county kilkenny
rural design guide

KILKENNY
COUNTY COUNCIL

foreword

Rural Kilkenny possesses considerable built and natural assets. The County is a special place to live, work and visit and the value of this unique character and identity must not be under-estimated. Character is not something that can be easily repeated or indeed replaced. Once eroded or lost, landscape identity and built heritage cannot simply be restored or reinstated. The "County Kilkenny Rural Design Guide" has been prepared to ensure that these qualities are retained and enhanced.

The Guide aims to promote the highest standards of design and sustainability by articulating clear and practical guidance for single dwellings in the countryside. It is hoped that the Guide will inspire, inform and educate, providing new clarity in terms of the design agenda within the County.

The document is not a "pattern book" of good designs to be copied and then repeated throughout the County, it is intended to explain and endorse the principles of good rural house design, rather than detailed design issues. The key steps that need to be taken in order to arrive at informed and considered decisions about "where" and "what" you build are outlined and defined.

We all have a stake in the future of the County. Together with the County Development Plan and other policy documents, the "County Kilkenny Rural Design Guide" will help to ensure that good design decisions are made that meet then needs of those seeking to build here, without compromising the integrity and unique signature of the County.

Kilkenny County Council would like to acknowledge the input of the Planning Strategic Policy Committee chaired by Cllr. Pat Millea in devising and supporting the final document.

Tom Maher
Cathaoirleach

Joe Crockett
County Manager

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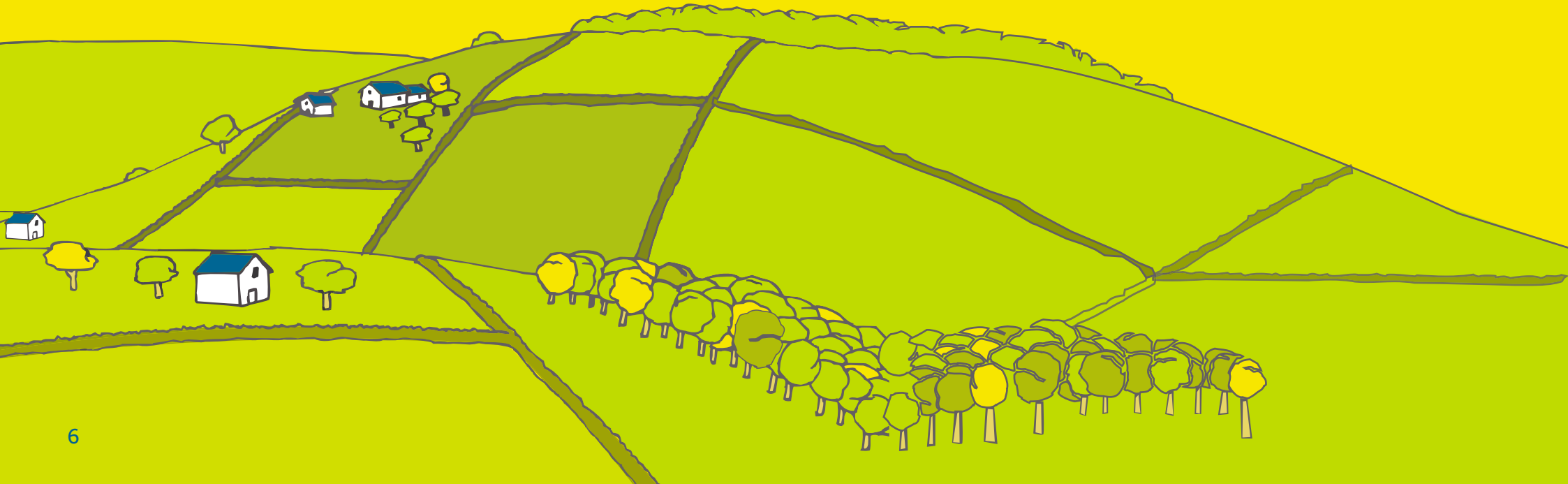
introduction

i would like a house ...

to be proud of...



introduction

County Kilkenny enjoys an especially rich rural landscape setting and character that has a value far beyond traditional agricultural uses. The landscape is an asset with a genuine economic value, a critical component of the tourism offer within the County. Aside from the desire to protect the countryside as a natural asset, there is a need to preserve rural areas for their scenic beauty, historical significance and environmental importance.

However, rural Ireland is much more than a beautiful landscape that we can all enjoy, it must also function as an environment in which we can live and work. In this sense there is a delicate balance to be struck between the desire to preserve, and the pressure 21st century lifestyle places on it. The countryside needs to evolve whilst retaining the character that makes it special and unique.

This guide aims to help people understand how this balance can be achieved, by maximising design quality, minimising visual impact and encouraging an approach that will lead to sustainable and energy efficient new homes. It is hoped that the guide will encourage, promote and enable innovation in house design throughout rural Kilkenny, without losing sight of the importance, relevance and value of tradition, and the conservation of character. It is important that design in rural areas meets with the aspirations of those building new homes, without compromising the integrity of Kilkenny's long established rural signature. The guide will assist applicants, designers/ architects, builders and planning officers to foster the very highest standards of design throughout the County.

This document does not seek to provide a pattern book of design options, nor does it address the individual elements or details of new homes. Rather it deals with how a design project should be approached, and how to tackle the "big" issues of rural house design-site selection & layout, integration, landscaping, scale, form & shape, proportion, massing & volume. The guide also addresses orientation & passive solar gain, sustainable design, and new energy technologies. The guide aims to provide an insight into the key issues that will determine the success or failure of a new house in rural Kilkenny.

Objectives:

- To improve overall design quality
- To ensure maximum integration with the landscape
- To draw on and reinforce traditional patterns of buildings in rural Kilkenny
- To encourage innovation in design
- To emphasise the value of sustainable and energy conscious design
- To assist those involved in rural house building, by clarifying key design issues

Contents

Section 1 -

of the guide looks at the character of rural Kilkenny, the landscape, settlement patterns, traditional house types and distinctive aspects of house character- the design signature of the County

Section 2-

deals with how to select a designer and develop a design brief, as well as the key issues around site selection, layout and landscaping to achieve maximum integration

Section 3 -

tackles the "big" issues of house design, the principles that need to be carefully considered in the actual design of a new home

Section 4 -

outlines the benefits of sustainable design for the house builder, as well as the wider environment

Status of the guide

The guide is a non-statutory document providing advice and guidance on design issues to assist applicants wishing to build new homes in rural Kilkenny.

The guide should be read in conjunction with the policies controlling rural development, as set out in the County Development Plan.

The design process

The development of a design is not a "linear" process. It often involves revisiting of ideas and the exploration of multiple solutions. There are a number of stages that will generally be considered. These can be broadly broken down as shown below.

1. Over view of needs

- Select your designer
- Define your brief
- Select your Site
- Define your brief in detail

2. Appraising the setting

- Character of the wider landscape
- Views into/out of the site
- Impact of neighbours on your site
- Your impact on neighbours

3. Appraising the site

- Existing features
- Access and vehicular circulation
- Exposure/shelter
- Orientation
- Drainage
- Disposal of sewarge/ surface water
- Other Constraints and opportunities

4. Develop an outline design proposal

- Site Layout
- Position of House
- Orientation
- Shape
- Access and vehicular circulation
- Floor plan
- Size and shape

5. Scheme Design Refine outline design proposal

- Design of facades
- Detailed design of floor plan
- Position/size of windows
- Materials

section 1

i would like a house that is from kilkenny…

1.1 landscape character

What do we mean by Landscape?

"Landscape means an area, as perceived by people, whose character is the result of the action and integration of natural and/or human factors"

What is Landscape Character?

"Landscape character is the recognisable elements that make up a particular landscape. This will include geology and soils, landform, land use and vegetation, field boundaries, settlement patterns and building styles. This moulds different landscapes, each with its own distinctive character and unique sense of place"

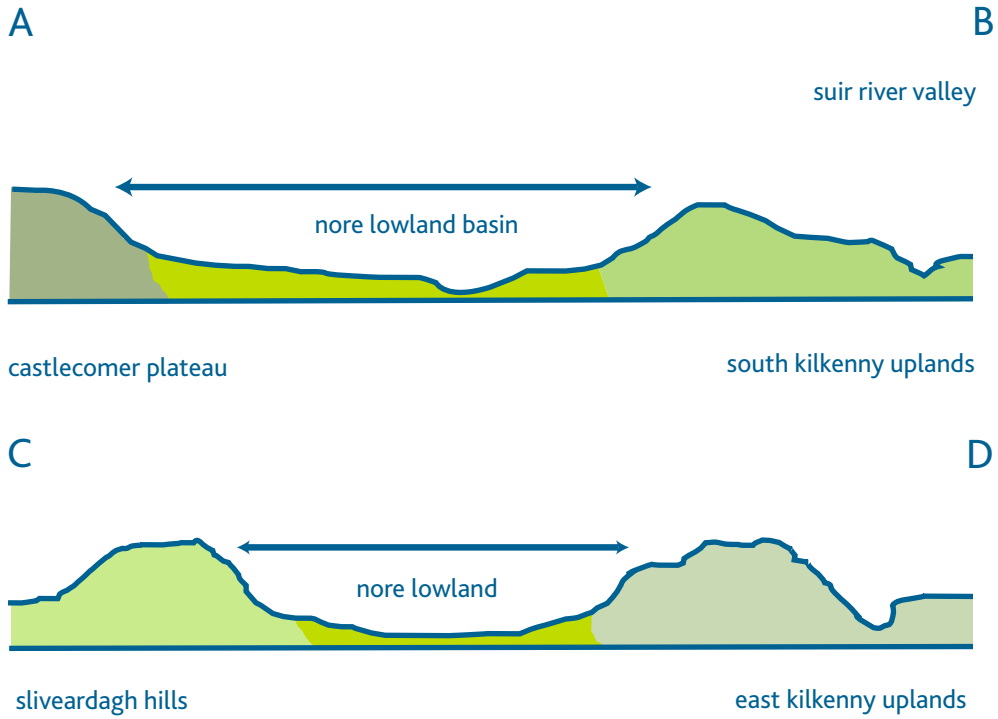
Ireland's landscape is rich and varied. It is a living landscape that must accommodate the physical and social needs of its people. Located in south east Leinster the landscape of County Kilkenny is comprised of deep fertile river valleys and is for the most part agricultural. The landscapes of Kilkenny have been moulded by the past. Fertile lands were heavily farmed, supporting the large estates that are found throughout the County, while the river courses were well-suited to milling and other industrial uses.

The landscape characteristics of Kilkenny have a significant bearing on the County's identity. Where new buildings are proposed in visually sensitive rural areas they can have a devastating impact on established character, an impact that is disproportionate to the land area they occupy. The economic boom of the last 15 years and the unprecedented growth and building that followed have had a major impact on the Irish countryside. Kilkenny is no exception, with increasing pressure to build more and more (often very large) single rural dwellings. One only has to drive through the Kilkenny countryside to witness the impact that some of these new houses have had, many of which bear little or no relation to the landscapes of rural Kilkenny. It is important therefore to develop an understanding of what contributes to the distinctive landscape signature of rural Kilkenny.

The Landscape Today

Located inland the county is approx. 769 sq. miles (509, 432 acres). The central plain of Kilkenny is comprised of fertile lowland rising to the northeast, northwest and south. Kilkenny has an extensive river valley network which shapes the landscape. The county is halved by the River Nore on a north/south axis, the River Barrow at the eastern boundary, and the River Suir at the southern boundary.

The landscape of Kilkenny is generally flat for large areas with no significant topographical features though larger upland areas such as the Castlecomer Plateau to the north east and the Blackstairs Mountains to the south east, provide interest and terminate many long range views.



1.2 traditional siting patterns in rural kilkenny

Historical Ordnance Survey mapping provides an interesting insight to traditional siting in Kilkenny, and can give us clues for the siting of new dwellings

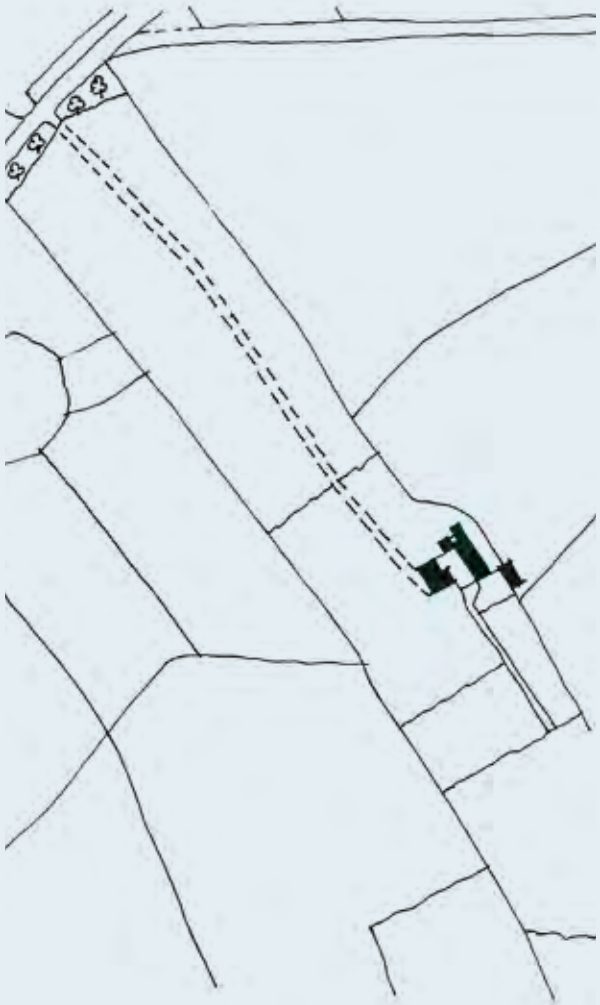
Traditional Siting Patterns

Historical Ordnance Survey Mapping provides an interesting insight into Co Kilkenny's traditional patterns for siting houses in the countryside and can offer us clues for siting new dwellings today. The map diagrams that follow are a small selection of various sizes of traditional houses and their outbuildings in the county and illustrate their relationships to the surrounding roads, lanes and fields.

Key patterns

- Scale of the house footprint is usually not much bigger than the surrounding outbuilding
- House and outbuildings form enclosures creating yards and forecourt
- Many houses were accessed via long, single track lanes that followed the edge of field boundaries, often turning at right angles – the rural character of the lane (with its native hedgerows interplanted with native deciduous trees and soft grass verges) was more or less the same along its length even when it crossed into the house property itself
- Native deciduous trees were often planted along all or part of the approach lane – often within the hedge
- Larger houses on flat ground were often at the end of a very long avenue – with tree planting used as a screen between house and road
- Long and short lanes/ avenues are aligned to the side (not the centre) of the house
- The position of access lanes or carparking/turning areas are arranged so the house still has uninterrupted views from the house to a garden or orchard/woodland
- Access avenues were either relatively straight or undulated gently. They did not zig-zag
- Woodland was often used to create shelter on one or more sides of house
- Small scale houses and groupings of farm outbuildings were often close to the County Road and had a variety of relationships to it. Apart from houses that fronted onto a small forecourt open to the County Road they all had short access laneways on the side of the house
- Often the house or outbuilding gables formed the property boundary along the roadside. Sometimes the long side of the house faces the County Road though it usually has a relatively small scale garden/woodland or orchard between it and the road

Photographs in this section are typical of the house types/site layout described, they are not actual examples

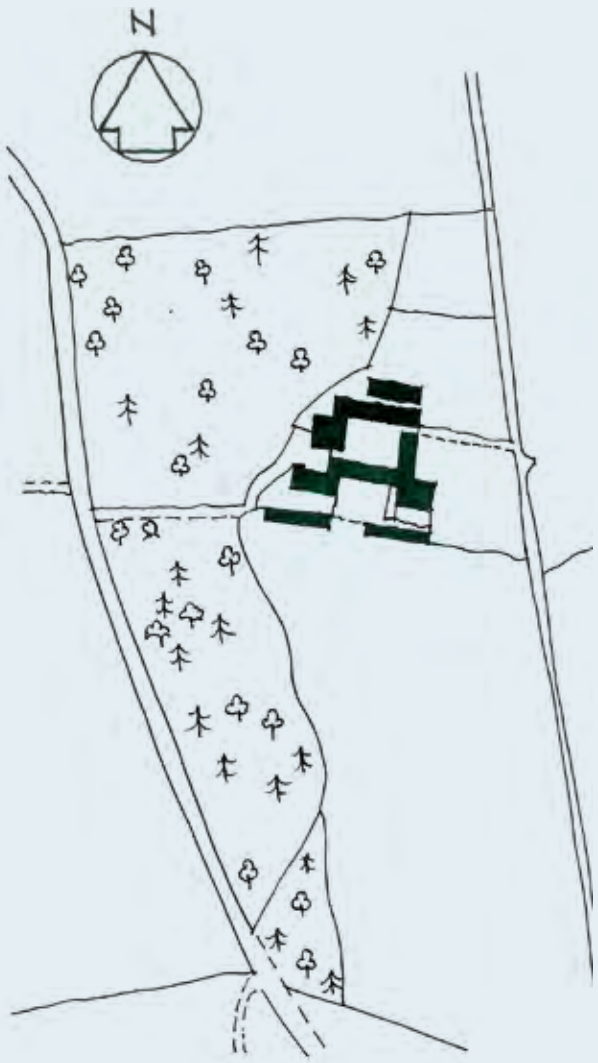


Typical Glebe house accessed via long avenue off county road

Typical Glebe House accessed via long avenue off the County Road. (see diagram on left)

Co Kilkenny has a distinctive pattern of medium-large sized simple 'Big Box' farmhouses and Glebe houses that sit in relatively flat landscapes but are set far back from the main road. When viewed from the main road the effect of perspective reduces the apparent size of the large house and a line of mature deciduous trees along the roadside helps to screen it. Often a backdrop of mature trees behind helps such houses to blend in further.

Notice how the access avenue, although quite formal, is not centred on the house itself, maintaining views from the house to the immediate garden and wider landscape. Its appearance is also softened by an almost imperceptible undulation in its alignment.



Typical small country house and farm outbuildings

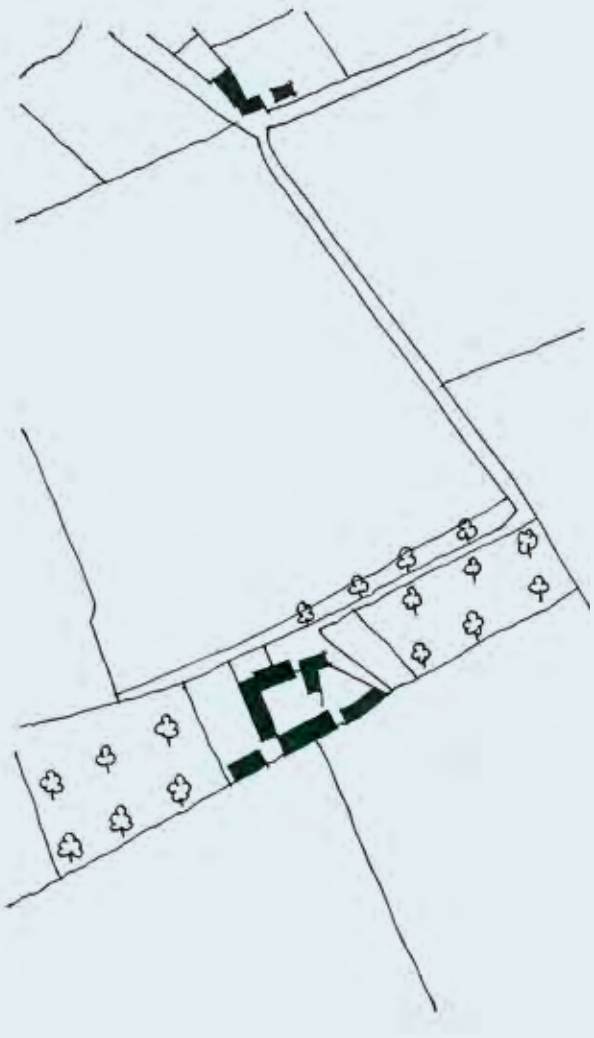
Typical small country house or 'Glebe' (see diagram on left)

Although the grouping of buildings is quite large it is completely hidden by a small woodland when viewed from the County Road. The main access avenue passes through this area of trees and then meanders northwards towards the main house. Notice that the main avenue is aligned on the side of the overall grouping and is not centred on the house. This helps to give the house greater privacy and improves the views from the house to the woodland.

When one very large house is broken down into a grouping of several smaller simple shaped blocks the scale of the house is greatly reduced and the overall grouping blends into the surrounding countryside better.

The secondary (linear) farm outbuildings are arranged to form a yard on the east side. This creates a sheltered area outside that is also hidden from the surrounding countryside. These days this is useful for parking cars or hanging out clothes discreetly, or simply for creating a sheltered private garden area.

Notice how the secondary rear access lane is served by a traditional narrow country lane. Using existing (or creating new) traditional, hedge lined, single track laneways to provide access to a new house is a very good way to help new houses to blend into the countryside.



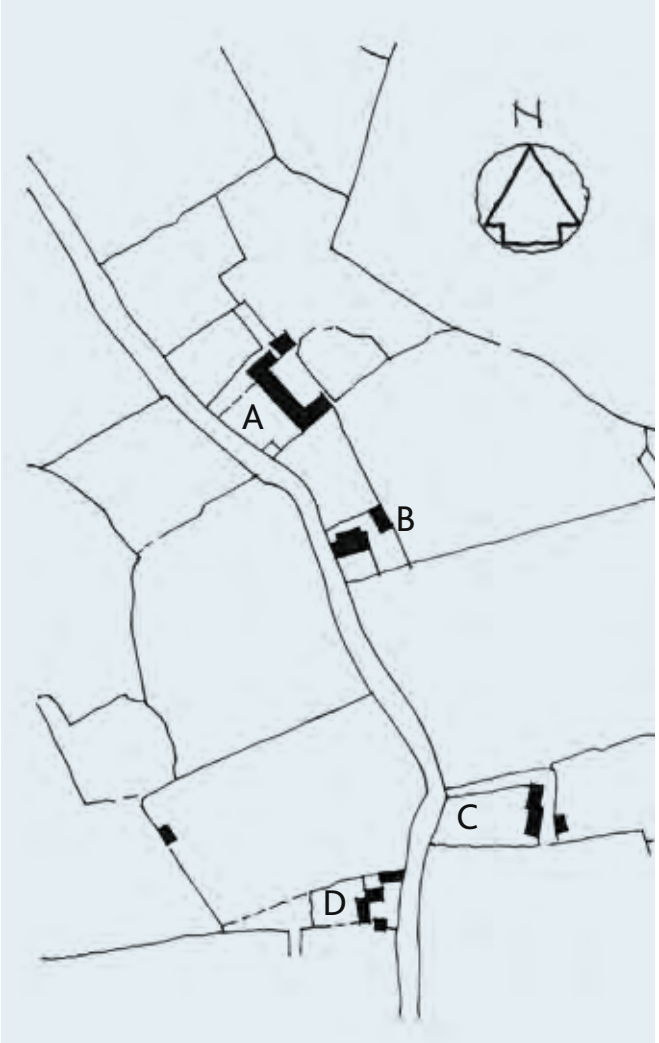
Typical linear farmhouse and farm outbuildings accessed via long farm lanes that follow the line of field boundaries.

Typical linear farmhouse and farm outbuildings accessed via long farm lanes that follow the line of field boundaries. (see diagram on left)

Two stands of mature deciduous trees have been planted to the east and west of the building group. These trees help to shelter the house from the prevailing winds and also help it to blend into the surrounding rural landscape. These trees are far enough away to avoid casting the house into deep shadow.

After the winding laneway turns for the last time it passes through an area of mature deciduous trees on each side of the group before arriving at a small entrance yard to one side of the farmhouse itself. This then leads into a larger yard to the rear of the house that is formed by the enclosure of farm outbuildings. Note that the laneway does not run continuously around the house.

The house itself seems to have a small garden area to the north of the farmhouse and a larger garden area to the west of what may be a farm outbuilding. This orientation means that the south side of the house faces a very sunny and sheltered, private yard. This would be ideal patio / barbecue areas and manageable safe gardens.



A variety of small to medium rural houses illustrating traditional relationships between house, access, country road, outbuildings and garden spaces. See right and facing page for examples of each type.

A A linear house (either 1 or 2 storey) fronts onto a garden space that fronts onto the main road. Access to the house is directly off the road and running alongside the garden. The lane narrows to run along the side of a farm shed or garage and to access a narrow 'boithrin'. The secondary farm sheds are arranged at right angles to the house and form a C shaped enclosure on the north east side of the house. This is most likely a garden or yard area.

B This relatively small house is built tight up to the road with its gable wall facing the road. The access is directly off the County Road into a relatively narrow yard that appears to run around the east side of the house. This means that the south side of the house has an uninterrupted and intimate view of a small private, sunny garden. Sometimes the house and garden were somewhat lower than the road. This improved shelter and privacy.

Today there is no reason why a similar arrangement can't be achieved provided the required sight lines are achieved. This type of siting is best suited to relatively small houses.

C This very modest, long and narrow house is accessed by a narrow laneway taken off the County Road along the northern boundary of the property to a modest sized rear yard on the east side of the house where it also provides access to a small shed or garage.

The house is well set back from the road and has great near distance views (uninterrupted by avenues or carparking) into a garden space that faces west and will get good midday, afternoon and evening sunshine.

D The plan diagram of house D shows a traditional arrangement whereby the house (on a north south axis) fronts onto an open yard with no boundary to the road. The yard is enclosed on the north side by a farm barn at right angles to and adjoining the house. A further farm outbuilding parallel to the first forms the northern boundary to the property. This grouping and orientation creates good shelter from the prevailing southwesterly winds.

For this type of traditional siting relationship to be successful today the house and outbuildings needs to be very small. A large house sited in this way is extremely difficult to blend in. Given the speed, noise and volume of today's rural traffic this arrangement is only appropriate when it fronts onto a narrow country lane rather than the County Road.

1.3 built form in county kilkenny - regional identity

Throughout Ireland each county (and even parts of counties) have a mix of building types that are particular to that rural area. These might be ruined castles or large country houses (and their associated gate lodges, mills or other estate houses), tower houses, rectories, manses, farmhouses, cottages and farm outbuildings or even humble farm sheds.

There may be many aspects of these building types that seem similar to those found in other parts of the country eg their general shape and size or even some of the materials used to build them. However factors particular to each area (such as climate or local materials or building skills) often have subtle influences so that they take on differences in appearance that make them special to that area. Patterns emerge that mark out house types, size, shape, materials and small details as being special or distinctive to an area. In addition to the changes in topography and landscape across the country the predominant patterns of rural building type in an area are a major factor in telling us very quickly that we are in Co Kilkenny and not in Co Cork or Co Donegal. These patterns or key characteristics of rural buildings combine to form the regional identity of a place.

Why is this important?

Across the island new houses are beginning to depart from the long established local regional patterns and characteristics so that their appearance (ie. size, shape and materials) refers less and less to the established characteristics of the locality and, increasingly, looks more and more like "Somewhere-elseville". Co Kilkenny is no exception though it has, so far, suffered less than some other parts of the country.

However even Co Kilkenny is showing signs of this growing trend and its regional identity is at risk of being substantially diluted over time. If this trend is allowed to continue unchecked soon enough there will be very little to tell us that Co Kilkenny is much different from Co Cavan except for the undulations of the natural landscape. Eventually there will be less and less reason to visit a place that is becoming more and more like the place where everyone else lives.

It is possible to identify the key characteristics of Co Kilkenny's regional identity and to seek to reinforce this in the future. This can be done in two ways:

(a) aim to conserve and reuse as much of the county's existing historic rural buildings as possible. These embody the authentic legacy and memory of the county's past. Reusing these retains that memory for longer.

Note: If you decide to follow this course of action it is wise to take specialist professional advice from a conservation architect to ensure best conservation practice and that you use locally and historically appropriate materials.

(b) draw on and reinterpret the identified key characteristics of Co Kilkenny's established regional identity to inform the design of new rural houses. When these characteristics are skilfully reinterpreted in a contemporary way the reinforcement of local regional identity is achieved in a manner that avoids pastiche and allows for creativity and innovation whilst still maintaining a link with the past.

The following are a variety of the typical building types and shapes that form the regional identity of the Co Kilkenny countryside. Key characteristics are listed above each image.

Large Country House in Landed Estate

- Robust
- Imposing
- Isolated within extensive demesne landscape
- Setting of substantial stands of deciduous trees and parkland
- Formal and symmetrical
- An architectural statement in the Classical or Gothic style

Tower House

- Defensive
- Verticality
- Robust
- Asymmetrical
- Hipped roofs
- Very small openings in large expanses of wall
- Local rubble stone (this was very likely rendered when inhabited but erosion of this outer coating over a long period of time has lead to a presence of exposed rubble stone in the landscape that can reasonably be deemed to be part of the county's rural regional identity

Mills

- Robust
- Simple
- Strong regular pattern of small openings in expanse of wall
- Lime rendered or exposed local rubble stone
- Although not a domestic building the number, size and sheer presence of these rubble stone buildings in the landscape does (along with the tower houses) contribute to the county's rural identity and reinforce the characteristic of rubble stone as a walling material. There is evidence that some of these stone built mills were finished in lime render

Small Country House or Glebe 2 Storey, 3-5 bay hipped roof

- Simple
- Formal
- Symmetrical
- Classical
- Modest
- Unfussy
- Elegant
- Hipped roof
- Ridge height low relative to width of front façade
- Ashlar finish on lime render or ashlar local stone
- Setting of significant stands of mature deciduous (and sometimes coniferous) trees

4 bay x 2 storey farmhouse (extended from original three bay)

- Simplicity
- Unified, restricted palette of materials and colour
- House fronts onto small garden fronting County Road
- Vehicular access runs past gable of house to rear yard
- Painted rough cast render
- Contrasting colour on raised smooth plaster trims to windows and doors

3 bay x 2storey farmhouse with single storey addition in line with main house

- Simple in form and detail
- Small scale
- Gable faces County Road
- House lies low relative to road level
- High robust local stone rubble boundary wall to rear
- Front of house fronts onto small garden
- Boundary to road side of garden generally follows alignment of road

Single storey thatched cottage clachans

- Organic
- Small scale units
- Simple form
- Narrow gable width
- Thatch
- More roof than wall
- Unit closest to road presents gable to the road
- Grouped to enclose yard that fronts onto road
- Colourful painted rough cast lime render
- Contrasting brightly coloured painted timber lintols and smooth plaster door/window surrounds

Rural crossroads (typical house and shop/Post Office grouping)

- Linear, two storey x 4 bay double pitched (often mixed residential/retail uses)
- Landmark at junction on major County Road
- House gables define road edge on minor roads
- Rear yard/parking accessed from minor County Roads
- Inclosing walls to yard / parking areas at rear define edges of road junction
- Building frontages slightly set back from road line
- Road boundary: low metal railing above low rubble or rendered wall
- Pebble dash panels between raised smooth plaster trims, painted, to doors/windows/below eaves

Typical farm sheds

- Simple
- Usually long and low in the landscape
- Lightweight
- Shallow barrel vaulted roof shape with or without
- a low pitch lean-to along one or both of the long sides
- Steel frame structure (often visible)
- Roof and wall covering: profiled metal
- Typical colours: light grey (due to galvanised coating), red, green

local traditional elements and materials

"There is hardly anything in the world that some man cannot make a little worse and sell a little cheaper, and the people who consider price only are this man's lawful prey" John Ruskin

A range of materials, details and finishes found throughout County Kilkenny have established a distinct colour palette and texture that is an essential component of the design language, character, and signature of the county.

Locally Distinctive Materials

The range of materials found most commonly in Co Kilkenny's traditional rural buildings (generally up to the mid 20th century) combine to give the county its own unique rural identity and signature character. These materials were invariably natural, such as local rubble or ashlar stone, thatch, and lime render with or without earth pigmented limewash made from local limestone burned in local lime kilns. Slates came from quarries in the locality, or no further afield than Killaloe, Valentia or Wales.

In short they were a response to what was available relatively close by, and also to the demands of climate and the need to protect the external materials and the occupants of houses from the worst effects of driving rain. For instance rubble stone barns housing animals may well have been left unfinished (or at most given a few coats of limewash) but buildings for living or working in such as tower houses, farmhouses and mills were often lime rendered and limewashed giving them an extra line of defence against driving rain and dampness. Doors and windows were always timber, usually painted. Doors were simply sheeted or where funds permitted the architecture became more refined. Framed and panelled doors, fanlights, and sash windows with fine mouldings and astragals were manufactured.

During the early decades of the 20th century the arrival of cement as a new ingredient in mortar and render mixes led to widespread use of ashlar finish or wet dash sand: cement renders. Dry or pebble dash on a sand:cement base was a further development often in conjunction with painted rendered window and door surrounds. As long as the pebble mix in dry dash has affinity with the colour of Co Kilkenny local stone this finish has its place in the rural materials palette.

Rainwater goods were traditionally painted cast iron while gates were invariably finely crafted painted, wrought iron made in local forges. Profiled galvanised steel (known to most of us as corrugated iron) was so frequently used on farm outbuildings that its distinctive presence gives it a worthy place among the Co Kilkenny signature palette of rural materials.

Unlike parts of Co Antrim, for instance, where there is a very strong tradition of rural brick buildings this material appears to have been rare in the Co Kilkenny countryside. If it was used at all it was a natural red clay brick, used sparingly to form chimneys or the window and door reveals in rubble wall construction. Often it was never intended to be seen and would have been covered with lime render.

In recent years a lot of other newer materials (such as concrete roof tiles, fibrous cement slates and PVCu for windows, doors, fascias, barges, and rainwater goods) are being used in the construction of rural houses. Many of these are poor imitations of the original stone, slate or painted timber and bear little relation to the traditional palette of materials from the county or indeed the wider island. These are inclined to weather badly, look incongruous and are beginning to erode County Kilkenny's distinctive rural character.

Although cost is often cited as the reason for using these materials there are usually other alternatives of similar cost that are within the character of the County's signature materials and colour range. For instance it remains a common misconception, that wooden window frames are troublesome to maintain and that PVC-u windows are durable, maintenance free and value-for-money. They aren't. High specification painted timber windows and doors, well maintained can have a lifespan of 100 years or more.

Left to fend for themselves current generation PVC-u frames and doors will begin to degrade and discolour after only 20 years. Unless they are cleaned every six months dirt becomes embedded in the material. They do not weather attractively and prolonged exposure to ultra-violet light from the sun 'chalks' the surface making it grainy and dirt retentive. Pollution and sunshine eventually combine to yellow the surface and attack the structure making the frames increasingly brittle and prone to cracking. Ref: Framing the View – Window Frames for a Sustainable Future by Lydia Wilson.

Visually the elements of a house in the countryside that dominate most are the roof, house walls and also site boundary walls. It stands to reason that the materials selectedfor these dominant elements will have the biggest impact on overall character but the materials and details chosen for smaller elements such as rainwater goods, windows,doors, fascias and barge boards, cills etc all play their part in either reinforcing or diluting the local distinctive character.

Availability of Traditional materials and skills

Although some of the traditional materials are no longer in common usage (such as lime putty) many others still are. The skills to use them properly can usually be found within a reasonable geographical spread. One of the great pluses of traditional materials over their modern substitutes is that they are invariably natural. This has two big advantages apart from helping to ensure that a new building is in keeping with the identified material and colour palette that is a critical ingredient in forming Co Kilkenny's regional identity:

(a) Natural materials (such as stone, slate and timber) are much more sustainable because they need less energy to manufacture them than man-made materials. Materials that are naturally occurring within Co Kilkenny itself (such as local stone) score even higher because their delivery requires much less fuel in transportation and this also saves energy.

(b) Natural materials have the great advantage of weathering very well. In fact they can often look even better as they age when they take on a 'patina' that mellows and softens their appearance - another factor that helps new houses to blend into the countryside.

preferred materials

These include:

Roofs

- Natural slate
- (Note: there are no working slate quarries in Ireland today so slate has to be imported from Wales and some European countries. As long as the colour of these slates does not depart from that used traditionally in Co Kilkenny (Bangor Blues or dark grey/black) these are acceptable.
- Profiled steel
- Standing seam metals such as zinc or lead
- Thatch
- Durable timber shingles

Walls

- Ashlar finish local stone (Kilkenny limestone or granite)
- Natural rubble local stone(ditto)
- Ashlar finish sand:cement render, unpainted or painted
- Rough cast sand:cement render, unpainted or painted
- Pebble dash on sand:cement render using local stone pebble mix
- Self finished, self- coloured modern renders
- Traditional lime renders and limewashes
- Glass
- Painted timber
- Unpainted durable timber
- Some roof materials can be acceptable on walls – slate, wood shingles, or sheet metal such as zinc or lead
- Concrete (well detailed), with various finishes -including exposed local stone aggregate can, in certain situations, be acceptable

Rainwater Goods

- Cast iron, painted
- Cast aluminium (polyester powder coated or left uncoated)

Fascias, barge boards etc

- Painted timber
- Untreated durable timber

Windows and Doors

- Painted timber
- Untreated durable timber
- Glass

Cills

- Stone
- Concrete
- Pressed metal (polyester powder coated)

Gates

- Painted or unpainted galvanised steel
- Stainless steel
- Cast iron

Gateposts

- Ashlar finish local stone (Kilkenny limestone or granite)
- Natural rubble local stone
- Ashlar finish sand:cement render, unpainted or painted
- Rough cast sand:cement render, unpainted or painted
- Pebble dash on sand:cement render using local stone pebble mix
- Self finished, self- coloured modern renders
- Traditional lime renders and limewashes
- Concrete (well detailed), with various finishes - including exposed local stone aggregate can, in certain situations, be acceptable

Boundaries

- Native species hedging with or without rubble stone or earth banks
- Random rubble local stone

Gardens

- Retain native trees and shrubs where possible

preferred colours

These include:

Roofs

- Dark grey
- Light grey (relevant only when metal is being considered)
- The brighter red and green colours of the metal on farm shed roofs can be traditionally appropriate but are probably best kept to small areas and need to be very skilfully handled

Rainwater goods

- When the roof colour is a dark grey the guttering (and sometimes downpipes too) often look best when they are a similar dark colour – dark grey is particularly appropriate. This colour shows up less dirt too! Note that the colour scheme for each project must be considered on its own merit since certain wall materials (such as timber) may call for a lighter colour

Walls

- Grey (local stone, render) is a prevalent colour and blends very well into the countryside
- Traditional paint colours tend to be quite subtle (white, soft buttermilk, cream, beige, fawn etc) although there is a pattern of contrasting brighter colours on window and door surrounds. Avoid shades of yellow and pink as main wall colours.
- It should be noted that when very large houses are painted white they do not blend in well so although this is a traditional colour it must be used with care

Windows

- Traditionally these were often white. However the frames of modern windows are often much thicker than old sash windows - when these are white they can be overly obvious from a distance
- Consider using dark grey paint colours or untreated durable timber that will weather to a silvery grey for window frames

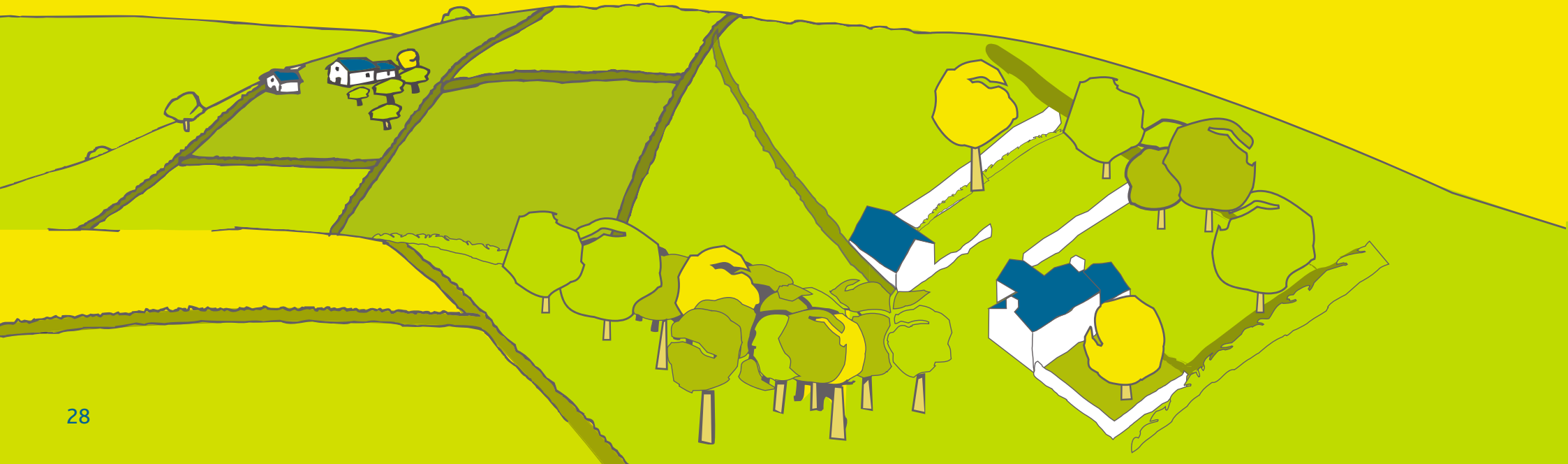
Doors

- A wide range of contrasting colours were used

These lists are by no means definitive and there may be other materials that could be deemed acceptable in certain situations. Innovative design solutions may lead architects to propose uncommonly used or even newly invented materials. Each case must be assessed on its own merit but the acid test will be "Does this design and its proposed materials draw on and reinforce the palette of materials and colour range identified as locally distinctive in rural County Kilkenny?"

section 2

i would like a house that will blend in...



2.1 your needs- defining a brief

If you would like to have a handsome house that is well designed you, as the client, have important decisions to make to ensure that this is what you get. In order to arrive at a well designed house two ingredients are essential: a good client and a good designer.

In the commissioning of any new house the client plays a crucially important role. As the client it is your task to define and approve a brief that will tell the designer what you want. A good brief will help ensure that your needs for living are met as far as possible. It will be a good one if, in addition to a basic list of rooms, it also includes something about the kind of person or family you are and the way you like to live. What aspects of your personality and lifestyle could be supported and facilitated in the design of your home? For example: are you very musical and, if so, do you need somewhere quiet to practice that doesn't disturb the rest of the family?

Your initial brief is unlikely to provide all, or even any, of the answers, but if it reflects your thoughts in terms of what you need and want from your house and site it will help you to ask the right questions of your architect or designer and you will have made a good start.

So a good brief will be initiated by you, and developed with the guidance and expertise of your architect or designer. If the right questions are not posed at the outset and are not answered well by your architect as he or she develops a design for your house then it is likely that the end result will fall some way short of your requirements and the potential of your site. You can commission a home that suits you and your personality, not merely an adequate number and arrangement of spaces.

It is best if you have some ideas about what you need from your new home before you appoint your designer. Ideally, it is at this point that you, in collaboration with your designer, go 'shopping' for your site. However the reality of landownership and market forces often means that your choice of site is either limited, or pre-determined. In these cases, the site should be considered alongside, and inform, all other aspects of your brief. Are there particular natural features within the site that you wish to incorporate or retain? Is there a particularly good view? How can the house and the rooms within it be orientated to take advantage of this, and still sit well in the landscape without losing the benefits of free energy from the sun? Are there mature boundaries (trees and/or hedges) that could be retained to help the house blend in and also increase privacy?

Once you have appointed your designer you can develop your ideas together, but the final decisions rest with you – the client.

defining your brief – things to consider

Key Elements of a Brief-

- How many rooms do you need?
- What do you need to accommodate within each room?
- Remember that some rooms can do two jobs- a sunroom can double up as a porch, or a sitting/dining room. Each additional room will have cost and energy implications both in terms of construction and lifetime heating/lighting costs
- Build to meet your foreseeable needs in the medium term. it is worth asking your designer to give some thought to where a future extension could be accommodated should your needs change in the future

Many factors will inform the design of your home. Your brief will be individual to you, your needs, your site, and of course, your budget! Remember, your brief should be a reflection of who you are, and should focus on YOUR NEEDS.

Your needs…

Below are some questions, aspirations and needs that could inform a design brief. This is not an exhaustive list but should give you a feel for the kinds of issues you should be thinking about:

- I would like a house that looks low key/relaxed and is discreet, sitting comfortably in the landscape
- I would like a house that is "Eco friendly" and uses natural materials as much as possible
- I would like to have a secluded, private, sunny, south and south west facing garden that takes advantage of views
- I would like a house that looks distinctively Irish
- I would like a house that is modern in character OR traditional in character
- I would like rooms where the light streams in from a variety of directions throughout the day
- I would like to use rooms for a variety of uses so they are not lying empty most of the time
- I would like to make the house as small and compact as possible to reduce the volume we have to heat
- I don't want to waste money on the capital/running cost of garden lighting
- I would like a garden that is easy to keep
- I love native Irish trees and plants and want lots of them to help give our new house privacy and shelter
- I'd like to retain the existing planting within the site and along the site boundaries
- I would like to have a wood pellet boiler, and need space to store wood pellets and to accommodate recycling bins
- I need a garage/storage for garden equipment and bicycles
- I don't want a view of the car when I look out the window
- I would like a spacious, open plan living room/kitchen/dining area
- I would like a house that adds to the character of the surrounding landscape
- I would like to encourage wildlife into my garden

2.2 selecting your designer

Building a new house is often the biggest capital expenditure any of us will make in the course of our lifetime. It stands to reason that if we are going to spend a lot of money we should try to spend it well. If we decide to buy a brand new car it is normal practice to shop around to see various models and try to assess their various features so that we can choose one that suits us best within our price range.

When a new house is designed for a person or family it is bespoke and so it is not possible to view the different models in advance. This means taking a leap into the unknown. This can be slightly nerve wracking so it is important that you have faith in the ability of the professional you have appointed to produce the drawings that will be used by the builder to construct your new house. This is the architect or architectural agent. If you aspire to a house that is handsome and well designed, that both respects and reflects its landscape setting, the calibre of your designer is critical...and this is someone you can shop around for.

The first step in selecting a good designer or architect is to have a clear idea of what you want. Before proceeding with any aspect of your new house (even before buying the site) it is a good idea to look at houses completed by a variety of different architects and agents. This may take some time and you should allow for the possibility of visiting examples of interesting houses in other areas of the country.

1. Cut pictures out from design or architecture magazines
2. Draw sketches
3. Take photographs of your favourite personal belongings

These will all help your potential designer or architect to understand you and your ideas. Take time to notice buildings and homes in your area that you like. You could then find out the name of the architect responsible. Even if that particular architect isn't available for your project, he or she might be able to refer you to someone else who does similar work.

If you are unsure where or how to start, contact the RIAI (Royal Institute of Architects in Ireland) or the AAI (Architectural Association of Ireland) and ask for information on houses that have been commended or that have won awards under their annual awards schemes. Once you get a feel for what appeals to you it is worth arranging to meet a few designers whose work interests you. Ask them to show you other examples of their work and get them to explain their approach. See if this marries with your own approach.

Discuss your budget with your designer and if possible look at examples of work within that budget range. Remember that in order to achieve a high quality design it is essential to have a high calibre designer. In addition it is essential to give this designer sufficient time to work up and refine your design if it is to have the quality you want. There is a financial price to be paid for the time that a good designer will take and this is reflected in their fee. However, you should spread this fee over the lifetime of the house and consider the added value a good designer will bring to the project. A well designed house will increase the quality of your experience of living there, exploiting views and light you didn't think existed, giving you a house that has timeless elegance and looks as good if not better in 50 years. If you aspire to build a well designed house you will value the skills, time and talent of your chosen designer and it is likely that you will consider their fee money well spent in the overall equation.

Your choice of designer is critical to ensure you get the best house, suited to your needs, that also works in harmony with surrounding landscape. It is important that you allow your designer or architect creative flexibility - there's no point in hiring someone else to design for you! However, it's equally important that you speak up if you truly dislike a design decision, because you are ultimately going to have to live with that decision in the end. The relationship between the client and the designer of their new home is very important ensuring the best outcome.

Selecting your designer:

- What do you like?
- Who is doing what?
- Go shopping for your designer!!

2.3 site selection

Not all sites are good sites!

Once you have an idea of what you want from your new home and have appointed your designer to develop a design, it is critically important to carefully consider where you are going to build. A site that may at first appear to satisfy your basic requirements can turn out to have host of problems and constraints. Ideally you should involve your designer when you are shopping for your site to ensure that the objectives of your brief can realistically be achieved within the site, or to ensure that problems with a site can be overcome with creativity. A good designer will be able to minimise or avoid constraints while making the most of a site's potential and they can also steer you away from sites where any potential may be outweighed by greater problems.

Consider the following

- The size of the site- is it big enough for the house you need? Remember that large houses need very large sites (can the site accommodate a septic tank?)
- Long distance, middle distance and near distance views within and without the site
- Parts of the site may be more sheltered and private than others
- Sloping sites can offer potential for changes in floor level and a variety of internal spaces but excessively steep gradients can present insurmountable problems in terms of access and achieving a house that blends in
- Beware of potential overlooking issues with neighbours
- Consider the impact your house may have on your neighbours and the local landscape setting
- Sunpath- where does the sun rise and set?
- Ideally the best views should be to the south (though south west or west are also acceptable)
- Avoid sites where the south side has a poor outlook and is in shadow(for instance due to shadow caused by mature trees), or where the best views are to the north
- When buying a site with outline planning permission ensure there are no restrictive planning conditions that may limit its potential
- Are there any existing structures or features within the site - built or natural?
- Can existing `landscaping' (mature trees and native hedges) be retained and incorporated into your site design?
- How well drained is the site?
- How do you get access onto the site?
- Can the necessary visibility splays be provided within the boundary of the site, without excessive, undue removal of roadside hedges and trees?
- Is the site visually prominent?
- Is your site within an area designated for nature conservation, archaeological or built heritage?

A poor choice of site will greatly limit the potential of a design project.

2.4 location and siting-integration

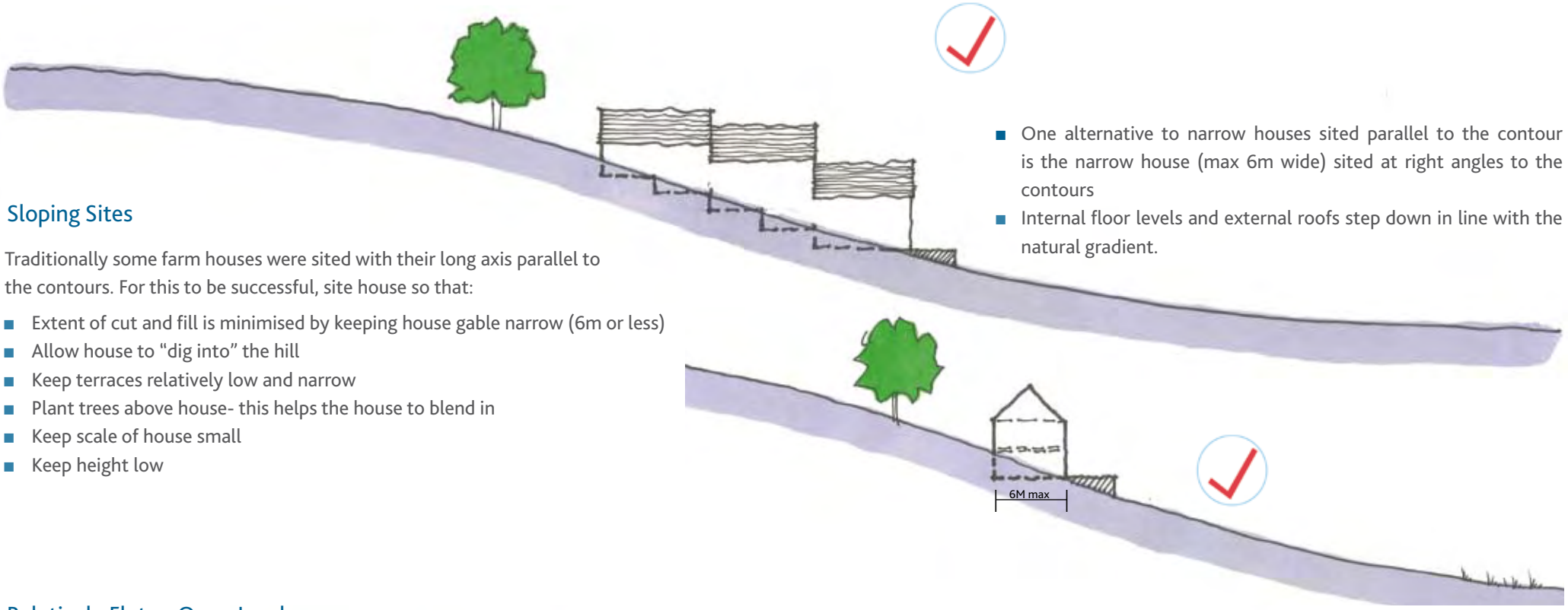
There are many siting options for a new home. Consider the pros and cons that will affect the options for the position of the house

aim for

Sloping Sites

Traditionally some farm houses were sited with their long axis parallel to the contours. For this to be successful, site house so that:

- Extent of cut and fill is minimised by keeping house gable narrow (6m or less)
- Allow house to "dig into" the hill
- Keep terraces relatively low and narrow
- Plant trees above house- this helps the house to blend in
- Keep scale of house small
- Keep height low



- One alternative to narrow houses sited parallel to the contour is the narrow house (max 6m wide) sited at right angles to the contours
- Internal floor levels and external roofs step down in line with the natural gradient.

Relatively Flat or Open Landscapes

- Low and smaller scale houses are easier to blend into an open or relatively flat landscape especially when they are supplemented by well considered planting of native species deciduous trees

avoid

Top of Hill

- House on hill top or
- House that breaks skyline when viewed from County Road

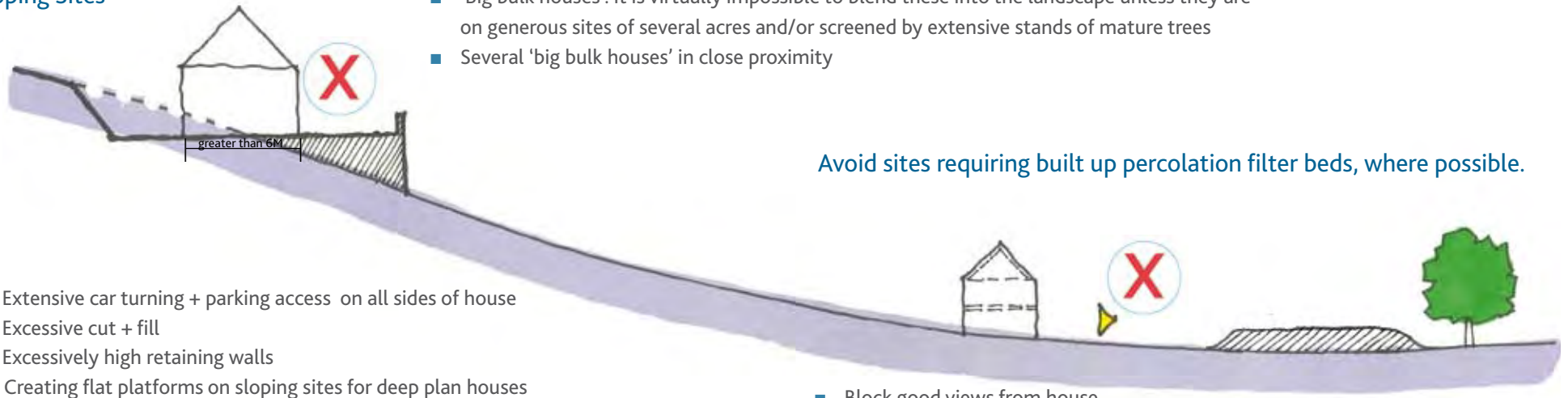
Hollows

- Poor drainage on low lying sites could indicate potential flooding
- Inadequate percolation

Relatively Flat Landscapes

- 'Big bulk houses': it is virtually impossible to blend these into the landscape unless they are on generous sites of several acres and/or screened by extensive stands of mature trees
- Several 'big bulk houses' in close proximity

Sloping Sites



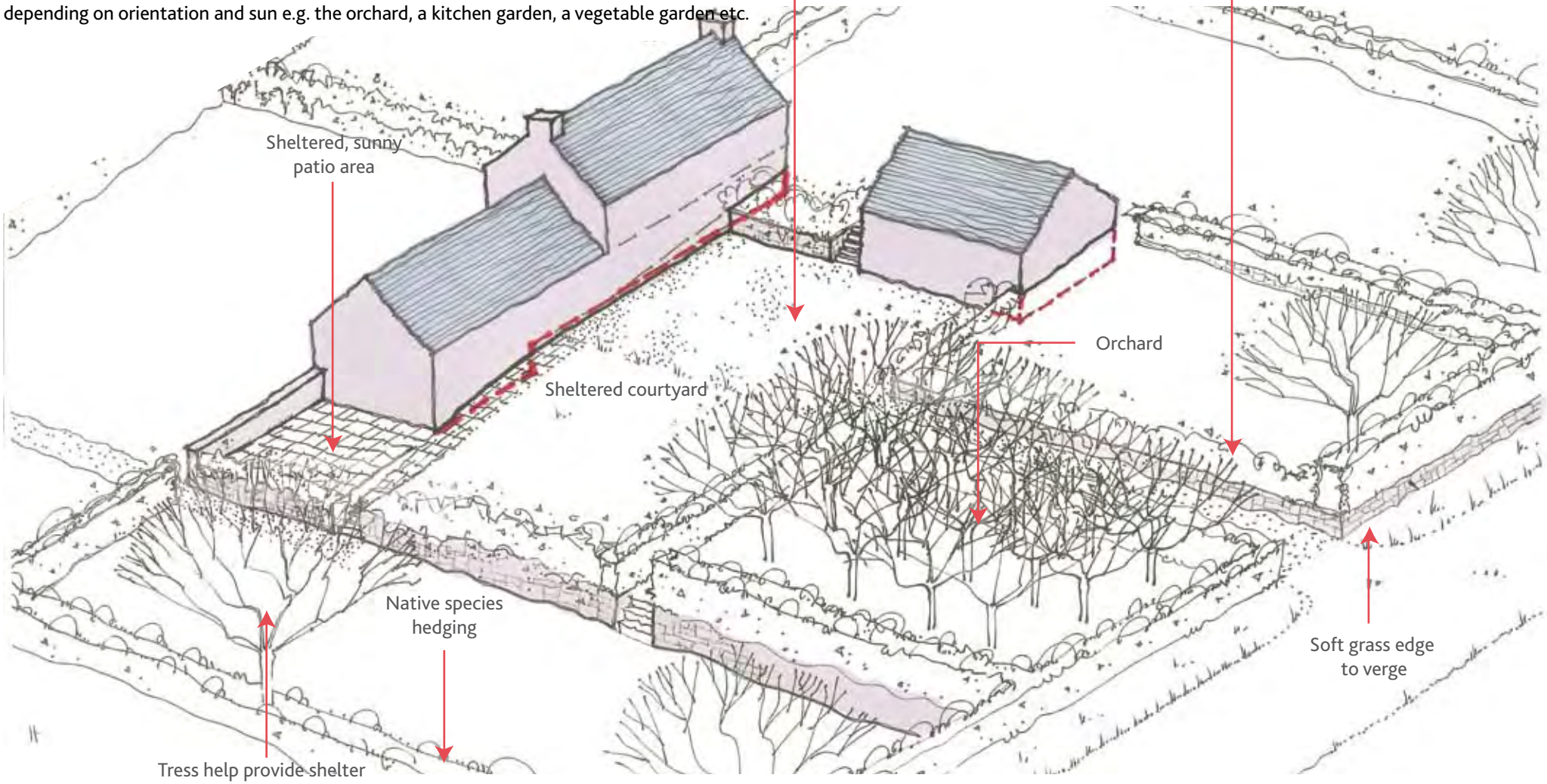
- Extensive car turning + parking access on all sides of house
- Excessive cut + fill
- Excessively high retaining walls
- Creating flat platforms on sloping sites for deep plan houses

Avoid sites requiring built up percolation filter beds, where possible.

- Block good views from house
- Jeopardise life span of existing trees by damaging their roots
- Create unnatural landscape formation

Sloping Site - Potential

The sketch below shows, in more detail, a linear house stepping down a sloping site. This illustrates how a sloping site offers the opportunity to create a series of stepped, small intimate scale sheltered garden and yard spaces which can have a variety of uses and character depending on orientation and sun e.g. the orchard, a kitchen garden, a vegetable garden etc.



where to put the building

The site shown below benefits from several fine mature deciduous trees along its southern boundary. Apart from being beautiful to look at these help the house to blend into the surrounding countryside, give privacy and shelter and add character.

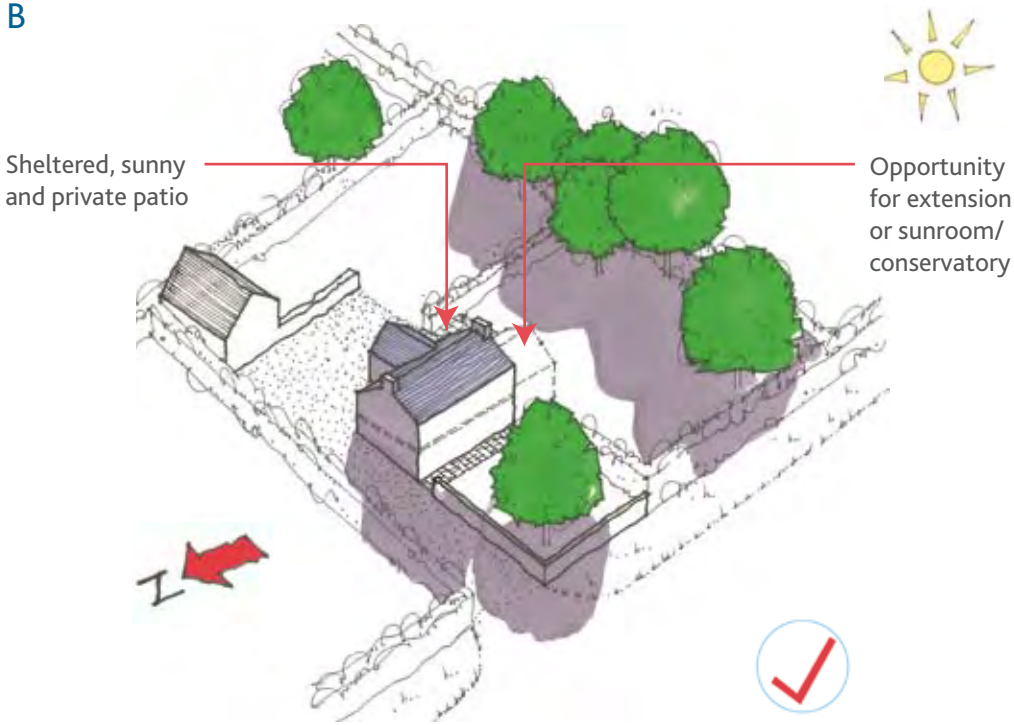
The arrangement illustrated below (A) respects a number of established County Kilkenny character patterns in its siting relative to the County Road, vehicular access / parking layout and relationship to gardens.

However it has been positioned much too close to the trees and suffers from overshadowing Both the external and internal spaces on the south side of the house are in deep shade in the middle of the day between May and September. This means that they miss the opportunity to maximise solar gain and the excellent quality of natural light.

- Arrangement (B) overcomes the problem caused by overshadowing (Illustrated in option A) by moving the house as close as possible to the northern boundary. Shadows cast by the mature trees no longer affect the house.
- Aim to keep access roads, car parking and turning to one side of the house, preferably on the shady north side of the site. This releases more of the sunny areas of the site for gardens; a patios etc, and dramatically improves the near distance views from inside to outside.
- This also helps to protect the lifespan of the mature trees. Building too close to their roots can cause fine trees to die prematurely.

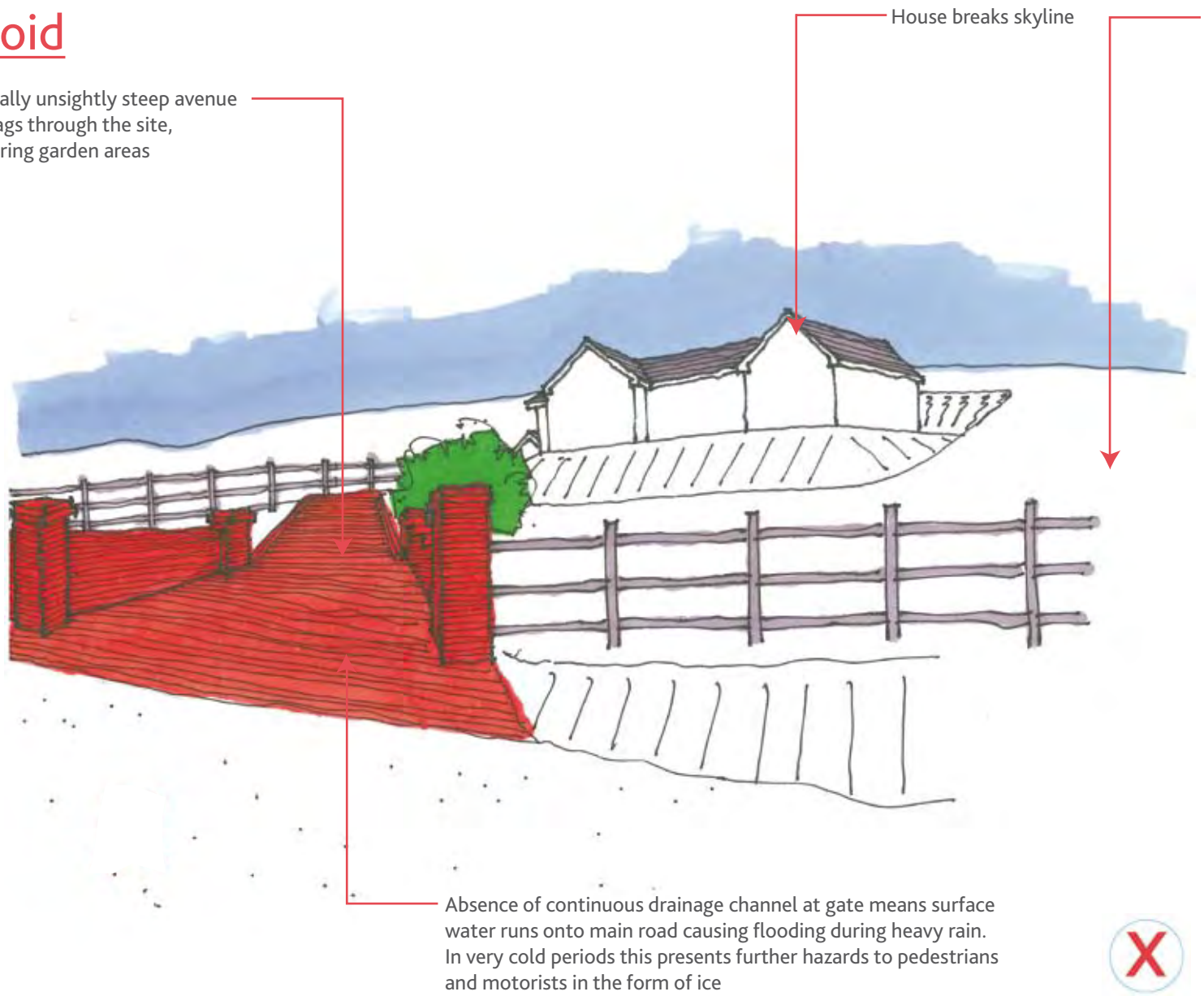
A

B



where not to put the building

avoid

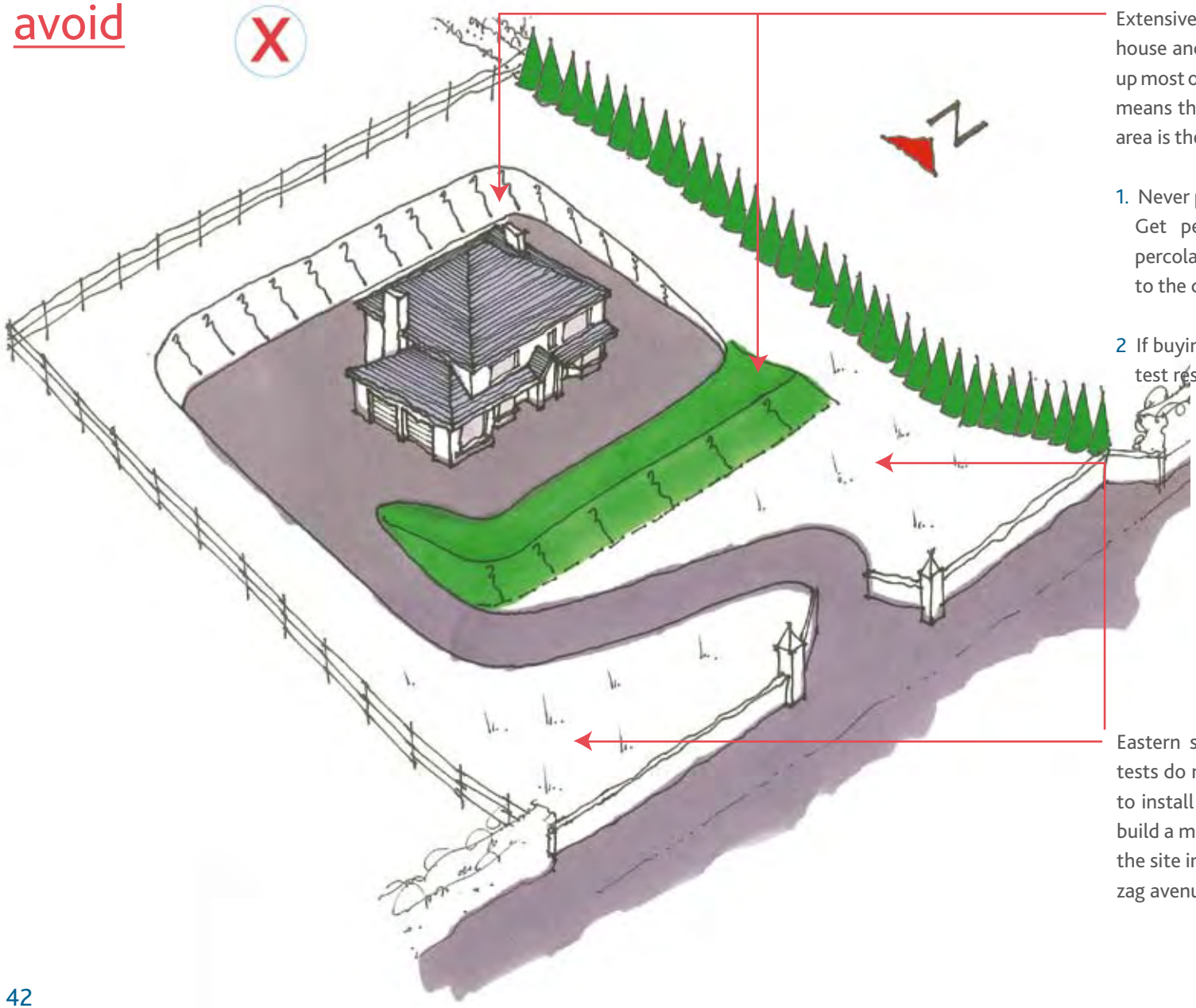


Common Problems to be avoided

- Steeply sloping sites to the main road often present extreme difficulty for vehicular access and surface water run-off.
- A common approach is to position the house as high as possible (often to capture best views). This usually has detrimental consequences.
- The access road invariably zigzags its way through the site in an effort to achieve negotiable gradients.
- Extensive cut and fill on the upper part of the site is carried out to create a large level platform for both house and vehicular circulation around the house.
- The result is that the house is disconnected from its immediate surrounding gardens but also the wider visual landscape.
- Viewed from the country road the house breaks the skyline and fails to blend in.
- Removal of original native hedgerow and its replacement with a ranch style fence has a negative impact visually and further reduces the scope for blending a new house into a rural landscape.

can the site accommodate an adequate septic tank and

avoid



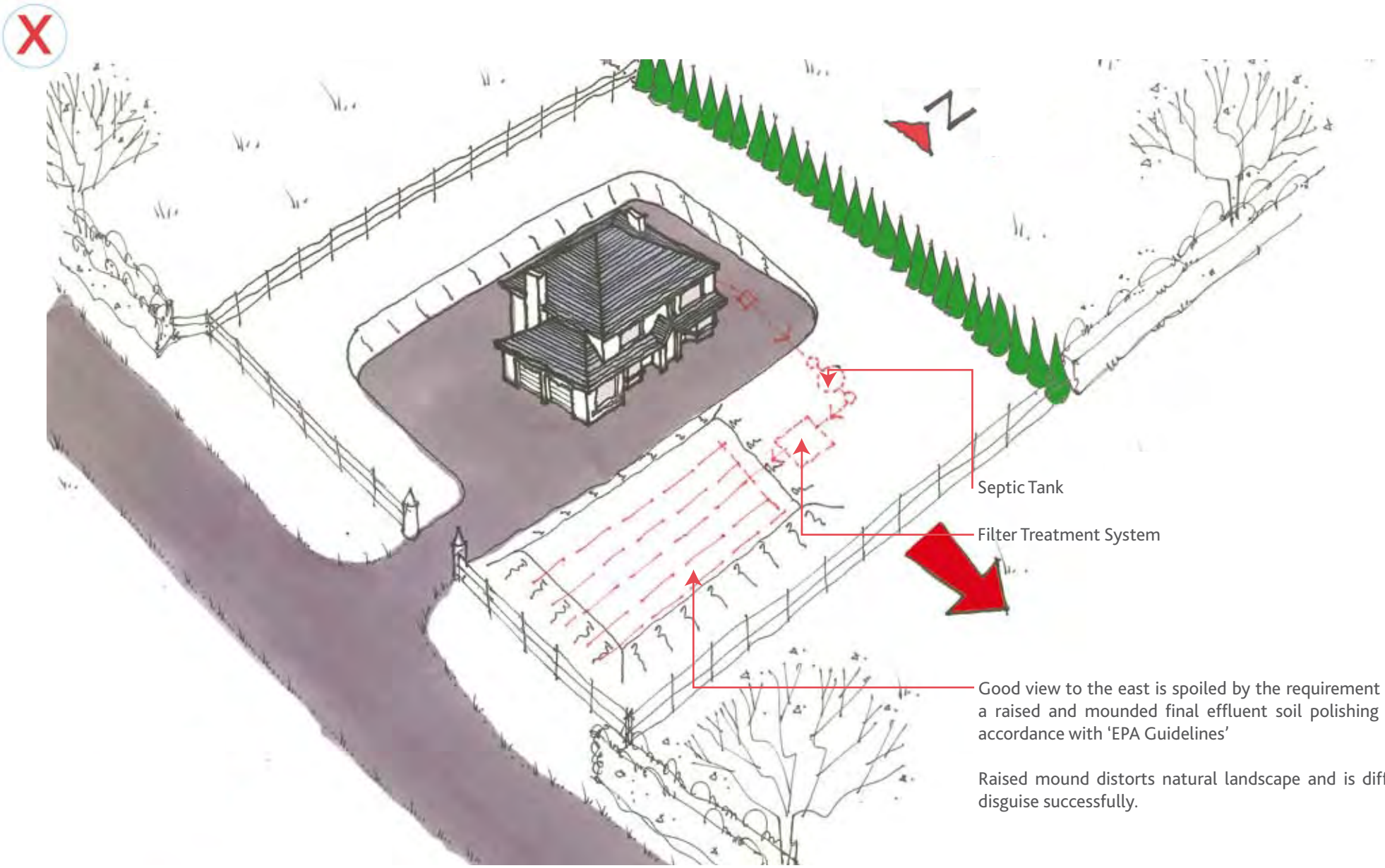
Extensive cut and fill to create level platform for deep plan house and continuous car turning area around the house uses up most of the site. This, combined with a zig zag access avenue, means the only space left for the septic tank and percolation area is the low lying marshy ground.

1. Never purchase a site that is subject to planning permission. Get percolation tests carried out to ensure adequate percolation exists before purchasing and before committing to the designers fees for the full design service.

2 If buying a site with outline permission, check if percolation test results have been submitted as part of that permission.

Eastern side of site is low lying and marshy. If percolation tests do not meet the required standards. It can be necessary to install an effluent treatment system and import topsoil to build a mound to act as a polishing filter. As the avenue severs the site in half, there isn't enough area on either side of the zig zag avenue for the length of drainage pipe required.

percolation area?



Good view to the east is spoiled by the requirement to build a raised and mounded final effluent soil polishing filter in accordance with 'EPA Guidelines'

Raised mound distorts natural landscape and is difficult to disguise successfully.

site suitability

If, as in many rural areas, your home will be subject to some form of on-site wastewater treatment, one of the most important considerations before finally deciding on a site, is the site's suitability for on-site wastewater treatment. It is important to remember that not all sites are suitable for the treatment and disposal of wastewater. Initial indications that a site may not be suitable include the presence of some species of plant such as Alder, reeds, rushes and Iris. Soft underfoot ground conditions or the presence of a high density of surface water features (streams, ponds, etc.) would also indicate that the site may be subject to poor percolation. Sites shown as boggy on Ordnance Survey maps will often be prone to flooding and should generally be avoided. Potential flooding and the impact of development on water levels is a critical consideration at the earliest stages in the design process, ie when selecting your site.

Once you have appointed a designer, site suitability should be examined in further detail. An appropriately qualified professional should be engaged to prepare a full site characterisations in accordance with 'EPA Guidelines'.

The percolation area should be sized for the maximum occupancy of the house, based on the number of double and single bedrooms. An important factor in the siting of the house within the site is the size of the percolation area required and the achievement of all separation distances from both the septic tank / proprietary treatment system and the percolation area to house, site boundaries, wells / springs, roads, watercourses, etc., as per EPA guidelines. If a raised percolation area is required, the impact this may have on the existing site topography should be considered.

** All wastewater treatment systems should be designed in accordance with the EPA's Wastewater Treatment Manuals, Treatment Systems for Single Houses (EPA, 2000) as may be amended by the EPA's Code of Practice for Wastewater Treatment Systems for Single Houses (P.E. < 10)*

Prior to submitting a planning application, you should discuss in detail with your designer all aspects of the Site Characterisation Report. In particular your designer should explain to your satisfaction how the following key questions are answered:

Key Questions:

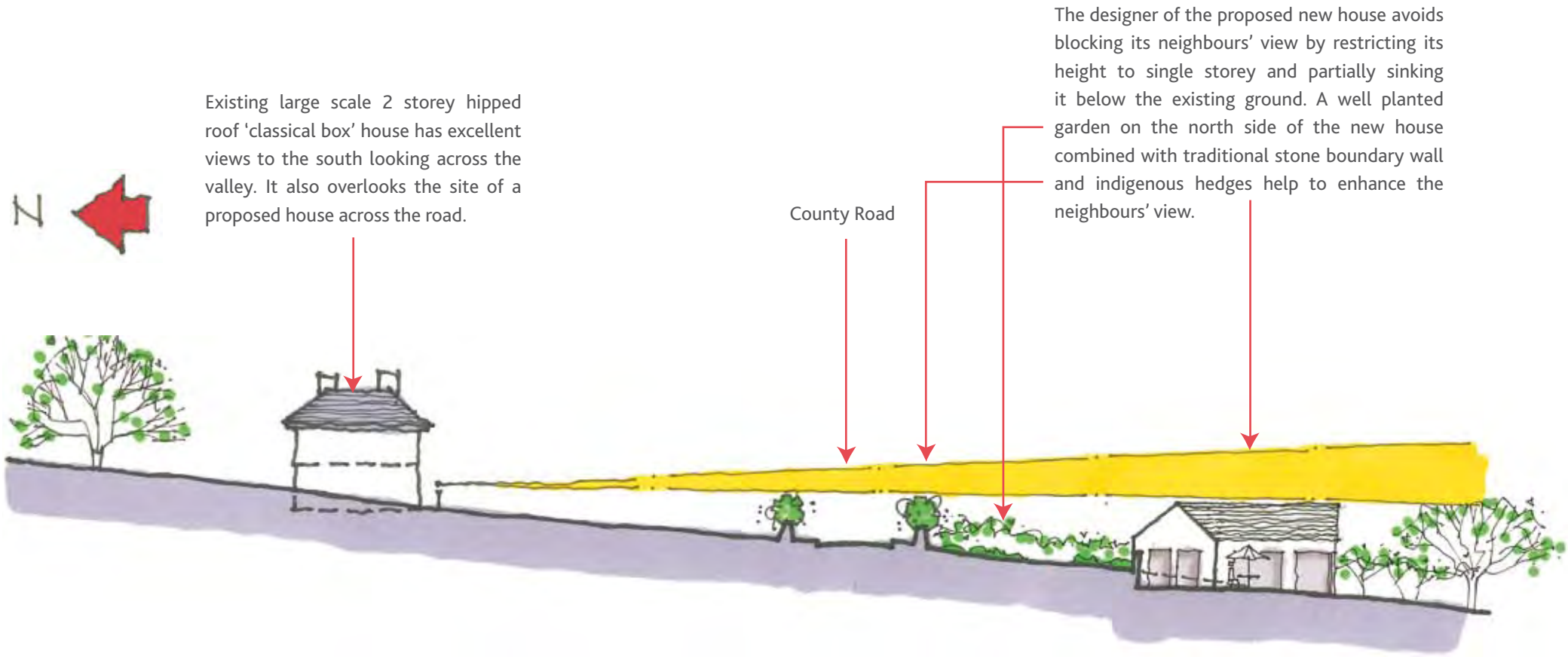
1. Are there any size restrictions on the site?
2. Is the site suitable to treat the wastewater? (Attenuation)
3. Is the site able to dispose of the wastewater and surface water? (Hydraulic Load).

overlooking: ‘good manners’

Respect your Neighbour

It is impossible to cover the many various situations in which the problems of overlooking are issues. Suffice to say that clever, creative designers can often solve these problems in ways that cannot be anticipated by any guide. This guide simply wishes to emphasise that with clever, thoughtful design these problems can be often eliminated.

- Avoid blocking your neighbour’s good view (out of courtesy rather than any legal obligation)
- Avoid your neighbour over looking you
- Avoid overlooking your neighbour

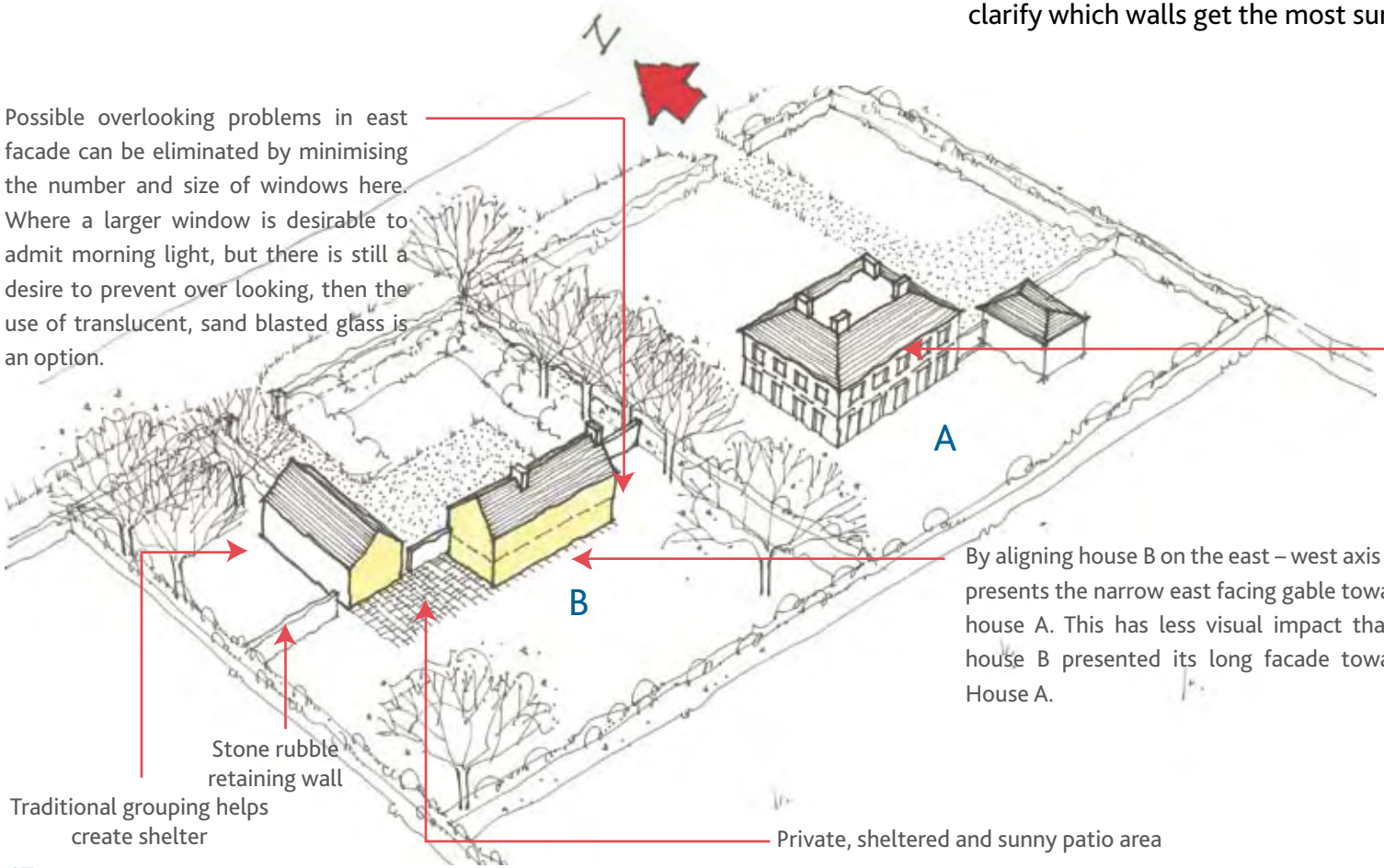


avoid overlooking your neighbour

House A already exists and the new house B is proposed next door. How can the design of this new house minimise potential problems of being over looked by house A.

The shape and orientation of the house is narrow in plan and has a long south facing façade. It gives great scope for concentrating the main living spaces on the south and west sides of the house where the views are best and incoming solar gain can be maximised with the largest windows concentrated on these facades. Secondary rooms such as toilets, stores, garages etc are best located on the north side of the house with smaller windows to reduce heat loss.

In house B the main living spaces and largest windows should be concentrated on the south and west sides of the house. These are shown shaded yellow to clarify which walls get the most sun.



2.7 landscaping, boundary treatments and biodiversity

A critical factor in achieving a good level of integration with the local and wider rural area is the landscaping of your site. The garden of a property provides the transitional link between the dwelling and the surrounding environment. Colour, form and texture all combine to create spaces, enclosure and screening around the house. The landscaping and design of the spaces around a building should not be seen as an afterthought, but should strongly influence the design of a new development. Landscaping with appropriate nature plant species, is also very important for encouraging and conserving new wild life.

You should retain or create natural boundaries based on native species trees/ hedges wherever possible. In some instances it may be preferable, and possible, to move the existing hedgerow, thereby retaining the mature hedgerow but also achieving the necessary sightlines (see section 2.8). One thing to consider is how you will access the site and what bearing this will have on existing roadside boundaries. Road safety standards will require the provision of a visibility splay where a new access is proposed. All too often the existing boundary planting is torn out and a concrete wall or ranch fencing is erected behind the visibility splay. This undermines opportunities to conceal the site from public roads, and also results in the removal of valuable eco-systems and natural habitats. Where there is no alternative but to remove the existing hedgerow you should replace "like with like" once safety standards have been met. If a hedgerow must be removed this should only be undertaken when birds are not nesting. i.e. removal of hedgerows should only take place during the months of September-February. Rather than erecting a suburban boundary that will give the site a "hard edge" ill suited to a rural location, you should endeavour to form a planted boundary inside your visibility splay that mirrors the original boundary of the site. When creating a new boundary use traditional materials/planting - typical traditional boundaries in rural Kilkenny are often defined by stone rubble walls and earth ditches topped with native species hedging. Avoid using overly fussy gates and the use of inappropriate non-indigenous planting (non-native coniferous hedging such as Leyland Cypress and Lawson's Cypress should be avoided as they grow very quickly, present maintance problems are visually intrusive and support little wildlife).

A simple check in the surrounding hedgerow will tell you what tree and shrubs species are commonly found in the area. These are the ones that you should plant in your hedgerows. If in doubt, seek advice from an ecologist, or contact the Heritage Office of Kilkenny County Council. See list of native trees and shrubs in included in Appendix 1.

Pushing back existing hedgerows should be investigated as the favoured option however this may not always be feasible. The Parks Section of Kilkenny County Council can be consulted in relation to this matter. The local tradition of hedges above earth or local rubble stone ditches will also be encouraged. (See Appendix 1 for guidelines on native hedgerow planting)

When working close to existing trees it is recommended that particular care be taken to ensure that root systems are not damaged to the detriment of the health and longevity of the tree. Where trees or hedgerows are to be preserved on a development site, it is essential that the trees and hedgerows be protected by the erection of secure fencing prior to any site or engineering works commencing and that no materials be stored within the fenced area and that no vehicles have access to the fenced area. To ensure that trees and hedgerows are protected on a site which has been the subject of a grant of planning permission, a cash lodgement may be required, the amount of which shall be determined by the Planning Authority.

Advice on working in the vicinity of trees is contained in BS5837 "Trees in Relation to Construction". (Advice is also available from Kilkenny County Council Parks Department)

Development will not generally be permitted where there is likely damage or destruction either to trees protected by a Tree Preservation Order or those which have a particular local amenity or nature conservation value. Development that requires the felling of mature trees of amenity value, conservation value or special interest, even though theymay not be listed in the Development Plan, will be discouraged.

Where felling of trees is unavoidable a Tree Felling Licence must be sought from the Forest Service. New planting will be required using native species. Trees of local provenance, (i.e. grown from seed from plants growing locally) are preferable if available because they will be best adapted to growing in County Kilkenny.

- Avoid concrete/stone kerbing and pavoirs that result in a very urban look and feel

- Make the most of existing mature native planting within the site and supplement this where appropriate to create an informal and relaxed garden that has a rural feel. A well considered approach to landscaping and garden design will ensure your home integrates with its surroundings, as well as creating a range of attractive and private spaces or outdoor "rooms".

2.8 access and sight lines

Aim

(a) Try to choose a site that can achieve its access sightlines without altering existing native hedgerows or mature trees along its (or an adjoining neighbour's) boundaries.

(b) When it is necessary to remove existing native hedges then proposals that either push these hedges back or reinstate with native hedge species inter-planted with native broadleaf trees will be favoured. The local Kilkenny tradition of hedges above earth or local rubble stone ditches will also be encouraged.

When working close to existing trees it is recommended that care be taken to ensure that root systems are not damaged to the detriment of the health and longevity of the tree. Advice on working in the vicinity of trees is contained in BS5837 "Trees in relation to Construction".

(c) Whether forming a long access lane within your property or reinstating roadside boundaries aim to replicate the character of the rural country road or laneway as much as possible. * Note that when reinstating a hedge boundary along a public road you may be required to centre the hedge 3m behind the line of the visibility splay to allow for the growth of the hedge.

(d) Co Kilkenny has a tradition of simple local rubble stone or painted plaster boundary walls and gateposts at entrances. These are frequently softened by substantial stands of mature native trees immediately inside the roadside boundaries. These will be acceptable.

photo with permission of Berenice Maher and Stan McWilliams

Rural access lanes

Houses in the countryside will blend in much more easily when they are sited well away from the County Road and accessed via the traditional single track hedge lined laneway. This is well illustrated by this energy conscious house in the Inishowen countryside, Co Donegal (right) and designed by Paul Leech of Gaia Associates in 1990. It blends in so well that it is almost impossible to pick out the house when scanning the wider landscape. Notice the soft grass verges, central grass reservation and gravel finish to the lane.

photo with permission of Frank O'Mahony Architects

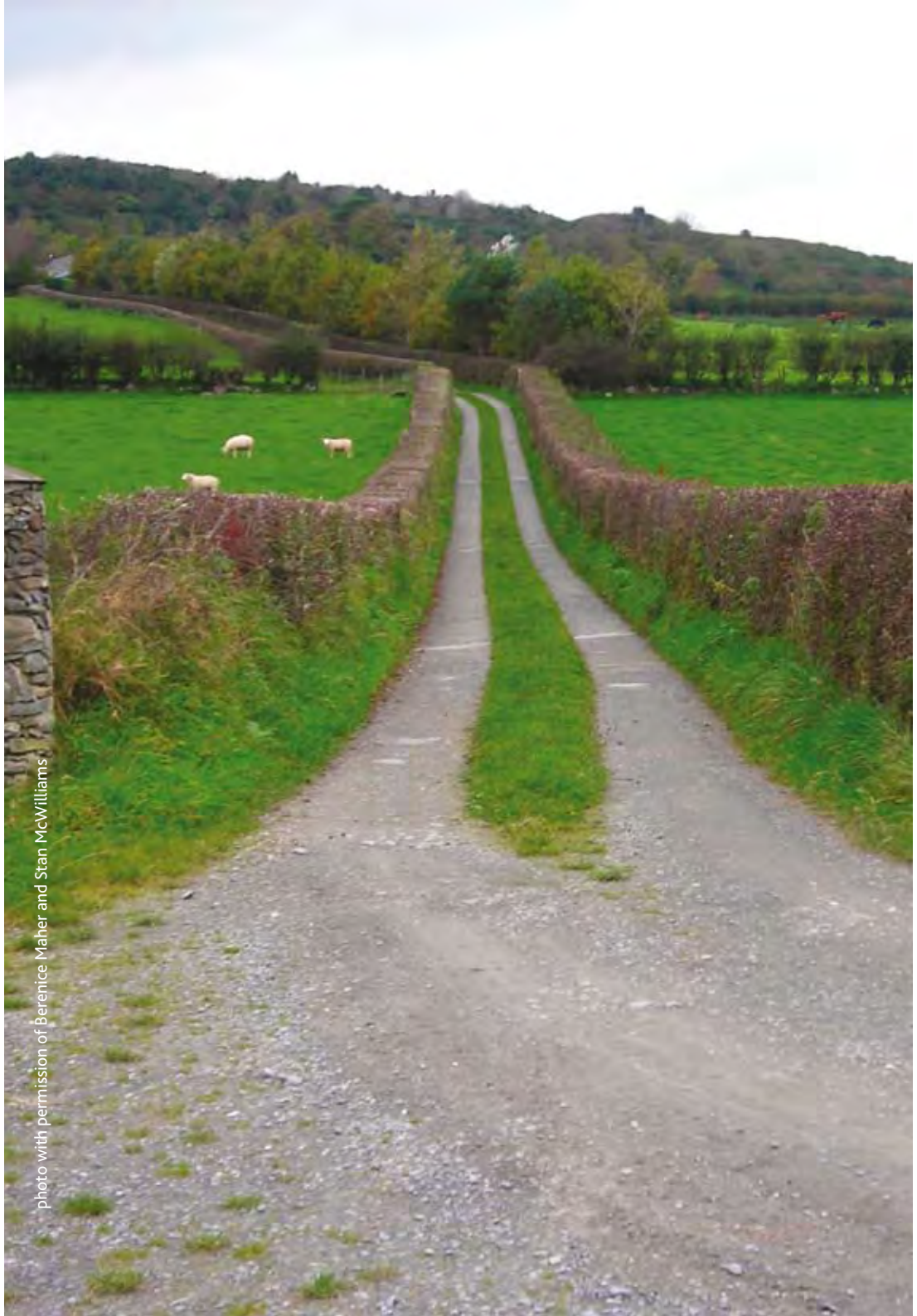


photo with permission of Berenice Maher and Stan McWilliams

Visibility Splays

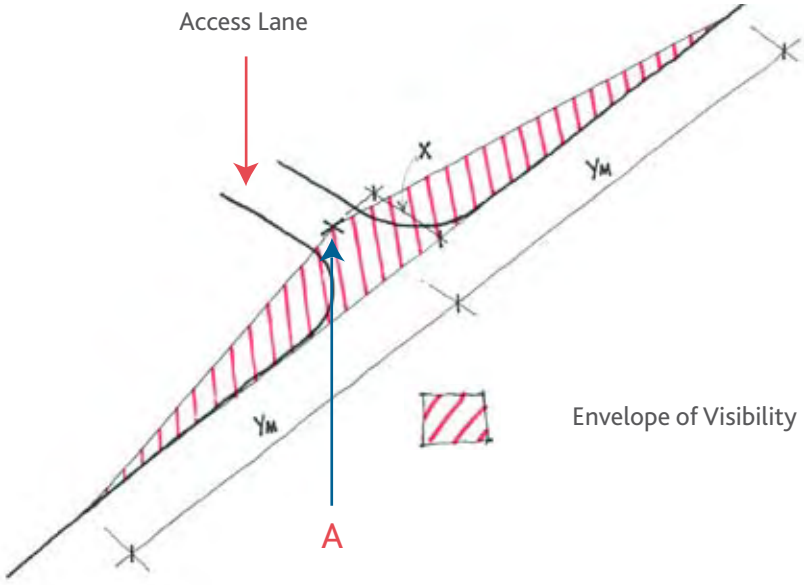
All accesses must provide permanent visibility splays to enable emerging drivers using the direct access to have adequate visibility in each direction to see oncoming traffic in enough time to make their manoeuvre safely without influencing the major road traffic speed. At junctions with National and non-National public roads the vision lines must be in accordance with the guidelines set down by NRA (National Roads Authority).

Applications for a new house, or extensions to existing houses (if planning permission is required) must meet these standards for sightlines at the access to the public road. This also applies to accesses that are remote from a proposed new house such as a long rural access lane. Gateways and entrances to lanes that have been in use for decades often have to be adjusted substantially to comply.

Sometimes meeting the required standards can prove difficult within your legal property boundaries. Alterations may be necessary that affect your neighbour's boundary such as realignment of their boundary hedge or wall, removal of mature trees, or even the removal of a building. Any or all of these may be unacceptable to your neighbour and without their written consent your application will be refused.

Check

It is recommended that you ask your architect or designer to check the implications of the sightline requirements for a proposed site before you purchase. The standards are clearly set out and apply countrywide.



X is known as the set back distance and, in general, for a domestic dwelling with a single vehicle access point this dimension is typically 2.4m for access to a local road or 3m to a regional road. This can increase to 4.5m where the access point allows two way traffice or at a junction

Y refers to the length of the visibility splay. These dimensions can vary considerably. Typically for a domestic dwelling with a single vehicle access point the Y dimension is as follows:

Status of Road	Xm	Ym
Regional Road	3.0	145
Local Road	2.4	90-120

The sightlines are measured horizontally, from point A, the set back point, which is centred on the new gateway, *x*m back from the road verge. The line of the visibility splays is projected in each direction from A, the required *y* dimension measured along the length of the road verge until it intersects the road verge. The zone hatched in red, known as the Envelope of Visibility, must be free of vegetation or any other features above the driver's line of vision (measured at 1.05 and 2.0m above road level at the set back distance (A) to an object height of between 0.26 and 1.05m high at the point where the visibility splay intersects with the nearside road edge.

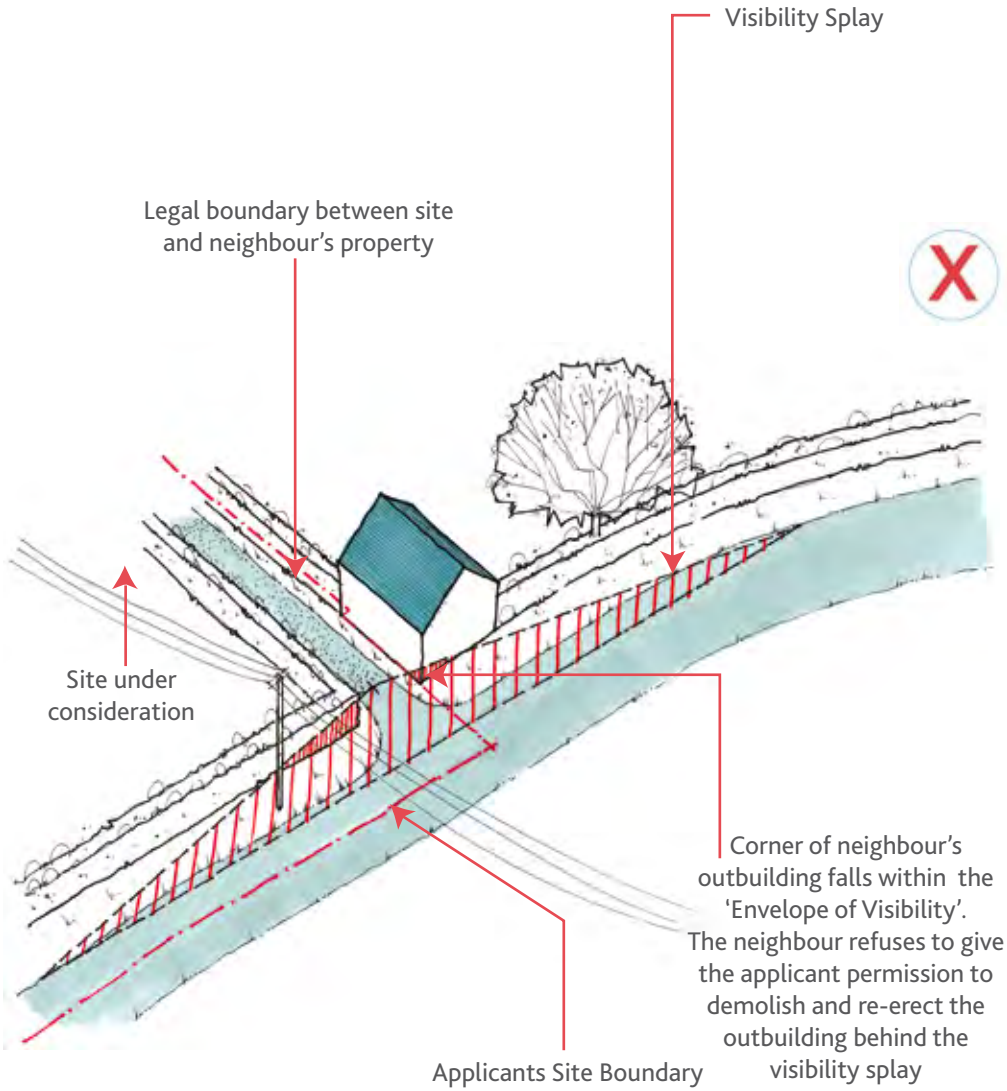
Avoid

(a) Much of the character of country roads is lost by the removal of native hedges and mature trees along the length of visibility splays at access points to new houses, and the subsequent failure to reinstate these as was. The erection of new boundaries of open timber fencing, blockwork, imitation stone or brick walls (combined with excessively ornate gateposts, gates and/or railings) all substantially undermine the signature rural character of the Co Kilkenny countryside and make it very difficult for the boundaries of a new house to blend in.

(b) Avoid sites where features that cannot be removed easily, if at all, occur within the Envelope of Visibility either on your own or neighbouring property.

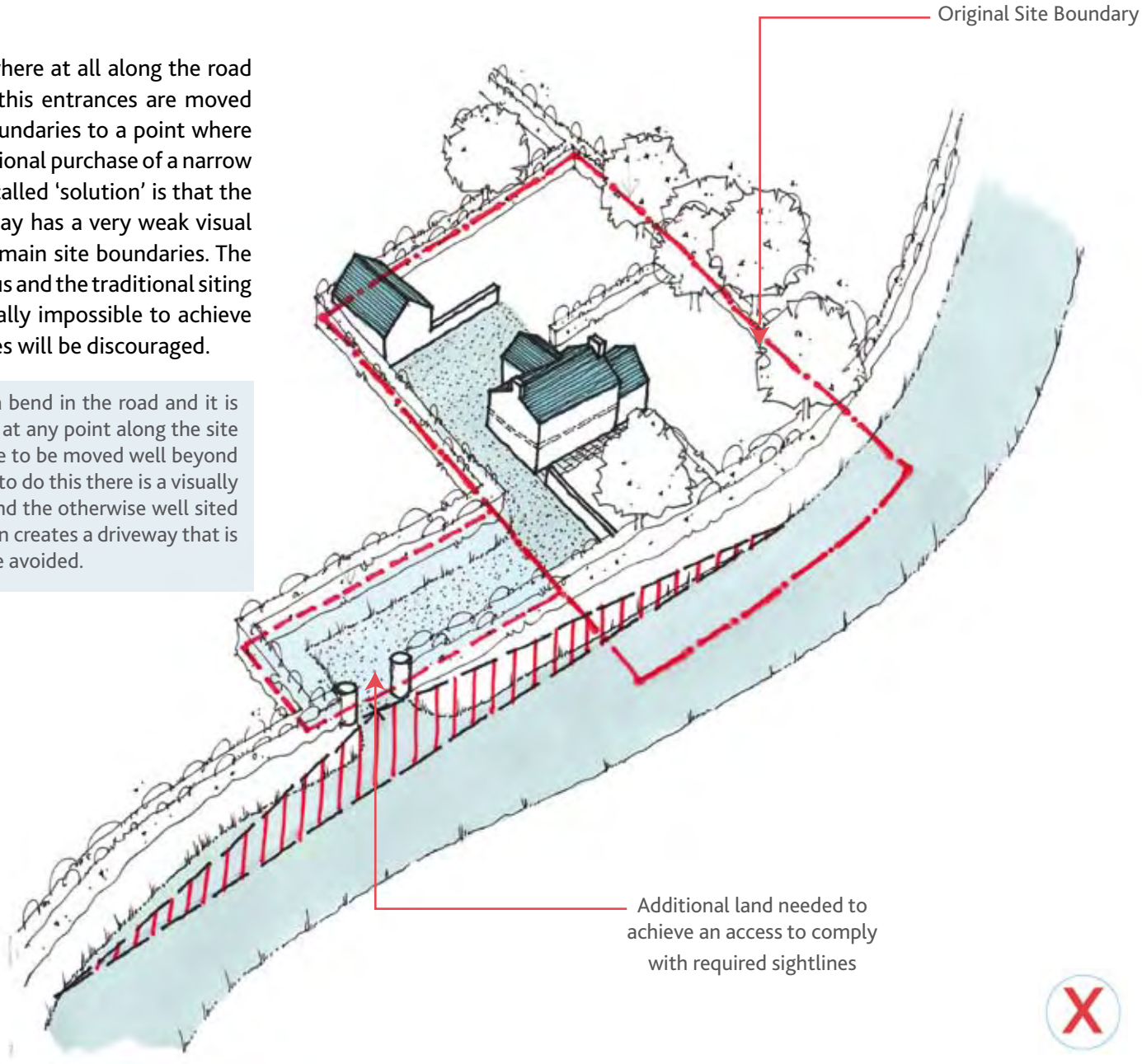
This sketch illustrates an existing rural laneway at the point where it meets the Public Road. This provides the only vehicular access to a proposed site further along the lane. There is no scope to create a new access point elsewhere along the remainder of the applicant's road frontage.

On the applicants side of the lane the existing hedge and a freestanding electricity pole fall within the 'Envelope of Visibility'. Although both of these can be repositioned to achieve clear visibility the position of the outbuilding and the fact that it cannot be moved will mean that this planning application will be refused.



(c) Sometimes it is impossible to achieve sightlines anywhere at all along the road boundary of a proposed site. In an effort to resolve this entrances are moved further along the road beyond the actual property boundaries to a point where sight lines are achievable (often necessitating the additional purchase of a narrow strip of land from a neighbour). The effect of this so-called 'solution' is that the entrance gateway and the initial length of the driveway has a very weak visual relationship to the position of the new house and its main site boundaries. The configuration of the driveway is convoluted and tortuous and the traditional siting and access patterns identified in Section 1.2 are virtually impossible to achieve within the average domestic plot size. Such approaches will be discouraged.

This site has a relatively short road frontage. It is situated at a bend in the road and it is not possible to achieve the required sightlines for a new access at any point along the site frontage. In order to comply the new entrance gate would have to be moved well beyond the original site boundary. Apart from having to buy more land to do this there is a visually weak relationship between the gateway/ first length of drive and the otherwise well sited house and its surrounding boundaries. A gateway in this position creates a driveway that is not integrated with the rest of the site. This approach should be avoided.



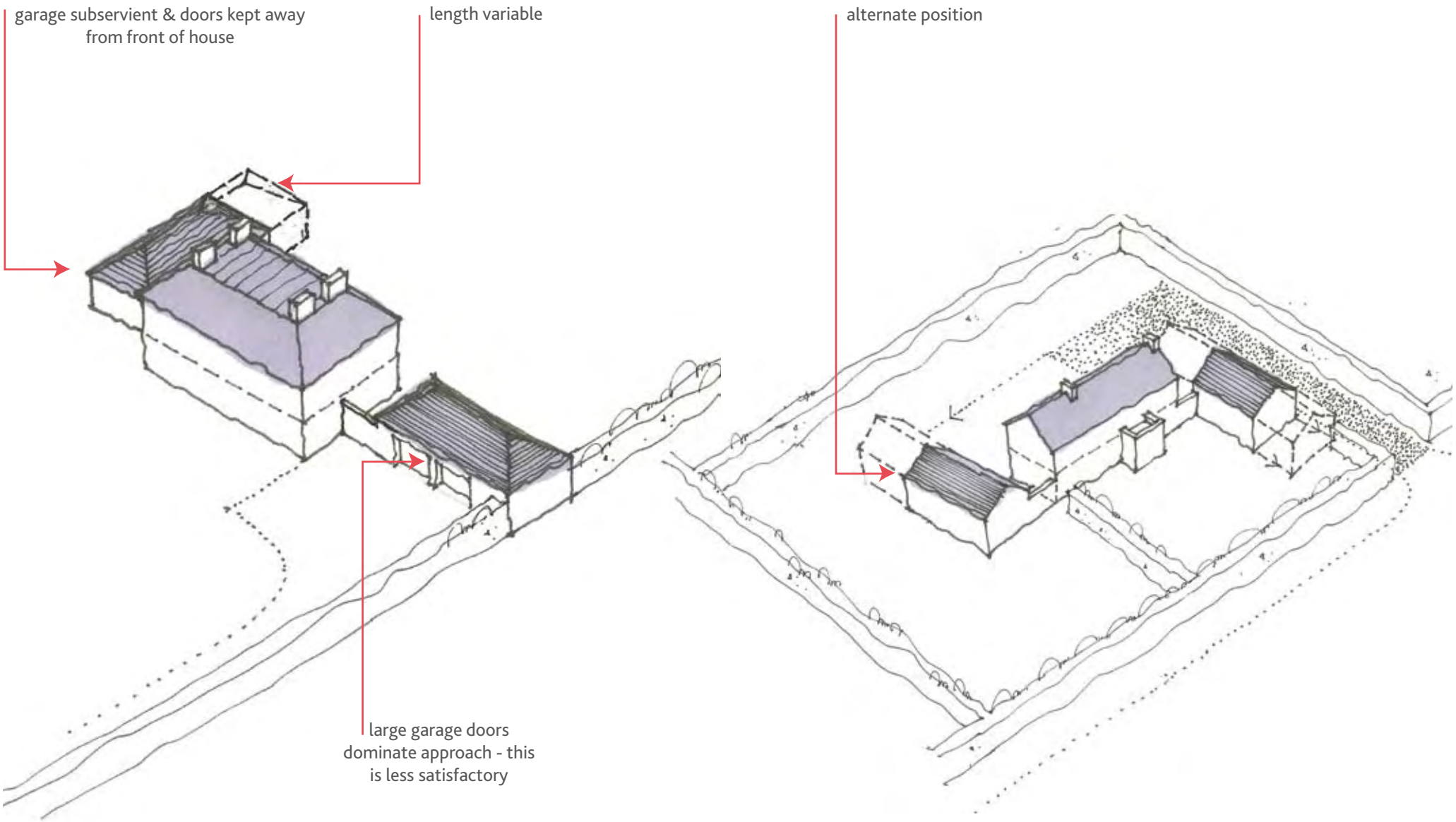
2.9 garages

Another thing to consider in the layout and design of your site is whether you need a garage at all, and if so how can this be accommodated well within the site and integrated with the design of the house itself. There are a number of issues to consider that are illustrated opposite.

Traditionally storage for vehicles in rural housing (whether that was a farmhouse or a small country house) was in linear, relatively narrow outbuildings, barns and stables. These were sometimes single storey, sometimes two storey and sometimes a combination of the two. Generally these secondary storage buildings had a visually pleasing relationship to the main house. Without resorting to (or encouraging) pastiche, the clear patterns that these traditional groupings established can guide us today.

Key Objectives

- Position garages on north or east side of the house;
- Ensure that they have a close relationship to the main house but that they are subservient in terms of their position and shape;
- Do not allow the garage to block good views from the house;
- Use garage/secondary storage buildings to help form good enclosure for exterior patio areas, terraces and sunny/sheltered corners of the garden;
- Organise vehicular access driveways and car turning areas along with the garage so that these do not dominate the approach to the house;
- Barn/garage buildings often presented narrow gables to the County Road. Where the opportunity arises to do this it helps reinforce the County Kilkenny signature character.
- The long axis of the barn/garage was often at right angles to the long axis of the house;
- Barns or stables were often relatively close to the main house (sometimes linked by a screen wall);
- Position garage doors so that these are not directly in your line of vision as you approach or leave the house

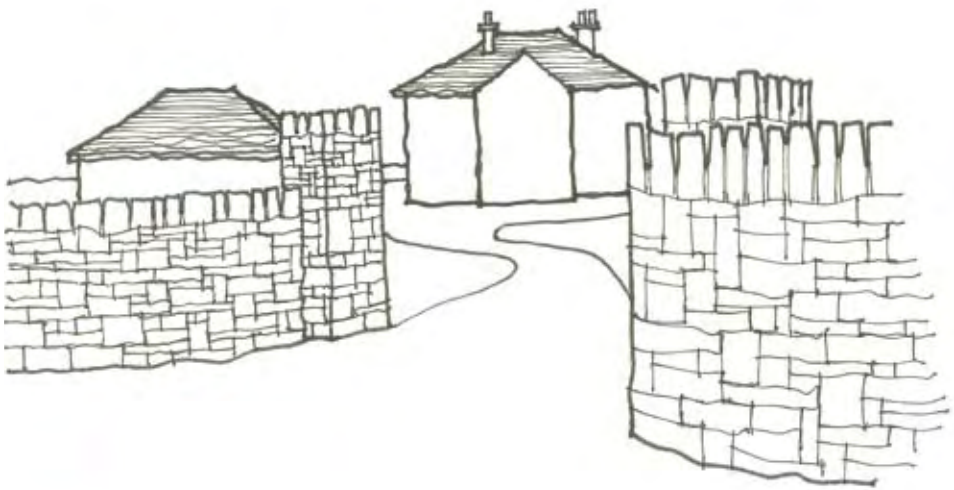

garage subservient & doors kept away from front of house
length variable
alternate position
large garage doors dominate approach - this is less satisfactory

House A

In House A the boundary wall and garage dominate the house. The garage presents its longest façade to the road, it is quite far forward of the house and is too far down from the house to have any relationship to it.

The external space between the garage and the house is too open and undefined to be used by the occupants for sitting out. There is often a lack of enclosure.

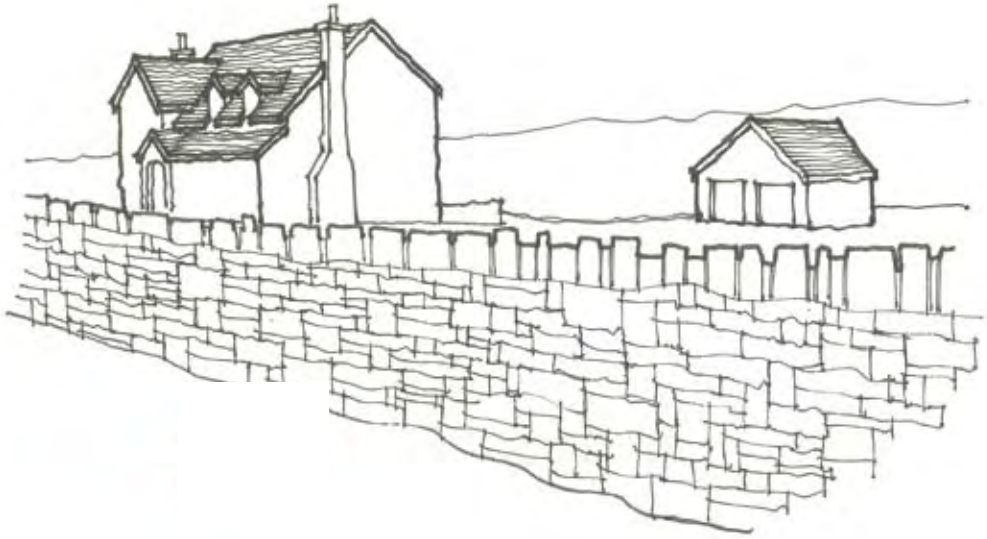
A



House B

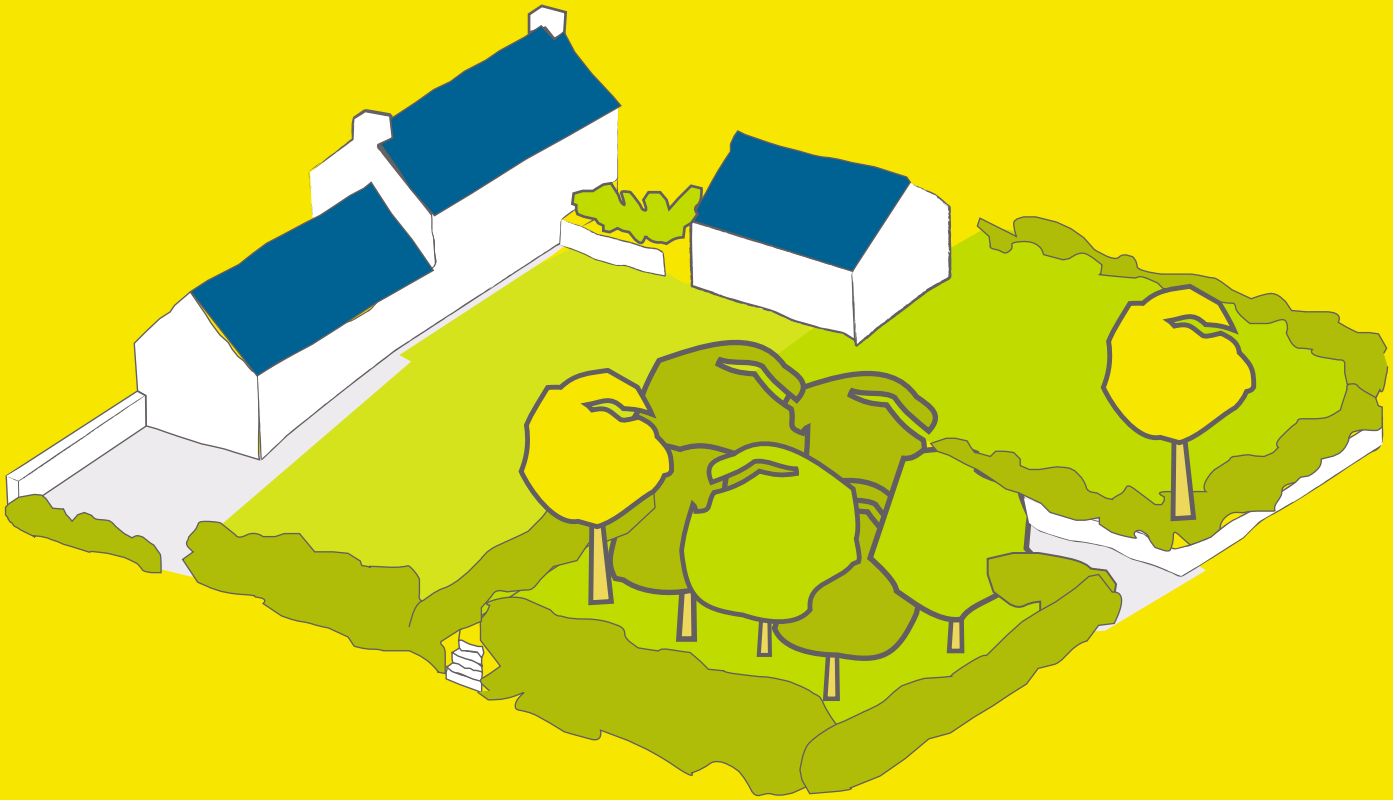
In House B although the garage is not overly dominant it is problematic because it is so remote from the main house. The two buildings are completely disconnected visually. This arrangement misses the opportunity to create a pleasing grouping of the two, or to create a sheltered sunny corner for sitting out. Its position so far back from the house means it blocks any good views from rooms at the back of the house.

B



section 3

i would like a house that is handsome & well designed...



3.1 introduction

By this stage you have selected your designer and your site, defined your brief and begun to liaise with your designer who is working up some ideas for how the site will be handled. The next stage is to begin to interact with your designer to discuss what they are coming up with and to give feedback to the designer on whether their ideas are beginning to meet your needs.

We can all appreciate a beautiful landscape or building, but do we understand what it is that makes something attractive? Over the course of this section we will explore some of the factors that combine to create a successful building: scale, size, form & shape, proportion, massing & volume. However, it is important not to lose sight of the art of design. It is not a science and there are no hard and fast rules or a formula that can be applied to every situation that will result in a successful design solution.

Careful consideration of the elements addressed in this chapter are critical in developing an appropriate design response. A 'Pic 'n' Mix' approach does not work. Ultimately the skill and flair of your designer is critical to achieving a good result.

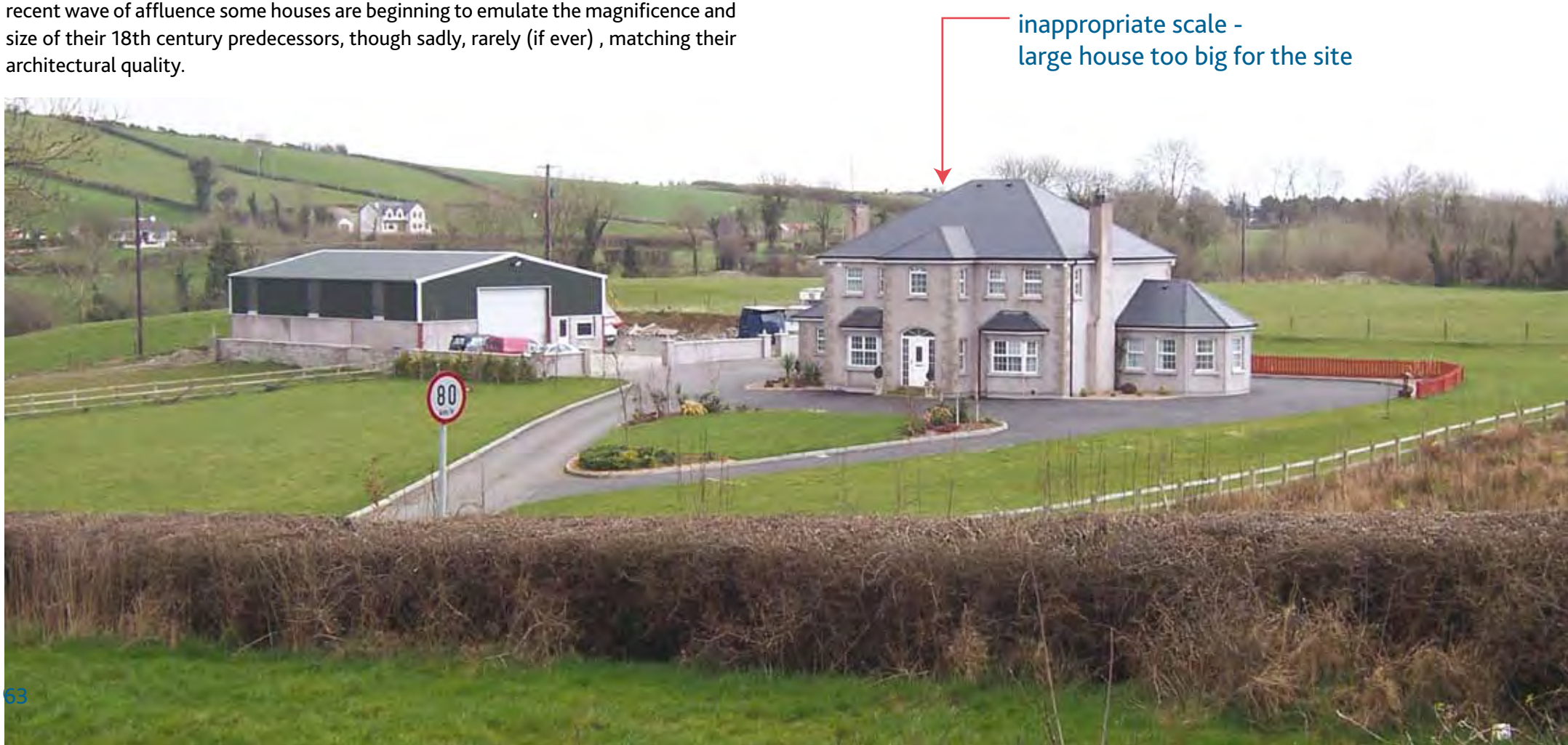
Henchion Reuter Architects

3.2 scale

The Co. Kilkenny Countryside has a rich heritage of great Irish Country Houses. Castletown 'Cox' at Piltown immediately springs to mind. It sits magnificently against a backdrop of stunning mature deciduous trees in a demesne landscape of several hundred acres. Although a very large house, its scale is small when compared to the overall size of its estate boundaries.

So when we talk about scale it is clear that this is something that is relative. Something new is happening in the houses being built in the Irish countryside. Reflecting the recent wave of affluence some houses are beginning to emulate the magnificence and size of their 18th century predecessors, though sadly, rarely (if ever) , matching their architectural quality.

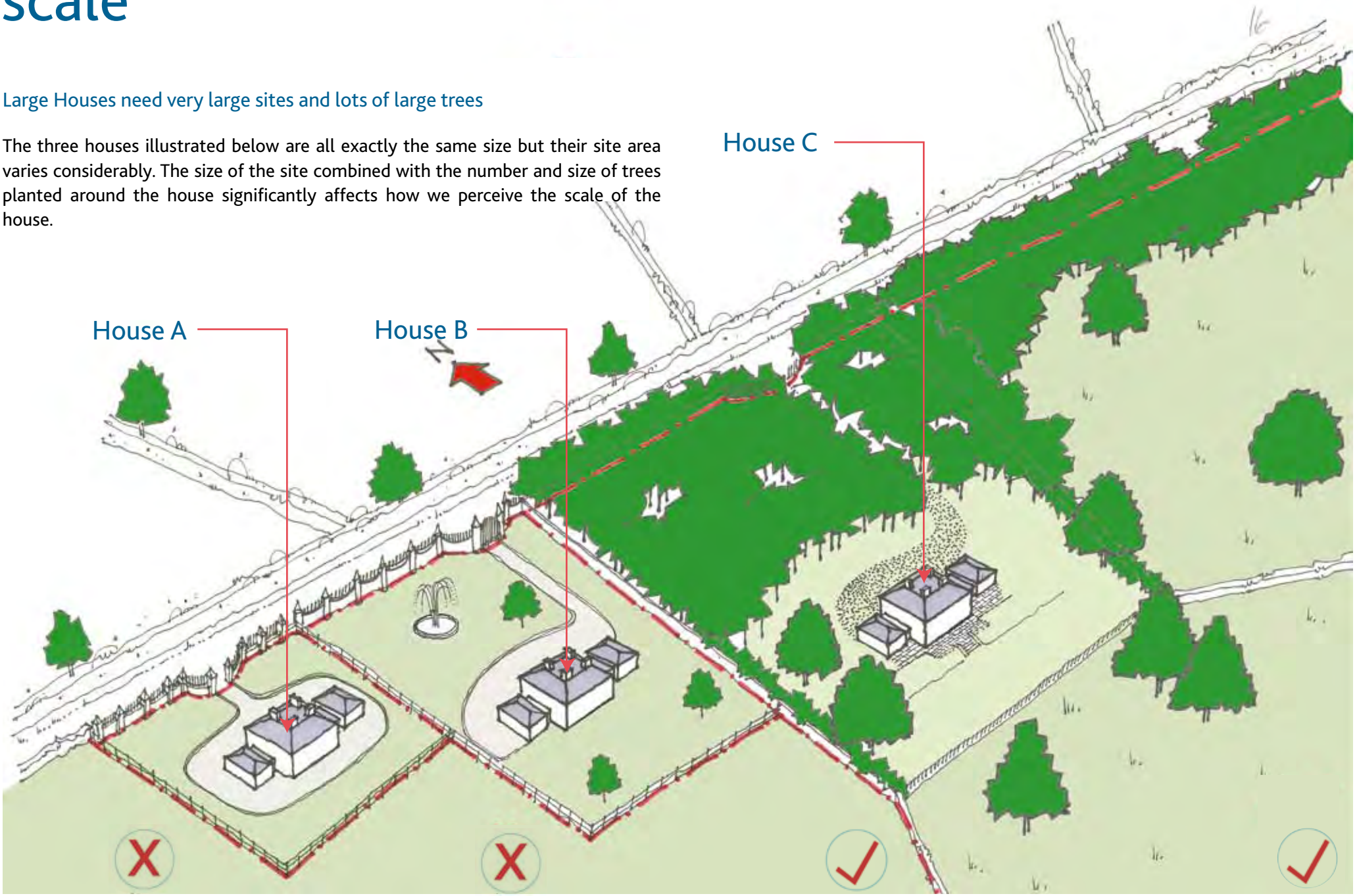
As today's houses grow in size, so too do their roofs, walls, dormer windows, ordinary windows, boundary railings, gates and fountains. The one thing that frequently does not grow to anything like the same extent is the size of the site. Increasingly we are seeing houses whose scale is very large relative to their site and planting. In some areas there are several of these large scale houses in close proximity. The overall effect is a rural landscape dominated by houses, large ones, rather than a predominantly rural landscape with the odd house tucked away.



scale

Large Houses need very large sites and lots of large trees

The three houses illustrated below are all exactly the same size but their site area varies considerably. The size of the site combined with the number and size of trees planted around the house significantly affects how we perceive the scale of the house.



House A

This house appears to be large scale - why?

- It is squeezed into a site that is much too small;
- The small site is dominated by the house and car turning/parking areas
- Several large mature trees would help the problem of the large scale but in time these would cast deep shadows on the house and gardens detracting from both
- Over elaborate boundary wall/railings/gates also dominate the site

House B

This house appears to be smaller scale than house A but larger scale than house C - why?

- Its site area is larger than A and is less dominated by the size of the house. The few trees that have been planted are small so the house will seem larger by comparison. The site is not big enough for the necessary large broad-leafed trees without resulting in overshadowing problems. Excessively elaborate gates/walls/railings dominate the site

House C

This house looks small scale - why?

- It has a substantially bigger site so seems tiny compared to the overall size of the site. The large site can accommodate large stands of deciduous trees as well as stand-alone broadleaved trees without overshadowing the house or main patio areas. Extensive tree planting along the County Road means the house is completely hidden and has great privacy.
- Boundaries are visually low key and respect the character of traditional demesne boundaries: rubble stone walls and simple gates/gate posts (if any)
- Broad leaf deciduous trees are relatively slow growing. In the initial stages newly planted saplings will take some time to establish before they fully screen a very large house when viewed from afar. This would have the case when the original 'Big Houses' were built.

scale

Very large houses can seem smaller by the use of skilful design to reduce their scale. Even when they occupy sufficiently generous sites reducing their scale can still improve their appearance considerably.

Both of these houses have the same floor area so are the same size. But one is a larger scale than the other. Can you guess which?

House A is larger scale - Why?

- The shape of House B has been broken down into 3 smaller simple shapes:
  - A central 5 bay hipped roof block
  - Two x 2bay secondary side blocks
- The roof on House B is much less dominant overall
- The ridge height on its central block is much lower than House A and the ridges on the two wings are lower again because these have narrow gables
- Each of the three shapes comprising House B has its own simple roof shape although they all form part of the one roof because they are joined by the linking roofs
- The short links make the three shapes seem separate even though when they are viewed in the round all three still join up and belong together

A

B

3.3 form & shape

Throughout Kilkenny the forms and shapes of rural buildings are generally very simple. There are a number of variations throughout the county such as the 'Glebe' (illustrated below) or classical cube house with hipped roofs and the barrel-vaulted farm sheds with or without a lean-to covered in corrugated iron. Traditionally one of the main rural house forms is an simple, long and low linear building with a double-pitched roof. This simplicity is further reinforced by the fact that there were very few add-ons such as dormers, roof lights and bay windows which often clutter the appearance of otherwise well proportioned new buildings.

There are lessons to be learned from these forms and a number of architects have come up with very contemporary, innovative solutions that take traditional forms and do interesting things with them. Retaining simplicity in the shape and form of new dwellings can significantly help with blending new houses into rural settings.

At Ahoghill, County Antrim, Alan Jones Architects have produced an excellent example of a well worked contemporary reinterpretation of the traditional single storey house type. It respects the traditions of access, form, scale, simplicity and "plainness", but is very much of its time and totally eschews pastiche.

In addition it throws the ubiquitous approach to conservatories and sunrooms out the proverbial window and completely revitalises them in a very original and fresh way.

photos courtesy of Alan Jones Architects

3.4 proportion massing and volume

Good proportion

The Oxford English dictionary definition of Proportion "is the correct or pleasing relation of things or parts of a thing". This definition assumes that proportion is always pleasing or good but is this always the case?

When we look at the four houses illustrated on these pages we see that proportions can be awkward and unsightly resulting in an overall effect that is displeasing to the eye.

How important is good proportion?

Achieving a well proportioned house that is pleasing to the eye is critical in achieving a well designed house that enhances the natural beauty of the countryside.

Is good proportion always present in a house?

The simple answer is "No!" In fact this quality is more often than not absent in many houses (either entirely or partially).

It is quite possible to create a house that is positioned in a good place on the site, respects and reflects local character patterns in terms of shape and materials, exercises good manners towards the neighbours, maximises good views and natural light, accommodates septic tank and percolation areas well, reflects traditional patterns of discreet rural access laneways etc……. but still fails miserably to achieve beautiful proportions.

Equally it is possible to achieve a well proportioned overall shape or composition of shapes but still have badly proportioned dormers, windows, conservatory, chimneys or garage.

Does poor proportion matter?

There is no question that there are numerous badly proportioned houses across the country whose presence in the landscape detracts from its essential beauty. When there are several of these in close proximity the negative visual impact on an area of countryside is magnified a hundred fold.

County Kilkenny has a very rich architectural heritage and much of that remains intact. So far the county has managed to escape the worst excesses of badly proportioned one-off houses that now dominate in other parts of the country.

If a client considers the ongoing architectural legacy and aesthetic beauty of Co Kilkenny to be important this will be reflected in what is built. If it is unimportant to the client the reverse will happen. Ultimately the client calls the shots and influences the outcome.

Which kind of client are you? One who creates something that adds to the beauty and architectural heritage of the Co Kilkenny landscape or one who creates something that detracts?

How can you achieve good proportion?

The person who is charged with the task of delivering aesthetic beauty to your house is your architect or designer. No one else can give you a well proportioned house. This guide does not attempt to give chapter and verse on such elements as a well proportioned overall house shape,roof, window, door etc. because cherry picking well proportioned elements and then assembling them will not automatically result in a well proportioned house. The process is much more subtle and complex than that. This is why the skill and design flair of the architect or designer is crucial to a successful outcome. In addition the most creative architects and designers can often achieve well proportioned houses in ways that are sometimes unpredictable – perhaps completely unforeseen – that still work extremely well.

proportion massing and volume

Massing and Volume

Massing and volume are inextricably linked to scale and proportion. One will affect the other. Get massing and volume right and you will frequently benefit the work required to refine scale and proportion. The massing of a house refers to the size and shape of its overall volume ie. What is its degree of bulkiness? The one and a half storey, half hipped linear house illustrated below is very bulky, and overly complex.

What makes it so bulky?

- Excessively wide gables (>7.0m);
- These generate very high ridges and a big roof mass;
- Several dormer windows;
- Gable projections (with varying roof pitches);
- Bay windows;
- Incongruous conservatory appendage;
- Overhanging, deep soffits and fascias at eaves

A lot can be learnt from the simple, unfussy massing of traditional houses. The typical linear double pitched form of the farmhouse usually had a relatively narrow gable width. When this is combined with traditional roof pitches for slates or thatch, (even up to 45° pitch) the volume of roof that is generated is relatively small compared to the modern house opposite.

How can we reduce bulkiness?

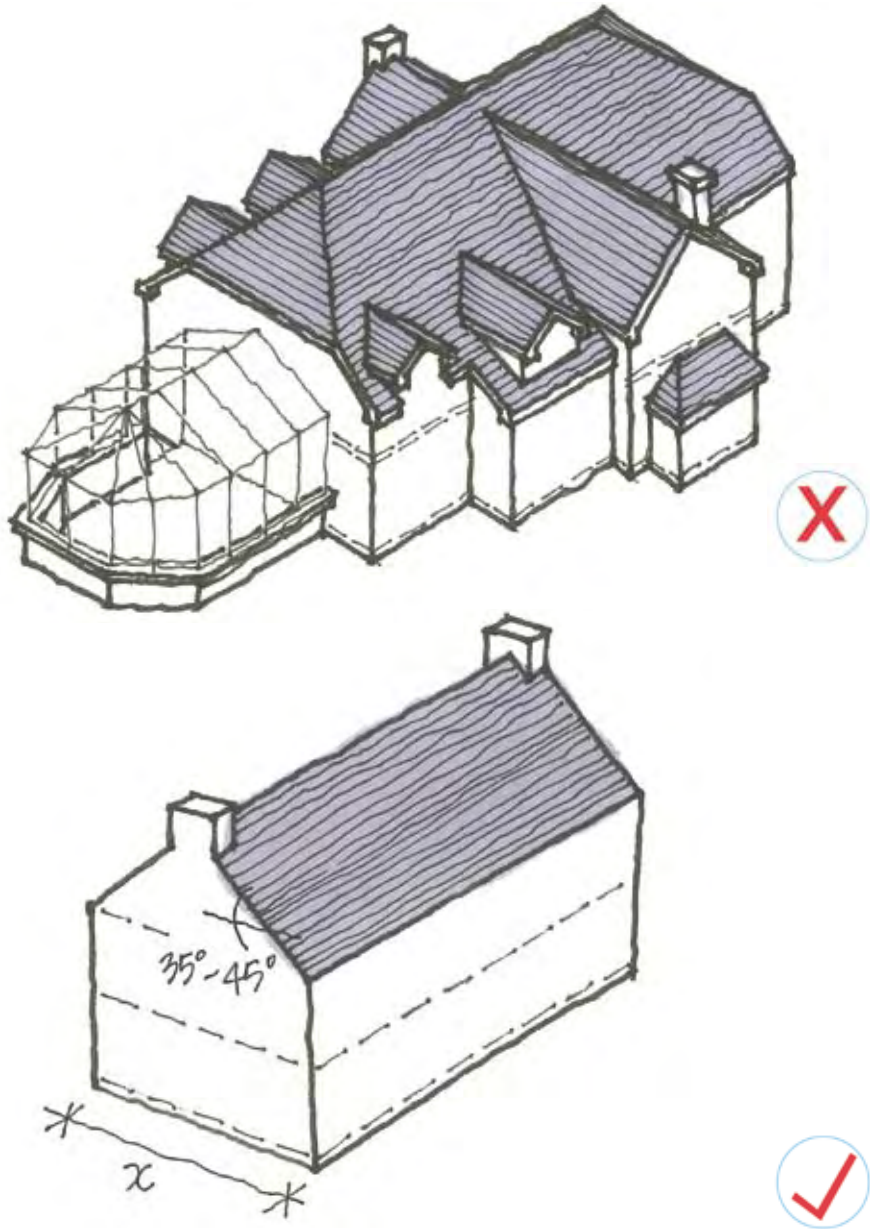
Eliminate dormers, gable projections and bay windows whose roof penetrates the main roof. Keep the roof and walls very simple. Then the overall appearance will be much simpler and less bulky.

- 2 storey traditional linear double pitched roof
- Traditional Gable Widths :

  Single Storey 4.3 - 6.0m

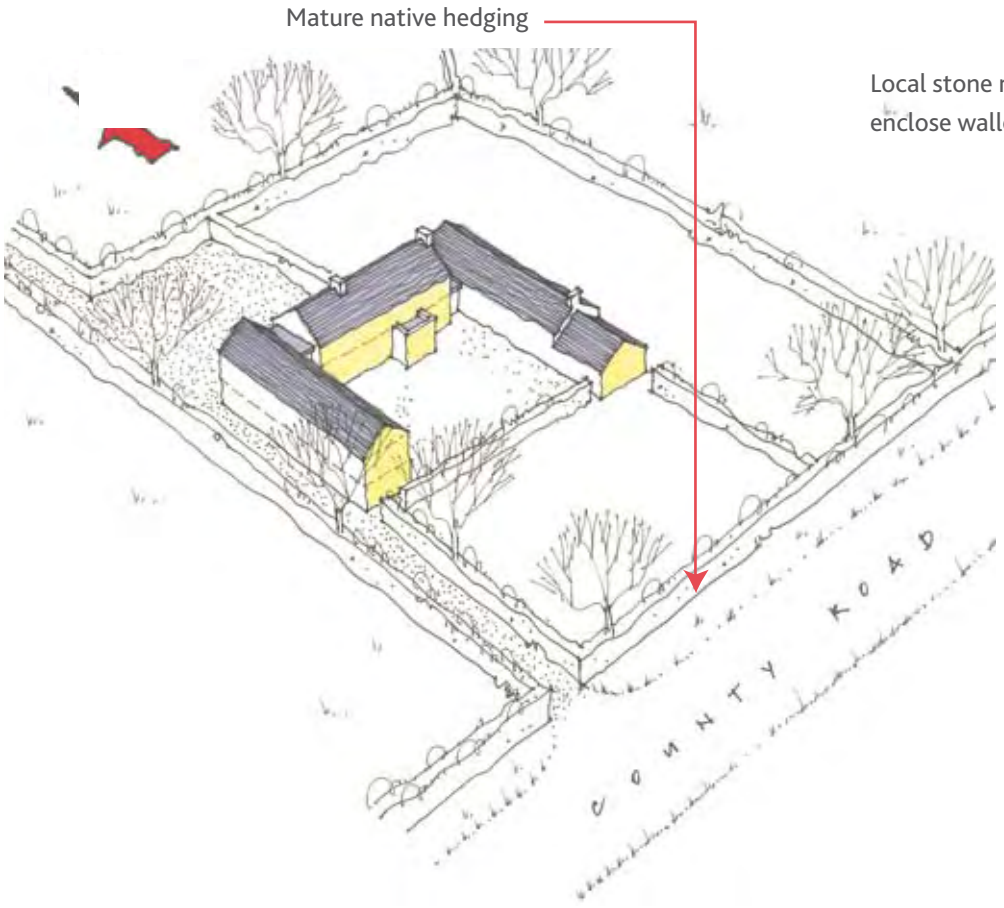
  1 1/2 Storey 5.0 - 6.5m

  2 Storey 5.0 - 7.0m



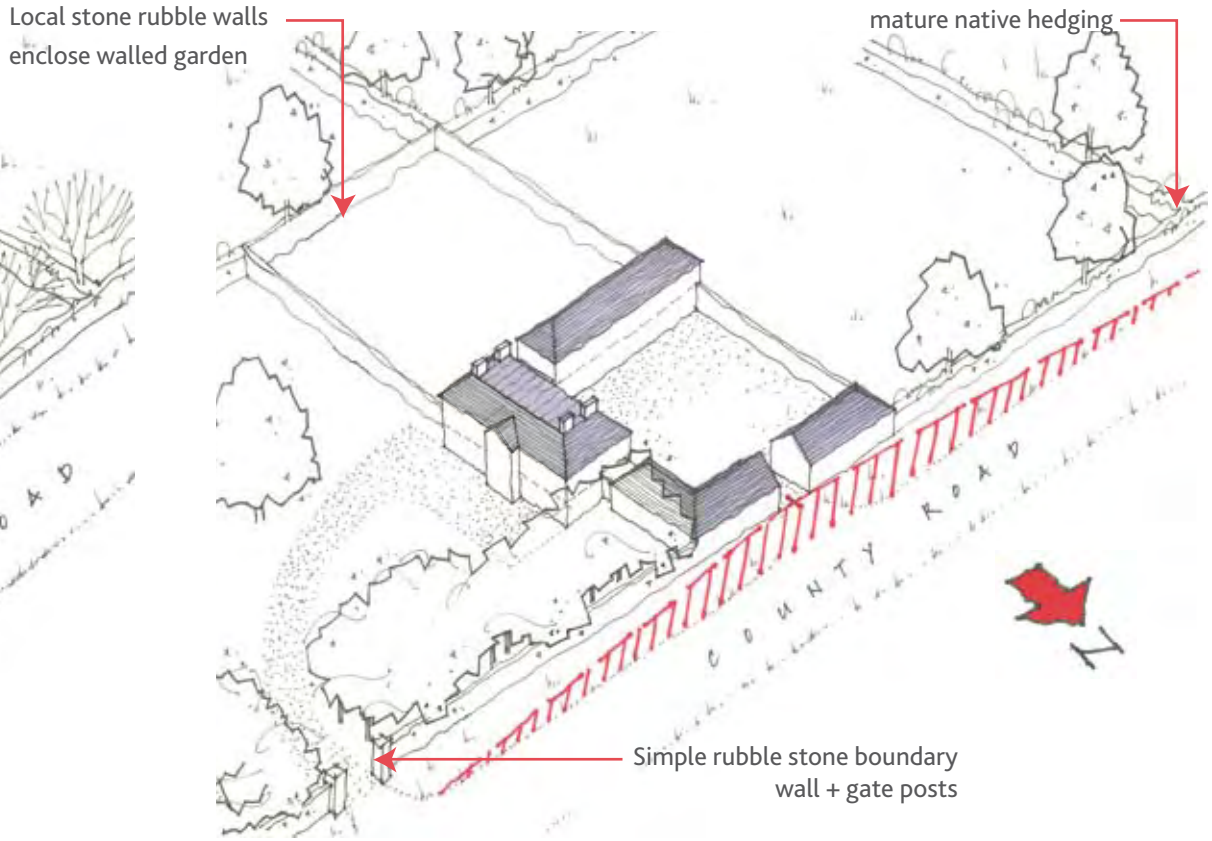
Breaking down the Bulk – Double Pitched Linear Farmhouse

The traditional grouping of simple, relatively small, single storey or two storey linear farmhouses (or the more classical form of the two storey "cube" with hipped roofs) arranged at right angles to one or more farm outbuildings forming a yard, forecourt or walled garden offers a great solution to the growing problem of very large, overly bulky houses.



Breaking down the Bulk – "Big Box"

The size of what appears to be the main house can be kept relatively small by gathering secondary living accommodation (such as guest bedrooms, games rooms, teenager's dens, utility rooms, garages etc) together and locating these in one or more flanking buildings (either single or two storey or a combination). When these individual forms adhere to the gable widths and simple roof form and pitches described previously, their scale and overall bulkiness is substantially reduced. Linking each block with flat roofs that are below the eaves line of the pitched roofs maintains the simplicity of the overall grouping. Flat roofs finished in well detailed and constructed traditional materials such as lead sheeting not only look great but will last every bit as long as a slated roof.



badly proportioned houses

This house is poorly proportioned in every way: its overall shape, and the variety of window shapes and sizes are completely unrelated to each other.

Although the house above is long and low and these are generally held to be good qualities in a house in the countryside this case illustrates that it is not enough to make your house long and low for it to be beautiful.

The projecting front gable is very wide and in conjunction with a low roof pitch its overall shape and proportion are not visually pleasing. The change in roof pitch at the entrance canopy and the hexagonal hipped roof on the gable end conservatory are both out of kilter with the remainder of the roofs.

Window shapes are drawn from a variety of unrelated architectural periods: medieval gothic; classical Roman segmental arch and the 1970s era of Irish bungalows. Their proportions are ungainly in themselves and when combined the overall composition worsens.

badly proportioned houses

This house demonstrates a motley collection of ill proportioned roof shapes: hipped gables, hexagonal hips and mono pitches. These crown an awkwardly shaped conservatory and walls, resulting in a whole that is incongruous and overly fussy.

Apart from the fact that the house above breaks the cardinal rule of never breaking the skyline the shape forming the basis of this house is not too bad in terms of proportion (though the introduction of the half hipped gables is an unfortunate departure from a strong traditional character pattern - ie full gables on linear slated farmhouses).

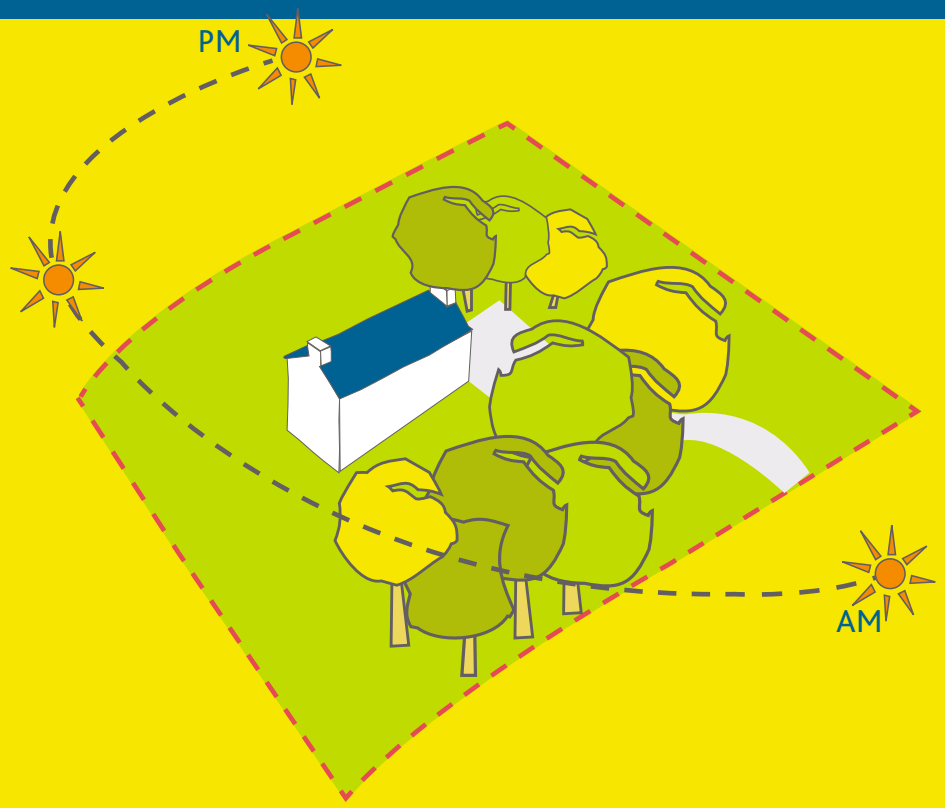
It is the smaller elements that have been tacked on that significantly damage the potential that this house once had to be well proportioned. Several badly proportioned roof dormers and lean-tos combined with single storey gable projections and a very ungainly flat roofed portico all impact negatively.

The windows themselves detract further from the overall. These are a wide range of poorly proportioned shapes and sizes that bear no relation to each other. In addition the attempt to simulate the small glass panes found traditionally in Georgian timber sliding sash windows by sandwiching a grid of PVCu strips between the large panels of double glazing is regrettable. It is a pale imitation of the 18th century original and fails in terms of achieving good proportion.

section 4

i would like a house that will be easy to

heat, gentle on the environment and will last a lifetime...



photos courtesy of Berenice Maher and Stan McWilliams

4.0 sustainable design

In 1993 the UIA (International Union of Architects) Declaration of Interdependence for a Sustainable Future, Chicago 1993 proclaimed:

" Sustainable design integrates consideration of resource and energy efficiency, healthy buildings and materials, ecologically and socially sensitive land-use, and an aesthetic sensitivity that inspires, affirms and enables"

Sustainable development is about using the earth's finite resources – agricultural land, air, water, fuel and mineral reserves – wisely and without waste so that the developments we create today meet the needs of the present generation without compromising the ability of our children and grandchildren to meet their own needs. As well as minimising our consumption of physical finite resources sustainable development does not detract from the beauty of the natural landscape.

The basic principles of sustainable design of new houses in the countryside are:

- use site and materials wisely and without waste
- maintain and enhance nature's diversity and beauty
- minimise non-renewable energy consumption and carbon dioxide emissions
- minimise use of non-renewable and toxic materials
- avoid air-conditioning
- conserve water
- recycle where possible
- reduce waste
- minimise use of hazardous/polluting substances

A great deal can be achieved by intelligent designing and without using untried technologies. It is in your interest to give careful consideration to how you can minimise energy consumption through the design of your home. Energy efficiency in the design of buildings is not just an eco-friendly initiative. It is pragmatic and cost effective. Energy efficiency in design can result in reduced heating, cooling and lighting costs, as well as reducing individual and collective dependence on natural resources and artificial materials that impact on the environment. This chapter will explore some of the ways in which you can ensure that your home is energy efficient, minimising both running costs and environmental impact.

Perhaps the first thing to consider is the size of the house you are planning to build- what are your actual accommodation needs? Every extra room has an additional cost both in terms of construction, use of materials and the lifetime running costs of heating and lighting the building. You should ensure that infrequently used rooms have more than one role (e.g. a study doubling as a spare bedroom). Avoid unnecessary bathrooms and en suites. To achieve optimum levels of energy efficiency you should ensure that the size of your home reflects your actual needs, and that it is simple and compact in form.

photos courtesy of Marcus McCabe, Hempire Building Materials, Clones, Co. Monaghan

There are a number of other measures that can be taken, and your designer should be able to help you explore these further:

- Have you kept the size of your house as small and compact as possible?
- Have you eliminated little used rooms as much as possible?
- Have you minimised the number of bathrooms and en suites?
- Has your designer oriented the rooms and windows within the house to maximise the benefits of free heat from the sun directly into the most used rooms? This is known as passive solar heating or the Direct Gain Method (See section 4)
- Have you considered the use of active systems for capturing renewable energy? Active systems that are appropriate in the countryside and in the Irish climate include geothermal ground source heat pumps, biomass heating systems (eg wood chip and wood pellet fuelled boilers), evacuated tube solar collectors (these work well under grey sky conditions and heat water only), and (on larger sites) wind turbines.
- Aim to minimise energy lost from the building itself by maximising insulation
- Aim to minimise the energy lost in manufacturing processes and transportation by using natural materials sourced locally or within Ireland as much as possible.
- Install water saving technology where possible eg dual flush toilets
- Save rain water and grey water (water from washing applicances) for secondary use eg watering the garden
- Consider sustainable drainage
- Develop the site so that it protects the best natural features and supports a wide range of wildlife and bio-diversity
- Ensure that your house blends into the landscape and enhances it as much as possible.

Whilst there are a host of renewable energy technologies available, not all are appropriate to the Irish climate, it is important to remember that a careful and considered approach to the design of the house can itself achieve a great deal in terms of sustainable design.

photos courtesy of Marcus McCabe, Hempire Building Materials Clones, Co. Monaghan

The house below outside Muff in Inishowen, was commended by the RIAI in its annual regional awards. It was designed by Paul Leech of Gaia Associates and commissioned by Stan McWilliams and Berenice Maher. As clients their personal commitment to energy efficiency and renewable energy set the stage for their choice of architect and the ethos of design approach. This house could not have happened without the attitude of the clients. Built in 1990 it was ahead of its time.

photos courtesy of Berenice Maher and Stan McWilliams

It is an excellent example of a house that incorporates a wide range of passive energy saving methods at design stage to substantially reduce its consumption of the earth's natural resources. Designed to accommodate a family of 5 living on a working farm this house incorporates exemplary passive solar heating features :

- It is modest in size and compact
- Main habitable rooms are oriented to the south and west
- Largest and greatest number of windows are on the east, south and west facades
- Small number and size of windows on the north façade
- South facing sunspace is a "lean-to" against an internal 'Trombe Wall' that backs onto an open plan kitchen/living/dining space and a bedroom above
- High levels of insulation
- Wood burning stoves provide back-up heating (The wood comes from trees grown on the farm for the purpose)
- Solar panels on the roof in conjunction with the heat pump provides additional space heating
- There is no oil fired central heating system
- Natural stone used on the exterior of the house was salvaged from old farm sheds on the site
- The south side of the house faces directly onto a hedge lined private garden space, and access lane that supports a wide range of wildlife
- The muted colour of the stone and roof tiles helps the house to blend into the landscape very well
- Remember that roof mounted solar panels on houses in the countryside can jump out visually . If they can be ground mounted this is preferable

photos courtesy of Berenice Maher and Stan McWilliams

4.1 orientation & passive solar gain

Choosing Your Site – Conflicting Assets (see section 2.3 site selection)

- Avoid sites with best views facing north;
- Avoid sites where the optimum area for positioning the house has extensive overshadowing due to mature trees (As a rule mature trees should be retained)

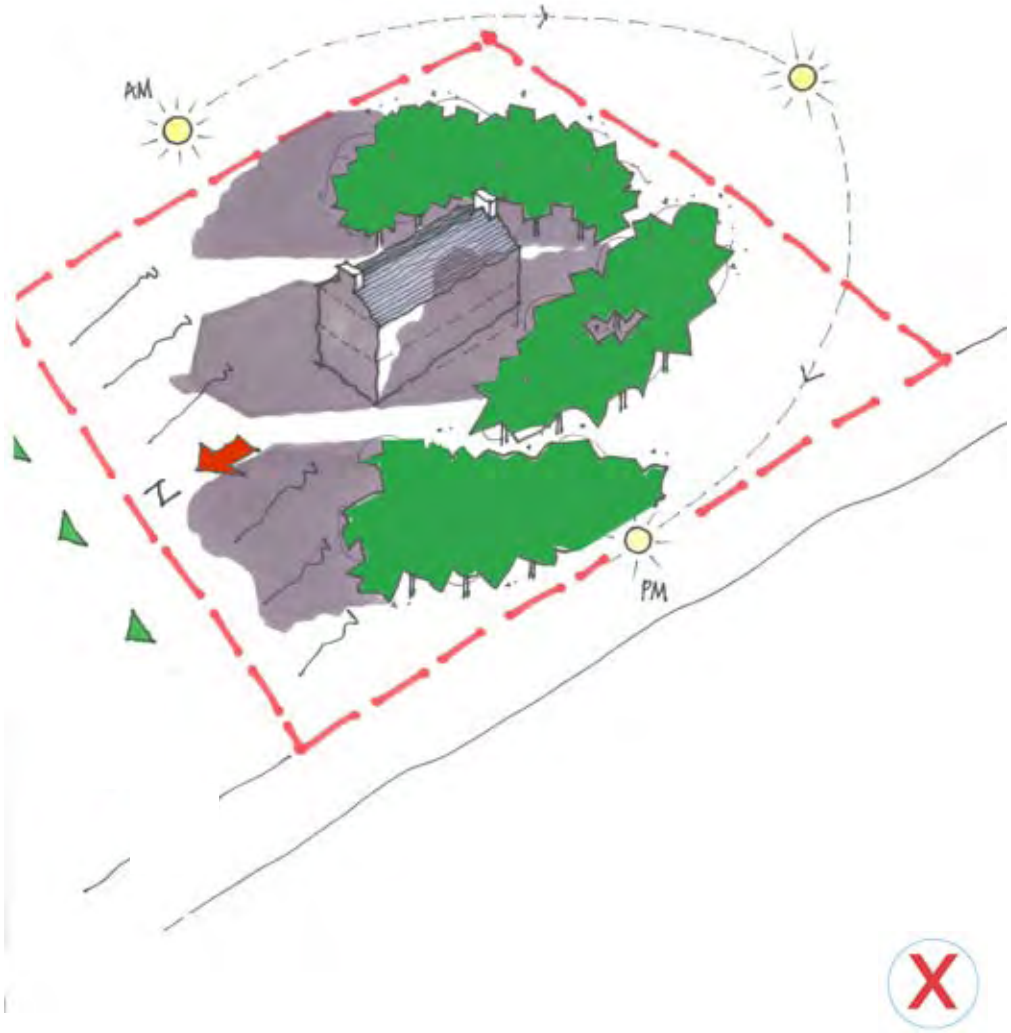
At first glance Site A appears to be a very good site. It has several stands of mature broadleaf trees and excellent views. It slopes gently from the southern end of the site to the northern end with a much steeper incline along the northern side of the site.

The biggest drawback with the site is that the good views are to the north and the mature trees are on the southern and western side of the site. The north façade is where a designer is likely to locate large windows to capture good views. Most rooms on this side cannot benefit from solar gain since this façade gets no sun and the potential for passive solar gain on the south and the western facades is greatly restricted due to the shadows cast by the trees.

If external garden/patio spaces are positioned to take advantage of the good north facing views they will be in shadow most of the time and unlikely to be warm enough for sitting out.

Site A

Excellent views to the north



Example of a well chosen site

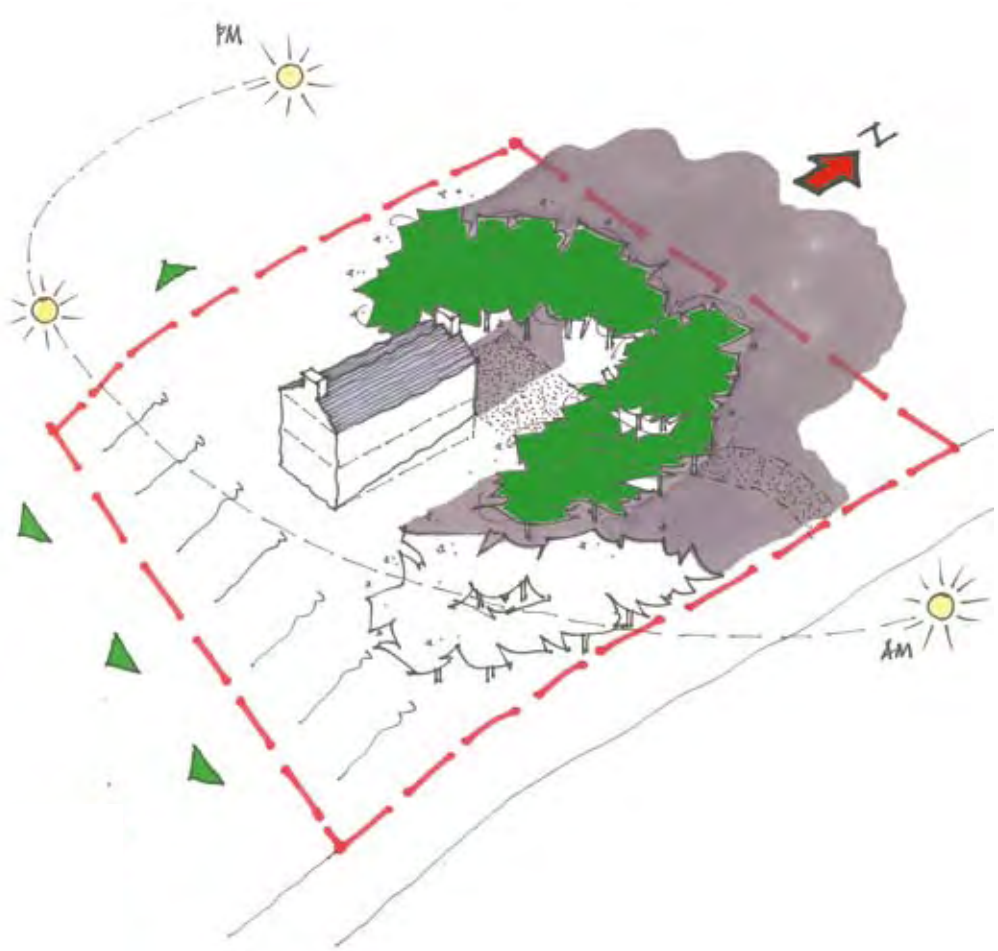
- Best views to the south and west
- Fine stands of mature broadleaf trees to the north of the site
- Enough space on the gently sloping part of the site to position the house so that the south, east and west facades can benefit from solar gain

It is not always possible to find a site that has absolutely all the optimum assets that one might like to have. It is wise to seek professional guidance from your designer BEFORE buying your site to ensure that there are no hidden flaws in the site orientation and/or contours that might make their job excessively difficult.

Do not buy sites that are subject to planning, also if you are considering buying a site that has an outline permission, check the fine print of any conditions that may have been attached to it. Seek professional advice from the designer you have identified as to the implications of any conditions to ensure that they do not impose restrictions that limit the potential of your site/brief, and ultimately your house.

Site B

Good views to the south and west



deep plan house versus narrow plan house

Resolving conflict between site context /contours and optimum orientation for passive solar gain

After taking advice from a creative designer it may be that a decision is taken to proceed with purchasing a site that has a less than optimum orientation in terms of achieving maximum passive solar gain because the designer feels that he/she can either solve the problem for you with a creative design solution OR that they can achieve a reasonable balance.

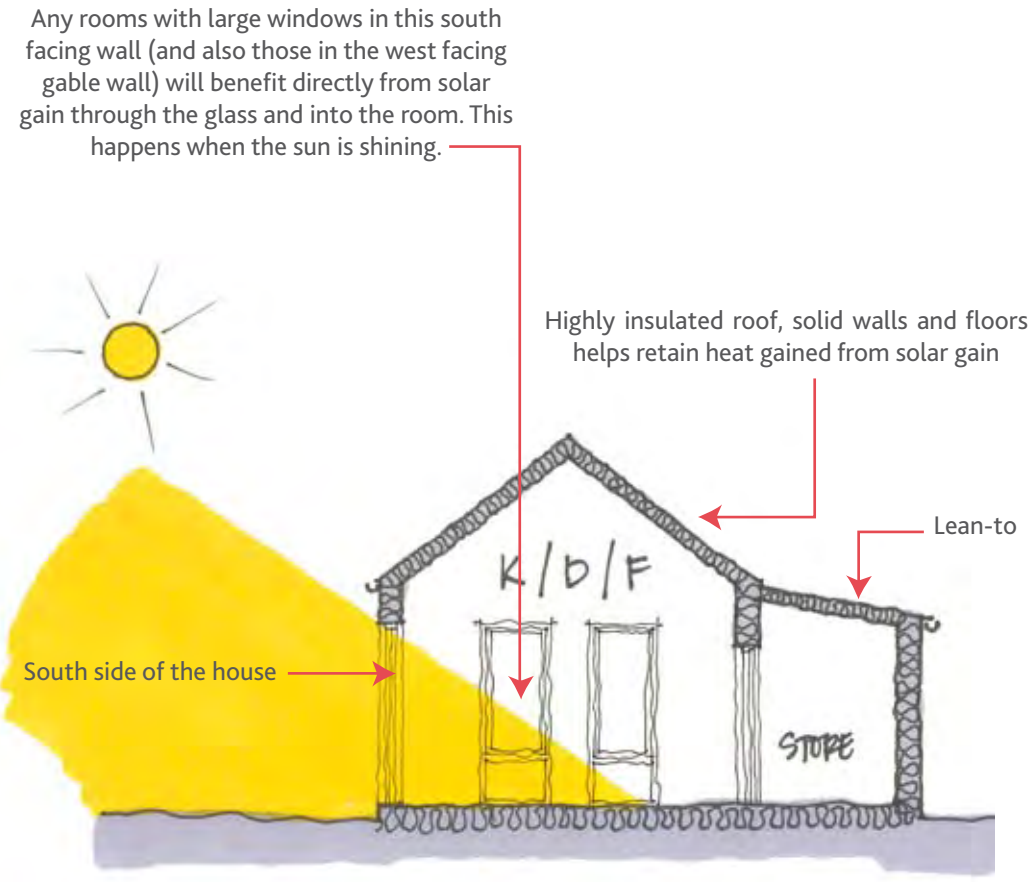
As a minimum the objective should be to position the house on the site and arrange the rooms within the house in such a way that daytime rooms such as kitchen/ living/dining rooms and studys (especially if you want to work from home) get direct sunlight morning, noon and evening. Open plan kitchen, dining and family rooms benefit greatly from this.

Otherwise locate rooms that would benefit from the sun (ie. not stores, bathrooms etc) so that they get the sun when you are most likely to be in them: e.g. bedrooms benefit from morning sun so it's best if they have an east facing external wall. Second living rooms are often used for relaxing quiet time at the end of the day so it's best if they have a west facing window to allow the rays from afternoon/evening sun and the beautiful light from the setting sun to flow into the room

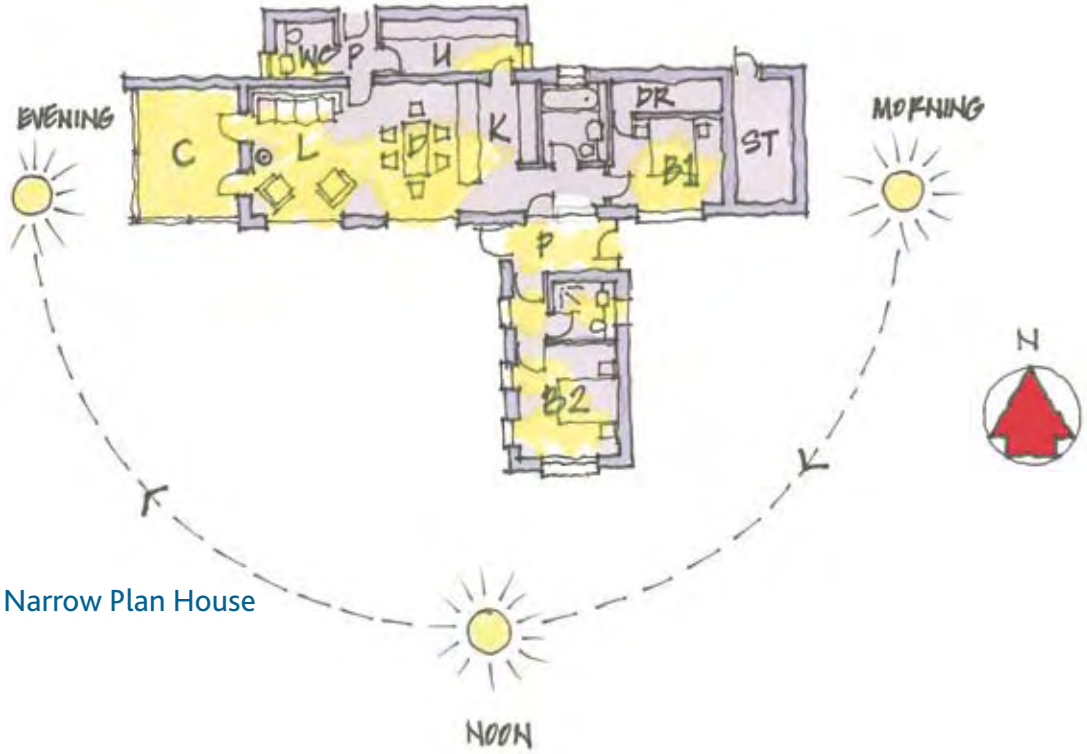
Direct Gain Method of Passive Solar Heating

In the sketch below the lean-to accommodates secondary rooms such as bathrooms, stores and porches. When these are located on the north side they act as a buffer and reduce heat loss from the main habitable rooms.

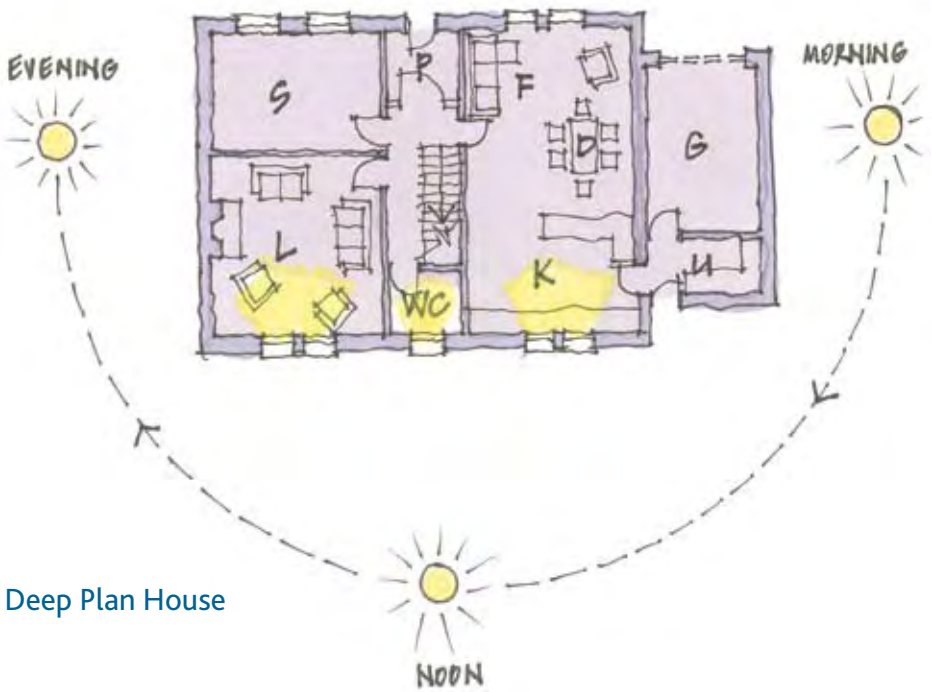
At night there is no solar gain so high performance double glazing used in conjunction with shutters and curtains are used to reduce heat loss.



Deep Plan House versus Narrow Plan House - Consider the benefits of the traditional narrow form house in terms of light and energy capture



Narrow Plan House



Deep Plan House

Indicates potential for sun's rays to enter the room, creating solar gain and enhancing the quality of natural light.

Indicates no potential for the sun's rays to enter the room. This increases the reliance on supplementary forms of heating and also leaves the rooms feeling dull in relation to the quality of natural light. This can be exacerbated by the possible problem of glare caused by very bright light at the windows facing south

The most common plan arrangement for new houses built in the countryside today is the "deep plan" which is usually comprised of four main rooms on the ground and first floors arranged in a layout that is two rooms deep. While this can work perfectly well in terms of day-to-day functionality this arrangement fails on two scores:

- The main habitable rooms (and your wallet) cannot benefit fully from the free sun's energy (ie heat).
- Its rooms cannot benefit from the wide range and quality of natural light that is available throughout each day and across the year.

4.2 conservatories

Conservatories

Conservatories or sunrooms are often built either as extensions to existing houses or as part of new build homes. Often they are built on the wrong side of the house where there is least sun and/or are overshadowed by other buildings or existing trees. When this happens the conservatory is often in shade and is a less attractive room as a result. This is an expensive mistake and one that is easily avoided.

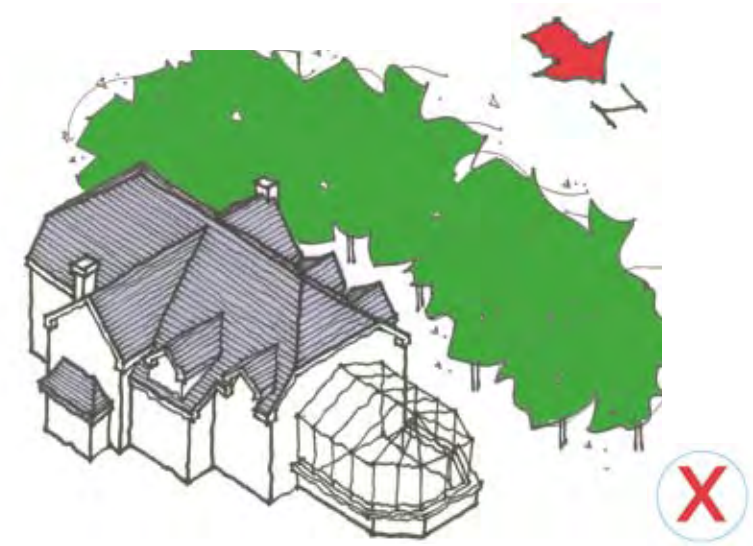
Ideally conservatories and sunrooms should be positioned on the south (or as a second choice on the west) side of the house. If they are on the west side they will have one side facing north and it is best if this wall is a highly insulated solid wall rather than glass to avoid heat loss on this side.

However, it is possible to get orientation right and still end up with a house and conservatory that are incongruous in relation to each other and detract visually from their surrounding countryside.

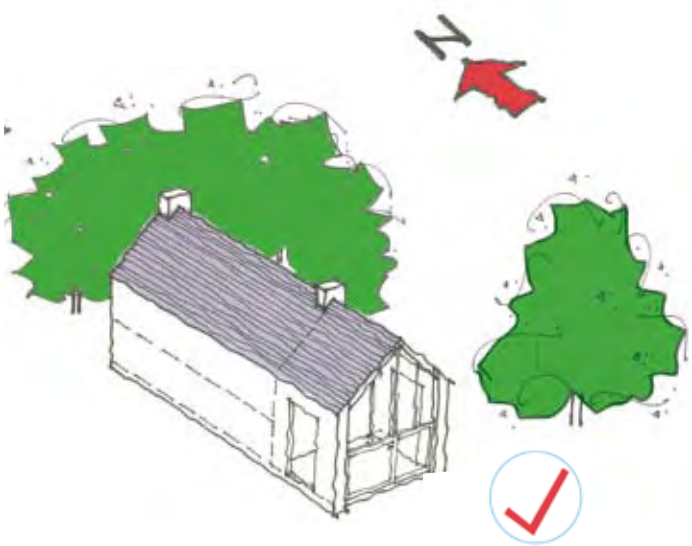
House A illustrates such a house – the house itself is excessively fussy and over complex and the shape of the conservatory bears no relation to the shape of the house… and it faces north!

There are other ways to create a conservatory so that the room integrates well into the house and sits happily into the countryside. The simplest way to do this is to allow the conservatory to respect and reflect the shape of the main part of the house. It can be a single storey or a two storey space, provided it is designed with skill to blend in with the house and landscape. Versions B and C illustrate two possible approaches, though there are many more.

A



B



C

Sunny Rooms

Another approach to the conservatory add-on to a house is to create one or more sun filled rooms that are part of the house itself and not an add-on. This is often more cost effective than building a separate room since many conservatories (sunny or not) are often little used perhaps because they don't get much sun (and aren't very appealing) or because they're remote from other commonly used rooms such as kitchen/dining and family room.

A skilled designer with a good working knowledge of the annual sun path can cleverly ensure that the external walls and windows of the most frequently used rooms are positioned and sized to take advantage of the maximum amount of sun (when it exists) for as much of the year as possible. This means that it becomes unnecessary to build a separate sunroom or conservatory.

An example of this approach is illustrated on the right and shows the kitchen/dining/den space at the house at Goorey Rocks, Malin designed by Mary Kerrigan Frank Harkin, Architects.

This open plan space has a south facing façade with an expanse of double height glazing that frames spectacular views over Trawbreaga Bay in Inishowen from both ground and first floor level but also admits the sun from mid morning until mid afternoon.

The external photo shows the same window as it opens out onto a south facing sheltered patio space. It is important to remember that at certain times of the year overheating and glare can be a problem when large areas of south or west facing glazing are created and secondary shading devices such as blinds, shutters or external brise soleils (see the cantilevered timber brise soleil in the photograph) are essential.

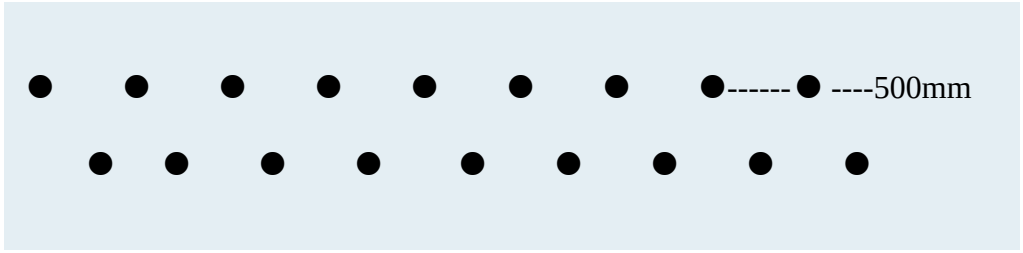
Photo courtesy of Ken Walsh

Photo courtesy of Frank Harkin

appendix 1- native planting

The planting of a new hedgerow should take place between the months of October and March to ensure successful establishment. The new plants should be planted in a double, staggered row at 500mm (50cm) centres to ensure an appropriate thickness of hedging. Sufficient width should be allowed for the established hedge (2m). If possible, link the new hedge to an existing hedge to provide an effective wildlife corridor. Where feasible plant the hedge on a 1metre raised earthen ditch or local rubble stone ditch with a mix of stone and soil.

Pruning the plants after planting will aid their establishment, promote growth and ensure a good shape. Plants should be cut back to about half their height after planting. Any failures in the planting mix should be replaced the following planting season by the same species. New growth should be protected from weed competition until it is established. In certain circumstances young hedges may also need to be protected from livestock or even people. Fencing at least 1m away from the hedge on each side may be necessary until establishment has been reached.



Recommended species include the following:

Species	Size	Percentage of Overall Mix
Crataegus monogyna (hawthorn)	60-90 cm height	50%
Fraxinus excelsior (ash)	60-90 cm height	10%
Ilex aquifolium (holly)	2 Lt pots	20%
	50-60cm height	
Prunus spinosa (blackthorn)	60-90cm height	20%

Note: The above species are typically found in a native hedgerow, other species of plants can also be planted to increase diversity but take care not to mix in too many different species. Other species which can be used include the following:

Corylus avellana - hazel

Alnus glutinosa - alder

Sambucus nigra - elder

Lonicera periclymenum - honeysuckle

Salix caprea - goat willow

Rosa arvensis - wild rose

appendix 2- maintenance of water treatment systems

Maintenance requirements of on-site wastewater treatment systems

If your home is to be serviced by an on-site wastewater treatment system, another important consideration is that of the ongoing and indefinite maintenance requirements of that system. The EPA's Code of Practice: Treatment Systems for Single Houses (P.E. < 10) contains detailed guidance on maintenance requirements for all types of systems. The EPA document should be consulted by all users, or potential users, of on-site systems. The main points are summarised here:

Whilst the site suitability assessment, design, choice of treatment system and construction are all vitally important for the proper operation of a treatment system, the ongoing maintenance of that system after the house is occupied is of equal importance.

Conventional septic tank systems require a slightly different approach to that associated with proprietary treatment systems. Due to the lack of mechanical parts, electrical equipment, etc., periodic visual inspection along with regular de-sludging is generally all that is required to ensure that the system operates effectively. Visual inspections should be carried out approximately every 6 months with de-sludging every 2 years. A visual inspection should include inspection of sludge and scum levels, structural soundness and watertightness, baffles and screen and the distribution box.

Proprietary treatment systems are generally more complex and contain mechanical and electrical parts. Maintenance requirements are more onerous and for the most part must be carried out by a trained engineer. When seeking specific guidance for these systems, the user should consult the manufacturer's instructions and advice. In some cases the manufacturer will offer the user the option of a maintenance contract.

Proprietary systems are generally not user serviceable but the following

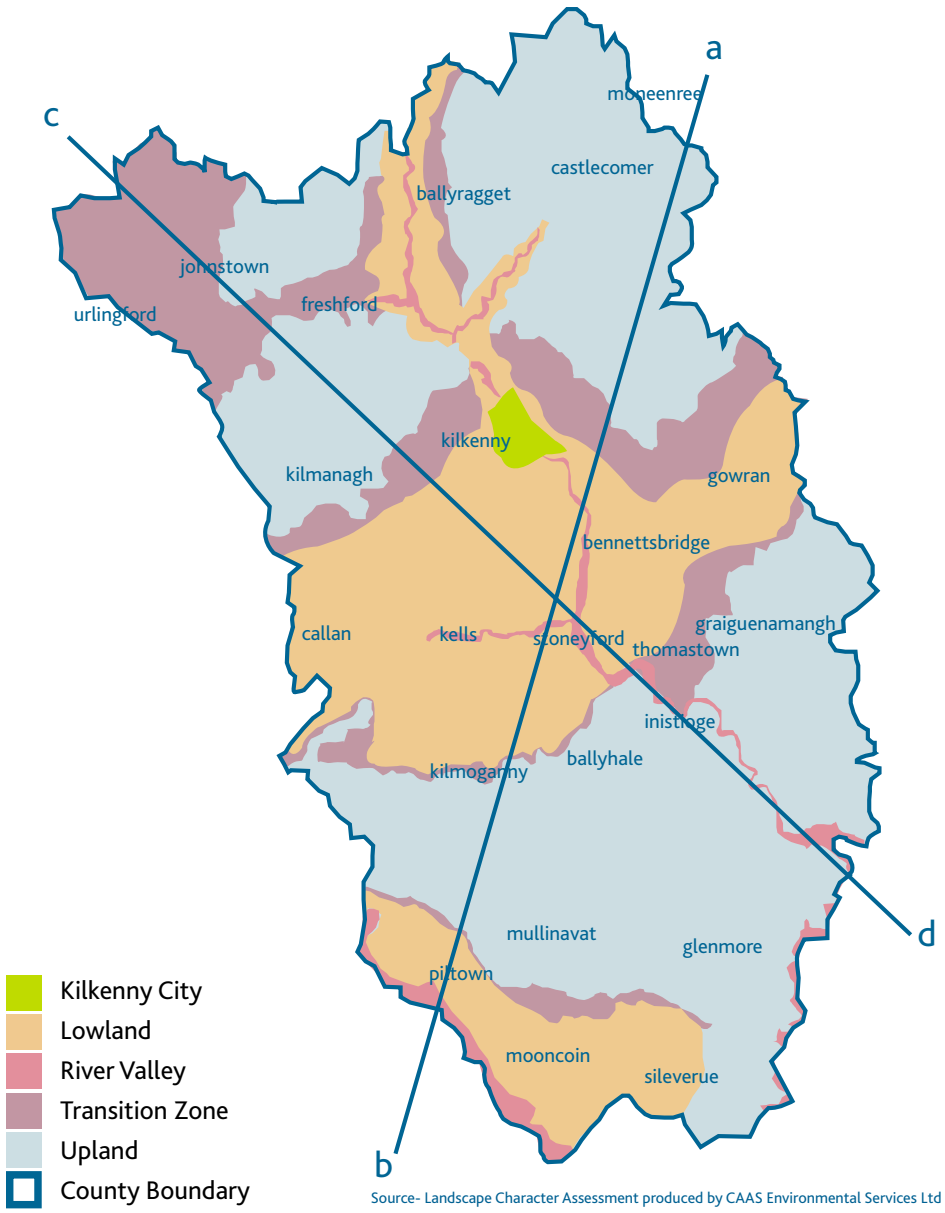
- checks may be carried out by the user as part of routine inspection with results being advised to the service engineer:
- Check alarm system;
- Visual inspection of external elements of treatment unit;
- Odour assessment (bad egg odour may indicate unit is not operating correctly);
- Noise assessment (excessive / unusual noise from unit may indicate unit is not operating correctly);

The percolation area / polishing filter generally requires little in the way of maintenance if a proper site characterisation has been carried out and the entire system properly installed. The percolation area / polishing filter should be kept free from vehicles, heavy animals, sports activities or other activities likely to break the sod on the surface. It should however be inspected every 6 months to ensure that no surface damage is visible. The aeration / ventilation pipes should also be inspected. Where ponding is observed at the ground surface or at the base / toe of a raised percolation area it may be necessary to excavate the area to determine the reason for the failure. Any large scale maintenance works of this type should only be carried out by a suitably qualified

WARNING

Never enter the confined space of a septic tank for inspection or any other purpose. To do so is extremely dangerous due to toxic gases and / or insufficient oxygen. To avoid serious injury or electrocution, in the case of proprietary systems, servicing should only be carried out by qualified service engineers.

appendix 3- landscape character areas



Source- Landscape Character Assessment produced by CAAS Environmental Services Ltd 2003

Landscape Character Areas

Within Kilkenny there are a range of broad landscape types that can in general terms, be described as follows:

Lowland

- Predominately fertile lands with high levels of population and intensive agricultural activity
- Characterised by long range views across large fields with low and highly maintained hedges.

Steep slopes to upland areas

- Low intensity agriculture/stock rearing
- Old coniferous forestry
- Some old estate planting (mixed deciduous)
- Successional vegetation (heath, gorse, scrub woodland)

Upland Ridges, Peaks

- Characterised by poor drainage and high wind/rainfall
- Limited range of vegetation and land use-the lack of trees is conspicuous due to the elevation.

Upland Enclosures

- Elevated with poor drainage and high winds, but less exposed (visually) than upland ridges/peaks

Upland Plateau

- Elevated, gently undulating lands with sparse vegetation

Foothills/Lower Slopes

- Large fields with low hedges and scattered smaller trees.
- Mostly used for stock rearing or some mixed tillage
- Blocks of coniferous forestry
- Some new deciduous forestry and successional woodland on steep slopes

Transition Lowlands

- Poor drainage, poor fertility and limited landuse potential
- Small enclosures, dense hedges, wood, many hedgerow trees

River Valleys (3 general components)

1 - Floodplain slopes- often steep and wooded,

2 - Floodplains levels- mixed uses and

3 – Riverbanks- often wooded

glossary

Barrel-vaulted – a continuous arched ceiling or roof (like a tunnel)

Biodiversity - is the variety of life in all its forms, levels and combinations. The number and variety of organisms found within a specified geographic region

Boithrín – the Irish for 'small road' often used to describe a small narrow laneway or small narrow field

Clachan – traditional Irish settlement pattern where small simple cottages are clustered randomly along the side of (and accessed from) a shared winding lane or narrow road

"Classical Box" – simple cuboid house (usually deep plan) with sliding sash windows and a hipped roof on continuous horizontal eaves line. Ridge height is usually relatively low

Envelope of Visibility – the area that must be kept clear of vegetation or other features at a vehicular access from a lane or gateway to the County Road to allow an emerging driver to see the oncoming traffic clearly in both directions

External Brise Soleils – horizontal projecting sun shade devices above a window (on the outside of a building). Used to help control the extent to which sun's rays enter a building at times of the day or year when the interior rooms would become too hot or have too much glare

Flat-roofed portico – flat roofed structure, attached to the main building (often at the entrance) supported by columns but otherwise open on one or more sides.

'Glebe House' and 'Classical Box' – name given to a Church of Ireland rectory. Usually a very simple deep plan cuboid box with a constant horizontal gutter line and hipped roofs all round. The ridge height was usually kept relatively low

Half-hipped Linear House – see sketch

Hipped Roof –see sketch

Lean-tos – small shed against a wall or gable end with a roof sloping in one direction only

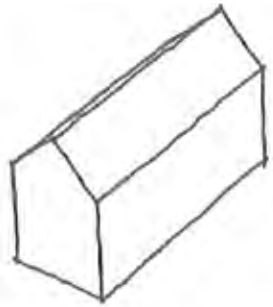
Mono-Pitches – roof slopes in one direction only

Rubble Retaining Walls – wall made of (or faced in) natural rubble stone that is used to hold back (retain) higher ground behind

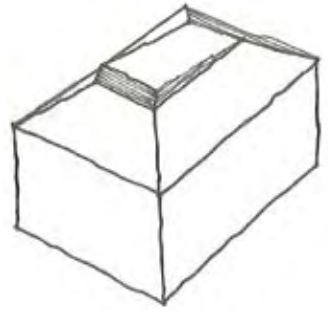
Sliding Sash Windows – slightly overlapping windows that open by sliding each sash up and down

Trombe Wall – an internal thick masonry wall (stone, brick or mass concrete) that has a high thermal mass. A Trombe wall is positioned to enclose a relatively small room that has predominantly glazed south or south-west facing external Walls and/or roof. The glazing allows the sun's ray to enter the room and strike the Trombe wall (usually painted a dark colour to improve absorption). The heat is absorbed into the Trombe Wall where it is stored for a period of time. When there is no solar gain into the room (in the evening or at night) the Trombe wall acts as a sort of raditator and gives its heat back to the rooms on either side. This type of passive solar heating requires input from designers with specialist knowledge of these methods.

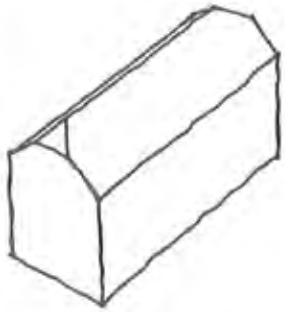
Linear house with full gables



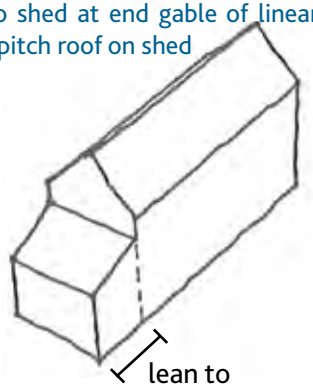
Typical shape of 'Glebe House' and ' Classical Box'



Linear house with half hipped roof at each end



Lean-to shed at end gable of linear house mono-pitch roof on shed



Kilkenny County Council wishes to acknowledge all those who assisted and contributed in the production of the Guidelines, especially the following:

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Evelyn Graham, Architect, Kilkenny County Council

Forward Planning Section, Kilkenny County Council

Thank you,

Martin Mullally