (or to avoid, reduce and if possible remedy identified effects), including landscape and visual effects, should be described. The term 'mitigation' is commonly used to refer to these measures; however, it is not a term used in the EIA Regulations although it is used in some specific legislation, such as the Electricity Act 1989, and in guidance. Mitigation measures are not necessarily required in landscape appraisals carried out for projects not subject to EIA procedures, although some local authorities may request them and even if they do not it is nevertheless often helpful to think about ways of dealing with any negative effects identified. 3.37

As EIA practice has evolved the terminology used to refer to mitigation measures has been adapted; for example, it has become common practice to use the term 3.38

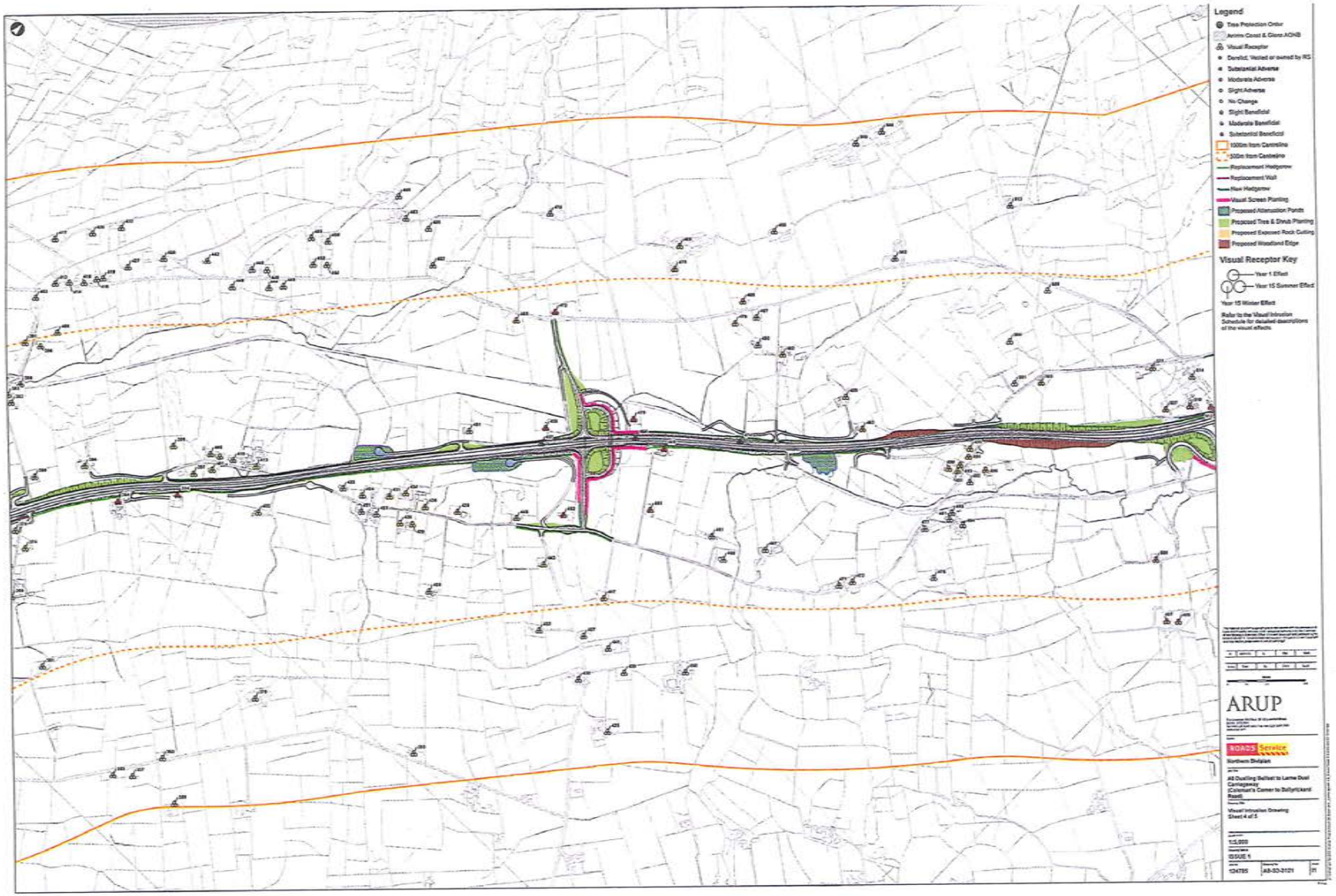


Figure 3.6 Plan showing mitigation measures designed to reduce the effects on surrounding visual receptors and integrate the proposal into the surrounding landscape

'compensate' instead of 'offset'. While the terminology of the EIA Regulations takes precedence, the alternatives may be used provided they are explained. Both terms are referred to in this guidance.

Enhancement is not a formal requirement of the Regulations. It is often referred to incorrectly as an outcome of proposed mitigation measures – for example where planting is proposed to mitigate landscape and/or visual effects but will also achieve an enhancement of the baseline condition of the landscape. In practice enhancement is not specifically related to mitigation of adverse landscape and visual effects but means any proposals that seek to improve the landscape and/or visual amenity of the proposed development site and its wider setting beyond its baseline condition. 3.39

Mitigation and enhancement are both closely related to the development proposal and its design. Both are discussed in further detail in Chapter 4.

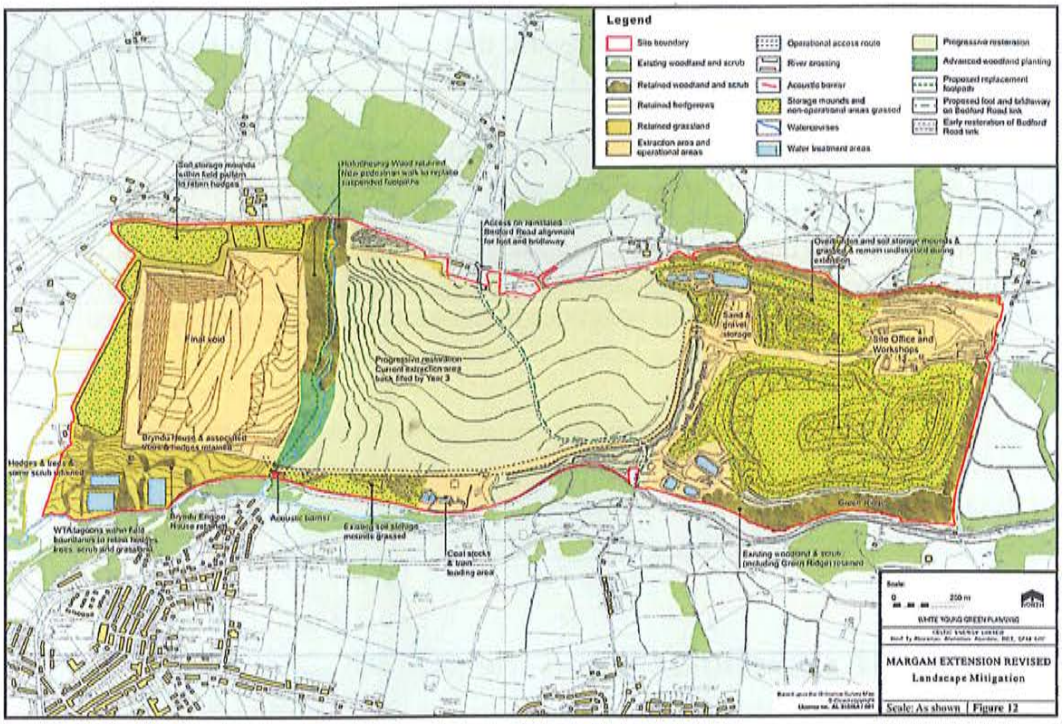
Engaging with stakeholders and the public

In general the EIA procedures only formally require consultation with the public at the stage of submission and review of the Environmental Statement, although in some cases there may be a requirement for pre-application consultation. Nevertheless there are considerable benefits to be gained from involving the public in early discussion of the proposals and of the environmental issues that may arise. This can make a positive contribution to scoping the landscape and visual issues. 3.40

Since the last edition of this guidance was published there has been growing emphasis on consultation and public involvement in EIA. This has arisen principally from the ratification by the UK in February 2005 of the Aarhus Convention (UNECE, 1998), which encourages widespread, timely and effective participation in environmental decision making, and has been reinforced by changes in legislation on planning and related matters that place greater emphasis on local communities. 3.41

Consultation is an important part of the Landscape and Visual Impact Assessment process, relevant to many of the stages described above. It has a role in gathering specific information about the site, and in canvassing the views of the public on the proposed development. It can be a valuable tool in seeking understanding and agreement about the key issues, and can highlight local interests and values which may otherwise be overlooked. With commitment and engagement in a genuinely open and responsive process, consultation can also make a real contribution to scheme design. 3.42

The timing of engagement with the public and other interested parties will depend upon many factors, including the nature of the development, but, in general, the earlier the better. Well-organised and timely consultation and engagement with both stakeholders and public can bring benefits to a project, including improved understanding of what is proposed and access to local environmental information that might otherwise 3.43



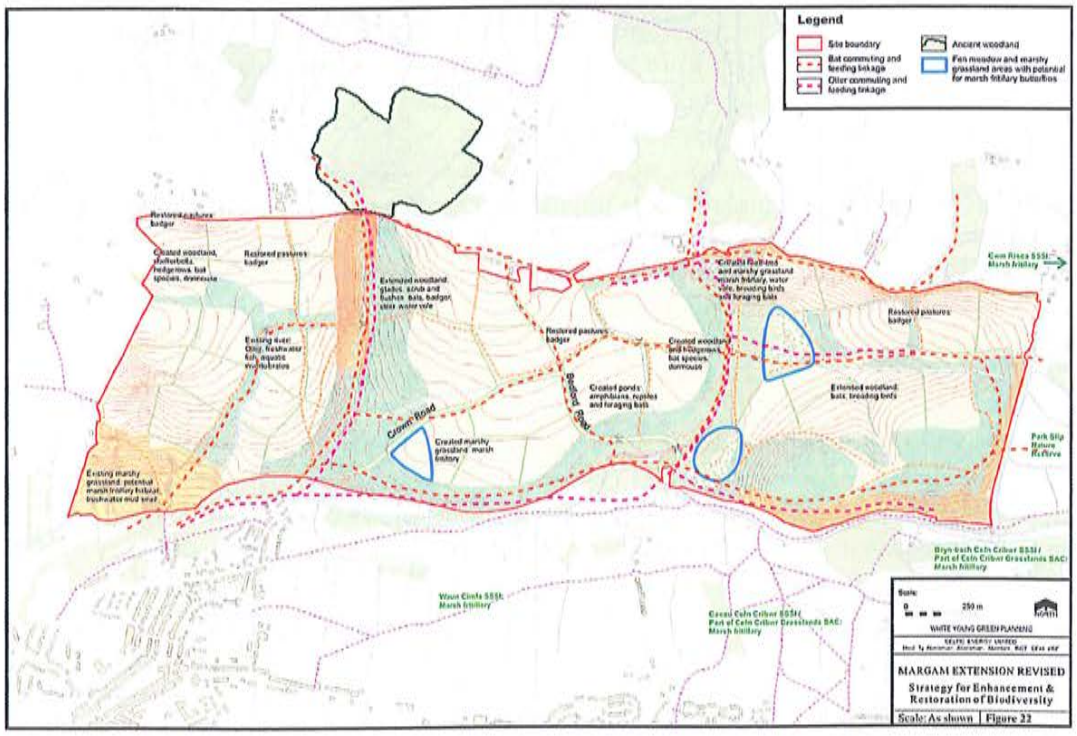


Figure 3.7A–B Example of a comprehensive strategy for mitigating landscape effects during the operational life of a coal surface mine, complemented by specific measures for ultimate ecological enhancement

not have been available to the assessment. This can be of benefit to LVIA in providing better understanding of the landscape and of local attitudes to it. In its most useful form, participation in consultation will improve the quality of the information influencing the scheme design, and may result in positive changes to the design.

Successful engagement will be assisted by the following good practice principles, which although not specific to LVIA should provide a starting point for practitioners involved in LVIA, both within and without the EIA procedures. 3.44

- Consultation must be genuine and open. The temptation to make the most of consultation for information gathering while being reluctant to disseminate information should be resisted.
- The timing of consultation should be carefully planned to prevent premature disclosure, which might encourage blight or make developers commercially vulnerable. There may be occasions where controlled release of information or confidentiality safeguards are required.
- Requests for participation by stakeholders and the public should be timely. There is no point in seeking ideas and views if it is actually too late for the scheme design to be modified, but equally it is difficult for people to respond if consulted too early when the proposals are not sufficiently far advanced for the range of implications to be clear.
- Sufficient time must be allowed for those consulted to be able to consider and act on the information provided.
- The objectives of consultation should be clearly stated. Information presented to consultees should be appropriate in content and level of detail, clearly identifying those issues on which comment is being sought.

Methods of engaging with different groups should be carefully considered and appropriate. The approach to consultation is likely to be common across all the EIA topics and determined by the EIA co-ordinator, and LVIA consultation will need to fit in with this. There is also a great deal of guidance available on appropriate consultation and participation techniques, which should be consulted where appropriate.[1] 3.45

Summary advice on good practice

- LVIA can be carried out either as part of a broader EIA which considers the likely significant landscape and visual effects, or as a standalone 'appraisal' of the possible landscape and visual effects of a proposed development.
- The overall principles and the core steps in the EIA and 'appraisal' processes are the same, but there are specific and clearly defined procedures in EIA which LVIA must fit within.
- As a part of an EIA, landscape and visual issues are dealt with in a separate topic assessment but may also make a contribution to other parts of the EIA, such as site selection and consideration of alternatives, and screening.
- In a standalone 'appraisal' the process is informal and there is more flexibility, but the essence of the approach still applies.

- If **alternatives** are considered as part of a development that is subject to EIA, landscape and visual considerations may play a part in identifying opportunities and constraints relating to site selection and in making comparative assessments of the options.
- In contributing to the **screening** process the landscape professional may be called upon to provide a professional opinion as to the landscape and visual issues that may arise in the area likely to be affected by the scheme.
- For LVIA, **scoping** should be expected to consider the extent of the study area(s); sources of information; the possible effects that might occur; the main receptors to be considered; the extent and the appropriate level of detail for the baseline studies; methods to be used in assessing significance; and the approach to assessment of cumulative landscape and visual effects.
- Establishing the **baseline landscape and visual conditions** will, when reviewed alongside the description of the development, form the basis for the identification and description of the landscape and visual effects of the proposal.
- **Identifying landscape and visual effects** requires systematic thinking about the range of possible interactions between aspects of the proposed development and the baseline landscape and visual situation.
- In most cases it will be essential to give detailed and equal consideration to both effects on the landscape as a resource (see Chapter 5) and effects on views and visual amenity as experienced by people (see Chapter 6).
- All types of effect should be identified, and for each effect a judgement should be made about whether it is positive/beneficial or negative/adverse.
- **Assessing the significance of landscape and visual effects** is a matter of judgement. It is vital that the basis of such judgements is transparent and understandable, so that the underlying assumptions and reasoning can be examined by others.
- A step-by-step approach should be taken to make judgements of significance, combining judgements about the nature of the receptor, summarised as its sensitivity, and the nature of the effect, summarised as its magnitude.
- The contribution of judgements about the individual criteria contributing to sensitivity and magnitude should be clear, and the approach to combining all the judgements to reach an overall judgement of significance should be as transparent as possible.
- LVIAs should always distinguish clearly between what are considered to be the significant and non-significant effects.
- It is not essential to establish a series of thresholds for different levels of significance of landscape and visual effects, provided that it is made clear whether or not they are considered significant.
- If, however, more distinction between levels of significance is required a word scale for degrees of significance can be used (for example a four-point scale of major/moderate/minor/negligible).
- Reporting on the assessment of the significance of the identified effects in LVIA should aim to provide information in a manner that will help decision makers.

- To ensure that the reasoning behind the judgements is clear there should be more emphasis on narrative text describing the landscape and visual effects and the judgements made about their significance, with tables and matrices used to support and summarise the descriptive text, not to replace it. The key issues must be made clear.
- In accordance with the EIA Directive and relevant country Regulations, **mitigation measures** should be proposed to prevent/avoid, reduce and where possible offset/remedy any significant adverse landscape and visual effects identified. It has become common practice to use the term 'compensate' instead of 'offset'.
- **Enhancement** is not a formal requirement of the Regulations. 'Enhancement' means any proposals that seek to improve the landscape of the site and its wider setting beyond its baseline condition, and is not specifically related to mitigation of adverse landscape and visual effects.
- Well-organised and timely **consultation and engagement** with both stakeholders and public can bring substantial benefits to a project.

Chapter 4

The proposed development, design and mitigation

Chapter overview

- Understanding the proposed development
- LVIA and the design process
- Consideration of alternatives
- Describing the proposals
- Stages in the project life cycle
- Mitigation of landscape and visual effects
- Enhancement
- Securing implementation of mitigation and enhancement measures

Understanding the proposed development

4.1 Information about the proposed development needs to be assembled, considered in relation to its relevance for assessment purposes, kept under review during the planning and design stages of a project, updated where appropriate and then 'fixed' to enable the assessment of effects to be finalised. This information is needed for LVIA as well as for other topics within an EIA. It should include, as a minimum:

- a description of the project that is sufficiently detailed for assessment purposes;
- information about alternatives that have been considered, where relevant;
- information concerning relevant stages in the project's life cycle including, as appropriate, construction, operation, decommissioning and restoration/reinstatement stages.

4.2 The assessment of likely effects must be based on a description of the development that is sufficiently detailed to ensure that the effects can be clearly identified, although the level of detail provided will vary from project to project. It is now established in case law that the project must be defined in sufficient detail, even in an outline planning application, to allow its effects on the environment to be identified and assessed.[1] This acknowledges that details of a project may evolve over a number of years, but that this must be within clearly defined parameters established through the planning process.

4.3 An EIA prepared in these circumstances must similarly recognise that the project may evolve, within the agreed parameters, and be able to identify the likely significant effects of such a flexible project. Within the defined parameters the level of detail of the proposals must be such as to enable proper assessment of the likely environmental effects and consideration of the necessary mitigation. It may be appropriate to consider a range of possibilities, including a reasonable scenario of maximum effects, sometimes referred to as the 'worst case' situation. Mitigation proposals will need to be adequate to cope with the likely effects of this worst case. Separate issues may arise in projects involving multi-stage consents, involving a principal decision and then another implementing decision, usually relating to planning conditions. The effects on the environment must be identified and assessed at the time when the principal decision is considered but assessment of effects that are not identifiable then must be undertaken at a subsequent

stage. Multi-stage EIA is still an evolving area of practice but voluntarily leaving for later assessment effects that could have been identified earlier is not acceptable.

Where the landscape professional considers that key data on project characteristics is lacking, it will be necessary to add a caveat to the assessment. If going further and estimating what is likely to occur, perhaps based upon a reasonable maximum effects or 'worst case' scenario, then the assumptions on which such judgements may be based should be made explicit. The sources of information used in the assessment should also be clearly set out and, prior to finalising the assessment and the Environmental Statement, there should be communication with the EIA co-ordinator to ensure the information used is up to date, to agree the scope of any maximum effects or 'worst case' scenario that is to be used and to ensure that different topic assessments are using consistent assumptions about the proposal. If they are not the Environmental Statement will need to explain and justify any such variations. 4.4

LVIA and the design process

Design plays an increasingly important part in the development planning process. This has been emphasised by the introduction of statutory requirements for the production of design statements, or design and access statements, for many planning proposals in different parts of the UK. Such statements explain the design principles and concepts underpinning the proposal and the process through which it has evolved. This includes the ways in which the context of the development, including the landscape, has been appraised or assessed and how the design of the development takes that context into account in relation to its proposed use. 4.5

EIA itself can be an important design tool. It is now usually an iterative process, the stages of which feed into the planning and design of the project. The iterative design and assessment process has great strength because it links the analysis of environmental issues with steps to improve the siting, layout and design of a particular scheme. Site 4.6

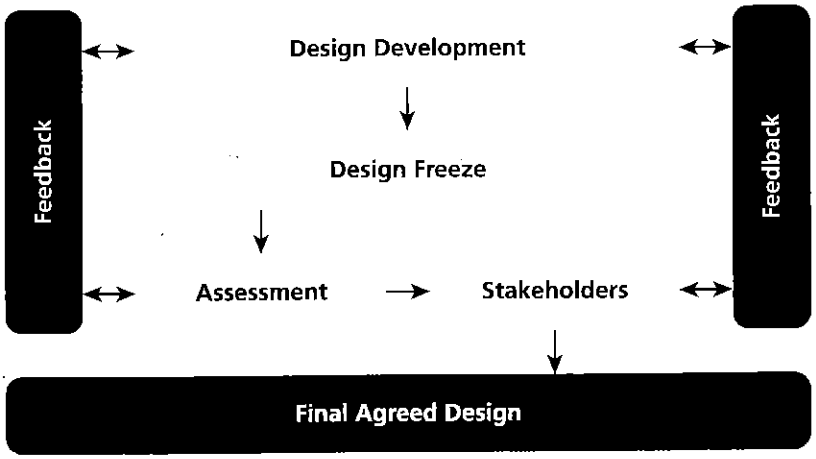


Figure 4.1 Feedback loops in design

planning and detailed design, as well as initial appraisal of a development project in the screening and scoping stages, are informed by and respond to the ongoing assessment as the environmental constraints and opportunities are revealed in progressively greater detail and influence each stage of decision making. This approach can result in more successful and cost-effective developments and can reduce the time required to complete the assessment. Such an iterative approach is appropriate to any form of new development of whatever scale or type and applies equally to informal 'appraisal' of projects falling outside the EIA requirements.

4.7 Landscape professionals should be involved as early as possible in this iterative approach to ensure that the likely landscape and visual effects of a proposal play an important part in the evolution of a development proposal. This is good practice as it allows analysis of the landscape and visual character of a site and its context, and approaches to siting and design, to minimise possible landscape and visual effects early in the process. Projects may otherwise progress to a stage where the opportunity to minimise effects can no longer be realised by the time the landscape professional becomes involved. It is better to get the siting and design right first than to rely on costly mitigation measures. Early involvement also allows opportunities for landscape enhancement to be identified before the design has progressed too far.

4.8 Once the preferred development option has been selected, the landscape professional initially works with the design team to scope the range of possible effects in more detail. Then, as the scheme is developed more fully, work continues to identify and describe the landscape and visual impacts that are likely to occur, to propose appropriate measures to avoid or reduce the adverse effects and, if possible and appropriate, to promote potential benefits. This may result in a modified scheme design, allowing further cycles of impact prediction and mitigation until nothing further can be done in the design stages.

4.9 Research has shown that the iterative design approach to EIA is now common among practitioners and its value is widely recognised (IEMA, 2011b). It can, however, give rise to difficulties in deciding whether or not likely effects that have been avoided through the design process should still be included in the final Environmental Statement. Some argue that they should be, in order to demonstrate how environmental considerations have influenced scheme design to achieve better final solutions. On the other hand, this to some degree conflicts with the need to concentrate on the significant environmental effects of the development as proposed.

4.10 Landscape professionals will need to find ways of dealing with this issue in preparing material for inclusion in the final Environmental Statement. There is no simple solution but useful approaches are:

- To include in the Environmental Statement a section or sections related to 'Design Development' or 'Design Evolution', where the process of early avoidance or reduction of landscape and visual impacts through the adoption of particular siting and design approaches as integral parts of the proposed development is clearly explained. This should clearly show the approach taken to avoiding or minimising adverse landscape and visual effects, and how these considerations have been balanced against other development considerations to reach the development proposal which forms the basis for the LVIA and other topic assessments in the EIA.

- To include in the Environmental Statement simple tables that summarise the possible effects identified in the early stages of the project development alongside the measures incorporated into the design to overcome them. If dealt with briefly in this way, the desire for transparency about all stages of the design and about the incorporation of mitigation measures would be met.

These approaches are not mutually exclusive and may support each other, but a balance is needed to ensure that the Environmental Statement does not become excessively long and the focus is still on the significant effects of the final scheme as submitted.

Consideration of alternatives

4.11 It is not a requirement that alternatives should be identified and considered. However, if they have been (and it is considered that they should be, as a means of achieving potentially more sustainable development) then an outline description should be provided of any alternatives considered, together with an indication of the main reasons (including environmental reasons) for the final choice. The iterative design and assessment process can be helpful in providing evidence that such alternative sites and/or designs have been assessed in terms of their landscape and visual effects. It is therefore important to:

- record how the scheme has developed throughout the life of the project;
- demonstrate how landscape and visual effects have been taken into account;
- show why some alternative options have been rejected on the basis of landscape and visual considerations.

4.12 The landscape professional should usually expect to advise on a number of different alternatives, which might include:

- alternative locations or sites;
- different approaches in terms of scheme design, or the size/scale/orientation of the proposed development;
- alternative site layouts, access and servicing arrangements;
- a 'do minimum' scenario that may be a genuine alternative to the development proposed – it might, for example, include only essential maintenance and improvement work.

4.13 Depending on the type of study that is being carried out and the stage reached in the assessment process, more than one project alternative may be taken forward for comparative assessment, with a detailed project description required for each alternative. The most common examples of this occur in the field of linear development, such as transport infrastructure, long-distance gas or water pipes, grid connections and flood risk management structures along rivers. In such cases appraisals of alternative routes are frequently undertaken before a decision is made on the preferred option. A more detailed assessment is then carried out of the chosen route. Other types of project can also benefit from a similar hierarchical approach to the consideration of alternatives.

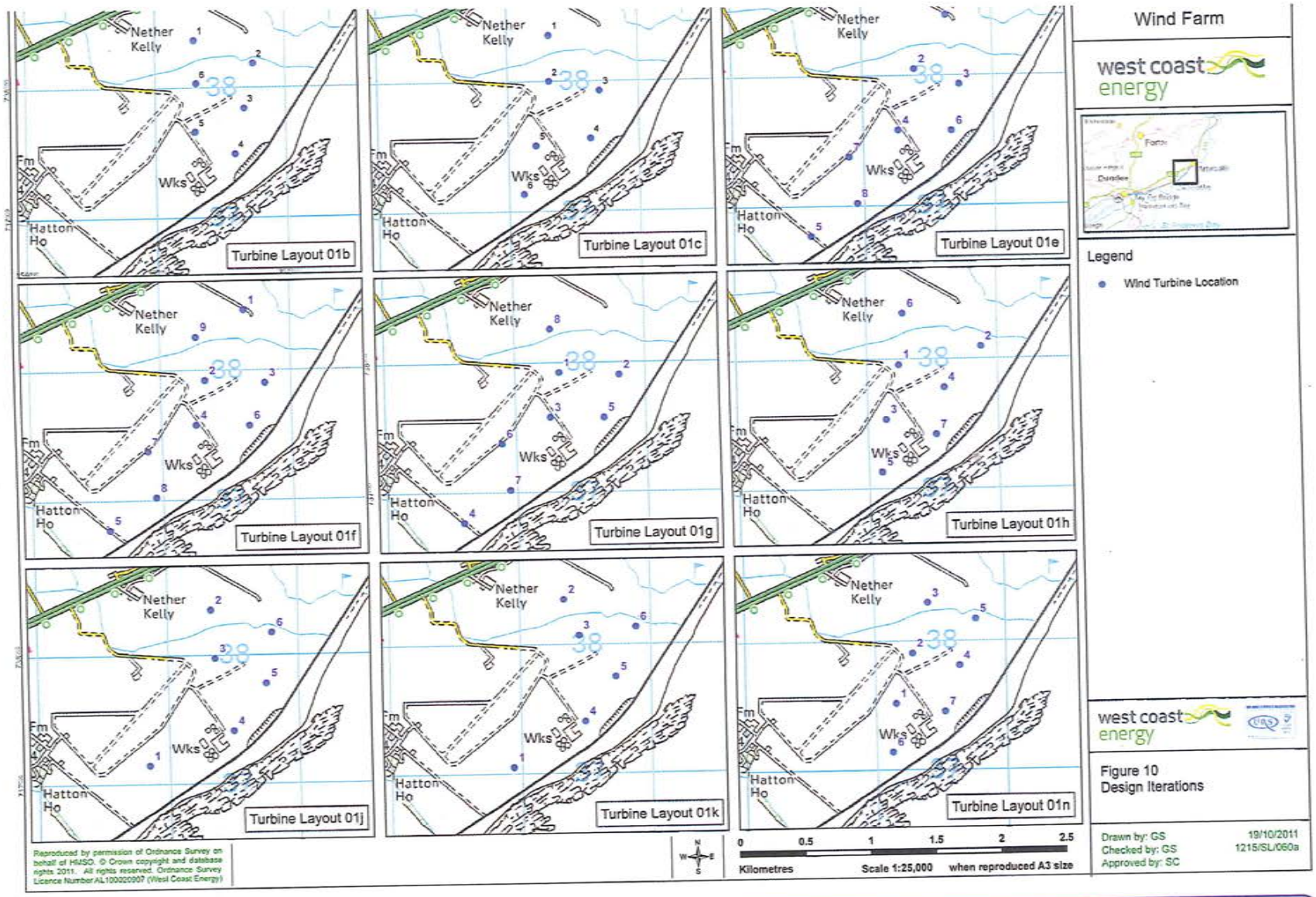


Figure 4.2 An example of iterative design of layouts for a wind farm development

Describing the proposals

The project description/specification should provide a clear and concise but also comprehensive description of the development proposal. As a minimum it should describe the siting, layout and characteristics of the proposed development. The project description/specification, which is the common point of reference for all topics addressed, is usually a separate section of the Environmental Statement. Only particularly relevant features and aspects of the project need to be reported on separately in the part of the Environmental Statement dealing with the assessment of landscape and visual effects. 4.14

It is essential that the development proposals are clearly presented and illustrated. Ideally this requires: 4.15

- easy-to-read proposal maps at a size appropriate to the scale of the development, together with other selected drawings, which may include cross sections;
- for complex projects or those of long duration, for example power stations or major mineral workings, a series of drawings showing the situation at different stages, such as construction, operation, and decommissioning, or different phases in the development;
- illustrations that will help the reader to gain a proper understanding of what is proposed, including:
  - layout plans of the main design elements, access and site circulation, land uses, contours and site levels;
  - cross sections and elevations of buildings and other important elements, including key dimensions;
  - the proposed landscape framework including landform and planting;
  - appropriate sketches, photomontages or other forms of visualisation.

Good practice in presenting landscape and visual effects in the Environmental Statement is described more fully in Chapter 8.

Stages in the project life cycle

The characteristics of projects, and hence the possible landscape and visual effects they may have, are likely to vary throughout the life of the project. The construction, operation, decommissioning and restoration/reinstatement phases of a development are usually characterised by quite different physical elements and activities. A separate, self-contained description of the development at each stage in the life cycle is therefore needed to assist in understanding the scheme and then in prediction of landscape and visual effects. 4.16

Construction stage

4.17 Depending on the nature of the project, the relevant information for the construction stage could include:

- the location of site access and haul routes (which are likely to differ from permanent access proposals), movement of traffic and machinery;
- the type of machinery to be used, including size and, where relevant, colour;
- the positions and scale of cut, fill, borrow, disposal and other working areas;
- the origin and nature of materials and locations for stockpiles;
- the type and location of construction equipment and plant;
- the provision of utilities, such as water, drainage, power and lighting, including the nature and times of temporary site lighting when work is in progress;
- the scale, location and nature of temporary parking, and on-site accommodation;
- measures for the temporary protection of existing features and temporary screening;
- the programme of work, including any proposed phasing of construction.

For minerals projects the construction phase is equivalent to the preliminary or site establishment stage, and may include establishment of features such as soil storage or screening bunds and mounds, and water treatment areas.

Operational stage

4.18 The aspects of the operational stage which may be most relevant to the Landscape and Visual Impact Assessment could include:

- the phasing of the development over the operational stage;
- the location, scale and design of buildings, structures, mineral processing plant and other features, including choice and colour of materials;
- for minerals projects, which include both surface and underground mines, features such as the excavation void and its phasing, and overburden, spoil or quarry waste storage mounds;
- details of servicing arrangements, storage areas, infrastructure/utilities and/or other structures;
- access arrangements and traffic movements;
- lighting;
- car parking;
- the noise and movement of vehicles in so far as they may affect perceptions of tranquillity in the landscape;
- visible plumes from chimneys;
- signage and boundary treatment(s);
- outdoor activities that may be visible;
- the operational landscape, including landform, structure planting and hard landscape features;
- land management operations and objectives.

Decommissioning and restoration/reinstatement stage

This stage may also give rise to landscape and visual effects. Important aspects could include: 4.19

- decommissioning and site restoration activities (including for example demolition, deconstruction, and dismantling of buildings and structures, and backfilling of voids and landform restoration for minerals projects), movement of materials and plant around the site and temporary access arrangements;
- residual buildings and structures;
- after-use potential and plans;
- the disposal or recycling of wastes and residues.

Information requirements

For each of these stages in the project life cycle and, where relevant, for the various scheme components, a range of qualitative and quantitative information will be valuable in giving a proper and proportionate understanding of what is proposed, to assist in assessments of landscape and visual effects. The information needed may include: 4.20

- areas under different uses;
- dimensions of major plant, buildings and structures, and landform features;
- volumes of material;
- numbers of scheme components such as houses and parking spaces;
- the design of scheme components (including layout, scale, style and distinctiveness);
- the form of scheme components (including shape, bulk, pattern, edges, orientation and complexity);
- materials (including information concerning texture, colour, shade, reflectivity and opacity);
- operational characteristics, including plumes and moving structures;
- movements of plant, materials, vehicles and people, both construction workforce and occupants, during operation.

While it is a requirement that the development is described in sufficient detail to enable the effects to be identified and assessed it is also recognised that it is often difficult to provide accurate and complete information on all the varied aspects of a development proposal (see Paragraphs 4.2 and 4.3 for further information). In that case the assumptions made should be stated.

Mitigation of landscape and visual effects

In accordance with the EIA Regulations, measures proposed to prevent/avoid, reduce and where possible offset or remedy (or compensate for) any significant adverse landscape and visual effects should be described. In practice such mitigation measures are now generally considered to fall into three categories: 4.21

1. primary measures, developed through the iterative design process, which have become integrated or embedded into the project design;

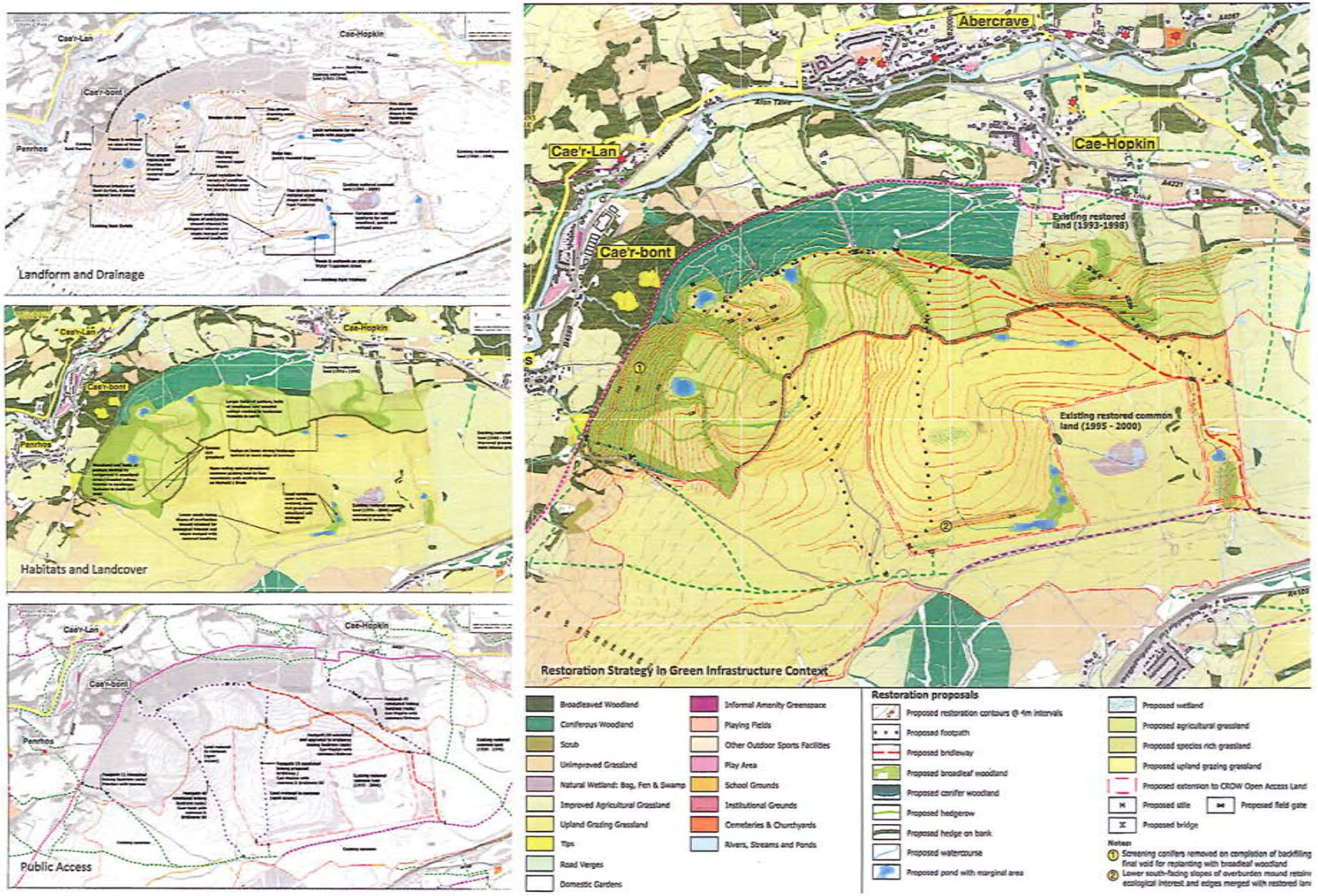


Figure 4.3 The restoration strategy for a coal surface mine: components and context

2. standard construction and operational management practices for avoiding and reducing environmental effects;
3. secondary measures, designed to address any residual adverse effects remaining after primary measures and standard construction practices have been incorporated into the scheme.

The primary mitigation measures and the construction and operational management practices should ideally be included in the project description/specification (and also in the design and access statement for the project). So too should the possible effects identified early on and the design responses that have been introduced, for example modifications to siting, access, layout, buildings, structures, ground modelling and planting. It can be expected that both these types of mitigation measure will definitely be implemented as they are to be an integral part of the scheme. They could therefore be secured by conditions on a consent (discussed in Paragraph 4.41). 4.22

Secondary mitigation measures are those that are not built into the final development proposals and are considered in relation to the assessment of the landscape and visual effects of the scheme as the means of addressing the significant adverse effects identified. As they are not incorporated in the scheme being assessed, there will need to be careful consideration of how they can be secured. In an ideal world, applying Landscape and Visual Impact Assessment as an iterative planning and design tool would allow all necessary and desirable mitigation to be incorporated into the project design, such that secondary mitigation should not prove necessary. This will not always be possible but that should not discourage the landscape professional from trying to achieve such an outcome. 4.23

The three forms of mitigation to address significant adverse effects form what has been termed the 'mitigation hierarchy' and good practice should aim to achieve mitigation at the highest possible level in this hierarchy. The ideal strategy is one of prevention/avoidance. If this is not possible, alternative strategies, first of reduction and then of offsetting/remedying (or compensating for) the effects, may need to be explored, depending on individual circumstances. Some of the main issues associated with these different strategies are outlined below. 4.24

Prevention/avoidance

Some likely significant adverse landscape and visual effects can be prevented or avoided through careful planning, siting and design. In many cases time and costs may be reduced if significant environmental constraints can be identified and avoided during the early stages of scheme development. This may be achieved by the selection of a site that can more readily accommodate the proposed development or through innovative design within the selected site. This is closely related to the consideration of alternatives outlined in Paragraphs 4.11–4.13, and will often be dealt with as part of the design process and reported in the project description. 4.25

Reduction

If potentially significant adverse effects cannot be prevented or avoided, the strategy should be to reduce those that remain as far as possible. In general the emphasis should 4.26

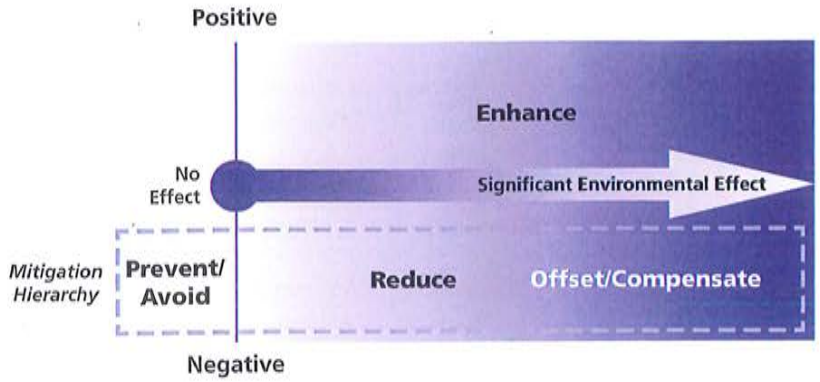


Figure 4.4 The mitigation hierarchy (from IEMA, 2011b)

be on modifying scheme design through successive iterations to reduce adverse effects. Sympathetic treatment of external areas can, in some circumstances, help the integration of a new development into the surrounding landscape, but measures that are simply added on to a scheme as 'cosmetic' landscape works, such as screen planting designed to reduce the negative effects of an otherwise fixed scheme design, are the least desirable. It should also be remembered that well-designed new development can make a positive contribution to the landscape and need not always be hidden or screened.

4.27 Mitigation measures that may help to reduce potentially negative landscape and visual effects include, but are not limited to:

- adjustment of site levels;
- use of appropriate form, detailed design, materials and finishes where it is neither desirable nor practicable to screen buildings and associated development – in these circumstances, the design of the structures and materials, colour treatments and textural finishes should be selected to aid integration with the surroundings;
- alterations to landforms (including creation of bunds or mounds) together with structure planting on and/or off site;
- avoiding or reducing obtrusive light – lighting for safety or security purposes may be unavoidable and may give rise to significant adverse visual effects; in such cases, consideration should be given to different ways of minimising light pollution and reference should be made to appropriate guidance, such as that provided by the Institution of Lighting Professionals (ILP, 2011).

4.28 All of the adverse landscape and visual effects that are considered likely to occur throughout the project life cycle (including its construction, operation, decommissioning and restoration/reinstatement stages) may be considered for mitigation where this is possible. However, the emphasis should be on those effects considered to be significant as this is the focus of the statutory requirements. Mitigating a significant adverse effect may reduce its severity or alter its nature while also possibly reducing its significance.

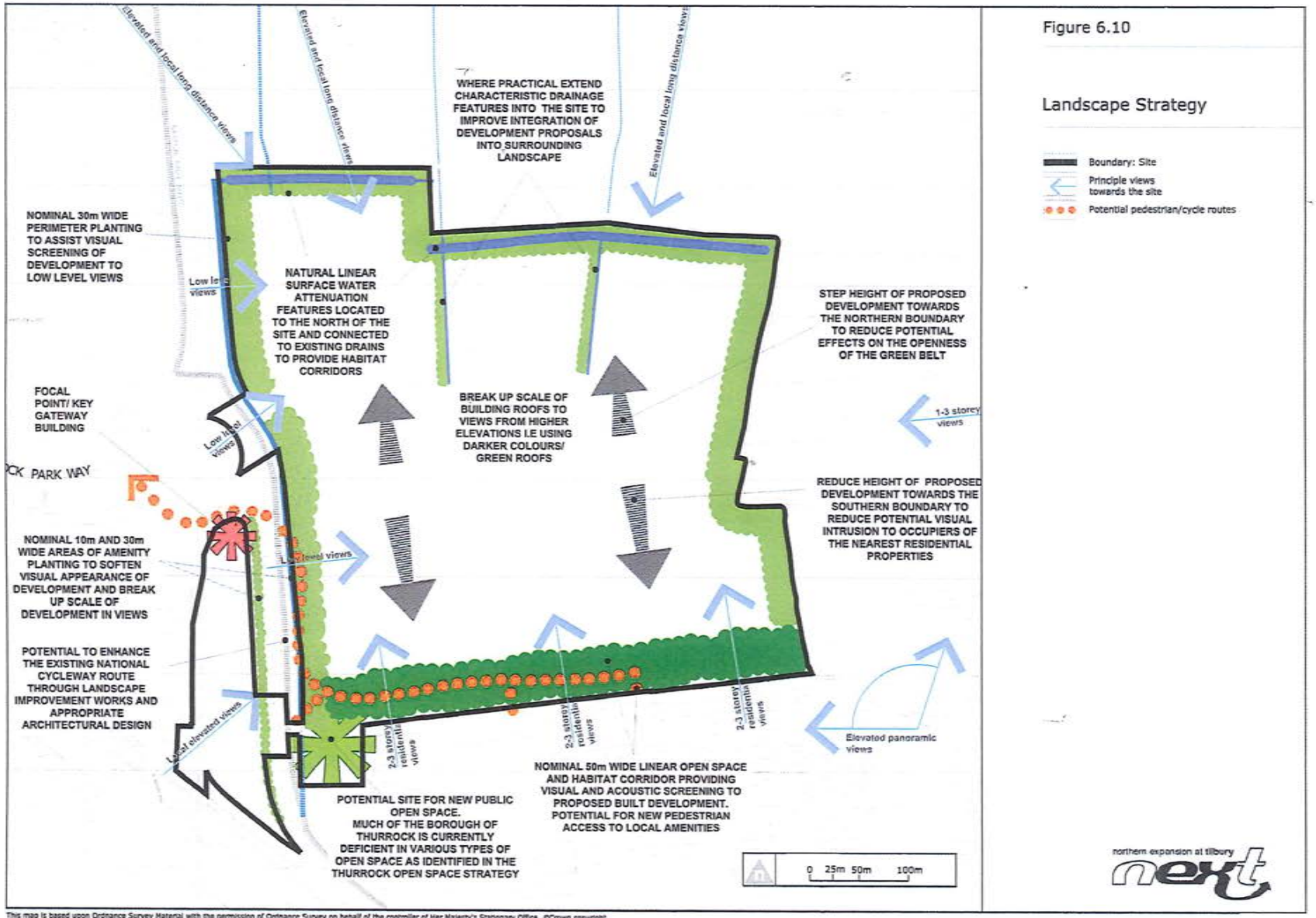


Figure 4.5 Landscape strategy plan incorporating proposed mitigation measures

4.29 Mitigation measures can sometimes themselves have adverse effects on landscape or on visual amenity, as well as on other matters such as cultural heritage or ecology, and their planning and design needs careful consideration. They should be designed to fit with the existing character of the landscape where this is a desirable landscape objective, respecting and building upon local landscape distinctiveness, for example in use of materials that are locally derived. They should also respond, where possible, to landscape objectives that may have been set in development or management plans or strategies for the area.

4.30 In addition, mitigation measures for effects in other topic areas may have additional consequences for the landscape and for views and visual amenity. The iterative design process should allow these to be assimilated and their additional effects taken into account in the overall mitigation strategy. For example, culverts and other features required to maintain safe passage for wildlife could themselves be visually intrusive. Design measures can ensure both their effectiveness in mitigating adverse ecological effects and their appropriateness in terms of fit with landscape character, where appropriate. Similarly, landscape or visual mitigation may require planting where the design considerations would also include the ecological acceptability of the species used. The EIA co-ordinator may have a role in ensuring that such reciprocal effects of mitigation measures on other topic areas are taken into account.

4.31 Mitigation measures, especially planting schemes, are not always immediately effective. Advance planting can help to reduce the time between the development commencing and the planting becoming established. If such planting forms part of the scheme design it should be included in the design and access statement and in the project description. Where planting is intended to provide a visual screen for the development it may be appropriate to assess the effects for different seasons and periods of time (for example, at year 0, representing the start of the operational stage, year 5 and year 15) in order to demonstrate the contribution to reducing the adverse effects of the scheme at different stages. In such projections the assumptions made about growth rates of planting should be clearly stated.

Offset, remedy or compensate

4.32 Where a significant adverse landscape or visual effect cannot be avoided or markedly reduced, consideration should be given to any opportunities to offset, remedy or compensate for such unavoidable effects. Here the aim should be, as far as possible, to replace like with like or, where this is not possible, to provide features of equivalent value. To achieve this, a reliable assessment is needed of the nature, extent and value of the resource that would be lost or damaged (drawing upon baseline information supplemented with additional material where necessary).

4.33 It is debatable whether full offsetting of adverse effects is possible. For example, a new area of woodland may eventually offset the loss of an existing highly valued mature woodland in visual and landscape character terms, but it is unlikely that it would compensate for the loss of established habitat or amenity value in the period between its establishment and its full development. Similarly loss of an area of ancient woodland cannot, by definition, be compensated for other than in timescales extending over generations. Therefore, offsetting and compensation should generally be regarded as measures of last resort.

It is increasingly common for offsetting measures to be offered that are not closely related to the lost or damaged features. Such measures may sometimes be actively sought by local communities or local authorities to offset unavoidable negative effects. They might include, for example, the provision of new local amenity areas, parks or green spaces, or the creation or provision of a work of art. Such measures should normally be linked to the development in some way. The terms 'offset' and 'compensation' should not be confused with 'enhancement' (which is discussed in the next section). 4.34

Enhancement

While mitigation is linked to significant adverse landscape and visual effects, enhancement is not a requirement of the EIA Regulations. It means proposals that seek to improve the landscape resource and the visual amenity of the proposed development site and its wider setting, over and above its baseline condition. Enhancement may take many forms, including improved land management or restoration of historic landscapes, habitats and other valued features; enrichment of impoverished agricultural landscapes; measures to conserve and improve the attractiveness of town centres; and creation of new landscape, habitat and recreational areas. Through such measures environmental enhancement can make a very real contribution to sustainable development and the overall quality of the environment. 4.35

Ideally, enhancement proposals should not be an 'afterthought' in project development but should be an integral part of the design of a development proposal, seeking to identify from an early stage opportunities to enhance the baseline conditions and integrate these proposals into the overall development project. If they can be brought sensibly into the project planning and design stage and then form part of the overall proposal, they may legitimately be assessed as part of the proposal. Depending on circumstances, they may in turn give rise to further positive effects that should be identified and assessed. 4.36

Enhancement proposals should be based on a sound baseline assessment of the landscape and visual amenity of the area and of any trends likely to bring about future change. The following questions could usefully be considered, but local circumstances may vary and different questions may also be relevant: 4.37

- Can the development help improve the visual amenity of the area?
- Can it help to restore, reconstruct or provide new local landscape character and local distinctiveness?
- Can it assist in meeting landscape management objectives for the area?
- Can it help address specific issues and/or opportunities, for example restoration of damaged or derelict land, opportunities for habitat improvement and the scope for cultural heritage benefit?

Securing implementation of mitigation and enhancement measures

4.38 It is essential to demonstrate that any measures included as part of the mitigation proposed to respond to adverse landscape and visual effects can be delivered in practice. This may be considered a part of the assessment of effects and taken into account by decision makers. Similar considerations apply to enhancement measures proposed for inclusion in the scheme, where a firm commitment to and method of delivery must be included.

4.39 If mitigation or enhancement measures are material factors likely to influence the outcome of a project proposal then a judgement needs to be made about whether they are technically achievable, practically deliverable and likely to be sustainable in the future. This should begin with technical considerations – for example, whether like-for-like replacement habitat creation measures can be realised successfully. Expert scientific, technical and design advice may be required to make sure that such proposals are well founded and where possible based on successful precedents. However, it is important that such proposals do not give rise to a further round of impacts and effects with respect to other topics in the assessment, for example cultural heritage. It would be counterproductive if 'successful' replacement or compensation in one quarter gave rise to significant adverse effects in another.

4.40 Ways in which the mitigation measures, and any agreed enhancement proposals, will be delivered in practice are now commonly dealt with through an Environmental Management Plan (EMP). An EMP is defined as 'a practical tool for managing the effects of a specific project in the post-consent phase, typically in the run up to, and during, the construction phase of a project, and potentially into the operational phase' (IEMA/Land Use Consultants, 2008: 1). Such plans, which may also appear under other names, can be started during the design stages of a project, but at the latest should be available after consent has been given but before the start of construction. In wider EIA practice it is increasingly argued that EMPs should form part of the Environmental Statement. They should ideally make clear how mitigation and enhancement is to be achieved and may extend to identifying who is responsible and the timing of implementation. This might include any measures to mitigate adverse landscape and visual effects that may be proposed on land outside the site, provided it can be demonstrated that there is a reasonable chance of securing their delivery – for example off-site planting proposals secured by legal agreement.

4.41 On-site mitigation measures designed to reduce adverse landscape and visual effects can often be secured through conditions attached to a consent, provided that the mitigation is described in a way that allows this. They should, for example, be clear and specific, and compliance with the condition must be possible.[2] The competent authority should make sure that all the promised mitigation measures are, where appropriate, covered by conditions or, if this is not the case, by suitable legal agreement. Relevant conditions should be able to be monitored, and it should be made clear who is to implement and monitor the measures that are put forward. Enhancement measures not included in the development proposal can also be secured through conditions but may be better incorporated into planning obligations that are agreed as part of the consent procedures.

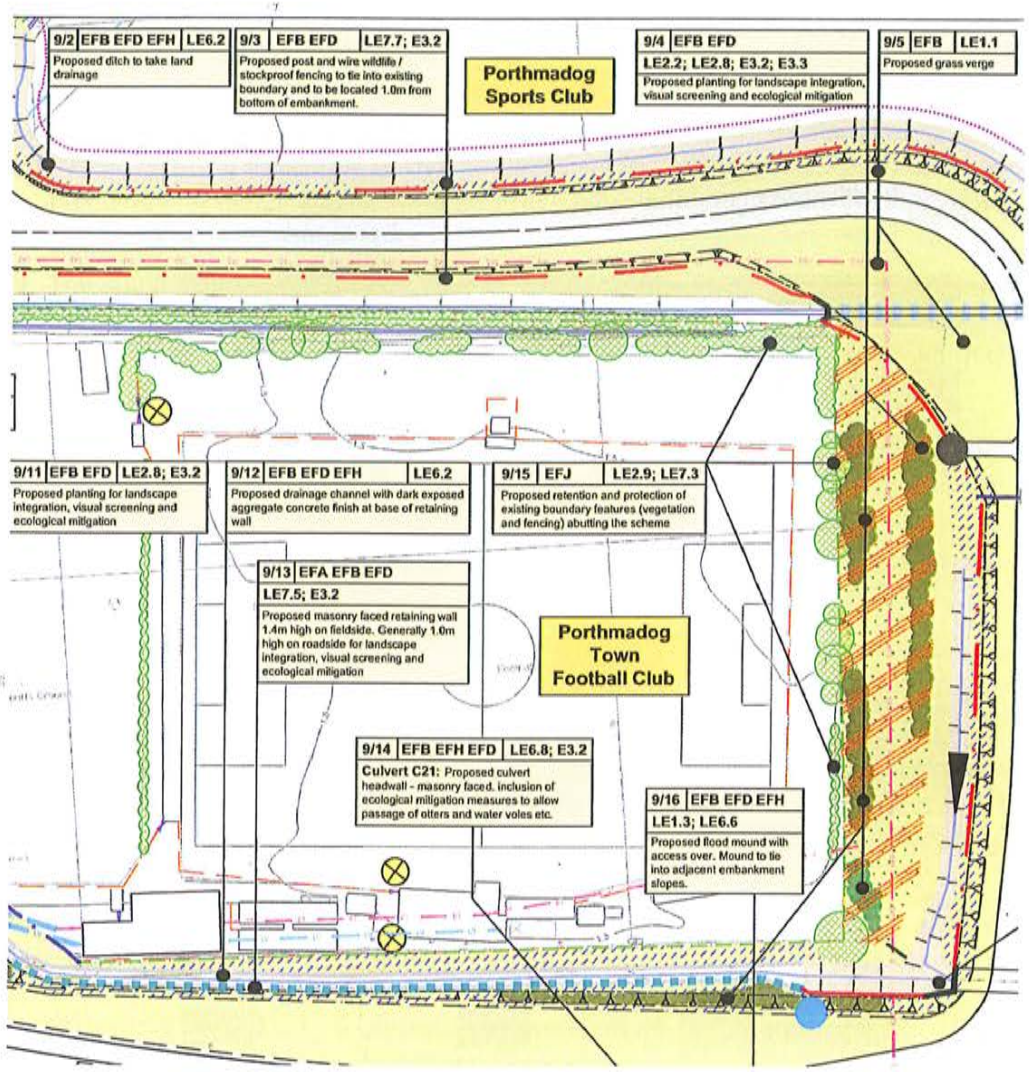


Figure 4.6 Extract from an example of an Environmental Master Plan gathering together all the environmental commitments including landscape and other mitigation measures, and forming part of an Environmental Management Plan

Mitigation measures should be linked to suitable specifications and performance standards, covering for example the establishment, management, maintenance and monitoring of new landscape features. They should describe what is required for mitigation to be effective, in sufficient detail to allow conditions to be drafted and/or for detailed schemes to be submitted for approval before implementation. Assumptions about plant growth or other changes over time should be realistic and not over optimistic. The design concept for the mitigation has to have a good chance of being achieved in practice to be taken seriously by the competent authority. This requires not only a good understanding of the design of the mitigation but also the conditions and pressures in which that mitigation will have to survive. 4.42

1.43 Some form of contingency planning may be desirable, in the event that mitigation measures should prove to be unsuccessful. It can be helpful to seek technical advice to review the wording describing mitigation and enhancement measures, as failures in language and understanding can hinder their effective implementation. In short, mitigation of landscape and visual effects is most likely to be successful if it is appropriate, feasible and effectively communicated.

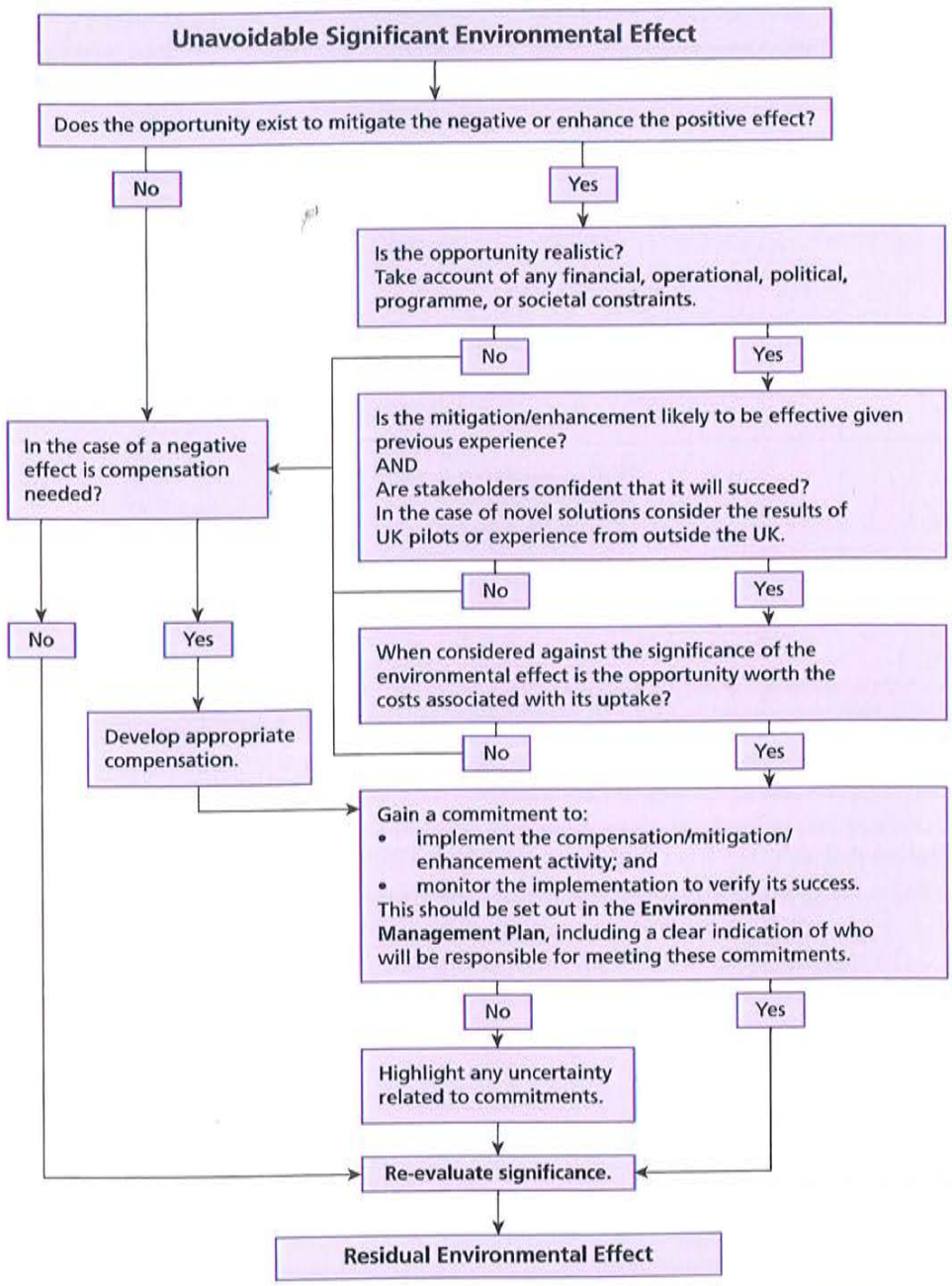


Figure 4.7 Mitigation/enhancement decision tree (from IEMA/Land Use Consultants, 2008)

Summary advice on good practice

- Information about the development that is of relevance to the assessment of landscape and visual effects needs to be assembled, kept under review during the planning and design stages, updated where appropriate and then 'fixed' to enable the assessment to be finalised.
- The assessment of likely effects must be based on a description of the development that is sufficiently detailed to ensure that the effects can be clearly identified. Where only outline information about the scheme is available, parameters within which the development may evolve must be established.
- Where the landscape professional considers that key data on project characteristics is lacking, it will be necessary to add a caveat to the assessment to make this clear, or to state the assumptions made or the parameters adopted.
- EIA can be an important design tool and is usually an iterative process, the stages of which feed into the planning and design of the project.
- Landscape professionals should be involved as early as possible in this iterative process to ensure that the likely landscape and visual effects play an important part in the evolution of a development proposal.
- An outline description of the main alternatives considered should be provided together with an indication of the main reasons for the final development choice, including why some alternative options have been rejected on the basis of landscape and visual considerations.
- The project description/specification should provide a clear and concise but also comprehensive description of the development proposal. It is usually a separate section of the Environmental Statement and only particularly relevant features and aspects of the project need to be reported on separately in the part of the Statement dealing with the assessment of landscape and visual effects.
- Construction, operation, decommissioning and restoration/reinstatement phases of a development can have quite different physical characteristics, so a separate, self-contained description of the development at each stage in the life cycle may be needed to assist in the prediction of landscape and visual effects.
- In accordance with the EIA Regulations, measures proposed to prevent/avoid, reduce and, where possible, offset or remedy (or compensate for) any significant adverse landscape and visual effects should be described.
- In practice mitigation measures are now generally considered to fall into the categories of: primary measures, developed through the iterative design process and integrated or embedded into the project design; standard construction and operational management practices; and secondary measures specifically intended to address significant residual adverse effects but not built into the final development proposals.
- Prevention/avoidance, reduction, and offset, remedy or compensation together form what has been termed the 'mitigation hierarchy'. Good practice should aim to achieve mitigation at the highest possible level in the hierarchy, so the ideal strategy is one

of prevention or avoidance. If this is not possible, alternative strategies, first of reduction and then of offset, remedy or compensation, may need to be explored.

- Mitigation measures, from the LVIA or other topic assessments in the EIA, can themselves have adverse effects on the landscape or on visual amenity, or on other matters such as cultural heritage or ecology. Their planning and design needs careful consideration, taking into account their potential effects.
- Where the strategy is to offset, remedy or compensate for such unavoidable effects the aim should be, as far as possible, to replace like with like or, where this is not possible, to provide features of equivalent value.
- While mitigation is linked to significant adverse landscape and visual effects, enhancement is not a requirement of the EIA Regulations. Enhancement means proposals that seek to improve the landscape resource and the visual amenity of the proposed development site and its wider setting in comparison with the existing baseline conditions. Ideally enhancement should be an integral part of the design of the development proposal and not an 'afterthought'.
- It is essential to demonstrate that any measures included as part of the mitigation of adverse landscape and visual effects, and any proposed enhancement measures, can actually be delivered in practice. The best way to achieve this is through the inclusion of a draft Environmental Management Plan in the Environmental Statement.

Chapter 5

Assessment of landscape effects

Chapter overview

- Scope
- Establishing the landscape baseline
- Predicting and describing landscape effects
- Assessing the significance of landscape effects
- Judging the overall significance of landscape effects

Scope

5.1 **An assessment of landscape effects deals with the effects of change and development on landscape as a resource.** The concern here is with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. Scoping should try to identify the full range of possible effects. But discussion with the consenting authority and stakeholders during the scoping process may conclude that some effects are unlikely to be significant and therefore do not need to be considered further. All other possible effects must be considered in detail in the assessment process.

5.2 Scoping should also identify the **area of landscape** that needs to be covered in assessing landscape effects. This should be agreed with the competent authority, but it should also be recognised that it may change as the work progresses, for example as a result of fieldwork, or changes to the proposal. The study area should include the site itself and the full extent of the wider landscape around it which the proposed development may influence in a significant manner. This will usually be based on the extent of Landscape Character Areas likely to be significantly affected either directly or indirectly. However, it may also be based on the extent of the area from which the development is potentially visible, defined as the Zone of Theoretical Visibility, or a combination of the two.

See Chapter 6 for discussion of Zones of Theoretical Visibility.

Establishing the landscape baseline

5.3 Baseline studies for assessing landscape effects require a mix of desk study and fieldwork to identify and record the character of the landscape and the elements, features and aesthetic and perceptual factors which contribute to it. They should also deal with the value attached to the landscape (see Paragraph 5.19). The methods used should be appropriate to the context into which the development proposal will be introduced and in line with current guidance and terminology.

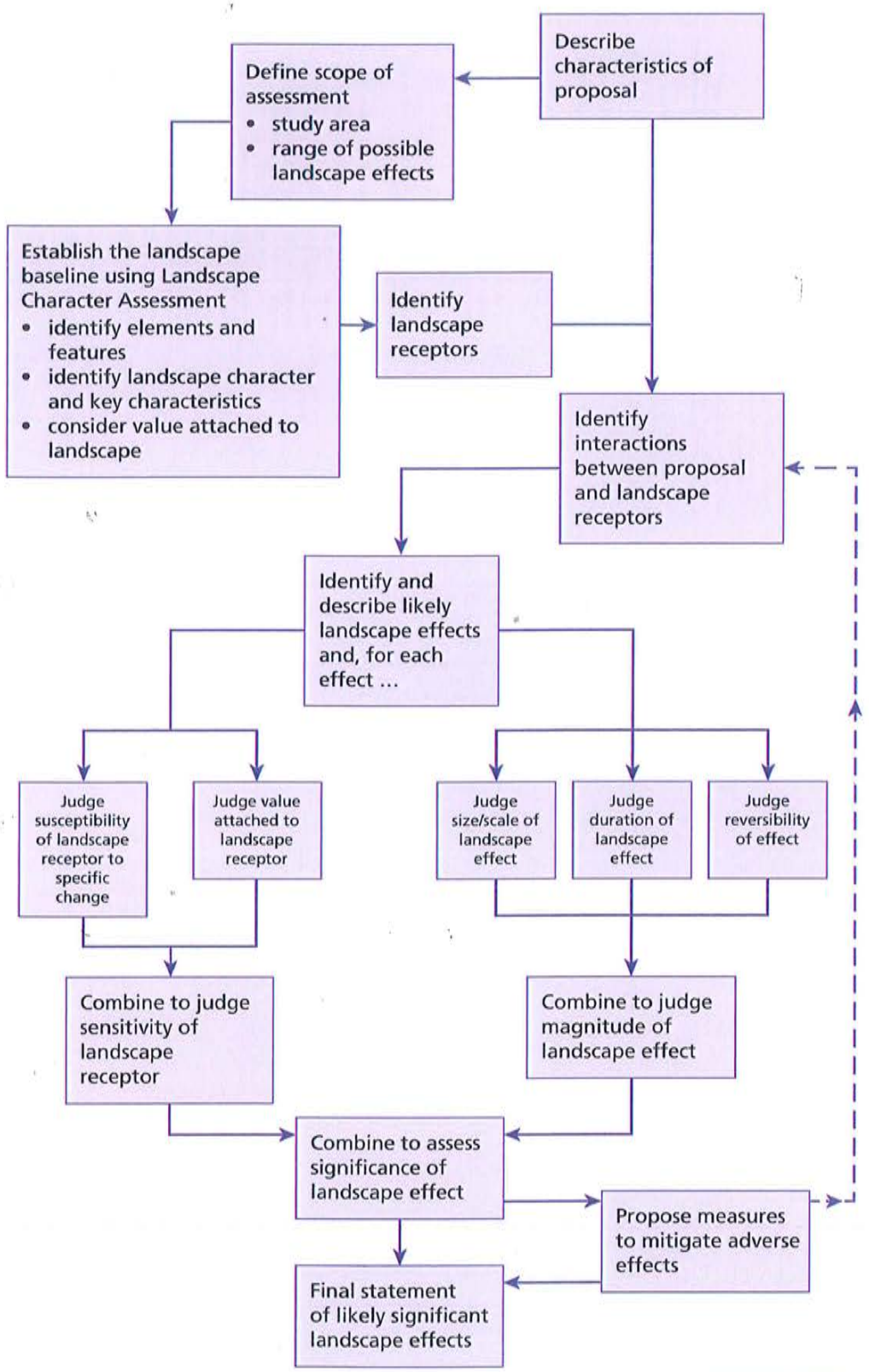


Figure 5.1 Steps in assessing landscape effects

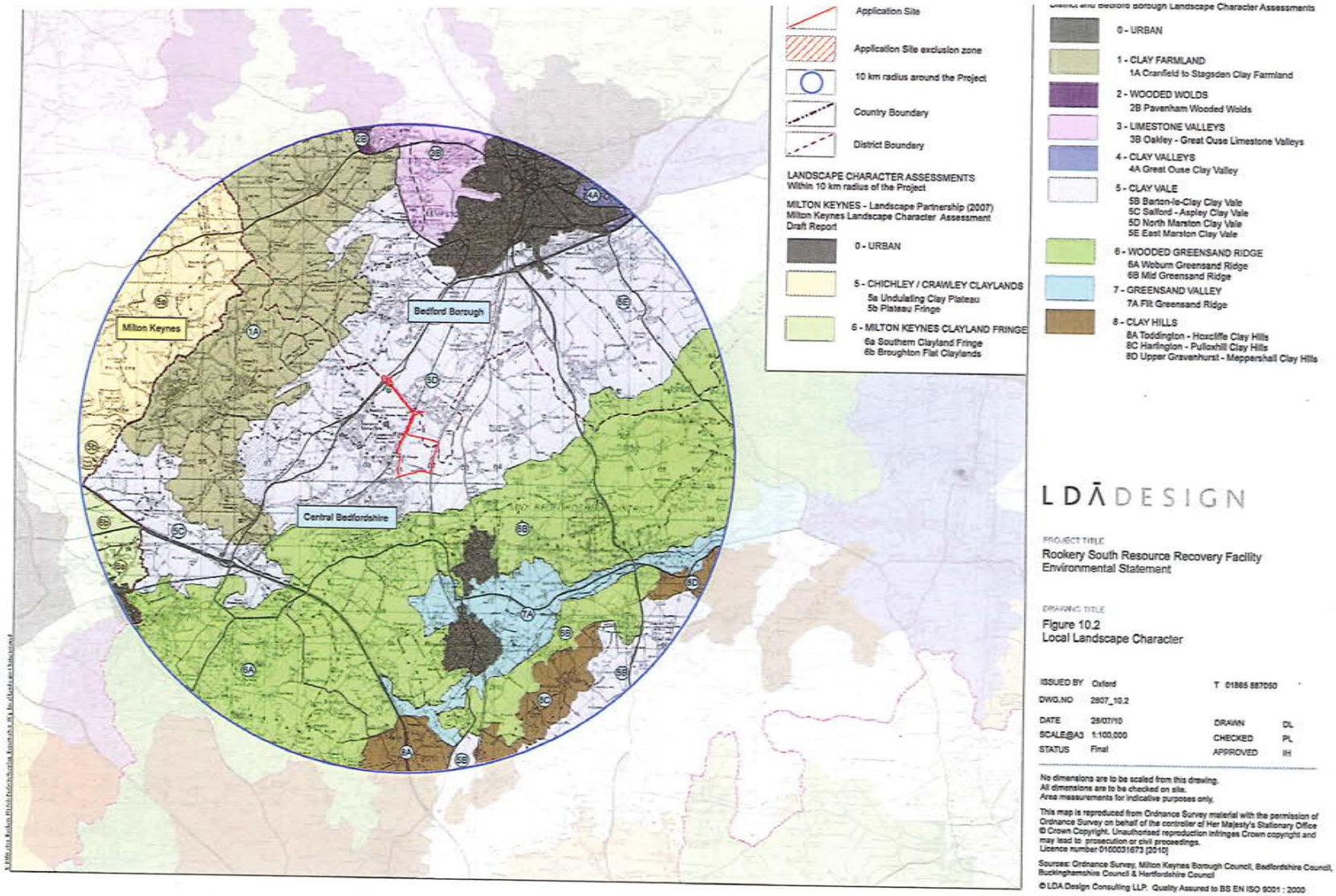


Figure 5.2A Use of landscape character information as a baseline for assessing the landscape effects of a Resource Recovery Facility

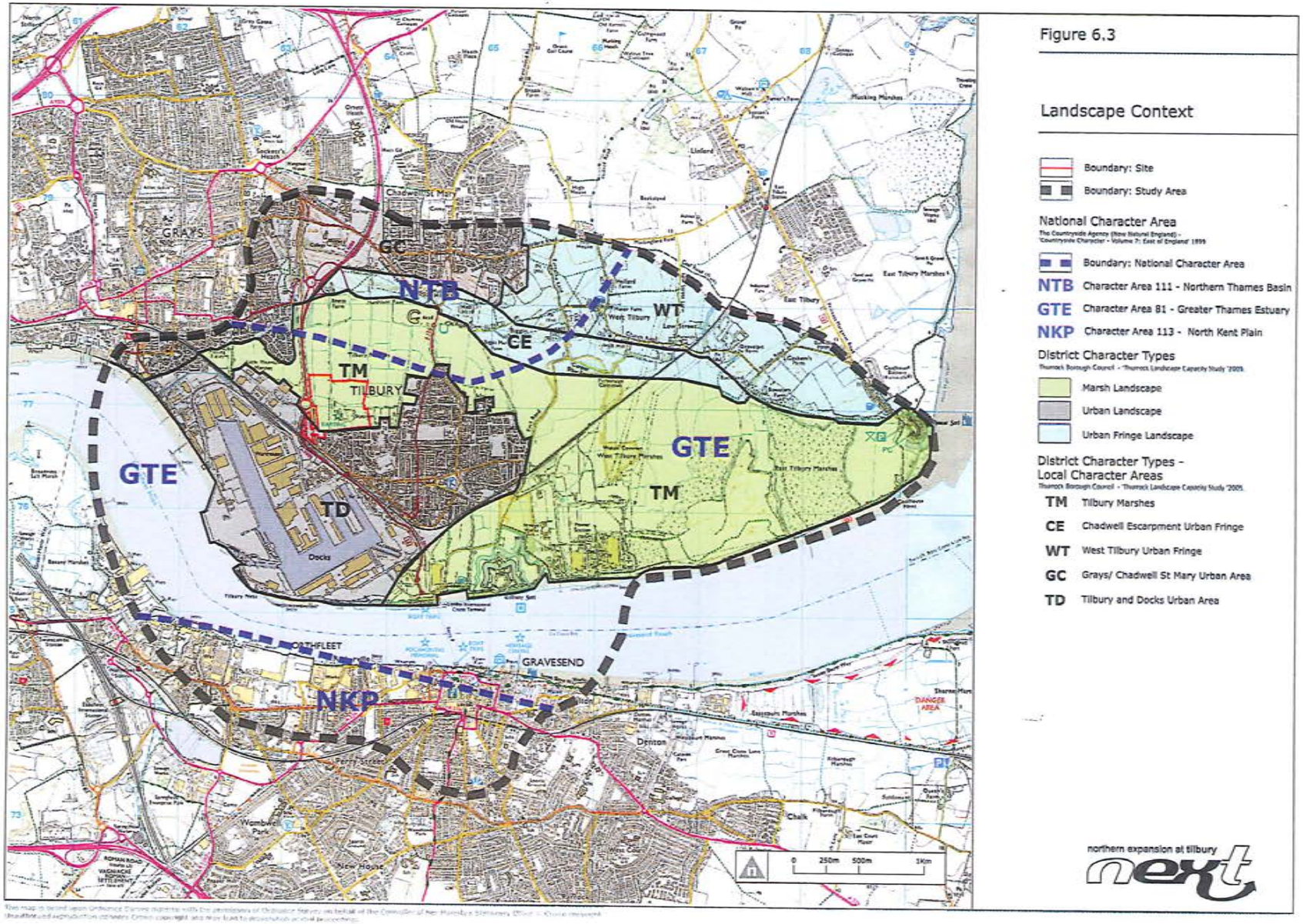


Figure 5.2B Baseline information on landscape character at both national and local scales in an LVIA study area

Landscape Character Assessment

5.4 In rural landscapes, as defined in Chapter 2, Landscape Character Assessment (LCA) is the key tool for understanding the landscape and should be used for baseline studies. There is a well-established and widely used method for LCA, which is set out in current guidance documents.[1] This should be used to identify and describe:

- the elements that make up the landscape in the study area, including:
  - physical influences – geology, soils, landform, drainage and water bodies;
  - land cover, including different types of vegetation and patterns and types of tree cover;
  - the influence of human activity, including land use and management, the character of settlements and buildings, and pattern and type of fields and enclosure;
- the aesthetic and perceptual aspects of the landscape – such as, for example, its scale, complexity, openness, tranquillity or wildness;
- the overall character of the landscape in the study area, including any distinctive Landscape Character Types or areas that can be identified, and the particular combinations of elements and aesthetic and perceptual aspects that make each distinctive, usually by identification as key characteristics of the landscape.

Townscape character assessment

5.5 LVIA in urban contexts requires a good understanding of townscape (as defined in Chapter 2, Paragraph 2.7) and there are now accepted techniques of townscape character assessment which can help to achieve this. Landscape professionals involved in LVIA should participate in such assessments, although joint working with architects, planners or urban designers will be required in some cases. The nature of townscape requires particular understanding of a range of different factors that together distinguish different parts of towns and cities, including:

- the context or setting of the urban area and its relationship to the wider landscape;
- the topography and its relationship to urban form;
- the grain of the built form and its relationship to historic patterns, for example of burgage plots;
- the layout and scale of the buildings, density of development and building types, including architectural qualities, period and materials;
- the patterns of land use, both past and present;
- the contribution to the landscape of water bodies, water courses and other water features;
- the nature and location of vegetation, including the different types of green space and tree cover and their relationships to buildings and streets;
- the types of open space and the character and qualities of the public realm;
- access and connectivity, including streets and footways/pavements.

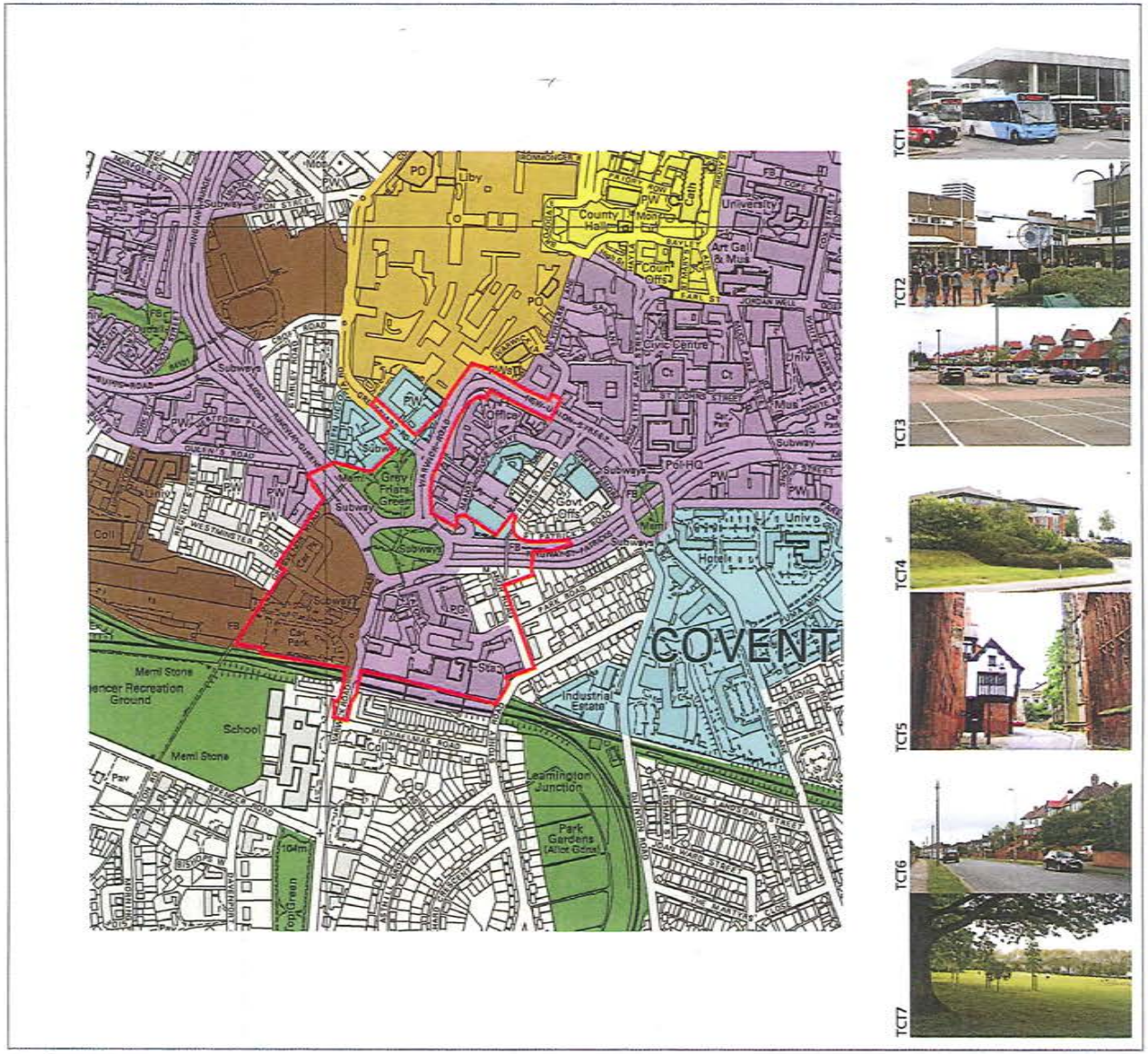


Figure 5.3 Townscape character assessment as part of the baseline for LVIA of an urban development

Seascape character assessment

5.6 Where LVIA is carried out in coastal or marine locations baseline studies must take account of seascape, as defined in Chapter 2 (Paragraphs 2.8 and 2.9). Methods to assess the character of seascapes, similar to the assessment methods for terrestrial landscapes, are being developed and practitioners should refer to the latest available guidance. It is important to take account of the particular characteristics and qualities of the marine and coastal environment, including those associated with the natural environment, cultural and social characteristics, and perceptual and aesthetic qualities. These will include:

- coastal features;
- views to and from the sea;
- particular qualities of the open sea;
- the importance of dynamic changes due to weather and tides;
- change in seascapes due to coastal processes;
- cultural associations;
- contributions of coastal features to orientation and navigation at sea.

Links to cultural heritage and historic landscape character

5.7 The relationship between landscape and historic landscape matters is close. The first is concerned with the landscape as it is today. The second is concerned with how the landscape came to be as it is, dealing with historic dimensions such as 'time depth' and historical layering – the idea of landscape as a 'palimpsest', a much written-over manuscript.

5.8 Historic landscape characterisation is complementary to Landscape Character Assessment. It looks at the material remains of the past and perceptions and interpretations of them, in order to help us understand the present-day landscape. In towns and cities this characterisation and other historic environment studies can help to provide good understanding of the historic time depth of townscapes and flesh out descriptions of townscape character with fuller explanation of the layers of history that underpin it. Since the second edition of this guidance there have been significant advances in the assessment of historic landscape character, and in seascape and townscape characterisation, along with publication of related guidance and maps.

5.9 The history of the landscape, its historic character, the interaction between people and places through time, and the surviving features and their settings may be relevant to the LVIA baseline studies, as well as the cultural heritage topic. The evaluation needs to consider both the historic landscape characterisation and the Landscape Character Assessment. The LVIA also needs to address the fact that many historic features – archaeological remains, buildings and designed landscapes – are important in their own right as well as features of the landscape.

5.10 Landscape professionals should make good use of existing historic landscape information, and collaborate with historic environment specialists, who will be collating or recording such information for the cultural heritage part of the EIA. This collaboration will allow the landscape baseline information to reflect a full understanding of the historic characteristics and features of today's landscape.

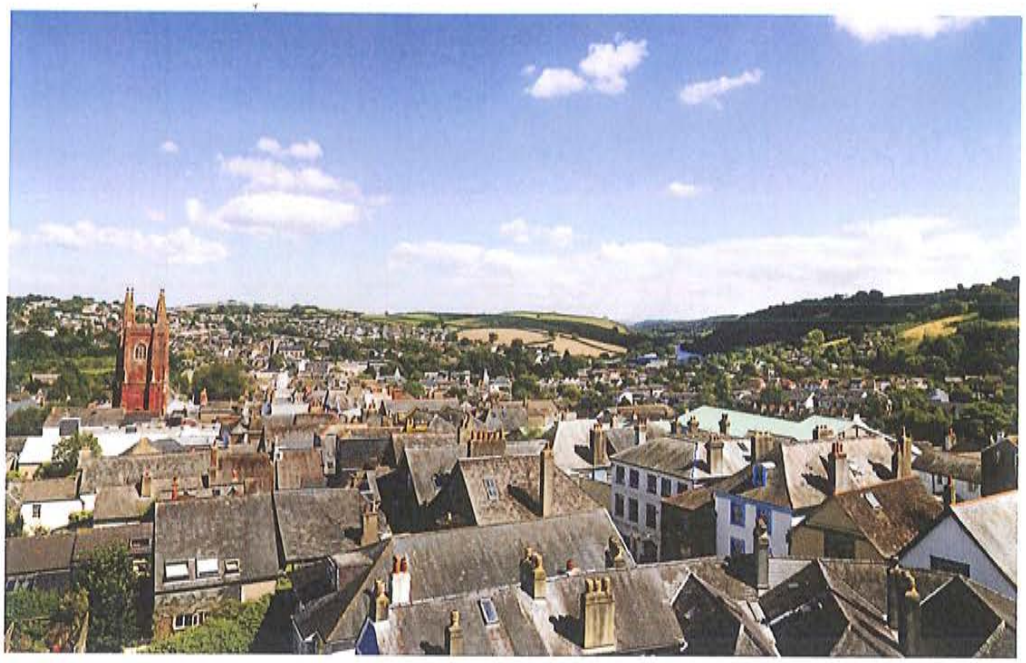


Figure 5.4 Historic buildings often contribute to the character and quality of townscapes

The sharing of relevant baseline information should not be confused with the need for separate cultural heritage appraisals such as historic landscape characterisation and assessment or historic townscape appraisal, or there will be a danger of both double handling and inappropriate judgements by non-experts. It is particularly important that responsibilities are clear in considering any effects on the settings and views for historic buildings, Conservation Areas and other heritage assets. 5.11

Using existing character assessments

Many parts of the UK are already covered by existing character assessments at different scales. There is a hierarchy of assessment, from broad-scale national or regional assessments, through to more detailed local authority assessments, to in some cases quite fine-grain local or community assessments. Although usually prepared for different original purposes, existing assessments can also contribute to LVIA. The first step in preparing the landscape baseline should be to review any relevant assessments that may be available at different levels in this hierarchy. Those published and adopted by competent authorities are usually the most robust and considered documents. Use should also be made of any existing historic characterisation studies to provide information on the time depth dimension of the landscape. 5.12

Existing assessments must be reviewed critically as their quality may vary, some may be dated and some may not be suited to the task in hand. Before deciding to rely on information from an existing assessment a judgement should be made as to the degree to which it will be useful in informing the LVIA process. 5.13

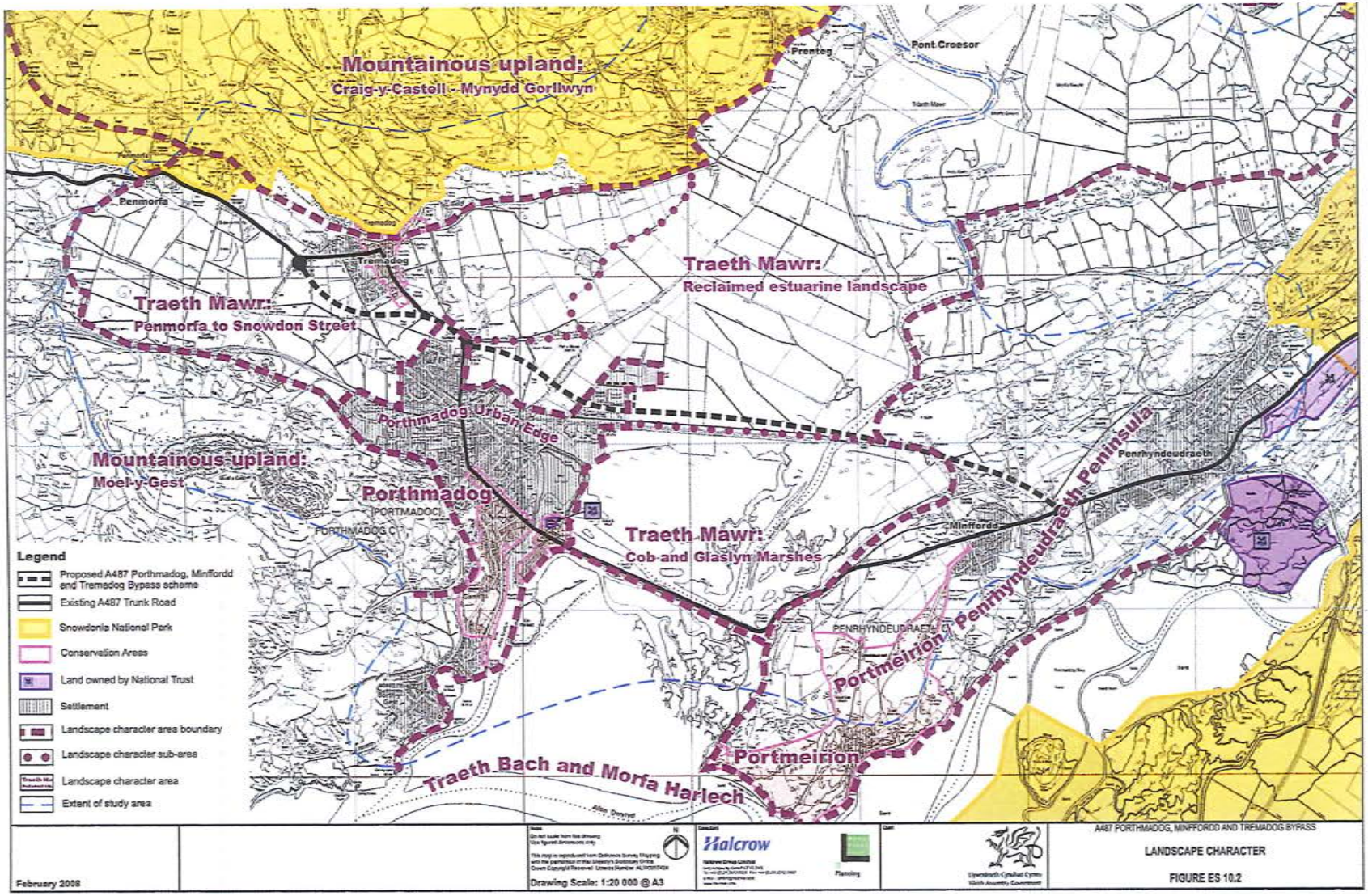


Figure 5.5 Where Landscape Character Assessments are not available, as in some parts of Wales, project-specific character areas can be derived, for example in Wales from an analysis of LANDMAP and other information, and structured site surveys

It should be reviewed in terms of:

- when it was carried out and the extent to which the landscape may have changed since then;
- its status, and whether or not it has been formally adopted, for example, as supplementary planning guidance;
- the scale and level of detail of the assessment and therefore its suitability for use in the LVIA, while noting that larger-scale assessments can often provide valuable context;
- any other matters which might limit the reliability or usefulness of the information.

Justification should be provided for any departure from the findings of an existing, established LCA.

5.14 It is essential to decide at the outset what scale of character assessment information is needed to provide a basis for the LVIA and then to judge the value of existing assessments against this. Broad-scale assessments at national or regional level can be helpful in setting the landscape context, but are unlikely to be helpful on their own as the basis for LVIA – they may be too generalised to be appropriate for the particular purpose. Local authority assessments will provide more useful information about the landscape types that occur in the study area. Ideally both should be used together in the following ways:

- Broad-scale assessments set the scene and reference can be made to the descriptions of relevant character types or areas to indicate the key characteristics that may be apparent in the study area.
- Local authority assessments provide more detail on the types of landscape that occur in the study area. They can be mapped to show how the proposals relate to them and the descriptions and definition of key characteristics can be used to inform the description of the landscapes that may be affected by the proposal.

5.15 Existing assessments may need to be reviewed and interpreted to adapt them for use in LVIA – for example by drawing out more clearly the key characteristics that are most relevant to the proposal. Fieldwork will also be required to check the applicability of the assessment throughout the study area and to refine it where necessary, for example by identifying variations in character at a more detailed scale. Completely new supplementary Landscape Character Assessment work covering the whole study area will only be required when there are no existing assessments or when they are available but either have serious limitations that restrict their value or do not provide information at an appropriate level of detail.

5.16 Even where there are useful and relevant existing Landscape Character Assessments and historic landscape characterisations, it is still likely that it will be necessary to carry out specific and more detailed surveys of the site itself and perhaps its immediate setting or surroundings. This provides the opportunity to record the specific characteristics of this more limited area, but also to analyse to what extent the site and its immediate surroundings conform to or are different from the wider Landscape Character Assessments that exist, and to pick up other characteristics that may be important in considering the effects of the proposal.

5.17 Where new landscape surveys are required, either of the whole study area or of the site and its immediate surroundings, they should follow recommended methods and up-to-date guidance. Survey information may be recorded in a variety of ways but good records are essential. This is especially so in LVIA as the landscape baseline may eventually be used in a public inquiry where other parties could request access to field records.

5.18 Evidence about change in the landscape, including in its condition, is an important part of the baseline. The condition of the different landscape types and/or areas and their constituent parts should be recorded, and any evidence of current pressures causing change in the landscape documented, drawing on previous reports and data sources as well as field records.

Establishing the value of the landscape

5.19 As part of the baseline description the value of the potentially affected landscape should be established. This means 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. Considering value at the baseline stage will inform later judgements about the significance of effects. Value can apply to areas of landscape as a whole, or to the individual elements, features and aesthetic or perceptual dimensions which contribute to the character of the landscape. LANDMAP in Wales, for example, evaluates each area for each of its five aspects or layers. Landscapes or their component parts may be valued at the community, local, national or international levels. A review of existing landscape designations is usually the starting point in understanding landscape value, but the value attached to undesignated landscapes also needs to be carefully considered and individual elements of the landscape – such as trees, buildings or hedgerows – may also have value. All need to be considered where relevant.

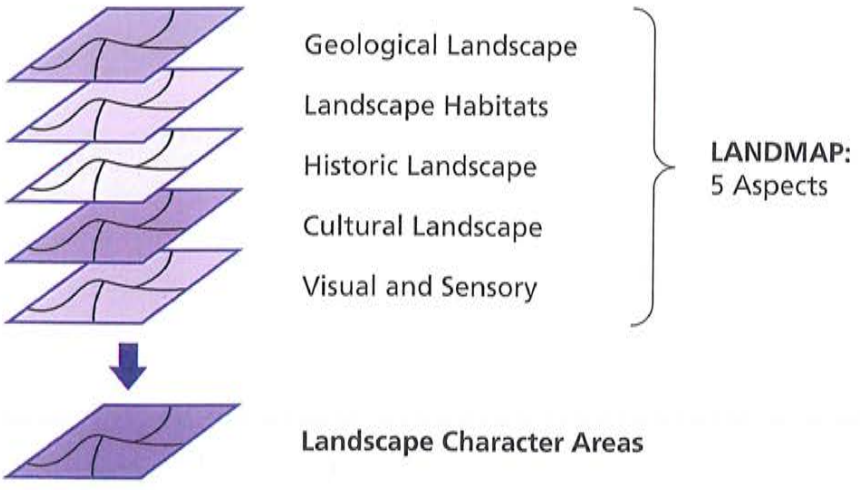


Figure 5.6 In Wales, landscape information is found in LANDMAP, providing data on five aspects of the landscape which can be combined (with other information) to define Landscape Character Areas

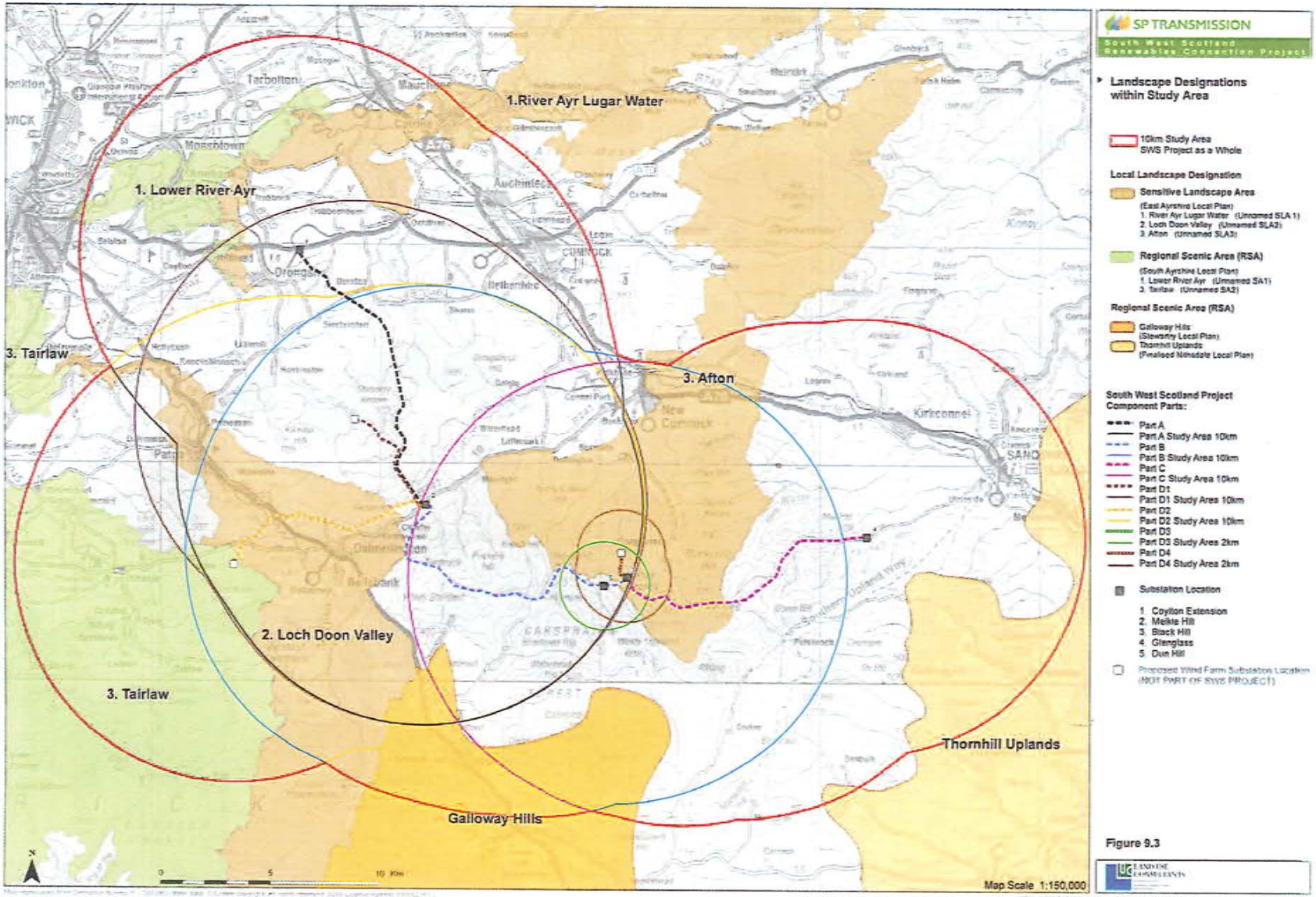


Figure 5.7 A review of existing landscape designations is usually the starting point in understanding landscape value

5.20 Information that will contribute to understanding value might include:

- information about areas recognised by statute such as (depending on jurisdiction) National Parks, National Scenic Areas, Areas of Outstanding Natural Beauty;
- information about Heritage Coasts, where relevant;
- local planning documents which may show the extent of and policies for local landscape designations;
- information on the status of individual or groups of features such as, for example, Conservation Areas, listed buildings, Tree Preservation Orders, important hedgerows, cultural heritage elements such as historic landscapes of various forms, archaeological sites of importance and other special historical or cultural heritage sites such as battlefields or historic gardens;
- art and literature, including tourism literature and promotional material such as postcards, which may indicate the value attached to the identity of particular areas (for example 'Constable Country' or specially promoted views);
- material on landscapes of local or community interest, such as local green spaces, village greens or allotments.

International and national designations

5.21 Internationally acclaimed landscapes may be recognised, for example as World Heritage Sites, and particular planning policies may apply to them. Nationally valued landscapes are recognised by designation, which have a formal statutory basis that varies in different parts of the UK. They include:

- **National Parks** in England, Wales and Scotland;
- **Areas of Outstanding Natural Beauty** in England, Wales and Northern Ireland[2];
- **National Scenic Areas** in Scotland.

Figure 5.8 A listed building within a historic designed landscape

Across the UK there is also a variety of designations aimed at aspects of the historic environment (such as Conservation Areas and listed buildings) and non-statutory recognition of particular types of environment (such as Heritage Coasts). An LVIA should consider the implications of the full range of statutory and non-statutory designations and recognitions and consider what they may imply about landscape value. 5.22

The criteria and terms used in making statutory designations vary and may not always be explicitly stated. If a project subject to LVIA is in or near to one of them, it is important that the baseline study should seek to understand the basis for the designation and why the landscape is considered to be of value. Great care should be taken to understand what landscape designations mean in today's context. This means determining to what degree the criteria and factors used to support the case for designation are represented in the specific study area. 5.23

Desk study of relevant documents will often, although not always, provide information concerning the basis for designation. But sometimes, at the more local scale of an LVIA study area, it is possible that the landscape value of that specific area may be different from that suggested by the formal designation. Fieldwork should help to establish how the criteria for designation are expressed, or not, in the particular area in question. At the same time it should be recognised that every part of a designated area contributes to the whole in some way and care must be taken if considering areas in isolation. 5.24

Local landscape designations

In many parts of the UK local authorities identify locally valued landscapes and recognise them through local designations of various types (such as Special Landscape Areas or Areas of Great Landscape Value). They are then incorporated into planning documents along with accompanying planning policies that apply in those areas. As with national designations, the criteria that are used to identify them vary, and similar considerations apply. It is necessary to understand the reasons for the designation and to examine how the criteria relate to the particular area in question. Unfortunately many of these locally designated landscapes do not have good records of how they were selected, what criteria were used and how boundaries were drawn. This can make it difficult to get a clear picture of the relationship between the study area and the wider context of the designation. 5.25

Undesignated landscapes

The fact that an area of landscape is not designated either nationally or locally does not mean that it does not have any value. This is particularly so in areas of the UK where in recent years relevant national planning policy and advice has on the whole discouraged local designations unless it can be shown that other approaches would be inadequate. The European Landscape Convention promotes the need to take account of all landscapes, with less emphasis on the special and more recognition that ordinary landscapes also have their value, supported by the landscape character approach. 5.26

Where local designations are not in use a fresh approach may be needed. As a starting point reference to existing Landscape Character Assessments and associated planning policies and/or landscape strategies and guidelines may give an indication of which landscape types or areas, or individual elements or aesthetic or perceptual aspects of the landscape are particularly valued. A stated strategy of landscape conservation is usually a good indicator of this. 5.27

5.28 In cases where there is no existing evidence to indicate landscape value, and where scoping discussions suggest that it is appropriate, value should be determined as part of the baseline study through new survey and analysis. This requires definition of the criteria and factors that are considered to confer value on a landscape or on its components. There are a number of possible options:

- Draw on a list of those factors that are generally agreed to influence value (see Box 5.1). They need to be interpreted to reflect the particular legislative and policy context prevailing in particular places. The list is not comprehensive and other factors may be considered important in specific areas.
- Draw up a list of criteria and factors specific to the individual project and landscape context.
- Apply a form of the ecosystem services approach, although this is a cross-cutting and integrating approach and is likely to encroach on other themes or topics in the EIA. Although there is interest in this approach, experience of using it in EIA is limited, although it is under active consideration (IEMA, 2012a).

Box 5.1

Range of factors that can help in the identification of valued landscapes

- **Landscape quality (condition)**: A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
- **Scenic quality**: The term used to describe landscapes that appeal primarily to the senses (primarily but not wholly the visual senses).
- **Rarity:** The presence of rare elements or features in the landscape or the presence of a rare Landscape Character Type.
- **Representativeness**: Whether the landscape contains a particular character and/or features or elements which are considered particularly important examples.
- **Conservation interests**: The presence of features of wildlife, earth science or archaeological or historical and cultural interest can add to the value of the landscape as well as having value in their own right.
- **Recreation value**: Evidence that the landscape is valued for recreational activity where experience of the landscape is important.
- **Perceptual aspects**: A landscape may be valued for its perceptual qualities, notably wildness and/or tranquillity.
- **Associations**: Some landscapes are associated with particular people, such as artists or writers, or events in history that contribute to perceptions of the natural beauty of the area.

Based on Swanwick and Land Use Consultants (2002)

In practice one option, or a combination of the first two options, is likely to be most effective. There are several key points to consider in deciding how to approach this: 5.29

- There cannot be a standard approach as circumstances will vary from place to place.
- Areas of landscape whose character is judged to be intact and in good condition, and where scenic quality, wildness or tranquillity, and natural or cultural heritage features make a particular contribution to the landscape, or where there are important associations, are likely to be highly valued.
- Many areas that will be subject to LVIA will be ordinary, everyday landscapes. In such areas some of the possible criteria may not apply and so there is likely to be greater emphasis on judging, for each landscape type or area, representation of typical character, the intactness of the landscape and the condition of the elements of the landscape. Scenic quality may also be relevant, and will need to reflect factors such as sense of place and aesthetic and perceptual qualities. Judgements may be needed about which particular components of the landscape contribute most to its value.

Individual components of the landscape, including particular landscape features, and notable aesthetic or perceptual qualities can be judged on their importance in their own right, including whether or not they can realistically be replaced. They can also be judged on their contribution to the overall character and value of the wider landscape. For example, an ancient hedgerow may have high value in its own right but also be important because it is part of a hedgerow pattern that contributes significantly to landscape character. 5.30

Assessment of the value attached to the landscape should be carried out within a clearly recorded and transparent framework so that decision making is clear. Fieldwork can either be combined with the Landscape Character Assessment work, as described above, or be carried out at a later stage. Field observations supporting the assessment should be clearly recorded using appropriate record sheets, and records should as far as possible be retained in an accessible form for future reference. If there is reliance on previous assessments, for example carried out by a local authority as part of a wider Landscape Character Assessment or landscape management strategy, this must be made clear and such information should be treated in a critically reflective way. 5.31

A role for consultation

In making the assessment of landscape value it is important where possible to draw on information and opinions from consultees. Consultation bodies will usually give an expert view as well as providing relevant existing information. Consultations with local people or groups who use the landscape in different ways may, where practicable, also suggest the range of values that people attach to the landscape. Scoping discussions with the competent authority should help to determine the reasonable extent of such consultation. 5.32

Reporting on the baseline situation

5.33 When review of existing assessments and any new surveys are complete, and evidence about landscape value has been assembled, a landscape baseline report should be prepared. It should be a clear, well-structured, accessible report supported by illustrations where necessary and should:

- map, describe and illustrate the **character of the landscape** at an appropriate level of detail, covering both the wider study area and the site and its immediate surroundings, dividing it into Landscape Character Types and Areas as appropriate;
- identify and describe the **individual elements and aesthetic and perceptual aspects of the landscape**, particularly emphasising those that are key characteristics contributing to the distinctive character of the landscape;
- indicate the **condition of the landscape**, including the condition of elements or features such as buildings, hedgerows or woodland.

The aim should be to describe the landscape as it is at the time but also to consider what it may be like in the future in the absence of the proposal. This means projecting forward any trends in change and considering how they may affect the landscape over time, accepting that this involves a degree of speculation and uncertainty.

Predicting and describing landscape effects

5.34 Once the baseline information about the landscape is available this can be combined with understanding of the details of the proposed change or development that is to be introduced into the landscape to identify and describe the landscape effects.

- The first step is to identify the components of the landscape that are likely to be affected by the scheme, often referred to as the **landscape receptors**, such as overall character and key characteristics, individual elements or features, and specific aesthetic or perceptual aspects.
- The second step is to identify interactions between these landscape receptors and the different components of the development at all its different stages, including construction, operation and, where relevant, decommissioning and restoration/reinstatement.

5.35 The effects identified at the scoping stage should all be reviewed and amended, if necessary, in the light of any additional information available. New ones may also be identified as a result of the additional information obtained through consultation, baseline study and iterative development of the scheme design. The effects on landscape should embrace all the different types identified by the Regulations, namely the direct effects and any indirect, secondary, cumulative, short-, medium- and long-term, permanent and temporary, positive and negative effects of the development (as described in Paragraph 3.22). They are likely to include:

- change in and/or partial or complete loss of elements, features or aesthetic or perceptual aspects that contribute to the character and distinctiveness of the landscape;
- addition of new elements or features that will influence the character and distinctiveness of the landscape;
- combined effects of these changes on overall character.

Figure 5.9 Plan illustrating the effects of a proposed flood wall, showing partial and complete loss of trees and the location of the proposed development alongside visual receptors and designations

5.36 All effects that are considered likely to take place should be described as fully as possible:

- Effects on individual components of the landscape, such as loss of trees or buildings for example, or addition of new elements, should be identified and mapped (and if appropriate and helpful quantified by measuring the change).
- Changes in landscape character or quality/condition in particular places need to be described as fully as possible and illustrated by maps and images that make clear, as accurately as possible, what is likely to happen.

Good, clear and concise description of the effects that are identified is key to helping a wide range of people understand what may happen if the proposed change or development takes place.

5.37 One of the more challenging issues is deciding whether the landscape effects should be categorised as positive or negative. It is also possible for effects to be neutral in their consequences for the landscape. An informed professional judgement should be made about this and the criteria used in reaching the judgement should be clearly stated. They might include, but should not be restricted to:

- the degree to which the proposal fits with existing character;
- the contribution to the landscape that the development may make in its own right, usually by virtue of good design, even if it is in contrast to existing character.

The importance of perceptions of landscape is emphasised by the European Landscape Convention, and others may of course hold different opinions on whether the effects are positive or negative, but this is not a reason to avoid making this judgement, which will ultimately be weighed against the opinions of others in the decision-making process.

Assessing the significance of landscape effects

5.38 The landscape effects that have been identified should be assessed to determine their significance, based on the principles described in Paragraphs 3.23–3.36. Judging the significance of landscape effects requires methodical consideration of each effect identified and, for each one, assessment of the sensitivity of the landscape receptors and the magnitude of the effect on the landscape.

Sensitivity of the landscape receptors

5.39 Landscape receptors need to be assessed firstly in terms of their **sensitivity**, combining judgements of their susceptibility to the type of change or development proposed and the value attached to the landscape. In LVIA sensitivity is similar to the concept of landscape sensitivity used in the wider arena of landscape planning, but it is not the same as it is specific to the particular project or development that is being proposed and to the location in question.

Susceptibility to change

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 policies and strategies.

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 the 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. 5.41

Some of these existing assessments may deal with what has been called 'intrinsic' or 'inherent' sensitivity, without reference to a specific type of development. These cannot reliably inform assessment of the susceptibility to change since they are carried out without reference to any particular type of development and so do not relate to the specific development proposed. Since landscape effects in LVIA are particular to both the specific landscape in question and the specific nature of the proposed development, the assessment of susceptibility must be tailored to the project. It should not be recorded as part of the landscape baseline but should be considered as part of the assessment of effects. 5.42

Judgements about the susceptibility of landscape receptors to change should be recorded on a verbal scale (for example high, medium or low), but the basis for this must be clear, and linked back to evidence from the baseline study. 5.43

Value of the landscape receptor

The baseline study will have established the value attached to the landscape receptors (see Paragraphs 5.19–5.31), covering: 5.44

- the value of the Landscape Character Types or Areas that may be affected, based on review of any designations at both national and local levels, and, where there are no designations, judgements based on criteria that can be used to establish landscape value;
- the value of individual contributors to landscape character, especially the key characteristics, which may include individual elements of the landscape, particular landscape features, notable aesthetic, perceptual or experiential qualities, and combinations of these contributors.

The value of the landscape receptors will to some degree reflect landscape designations and the level of importance which they signify, although there should not be over-reliance on designations as the sole indicator of value. Assessments should reflect: 5.45

- internationally valued landscapes recognised as World Heritage Sites;
- nationally valued landscapes (National Parks, Areas of Outstanding Natural Beauty, National Scenic Areas or other equivalent areas);
- locally valued landscapes, for example local authority landscape designations or, where these do not exist, landscapes assessed as being of equivalent value using clearly stated and recognised criteria;
- landscapes that are not nationally or locally designated, or judged to be of equivalent

value using clearly stated and recognised criteria, but are nevertheless valued at a community level.

5.46 There can be complex relationships between the value attached to landscape receptors and their susceptibility to change which are especially important when considering change within or close to designated landscapes. For example:

- An internationally, nationally or locally valued landscape does not automatically, or by definition, have high susceptibility to all types of change.
- It is possible for an internationally, nationally or locally important landscape to have relatively low susceptibility to change resulting from the particular type of development in question, by virtue of both the characteristics of the landscape and the nature of the proposal.
- The particular type of change or development proposed may not compromise the specific basis for the value attached to the landscape.

5.47 Landscapes that are nationally designated (National Parks and Areas of Outstanding Natural Beauty in England and Wales and their equivalents in Scotland and Northern Ireland) will be accorded the highest value in the assessment. If the area affected by the proposal is on the margin of or adjacent to such a designated area, thought may be given to the extent to which it demonstrates the characteristics and qualities that led to the designation of the area. Boundaries are very important in defining the extent of designated areas, but they often follow convenient physical features and as a result there may be land outside the boundary that meets the designation criteria and land inside that does not. Similar principles apply to locally designated landscapes but here the difficulty may be that the characteristics or qualities that provided the basis for their designation are not always clearly set down.

Magnitude of landscape effects

5.48 Each effect on landscape receptors needs to be assessed in terms of its **size or scale**, the **geographical extent** of the area influenced, and its **duration and reversibility**.

Size or scale

5.49 Judgements are needed about the size or scale of change in the landscape that is likely to be experienced as a result of each effect. This should be described, and also categorised on a verbal scale that distinguishes the amount of change but is not overly complex. For example, the effect of both loss and addition of new features may be judged as major, moderate, minor or none, or other equivalent words. The judgements should, for example, take account of:

- the extent of existing landscape elements that will be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape – in some cases this may be quantified;
- the degree to which aesthetic or perceptual aspects of the landscape are altered either by removal of existing components of the landscape or by addition of new ones – for example, removal of hedges may change a small-scale, intimate landscape into a large-scale, open one, or introduction of new buildings or tall structures may alter open skylines;

- whether the effect changes the key characteristics of the landscape, which are critical to its distinctive character.

Geographical extent

The geographical area over which the landscape effects will be felt must also be considered. This is distinct from the size or scale of the effect – there may for example be moderate loss of landscape elements over a large geographical area, or a major addition affecting a very localised area. The extent of the effects will vary widely depending on the nature of the proposal and there can be no hard and fast rules about what categories to use. In general effects may have an influence at the following scales, although this will vary according to the nature of the project and not all may be relevant on every occasion: 5.50

- at the **site level**, within the development site itself;
- at the level of the **immediate setting** of the site;
- at the scale of the **landscape type or character area** within which the proposal lies;
- on a **larger scale**, influencing several landscape types or character areas.

Duration and reversibility of the landscape effects

These are separate but linked considerations. Duration can usually be simply judged on a scale such as short term, medium term or long term, where, for example, short term might be zero to five years, medium term five to ten years and long term ten to twenty-five years. There is no fixed rule on these definitions and so in each case it must be made clear how the categories are defined and the reasons for this. 5.51

Reversibility is a judgement about the prospects and the practicality of the particular effect being reversed in, for example, a generation. This can be a very important issue – for example, while some forms of development, like housing, can be considered permanent, others, such as wind energy developments, are often argued to be reversible since they have a limited life and could eventually be removed and/or the land reinstated. Mineral workings, for example, may be partially reversible in that the landscape can be restored to something similar to, but not the same as, the original. If duration is included in an assessment of the effects, the assumptions behind the judgement must be made clear. Duration and reversibility can sometimes usefully be considered together, so that a temporary or partially reversible effect is linked to definition of how long that effect will last. 5.52

Judging the overall significance of landscape effects

To draw final conclusions about significance, the separate judgements about the sensitivity of the landscape receptors and the magnitude of the landscape effects need to be combined to allow a final judgement to be made about whether each effect is significant or not, as required by the Regulations, following the principles set out in Chapter 3. The rationale for the overall judgement must be clear, demonstrating how the assessments of sensitivity and magnitude have been linked in determining the overall significance of each effect. 5.53

Significance can only be defined in relation to each development and its specific location. It is for each assessment to determine how the judgements about the landscape receptors and landscape effects should be combined to arrive at significance and to 5.54

explain how the conclusions have been derived. There may also be a need to adopt a consistent approach across all the EIA topic areas and the EIA co-ordinator will need to be involved in the decisions on suitable approaches.

5.55 As indicated in Chapter 3 (see Paragraph 3.30) there are two main approaches to combining the individual judgements made under the different contributing criteria (although there may also be others):

1. They can be sequentially combined: susceptibility to change and value can be combined into an assessment of sensitivity for each receptor, and size/scale, geographical extent and duration and reversibility can be combined into an assessment of magnitude for each effect. Magnitude and sensitivity can then be combined to assess overall significance.
2. All the judgements against the individual criteria can be arranged in a table to provide an overall profile of each identified effect. An overview can then be taken of the distribution of the judgements for each criterion to make an informed professional assessment of the overall significance of each effect.

5.56 There are no hard and fast rules about what makes a significant effect, and there cannot be a standard approach since circumstances vary with the location and landscape context and with the type of proposal. At opposite ends of a spectrum it is reasonable to say that:

- major loss or irreversible negative effects, over an extensive area, on elements and/or aesthetic and perceptual aspects that are key to the character of nationally valued landscapes are likely to be of the greatest significance;
- reversible negative effects of short duration, over a restricted area, on elements and/or aesthetic and perceptual aspects that contribute to but are not key

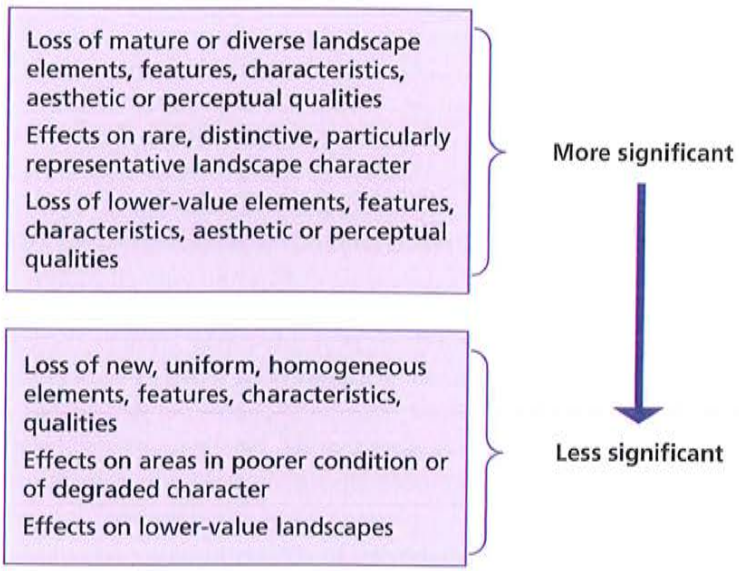


Figure 5.10 Scale of significance

characteristics of the character of landscapes of community value are likely to be of the least significance and may, depending on the circumstances, be judged as not significant;

- where assessments of significance place landscape effects between these extremes, judgements must be made about whether or not they are significant, with full explanations of why these conclusions have been reached.

Where landscape effects are judged to be significant and adverse, proposals for preventing/avoiding, reducing, or offsetting or compensating for them (referred to as mitigation) should be described. The significant landscape effects remaining after mitigation should be summarised as the final step in the process. 5.57

Further detail on mitigation is provided in Paragraphs 4.21–4.43.

Summary advice on good practice

- An assessment of landscape effects should consider how the proposal will affect the elements that make up the landscape, its aesthetic and perceptual aspects, its distinctive character and the key characteristics that contribute to this.
- Scoping should try to identify the range of possible landscape effects to be considered, but a decision can be made, in discussion with the competent authority, whether any are not likely to be significant and therefore do not need to be considered further.
- Scoping should also identify the area of landscape that needs to be covered in assessing landscape effects. The study area should include the site itself and the extent of the wider landscape around it which it is likely that the proposed development may influence. This will normally be based on the extent of Landscape Character Areas likely to be significantly affected either directly or indirectly, but the Zone of Theoretical Visibility developed as part of the assessment of visual effects (see Chapter 6) may also inform the decision.
- Baseline landscape studies should be appropriate to the context into which the development proposal will be introduced and in line with current guidance and terminology for Landscape Character Assessment, townscape character assessment and seascape character assessment, as relevant.
- Baseline studies for LVIA should ensure that, working with experts if necessary, cultural heritage features and relevant aspects of the historic landscape are recorded and judgements made about their contribution to the landscape, townscape or seascape. Assessment of the effects of development on historic aspects of the landscape must, however, be dealt with in the cultural heritage topic of an EIA and not as part of the landscape and visual topic.
- The first step in preparing the landscape baseline should be to review any relevant existing assessments that may be available. Existing assessments must be reviewed

critically as their quality may vary, some may be dated and some may not be suited to the task in hand.

- It is essential to decide at the outset what scale of character assessment information is needed to provide a basis for the LVIA and then to judge the value of existing assessments against this.
- Existing assessments may need to be reviewed and interpreted to adapt them for use in LVIA, and fieldwork should check the applicability of the assessment throughout the study area and refine it where necessary.
- Where new landscape surveys are required, either of the whole study area or of the site and its immediate surroundings, they should follow recommended methods and up-to-date guidance.
- Evidence about change in the landscape is an important part of the baseline. The condition of the landscape and any evidence of current pressures causing change in the landscape should be documented.
- The value of the landscape that may be affected should be established as part of the baseline description. This will inform judgements about the significance of the effects.
- A review of existing landscape designations is usually the starting point in understanding landscape value, but the value attached to undesignated landscapes also needs to be carefully considered and individual elements of the landscape – such as trees, buildings or hedgerows – may also be valued.
- A landscape baseline report should set out the findings of the baseline work. It should be clear, well structured, accessible and supported by appropriate illustrations. The aim should be to describe the landscape as it is at the time but also to consider, if possible, what it may be like in the future, without the proposal.
- To identify and describe the landscape effects the components of the landscape that are likely to be affected by the scheme, often referred to as the 'landscape receptors', should be identified and interactions between them and the different components of the development considered, covering all the types of effect required by the Regulations.
- The effects identified at the scoping stage should all be reviewed in the light of the additional information obtained through consultation, baseline study and iterative development of the scheme design. They should be amended as appropriate and new ones may also be identified.
- An informed professional judgement should be made about whether the landscape effects should be categorised as positive or negative (or in some cases neutral), with the criteria used in reaching this judgement clearly stated.
- The landscape effects must be assessed to determine their significance, based on the principles described in Chapter 3. Judging the significance of landscape effects requires methodical consideration of each effect that has been identified, its magnitude and the sensitivity of the landscape receptor affected.
- To draw final conclusions about significance the separate judgements about sensitivity and magnitude need to be combined into different categories of significance, following the principles set out in Chapter 3.

- The rationale for the overall judgement must be clear, demonstrating how the judgements about the landscape receptor and the effect have been linked in determining overall significance.
- A clear step-by-step process of making judgements should allow the identification of significant effects to be as transparent as possible, provided that the effects are identified and described accurately, the basis of the judgements at each stage is explained and the effects are clearly reported, with good text to explain them and summary tables to support the text.
- Final judgements must be made about which landscape effects are significant, as required by the Regulations. There are no hard and fast rules about what makes a significant effect, and there cannot be a standard approach since circumstances vary with the location and landscape context and with the type of proposal.
- Where landscape effects are judged to be significant and adverse, proposals made for preventing/avoiding, reducing, or offsetting or compensating for them (referred to as mitigation) should be described. The significant landscape effects remaining after mitigation should then be summarised as the final step in the process.