



# what to CONSIDER FIRST...

## WHAT TO CONSIDER FIRST

- 3.1 Analysis of Requirements
- 3.2 Appraising the Setting
- 3.3 Appraising the Site
- 3.4 Develop a Design Concept

# INTRODUCTION

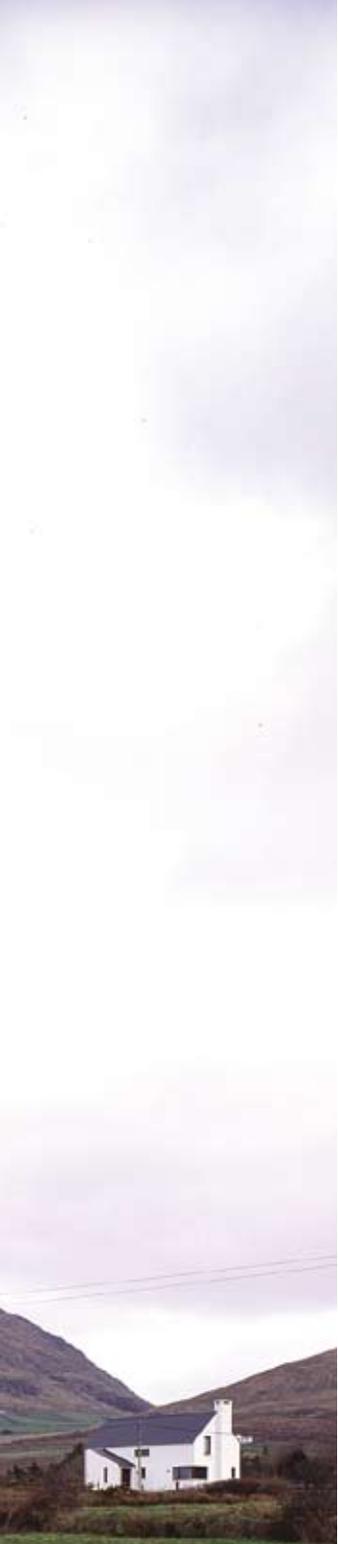
The successful incorporation of one-off houses into the countryside depends on a thorough analysis of the setting, site and brief and the creation of a design that responds well to all three. The quality of design must be applied to a whole range of issues from the macro to the micro.

THE FOLLOWING KEY QUESTIONS AND ISSUES SHOULD BE CONSIDERED AT THE BEGINNING AND THROUGHOUT THE DESIGN PROCESS.

1. Density - the number of houses in any given area of countryside
2. Size of dwelling
3. Proximity - of new house to existing houses
4. Size of site - in relation to size of house
5. Site features - the strengths (maximise these) and weaknesses (minimise these through good design)
6. Orientation – where does the sun rise and set. Good views towards the south or south west are best. Avoid sites with great views to the north.
7. Views into and out of the site
8. Site contours – these can pose difficulties or opportunities when integrating a house into the landscape or achieving access and vehicular circulation within the site.
9. Form – what is the overall shape of the proposed house? Is it a box or cube shape like small classical farm or country houses. Is it generally a linear form or is it a cuboid form with smaller offshoots such as a T or C house in plan?
10. Mass – ie. How bulky is it? If this is excessive reduce or break down its bulk.
11. Appearance - Scale, form, colour, materials in relation to surrounding context: landforms; field patterns; existing buildings and groups of mature trees all affect the appearance of houses.

What does the proposed house look like? What are the views towards the proposed house from the wider landscape. What will your house offer to the landscape in which it will sit? Will it enhance the view or detract from it?





# 3.1 analysis of REQUIREMENTS

## TOWN OR COUNTRY - WHICH IS BEST FOR YOU?

Those who make choices to live in the countryside when their work is based in nearby towns or villages are substantially increasing the number of car journeys they will make in the course of our lives. They are also choosing to cause others to make journeys on their behalf whether that is in the provision of rural services such as refuse collection or visits by friends and family. This increases the consumption of energy and fuel and the emission of CO<sub>2</sub>. This is increasingly environmentally unsustainable.

## OTHER SUBTLE EFFECTS

The more people choose to live in the countryside the more its quality will be diminished. It is already clear that the increasing visual blight that is emerging as a result of more and more and larger and larger one-off houses in the countryside is detracting from the aesthetic quality of the countryside.

It is more sustainable both economically and environmentally to live as close to your place of work or school. For the vast majority this will be within the boundaries of a town or village.





## SUSTAINABILITY

Sustainable development is about using the earth's finite resources- agricultural land, air, water, fuel and mineral reserves- wisely and without waste. The ability of future generations to meet their own needs should not be compromised by the activities of the present generation.

Energy efficiency in the design of buildings is not just an eco-friendly initiative; it is pragmatic and cost effective in the long term. 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.

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

Sustainable development – “is development which meets the needs of the present generation without compromising the ability of future generations to meet their own needs” (Brundtland)



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

- use of materials wisely and without waste
- maintain and enhance nature's diversity and beauty
- minimise non-renewable energy consumption and carbon dioxide emissions
- minimal use of non-renewable and toxic materials
- avoid reinsert air-conditioning
- conservation of water
- recycle
- waste reduction
- minimal use of hazardous/polluting substances



## SIZE

The larger the house the more energy it will take to heat and cool it. Recently there has been a definite trend towards larger and larger houses.

What is built today will be the legacy that this generation contributes to our successors. We can choose to make a positive contribution through more sensitive and sustainable development.

Increases in the energy load both in actual fuel consumption and also in the fabrication of the materials used in the construction of large buildings has negative sustainable impacts.

A more sustainable way is to identify the minimum size of house to meet living requirements and then design the house to minimise your consumption of energy resources. Dependence on traditional fossil fuel as sources of energy can be reduced by capturing the energy that is free - from the sun - by passive solar heating.

Passive solar space heating depends on the form, orientation of rooms and the fabric of the building –the levels of insulation in the walls, floor, roof and windows.

A Direct Gain system is the most useful passive solar method for Ireland's climate. It is the simplest solar collection technique and the easiest to construct. It is explained more fully in Section 4.5.

This approach insulates the enclosing envelope to a high degree, reduces energy consumed within the house by minimising the number of electrical fittings and using low energy electrical equipment as much as possible.

Solar gain is maximised by positioning larger (or more) windows on the south and west sides of the house and heat loss is minimised by making windows as small as possible on the northern side.

What are known as active systems - photovoltaic cells, solar panels, wind turbines, heat pumps, grey water treatment systems etc have been shown to make a relatively small contribution and should be the last elements to be considered when designing a house to reduce consumption of fossil fuels.





COX POWER ARCHITECTS



ENCHION REUTER ARCHITECTS

## DEFINE THE BRIEF

Building a home is a major investment for anyone. It is important to decide on what and who is to be accommodated in the dwelling. How do you live? Are there ways in which your new home can support living more sustainably?

If the brief is inadequate or misses key aspects, the resulting house it will fall far short of its potential.

Many sites in the countryside have assets beyond the site boundaries that add substantial enjoyment to the dwelling such as the sun and good views.

Houses in the countryside are detached and always have two facades facing south and west. As long as these facades do not suffer from overshadowing from trees then designers can make use of passive solar heating in the plan layout and design of facades. Large windows facing south will result in heat gain and save energy. Large north facing windows will result in greater heat loss than the same windows facing south.

The process of defining and refining a brief can be lengthy. The brief will undergo some change along the way.



MARY KERRIGAN ARCHITECTS

## KEY ELEMENTS OF A BRIEF

Decide on the number of rooms and any other accommodation needs you may have. In an effort to keep construction costs and energy consumption costs down decide whether you really need all the individual rooms you initially think you do. Consider whether some rooms could serve a number purposes, such as a sunspace doubling as a porch or dining area.

Every additional en suite bathroom or shower room adds to energy consumption both in the materials it will take to build the extra space and in the energy it will take to heat, ventilate and light it.

Also consider additional storage needs. For example is a garage really needed or would a spacious store suffice?

The brief can and should also refer to other things that are important to you. The following list is not a definitive guide to preparing a brief but does highlight some of the issues to consider and include in the brief at the earliest stage of the design process:

- House to sit sensitively in the Co Monaghan landscape
- Whether it is to be modern or traditional in character?
- Should take advantage of good views, sunlight and shelter
- Take advantage of passive solar heating potential

- Design to be energy conscious in every way, using construction materials that are renewable and natural
- Garden spaces that relate well to main daytime rooms; kitchen; dining; living room
- Consider the configuration of rooms relative to how you live- spacious open plan kitchen/dining living space or maybe a separate dining room or living room
- A house with enough space for now and room for future extension to minimise cleaning and maintenance costs
- Lots of natural daylight
- Minimise consumption of fossil fuels (oil and coal)
- A house which is modern and suits daily needs
- Indigenous hedges and trees to attract wildlife and provide shelter and privacy
- Low maintenance gardens
- A simple entrance to my house that respects local traditional patterns such a simple gate and gate posts
- Gravel for the driveway instead of tarmac
- Somewhere to park cars close to the house without blocking good views
- Discreet outdoor lighting (or none)

This list is not definitive. Some aspects of it will have cost implications and others will not. Ultimately the design brief should reflect the occupant's needs and way of life. Consult your designer early for help with this task.





## CHOICE OF THE SITE

Once broad requirements to formulate a general brief have been established choosing where to build is a critical stage in the process. Depending on individual circumstances any number of factors influence. However the following points (positive and negative) should generally be considered when choosing a site:

### 1. BENEFITS OF LOCATING WITHIN OR ADJOINING AN EXISTING GROUP OF BUILDINGS I.E. FARM GROUP?

- Entrance exists
- Mature landscaping and boundaries exist
- Existing grouping may limit flexibility in design and form
- Proximity to adjacent dwellings results in greater sense of community
- Service provision may be in place



### 2. BENEFITS OF RE-USING/ CONSERVING AN EXISTING HISTORIC DWELLING

- Derelict historic building, site and setting exists
- Mature hedge boundaries and trees give instant enclosure and pleasing aspect
- Reinforced Co. Monaghan cultural heritage and identity
- Vernacular form exists
- A more sustainable approach reduces consumption of greenfield land and materials
- Entrance exists

### 3. BENEFITS OF NEW BUILD

- Blank canvas on which to create something new
- Lack of existing mature landscaping reduces privacy and enclosure initially
- House may be difficult to integrate as a result of immature planting
- New entrance required - may present issues for sight-lines
- Can design outside spaces to maximise amenity and privacy value
- New services required
- Least sustainable



## 3.2 APPRAISING the Setting

Before designing the details of your new house it is important to consider the potential impact on the context or setting of the site. A good contextual analysis will also actually inform the design concept. The setting is the landscape and buildings that can be seen close by and further away from the site, and the area from which the site can be observed. What is the general character of the area? Is the site within a grouping or on the edge of a settlement? Is it in a more remote rural area? Are there many dwellings nearby? What is the character of the surrounding landscape? Does the land rise or fall in the immediate vicinity of the site? Are there significant views into or out of the site? Is the site set into a hollow in the landscape or is it located on the side of a hill? Are there areas of dense vegetation within or surrounding the site? Are lands generally open and flat? Are there any significant features in the landscape, areas of dense woodland, lakes etc?

### ASK YOURSELF...

- What is the sensitivity of the surrounding rural landscape?
- Does it offer good views from your site in one or more directions?
- Does the site lack privacy perhaps due to overlooking or a busy road?

- Are there neighbouring houses in close proximity?
- Establish key characteristics of the site in the landscape

### SOME KEY ISSUES INCLUDE:

#### PROMINENCE

New dwellings must be integrated into the landscape. Therefore visually prominent locations such as hilltops, and elevated exposed sites should be avoided. Usually buildings that break the skyline successfully are landmarks such as church spires. It is important to be aware that prominent development can be seen when approaching the site from many directions.

#### TOPOGRAPHY

Buildings within the Co. Monaghan landscape are best integrated if placed on the lower slopes of hills. In the open countryside look for a reasonably flat site. This avoids the need to build a level platform or carry out major cut and fill.



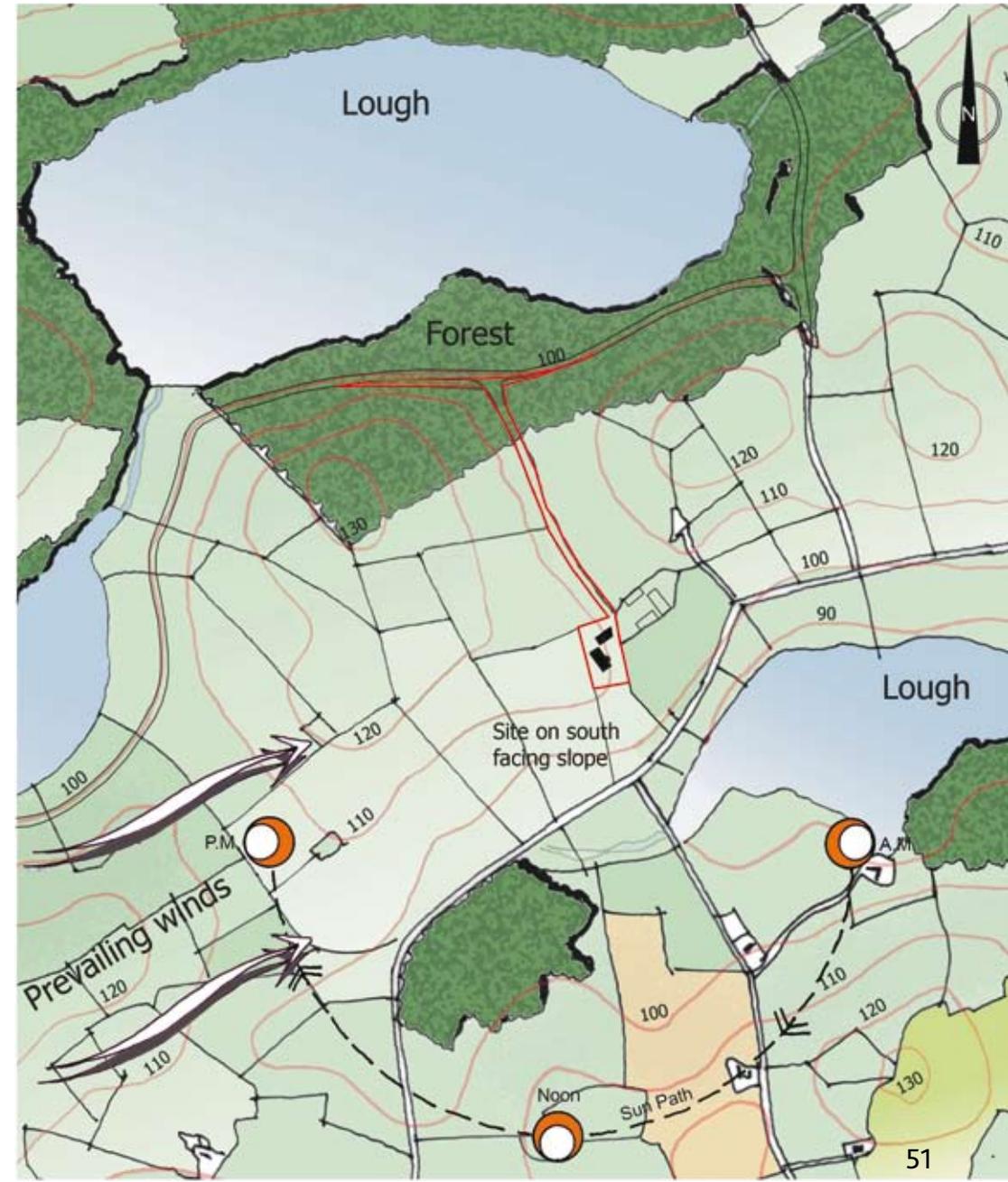
## WEATHERING AND SHELTER

High storms or bad weather can damage buildings. Exposed sites can make it very difficult to provide shelter for a dwelling.

Traditional methods of site layout involved making use of natural hollows in the landscape, sheltered areas beside woodland, working with contours (not against them), and generally avoiding exposed locations that suffer the worst effects of the wind and driving rain. (For guidance on landscape character and topography of the County, refer to 2.2)

## PRIVACY

The form and orientation of the dwelling is determined by a variety of things such as the shape and size of the site, contours, the overall appearance of the landscape, access and car circulation. It is possible to capture a view well without the whole house facing towards it, e.g. by placing windows in gable ends or on corners. It is also important to achieve a balance between privacy and glazed frontages to the road.



# 3.3 APPRAISING the site

## CONSIDER: -

- Size of site needed
- Is the site sufficient to accommodate the proposed dwelling?
- Where does the sun rise and set?
- Sites whose best views are to the south or south west are best
- Avoid north facing sloping sites where the south side of the site is a rising hill
- Are there any planning restrictions that could affect you getting planning permission?
- Are there any planning restrictions such as Restricted Prospects and Views or Areas of Primary or Secondary Amenity. These could affect you getting planning permission.
- What sort of existing buildings or other features does the site have? Do these make it more or less attractive e.g. a very mature tree could be an added bonus but not if it casts deep shadow on the south side of the site where you want to build.
- Is it sheltered or exposed?
- Does it have any restrictive features (e.g. very steep gradients that make car circulation difficult)?
- Will you be overlooked by neighbours?
- What is the land drainage like? If you have to install an on site effluent treatment system or a septic tank the soil will need to have good percolation to avoid

contaminating ground water or nearby streams and rivers. This should be assessed by a suitably qualified professional before you purchase.

- How do you get access onto the site? It is best if the site has or allows for the creation of a single track hedge lined laneway. Is there enough room to park and turn cars within the site?
- Is there any mature planting within the site or along its boundaries
- Are there legal issues, rights of way, leases or conflict over Title?
- Can major infilling/excavation be avoided?

## PRINCIPLES OF SITE LAYOUT

### KEY CHARACTERISTICS

Take advantage of the site's and the wider landscape's natural assets as much as possible.

If the site is confined the house should be positioned so that it maximises the size of garden spaces to the south and west where pleasant gardens, and sunny external patios or barbeque areas can be created.

Opportunities offered by the site and wider landscape to integrate the house should guide or suggest the overall shape and form of the house (ie whether it is best designed as a single storey, two storey, or storey





and a half house; whether it has a linear configuration or tends towards a deep plan).

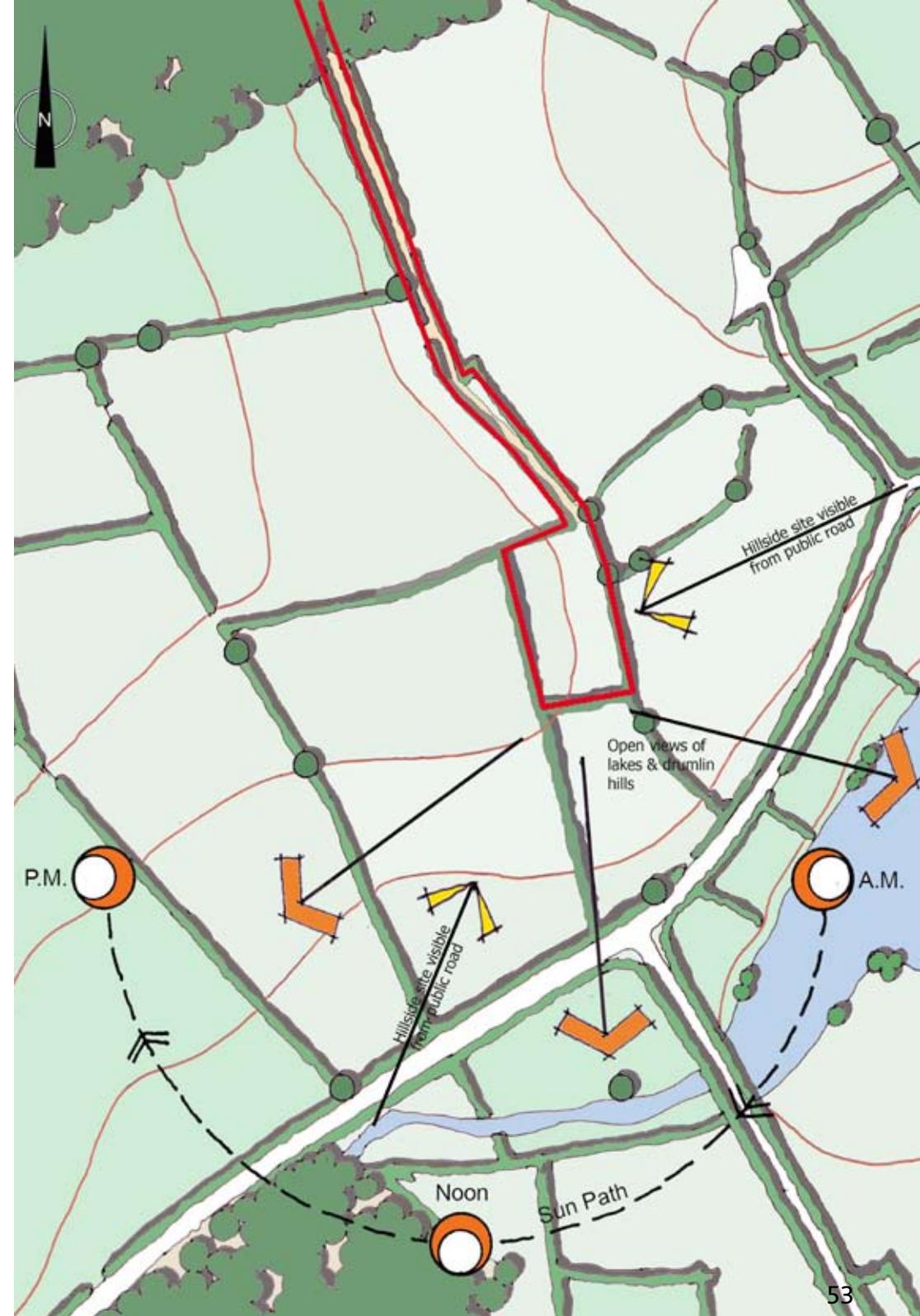
## CONTOURS

Work with the natural contours of the site. Avoid large cuts into the hillside to create a level platform. This will result in a scar on the landscape when viewed from afar. No amount of planting can integrate a house and site into the wider landscape in this instance. Building up the natural levels to create a mound or platform is also undesirable. The resulting land formation never appears natural or integrated in the wider landscape.

Linear houses have less visual impact on the wider landscape when they are sited with the long axis of the house at right angles to the contours and step down along the contours. This presents a short gable end façade to the wider landscape. By digging the upper end of the house into the hillside the type of unsightly cutting and filling referred to above is greatly reduced.

By following the natural contours internal floor levels can step down the site. Having regard to the Building Regulations it can offer the opportunity to vary heights within the house making it more interesting. It also helps the relationship between the form and massing of the house in relation to the landscape around it.

Consider breaking down the mass of the house into smaller forms or blocks and design the house so that the ground floor level of these smaller blocks follow the changing levels on the site.



## QUALITY OF RELATIONSHIP BETWEEN INSIDE AND OUTSIDE SPACES

If possible arrange entrance laneways and car-parking areas to the north or east sides of the house. Because of shadows cast by the house itself these areas are unlikely to get enough direct sunlight to be warm enough to use as amenity space (gardens, patios, barbecue terraces).

Arrange carparking, garages, clothes lines and bins so that good views of the wider landscape from main communal rooms such as kitchen, living or dining areas are not blocked by these. Large areas of tarmac and two or three cars located between you inside and whatever pleasant views you may have will detract from your wonderful view.

It is often possible to adapt the size and position of windows to block out a poor view or to ensure privacy inside.



# 3.4 DEVELOP a design concept

## DEVELOP A DESIGN CONCEPT

Having established your own needs and appraised the context of the setting and the site, a “design concept” can be developed. The following steps should be taken:

- Prepare digital land survey showing all topographical features on site
- Prepare outline proposals - These are fairly diagrammatic drawings that show how the design will meet your brief and how it makes the most of the site’s best potential. These proposals should indicate how any site constraints will be overcome.
- A “design concept” should be evident in the outline proposal. This is a kernel of an “idea” for the house. It is about much more than deciding on whether it is single storey or two storey or how the rooms fit together.
- The “idea” or design concept might emerge from something within the site or it may be derived from something beyond the site.
- There can be many different concepts for a particular brief on any given site. The aim is to arrive at the optimum concept for your site and brief. This is a very creative aspect of the design process and a good concept can contribute enormously to the design quality of the new house.

## GIVE YOUR AGENT FEEDBACK ON OUTLINE PROPOSALS

This response would confirm whether outline proposals are fully meeting the brief or not. It may highlight things that need to be added to the brief. The brief may be generating a building that will exceed the budget and may need to be trimmed back.

- Prepare sketch design. Agent revises outline proposals to take account of any feedback and develops the design further. Drawings show every aspect of the design - site layout, internal planning, design of all facades, choice of materials and colour.
- Approve sketch design drawings. Pre-planning negotiations should be initiated.

