Guidelines for Incorporating Landscape Features into Development

CLARE COUNTY COUNCIL

Comhairle Chontae an Chlair

An Chomhairle Oidhreachta
The Heritage Council

County Clare Heritage Forum
Fóram Oidhreachta Chontae an Chláir

Incorporating Landscape Features into Development, County Clare Guidelines

A guide for planner, architects and developers and those interested in creating a sense of place

January 2006

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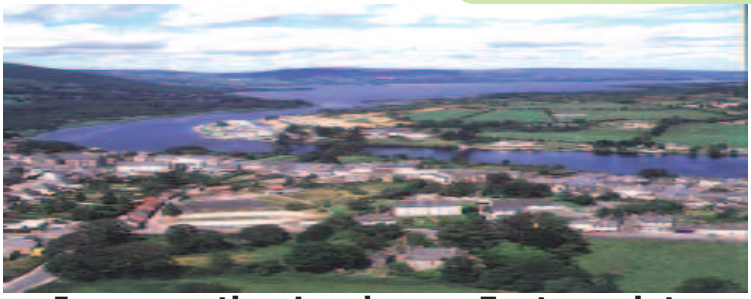


Incorporating Landscape Features into Development

Introduction

Safeguarding and enhancing landscape character and sustaining a sense of place is an important planning objective. The aim of these guidelines is to provide an approach to the development of land that takes into account the values and functions of the natural environment and its landscape. The underlying principles of the guidelines are aimed at achieving sustainable development through the prudent use of natural resources at no extra cost to developers.

Landscape Potential

The importance of the landscape potential of a site and the appropriate siting of buildings should be considered together at the outset of any proposed development. A holistic approach should be applied to the development which should aim to establish ways of conserving and enhancing the benefits of existing hedgerows, trees, woodlands, streams, wetland areas and other natural features.

Landscape proposals should try to retain existing landscape features and to integrate new development sympathetically with its surroundings thus providing a continuity of natural growth, new planting and hard landscape.

Landscape design should contribute towards conserving a wildlife network, including areas of semi-natural habitat, of corridors and links that allow for the movement and distribution of plants and animals as part of the environment.

At the same time design layouts should allow visibility at road junctions and for personal security along main pedestrian routes by using low planting.

Landscape Features

Landscape features are the raw material from which landscapes both functionally and visually are made. It is necessary to consider the physical, cultural and ecological features.

Physical Features

The underlying geology of a landscape is the major determinant of soil type, land use and cultural value. Hills, valleys, coasts and plains are all the product of the underlying geology.

Hard Landscape

In areas such as parts of Ennis and the Burren where the hard landscape is near to the surface the use of stone in buildings and walls has a significant impact upon the landscape appearance. The drainage of such areas is usually good and can in some areas be dramatic. Soils tend to be less fertile, less intensively farmed and therefore of higher value for wildlife. Farming is pastoral and settlements small and scattered. The biodiversity of the area can be found on larger sites especially grassland and other open ground.

Areas with Clay and Alluvial Deposits

In areas of soft geology, clay and other alluvial deposits prevent free drainage and the land is more fertile. Wood and brick is a more common building material and the fertility of the land unless waterlogged is likely to be more intensively farmed.

Settlements tend to be larger and more centralised and biodiversity of habitats and species tends to be restricted to hedgerows, woodland and wetland areas.



Cultural Features

The culture of an area is the product of peoples interaction with the landscape. The response to the grandeur or tranquility, the mysticism or utility, of the land form is reflected in local culture.

Landscape can inspire literature, poetry, music and art. It diversity and seasonality gives rise to annual festivals and farming practices. The character of an area is determined by its culture which in turn can be strongly influenced by its landscape e.g. coastal plains or can completely disregard its landscape e.g. urban areas.

Features referred to through an art form or that form part of a local festival or custom can be distinctive and outstanding or subtle and atmospheric.



Ecological Features

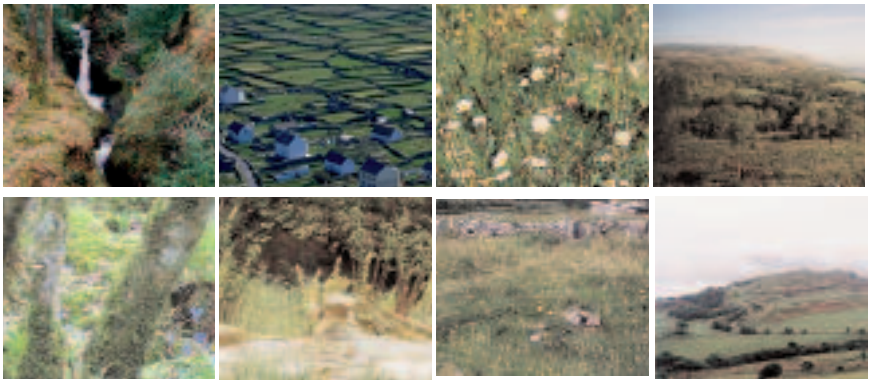
Features in the landscape comprise habitats that provide for a diversity of species. These features can be natural or man made and contain vulnerable species or sensitive habitats that can be threatened by inappropriate activity.

Article 10 of the Habitats Directive 1992 requires Member states to endeavour to encourage the management of features of the landscape which are of major importance for wild flora and fauna. These features are those which, because of their linear and continuous structure or their function as stepping stones are essential for migration, dispersal of species and genetic exchange within species. Examples given in the Directive are rivers with their banks, traditional field boundary systems, ponds and small woods.

Existing Values and Functions of the Landscape

Why Integrate Values and Functions

A judgement has to be made about the existing values of features identified in the survey or subsequently identified upon site visit and the importance of the function of that feature in the environment.



Values

Where applications will directly impact upon designated sites the advice of specific agencies such the National Parks and Wildlife Service and the Office of Public Works should be sought. The majority of applications will not affect such sites but the presence of the following key features need to be considered in evaluating the landscape values of the site:

1. Rivers streams, ponds, fens, reed beds, ditches and wetlands;
2. A strong network of walls, hedgerows and tree belts;
3. Areas of permanent pasture that might contain unimproved species rich grassland;
4. Substantial blocks of woodland and scrub or concentrations of smaller areas
5. Trees;
6. Transition areas between two habitat types e.g. woods and fields, wetland and rivers;
7. Old quarries, rock exposures and outcrops;
8. Drumlins, hillocks and steep slopes.

Where these features exist or sites contain large areas of unmanaged vegetation the advice of the County Heritage Officer should be sought.

Existing Values and Functions of the Landscape

Functions

Features in a landscape usually result from the underlying topography or the management of the land and can perform a function that has benefits for the wider environment. For example - a wetland can detain water to prevent flooding on other land; a hedgerow can provide a link between two woodland areas that would otherwise be isolated; a drumlin and a gully in a field can contribute to a particular locally distinctive character.

The particular functions of a landscape features that need to be considered are as follows :

1. The contribution to the locally distinctive character of an area through exposure of landform or pattern of vegetation.
2. The continuity of habitats provided by hedgerows and watercourses;
3. The detention, retention and management of surface and ground water;
4. The shelter or screening provided;
5. The setting for features of archaeological, architectural, cultural or social interest

Retention Of Hedgerows And Walls

Where hedgerows and walls are to be retained within a development it is important that they are only retained where this protects or conserves the values or functions for which they are being retained.

Where the value of such features is :

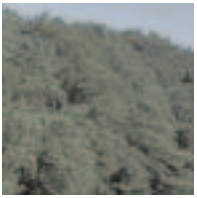
the field pattern they reflect ; or
the continuity of habitat as a wildlife corridor; or
the function is as a landmark or a habitat;

these values and functions, or a significant part of them, should continue beyond the development to justify their retention and incorporation.

Trees

There should be a presumption in favour of retaining all trees within a development. This is not always achievable and measures need to be taken to evaluate the loss of trees through a development and to ensure where retained they are sensitively integrated with the development.

Where sites contain trees a tree survey should be required that identifies all trees on a site and reports on their condition. The report should indicate whether such trees are proposed for retention and as to what works are necessary to the trees to allow them to continue to grow without conflicting with the proposed use of the land.



For example trees retained too close to buildings may over shadow windows, block drains and gutters with leaf litter, have their future root growth impeded to the extent where the tree dies or due to their condition pose a risk to public safety.

Visibility Splays and Field Boundaries

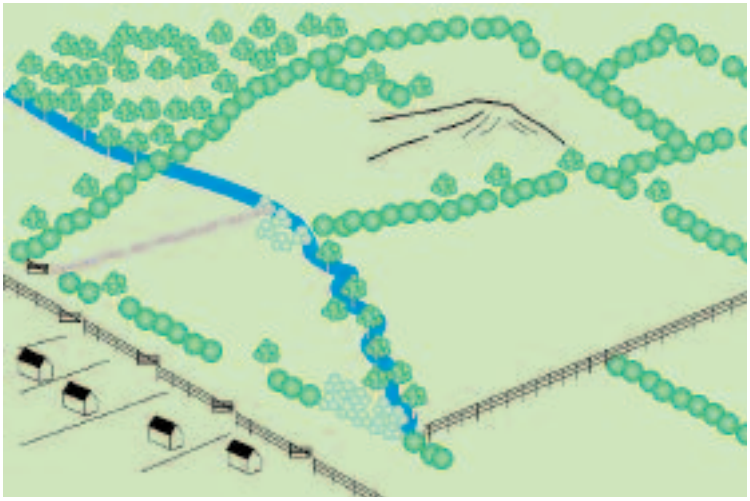
Where a roadside boundary is required to be set back to provide a visibility splay the field boundary can be retained and relocated along the new boundary line so that the continuity of the roadside boundary can be conserved and enhanced rather than breached and replaced by an incongruous block wall or open fence.

For example where the boundary is a hedgerow it can be coppiced and relocated to form the new front boundary to the road. This can be acgieved with the use of a digger moving sections of prepared hedgrow in its bucket and laying them along corridors of land stripped of top soil and provided with a parallel drain.

Where trees occur and can be safely retained within the visibility splay the lower branches should be lopped to raise the crown to a height of three metres from ground level.

Importance of Detailed Early Survey

A survey of a site and its environs prior to submission of a planning application should include:



1. Site Plan

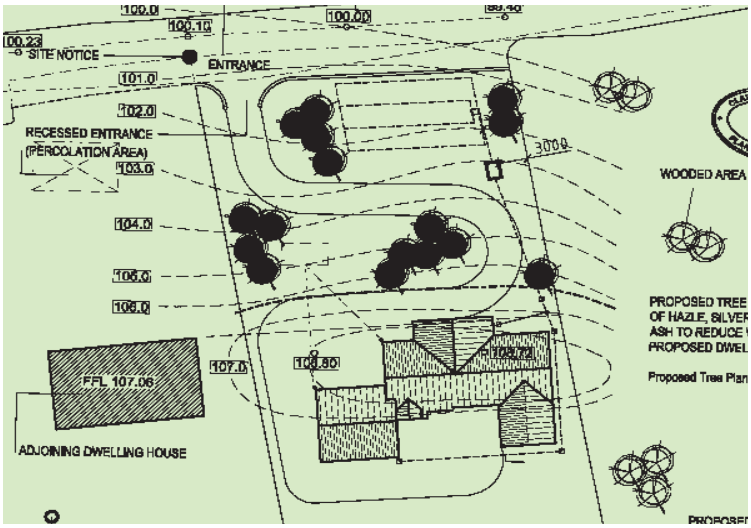
A plan of the site at a scale appropriate to the size of the development showing :

a) the contours of the land;
b) existing vegetation cover including individual trees;
c) the location and material composition of boundaries;
d) existing buildings, structures and historical or archaeological features;
e) all pipes, culverts, septic tanks, wells, storage tanks and percolation areas;
f) existing roads, rights of way, footpaths and access tracks;
g) water courses, wetlands and water features;
h) land drainage.

2. Site Layout

A plan of the surrounding area showing :

a) the location and extent of adjacent landscape features;
b) current use of the site and adjacent land uses;
c) roads, rights of way, footpaths and access tracks;
d) existing buildings, structures and historical or archaeological features off site;
e) all pipes, culverts, septic tanks, wells, storage tanks, percolation areas off site;
f) boundaries;
g) services.



3. Plan of existing landscape features

A description of the landscape character of the site and important views into and out of the site.

Aims of Retention of Landscape Features

The aim of retaining landscape features is to retain landscape character and to maintain a continuity in the evolution of the landscape whilst facilitating change through development. The value of this is that it provides a mature context for development, a context for new landscape planting or design and a context for the design of buildings and other structures.

In retaining landscape features it is important that their retention is not in isolation or at a scale that no longer reflects their value in the landscape. This results in disharmony or alienation of development in the landscape. For example if a housing development obscures a landmark feature such as a rocky outcrop, the value of that features will be lost. The removal of that feature however may provide space to make a more sustainable layout, create a landscape scheme that improves the environment or allow for the better retention and conservation of other landscape features.

Opportunities for the creation of new landscapes must be considered where development is of such a scale as to overwhelm the existing landscape features making the landscape unsustainable in the long term.

Things to avoid:

a) Fragmentation of habitats
b) Discharge of water onto adjoining land
c) Loss of character
d) Incorporation of features into plot boundaries
e) Impacts on protected species i.e. badgers; bats

How to avoid:

a) Site layout
b) Reduce the area of land to be developed as a percentage of the site area overall.
c) Variation in plot sizes and orientation
d) Variation in road layout and design.
e) water retention features e.g.ponds & swales

Mitigation and Compensation

Mitigation is appropriate only where the mitigation measures can substantially achieve the conservation or enhancement of the landscape values at risk or can provide alternative features that support the functions of those features lost.

For example:

- Where part of a hedgerow is to be lost the planting of a hedgerow to link up the retained fragmented hedgerow elements
- The provision of a pond where wetland is lost to retain water on land to prevent flooding and provide habitat
- Exposing parts of the landform, such as rock faces, stream banks to retain character intimacy.

Loss of a landscape feature may be compensated for by the provision of features extra to that required by the development such as formal open space and planted areas but this should only be as a last resort where impacts to features cannot be avoided or mitigated against. The provision of alternative features such as stone walls or tree planting to screen development is not mitigation but a requirement of the development.

Compromise/Balance

Where development will impact upon a feature to the extent that its values will be lost over time, there is an argument for the sacrifice of some less important features to create a more functional environment. For example the retention of other landscape features such as the retention of large areas of unimproved flower rich grassland or limestone pavement into public open space where they can be effectively managed through an agreed management plan.

Protection during development

Where features are to be retained then sufficient measures must be put in place to avoid adverse impacts upon those features when development is taking place.

Fencing

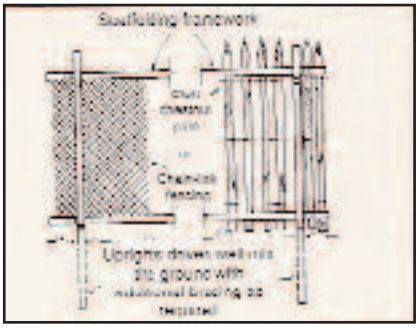
Features to be retained need to be fenced off from the process of development.
Fencing should be sufficient to resist vehicle movement, blowing of litter and storage of materials.
Scaffold poles or similar should be used to support posts and rolls of plastic fencing, not post and wire, should be used to prevent the movement of earth or other materials through the fence. Fencing around trees and hedgerows should take into account the spread of root systems.
Fencing should be no closer than two metres to a hedge and outside the branch spread of a tree.

Signage

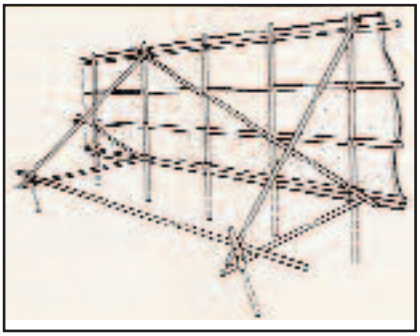
Signs should be erected along fence lines advising contractors of the need to keep out of such areas.

Protecting trees during construction

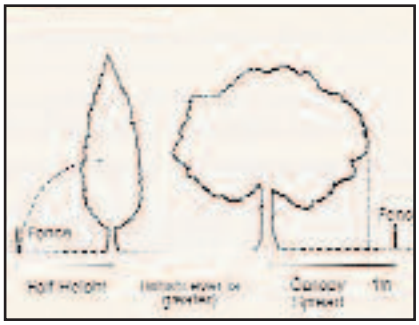
1. Scaffold Construction



2. Scaffolding



3. Scaffold Distance



Spillage containment

Water courses and wetlands are particularly susceptible to pollution incidents arising from spillage of fuels, paints, detergents and other fluids used in the development process.

Areas where such materials are stored, even on a temporary basis, should be bunded and the ground protected by plastic sheeting or something similar adequate to contain the volume and nature of the material stored.

Where materials are to be used widely on a site wetland areas and water courses should have earth banks/bunds along the protective fence lines

Soils

Topsoil is an important natural resource containing organic materials and minerals derived from the interaction with inorganic subsoil.

It is important to ensure that both the topsoil and subsoil within areas where planting or grass is to be established are not compacted by construction machinery during building operations.

If the subsoil does become compacted it will require ripping or ploughing to aereate the soil and make it suitable for planting.

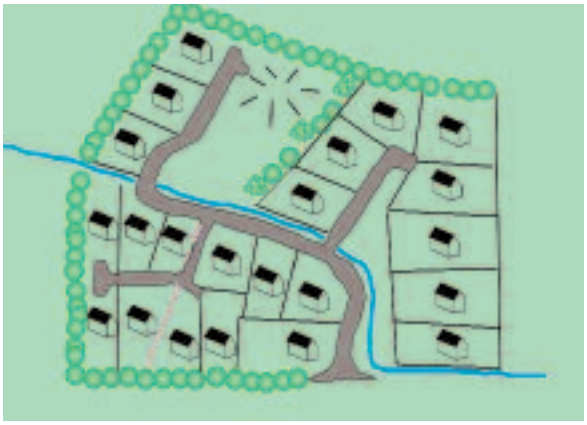
The storage of topsoil needs to undertaken with care keeping piles low and spread out to ensure compaction through weight of soil does not occur.

Incorporation Of Features Into Open Space

Where public open space is required to be provided as part of a development it must be safe and usable by the general public. There may be opportunities to incorporate retained features into public open space with the following benefits;

1 More of the site is available for development;
2 Management of features can be in the general public interest;
3 Landscape features can be accessed by the public;
4 Existing vegetation can offer mature advance landscape structure to a proposed landscape scheme.

Care must be taken not to take into account areas retained and included into open space allocation where they cannot be safely and conveniently used by the public e.g. limestone pavement and wetlands.



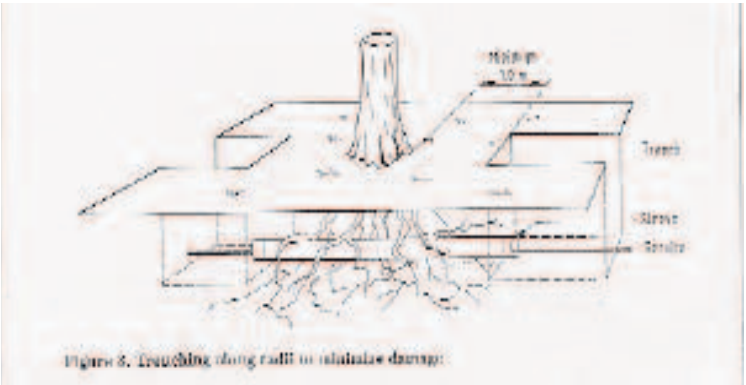
Density

Dividing a landscape feature up such as including sections of stream or hedgerow within diferent gardens areas can result in its ultimate loss through fragmented management.

Smaller plot sizes or increased density of a proposed development on part of a site can make more open land available within a site to retain, protect, conserve, enhance or manage landscape features, whilst not significantly reducing the value of development for the applicant.

Impacts Of Infrastructure And Service Corridors

Whilst areas are identified for retention and non-disturbance during development often insufficient regard is had to the need for the provision of drains, pipe lines or cable routes that will cross or run through retained features. Trees and hedgerows can suffer dramatically from having their roots severed by pipelines. Cables slung between poles can cross vegetation that will need to be suppressed for ever to ensure there is no fouling of electricity or telephone lines.



Details of all services and infrastructure should be required before decisions on the layout of land and retention of features are made.

Flood Prevention

The loss of permeable surfaces inevitably leads to a reduction in the capacity of land to detain water. The result is faster discharge of surface water and flooding where ground water levels are high or free discharge of water is impeded.

The minimisation of impermeable surfaces by using materials such as 'Grass-crete', an open mesh concrete block paving, for car parking and gravel for pathways rather than tarmac reduces the risk of flooding on and off site.
Where development will result in significant changes in the ability of the land to detain surface water, discharge from the site can be controlled by the use of ponds, reed beds and other wetland features which detain water after rainfall so as to prevent flood risks off site and to manage flood risks on site.

1 General site layout including all buildings, roads, footpaths, services and adjacent land use.

2. Existing landscape features to be removed and those to be retained e.g. trees, hedgerows, streams.

3.. All hard finishes including paths, fences, walls (showing extent and height).

4 Open spaces including details of any play equipment

5 The relationship of open space within the development to areas of open space within adjacent developments including any footpath links.

6 Include details of protective measures to be taken for trees and vegetation to be retained indicating how this will be achieved.

7 Existing and proposed contours at one metre intervals to reveal proposed changes to land form.

Landscape Scheme

Layout

The following information should be submitted on a 1:500 scale plan to allow for the consideration of a landscape scheme.

Contours at 1m intervals.
Proposed planting.
Vegetation immediately adjacent to site boundary
Hard landscape features.
Underground services, drainage and pipes.

Landscape Schemes

A landscape scheme should aim to build upon the existing landscape values of the site and any features retained and set the development into its landscape context. The extent and robustness of any landscape scheme should reflect its location and the nature of the development. For example - internal landscape in a residential development is as important as site boundary landscape; the external landscape in an industrial development needs to be robust and proportionate to the scale and mass of the buildings.

A landscape scheme falls into two parts the structural landscape scheme that shapes the form and appearance of a development in broad terms and the detailed landscape scheme that deals with the choice and spacing of planting, the provision of footpaths and street furniture including lighting .

Structural landscape need to provide a strong link with the surrounding area both in scale and the mix of species and habitats occuring there and provides for the character of the development as seen from the outside.

The detailed landscape scheme addresses the internal requirements of a development and reflects the functionality and character of the development.

Appendix

The following are species of trees and shrubs native to Ireland

Common Name	Irish Name	Scientific Name
Scots Pine	Albanach	Pinus sylvestris
Yew (poisonous)	Lúr	Taxus baccata
Bay willow	Saileach labhrais	Salix pentandra
Tea-leaved willow	Saileach ghaelach	Salix phylicifolia
Dark-leaved willow	Saileach dhubh	Salix myrsinifolia
Rusty/Grey willow	**Saileach rua/liath**	**Salix cinerea**
Eared willow	**Saileach sniofa**	**Salix aurita**
Goat willow	**Sailchearnach**	**Salix cinerea**
Aspen	**Crann creathach**	**Populus tremula**
Silver birch	**Beith gheal**	**Betula pendula**
Alder	**Fearnóg**	**Alnus glutinosa**
Hazel	**Coll**	**Corylus avellana**
Sesile oak	**Dair ghaelach**	**Quercus petraea**
Pedunculate oak	**Dair ghallda**	**Quercus robur**
Wynch elm	Leamhán sléibhe	Ulmus glabra
Crab apple	**Crann fiaúll**	**Malus sylvestris**
Rowan/Mountain Ash	**Caorthann**	**Sorbus aucuparia**
Common whitebeam	Fionncholl coiteann	Sorbus aria
Irish whitebeam	Fionncholl gaelach	Sorbus hibernica
Rock whitebeam	Fionncholl creige	Sorbus rupicola
Whitebeam species	Fionncholl gallda	Sorbus anglica
Whitebeam species	Fionncholl Domhnann	Sorbus devoniensis
Whildcherry	**Crann silíní**	**Prunus avium**
Bird cherry	Donnroisc	Prunus padus
Holly	**Cuileann**	**Ilex aquifolium**
Srawberry tree	Caithne	Arbutus unedo
Ash	**Fuineog**	**Fraxinus Excelsior**

Bold = species of widespread distribution in Ireland

This list does not include many well established garden plants that are widely distributed throughout Ireland that may be appropriate for planting within the site rather than on its boundaries. Advice should be sought from local landscape contractors and horticulturists.

Notes

Contacts

Clare County Council	Planning	065 6821616
	Heritage	065 6846408
	Conservation	065 6846407
	Biodiversity	065 6846456

Web Addresses

Clare County Council www.clare.ie

Clare County Library : Heritage
www.clarelibrary.ie/eolas/coclare/heritage/heritage.htm

Clare Biodiversity Group
www.clarebiodiversity.ie

General Information

Clare County Council Publications

Clare County Development Plan
County Clare Rural House Design Guide 2nd Edition
Stone Wall Building Guidelines
Clare County Heritage Plan
Architectural Conservation Areas

Other Publications

Landscape Character Assessment for County Clare 2003
The Geological Heritage of Clare 2005
Clare Local Biodiversity Action Plan 2005

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for further information visit www.clare.ie

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