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DESIGN

**A Guide for Developers and Architects
when Designing Residential Developments**



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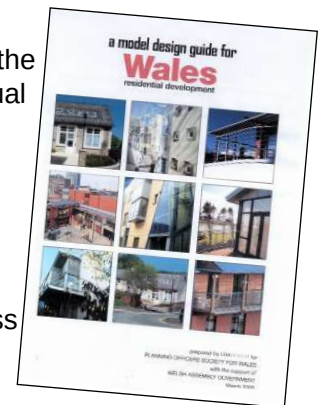
Introduction

This guidance note amplifies development plan policies on encouraging good design (in particular policies PS2 and GDP1 of the adopted Wrexham UDP) and outlines the Council's requirements for sustainable buildings. It will form a material consideration in the determination of all relevant planning applications.

The Local Development Plan, in accordance with guidance and policy from the Welsh Assembly Government, requires sustainable building principles to be adopted in order to reduce the impact upon the natural environment and reduce reliance on non-renewable energy sources.

The Guidance Note follows the general policy principles set out in Welsh Assembly Government Planning Policy Wales on Design TAN 12 (2002). It is supported by A Model Design Guide for Wales: Residential Development, March 2005, produced by the Planning Officers Society for Wales and the Welsh Assembly Government. The Manual for Streets (Department of Transport March 2007) also provides guidance for people involved in the planning, design, provision and approval of new residential streets

Well designed development and the desirable places that it creates to live, need not cost more, but could attract a higher level of market demand. A well thought out and justified design will save you time when you apply for planning permission. Early consultation with planning officers and with neighbours will help to smooth the process and avoid the unexpected. The Council offers a 'Development Team Approach' for larger proposals to help scope the issues and opportunities.



Good design is about working with all elements of the natural and built environment. To create sustainable development, design must go beyond the appearance of a scheme and include social, environmental and economic aspects of the development, its construction and its relationship to its surroundings. 'It is also about creating places we can be proud of

Applications of poor design or not justified in the Design and Access Statement will be refused.

A Sustainable Approach

Sustainable development is a key objective of planning. All residential schemes must be environmentally sustainable. The Council's Development Plan, in accordance with guidance and policy from the Welsh Assembly Government, requires sustainable building principles to be adopted in order to reduce the impact upon the natural environment and reduce reliance on non-renewable energy sources. Sustainable development is an integral part of the design process and these aspects must be considered at the earliest stage.

In achieving an environmentally sustainable design solution it is important new development incorporates measures to ensure an efficient that use of land, energy and water; minimises waste and encourages recycling of materials; maximises least harmful forms of movement and transport and protects and enhances the natural and built environment. The design process should also ensure that development contributes to tackling the causes of climate change and is designed to meet zero-carbon standards from the outset.

Good design in residential development can:

- help improve people's wellbeing and quality of life
- reduce greenhouse gas emissions
- benefit public health
- increase property values
- cut crime.
- promote a sense of community and belonging
- promote biodiversity and protect wildlife
- reduce fuel bills

The Council will ensure sustainability features are incorporated into the Design Solution by the use of nationally recognised and quality assured standards. All new residential development must meet a minimum of Level 3 of the Code for Sustainable Homes or recognised equivalent scheme and provide 10% of the future energy requirements of the building through renewable energy sources.

Code for Sustainable Homes

The Council considers that the Government developed Code for Sustainable Homes Scheme provides the best rating system for the construction of sustainable homes and the use of this scheme is encouraged. If an alternative scheme is used the criteria and an explanation of this scheme will need to be provided with the application.

A design stage certificate completed by an accredited assessor indicating which level of the Code is likely to be achieved should be submitted as part of the application. The post-completion certificate will be required by condition.



Renewable Energy

In addition to ensuring that the building itself is constructed in a sustainable manner the Council

requires that **10% of the future energy production of the development be sourced from renewable energy sources.**

There are a various means by which energy from renewable sources can be harnessed, details of which are contained in Wrexham's Planning Information Sheets on Renewable Energy. Renewable energy technology should form an integral part of the building and be considered and incorporated at an early stage of the design process.

The Council does not seek to impose specific types of renewable energy sources on developers and will accept a mixture of technology including schemes on individual houses and community schemes providing that the 10% target is achieved.

The Council will require a renewable energy statement to be submitted with your application which indicates the sources from which the renewable energy is to be obtained.

Inclusive Design

The design solution should ensure ease of access to the widest range of people possible. Consideration should be given to all sectors of society including elderly people, children and disabled people. Designing for all means that consideration should include the needs of all, including people with mobility impairments, with sensory impairments and learning difficulties. The Council will require these aspects to be addressed within the scheme and the Planning Application will need to be accompanied by a **Design and Access Statement** which explains how they have been considered. Details of the content of a **Design and Access Statement** can be obtained from a Council Planning Information Sheet.



The Design Process

To ensure high standards of design are achieved in new residential developments, applicants are encouraged to undertake the following three-step process to shape and influence their design. This will ensure design principles are considered from the start, rather than being treated as an afterthought, at a later stage when there is less flexibility to respond to design opportunities.

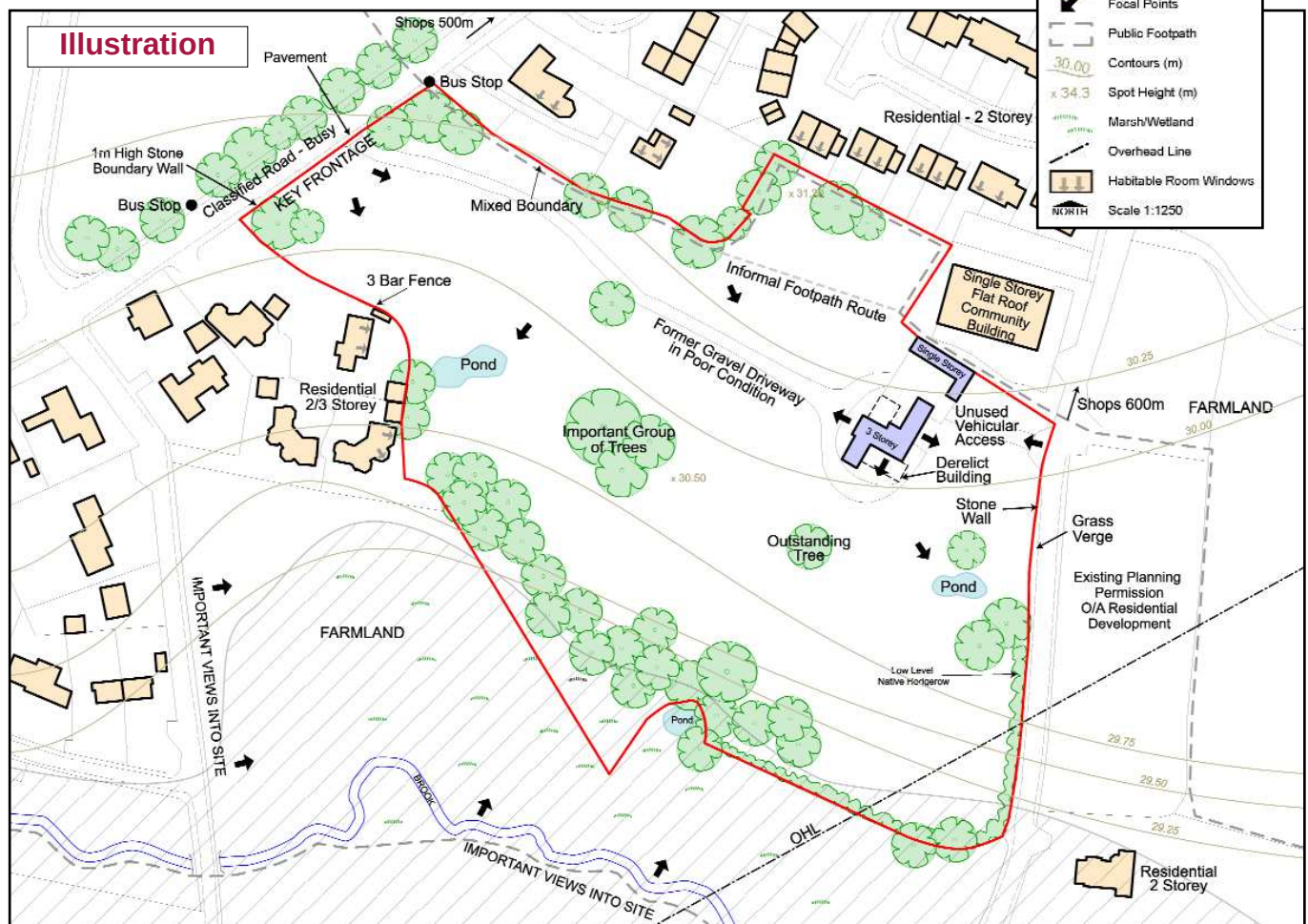
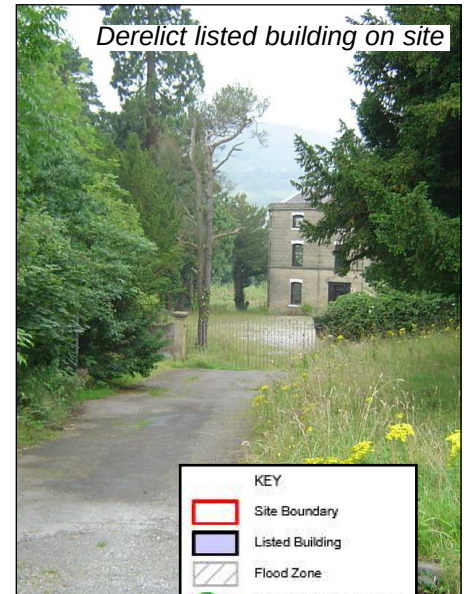
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Step I - Site Appraisal

An appraisal of areas of natural resources and site features is the starting point for achieving a sustainable design solution. Maximum benefit from the site and its features can only be obtained if a full survey of the site and its setting is carried out. It should consider existing key features and surroundings which contribute to its character and local distinctiveness as well as those factors which constrain development.

New development should harness the site's natural features and identify opportunities and constraints. It should focus on site assets and resources such as the development form, slope/topography, drainage, landscape, solar and wind energy as well as wildlife habitats and species. The appraisal should consist of text, plan and photos.



Site Description

Undulating site which is overgrown with vegetation and mature trees, with some areas important areas for wildlife. Mature trees within the site provide a parkland landscape character. The site contains a farmhouse (listed building) which is in poor condition with some parts now derelict. The nearest bus stop is 200m from the site entrance and the nearest railway station is Wrexham General at 2.5km from the site. Local shops and amenities are located within 500m of the site. Footpaths to these amenities are level and in good condition with tactile paving at crossing points.

A Site Appraisal should address the following

- Site boundaries - their position, construction and condition.
- Levels - the contours should be shown on a large site or spot levels on a smaller infill site indicating clearly the falls across the site and adjoining land.
- Trees and hedges - positions, accurate canopy spread and species along with an indication of condition (a full arboricultural assessment may be required).
- Ponds - wetland areas, ditches, watercourses, position, depth and flood levels.
- Ecological constraints - protected species and wildlife habitats e.g. badger setts.
- Existing Infrastructure - overhead wires, drains, sewers, pipelines.
- Walls and Fences - position, height, construction and condition.
- Existing buildings - location, construction, condition and potential for re-use.
- Footpaths and public rights of way.
- Roads - width, class and distance to main junction.
- Visibility at junctions.
- Planning history - Planning permissions granted or current applications on the site and adjacent land.
- Designations - Listed Buildings, conservation areas archaeology etc.
- Public transport routes.
- Important views into and out of the site.
- Relationship with adjacent buildings, uses, features, trees, hedges ponds etc.
- The form and character of the surrounding area where appropriate.
- Microclimate - shelter, shade and sun.



Pictures

- 1 Hedges at site boundary.
- 2 Undulating site with important trees.
- 3 Stream and habitat corridor.
- 4 Visibility at main Junction.
- 5 Typical local building style and materials.



Step II - The Constraints/ Opportunities Plan and the Design and Access Statement

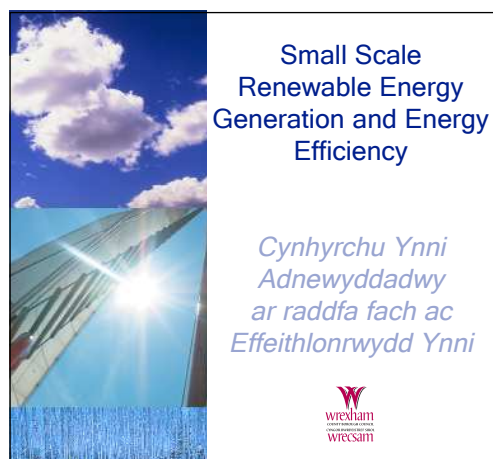
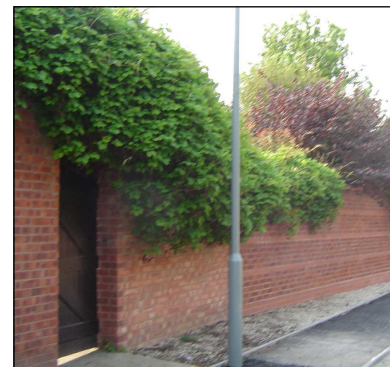
This plan will interpret the findings of the site appraisal into an annotated sketch plan, an example is shown in Fig 2 on Page 7. This should show in broad terms how the site could be developed in response to the opportunities and constraints revealed in the site appraisal.

It is at this stage that applicants are encouraged to seek advice from the Planning Department as the site appraisal will establish the basis for discussion and ultimately the design solution. The Council operates a Development Team Approach and pre-application consultations can save much unnecessary redesign and frustration. Our aim is to assist you to produce good, innovative design which will make a positive contribution to the County Borough.

Applicants should present their constraints/opportunities plan as part of their application. It will also form the basis of the Design and Access Statement which is required to accompany a planning application. "A Design and Access Statement (DAS) is not part of the planning application but is required by legislation to accompany all planning applications" (Welsh Assembly Government TAN 12 Design) with few exceptions.

The Design and Access Statement is a written statement setting out the vision and design principles adopted for the proposed development, together with illustrative material, where appropriate, demonstrating how the chosen design will respect and benefit the local environment.

The Design and Access Statement should explain how the objectives of good design and sustainability have been considered in the preparation of your proposals. It should explain and justify how you have arrived at a sustainable design solution. It should not simply describe the proposal but to explain how the objectives of good design have been applied, or where they have not been applied, the reason.



The Design and Access Statement should also demonstrate how the proposed development meets Level 3 of the Code for Sustainable Homes and in what ways 10% of the future energy production of the development will be sourced from from renewable energy sources

Design Statement Checklist

i) Has the site layout been devised to

- Harness energy from renewable sources?
- Maximise use of solar energy?
- Safeguard existing valuable natural and built site features?
- Protect natural habitats and species?
- Reflect the general pattern and character of development in the area?
- Provide adequate space around buildings?
- Ensure satisfactory access from the public highway and space for car parking?
- Protect neighbouring amenities?
- Give maximum natural surveillance for crime prevention?
- Minimise the need to travel with provision for cycling, walking and public transport within and beyond the site?
- Avoid overshadowing effects, particularly from trees and nearby buildings?
- Provide wind protection?
- Provide facilities for recycling?

ii) Does the form of the buildings

- Respect and complement the scale, form and character of adjacent buildings?
- Provide a good range/mix of house types?
- Have a unifying design approach?
- Vary in roofscape?
- Ensure roof design allows for the potential use of solar technology?
- Utilise the roof space to avoid building another storey?
- Allow for 10% of the energy consumption to be sourced from renewable energy sources?

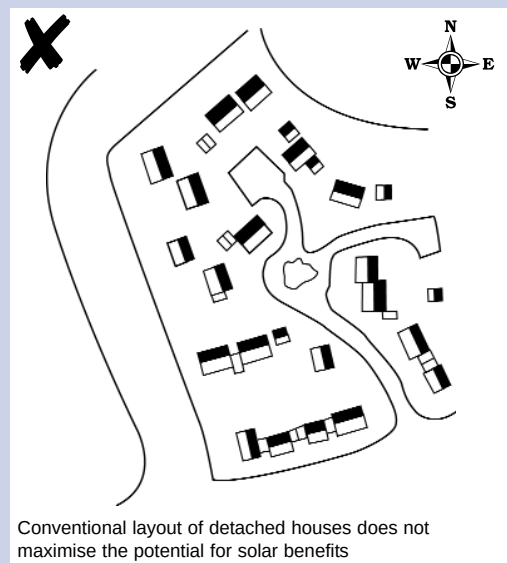
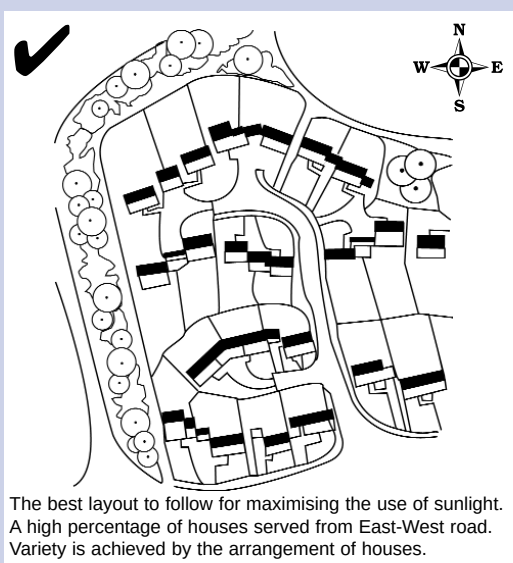
iii) Does the external appearance

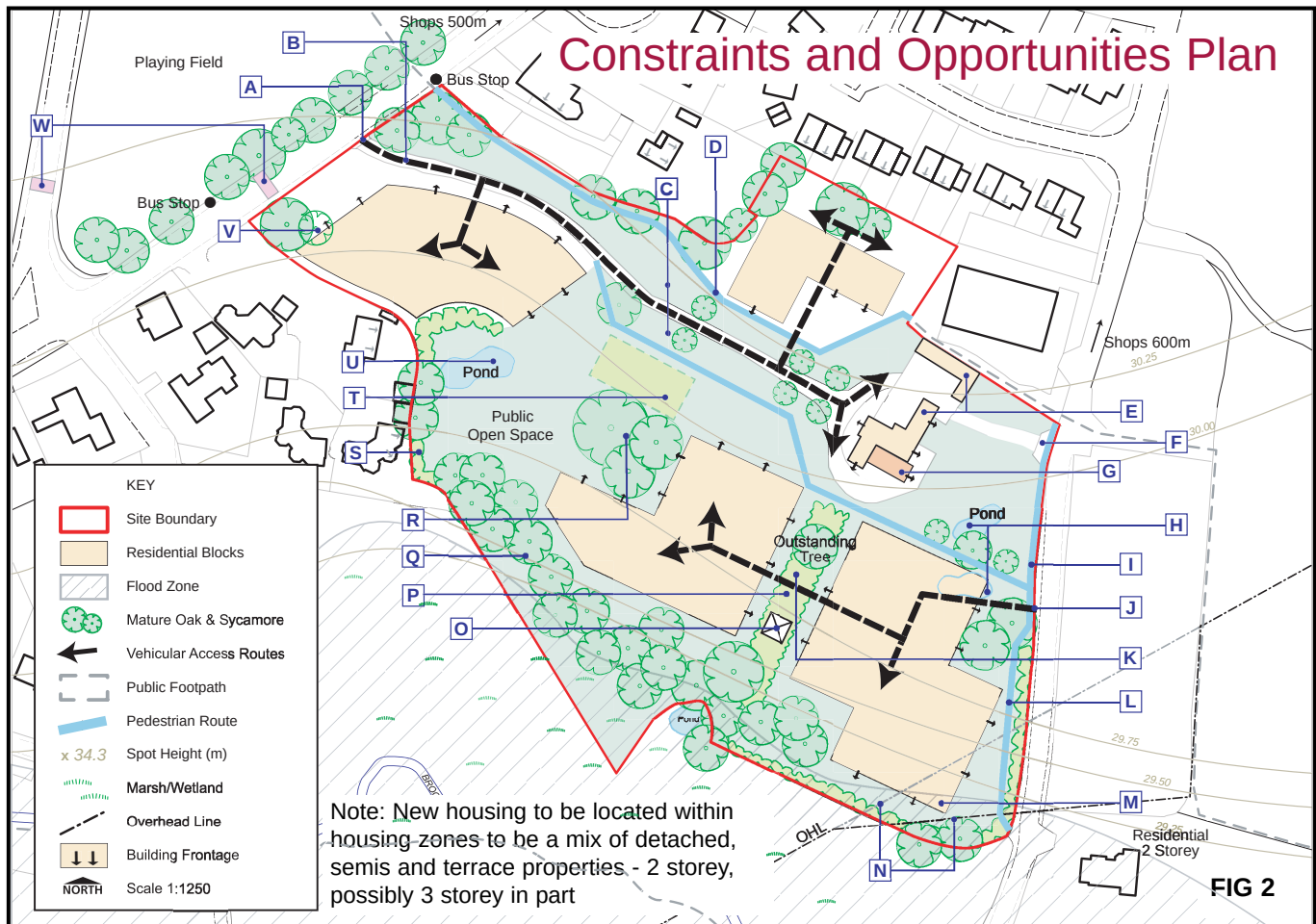
- Accurately reflect the form and character of adjoining buildings where appropriate?
- Have a balanced pattern of windows and doors in the front façade?
- Reflect the range of local materials?
- Incorporate any recycled materials?

- Have a sense of proportion with resolved details, suitable to the chosen form and character?

iv) Does the landscaping

- Retain and enhance existing valuable landscape features?
- Is the public open space centrally located and benefit from natural surveillance?
- Reflect or enhance the landscape/townscape setting of the site (especially the boundary treatment)?
- Include an adequate long-term scheme of management and maintenance?
- Maximise the opportunity to support wildlife and in particular native species?
- Incorporate green wedges, buffers and links which provide routes and networks between existing landscape features for nature conservation?
- Allow for the creation of new habitats within and around sites?
- Retain trees of important visual amenity value?



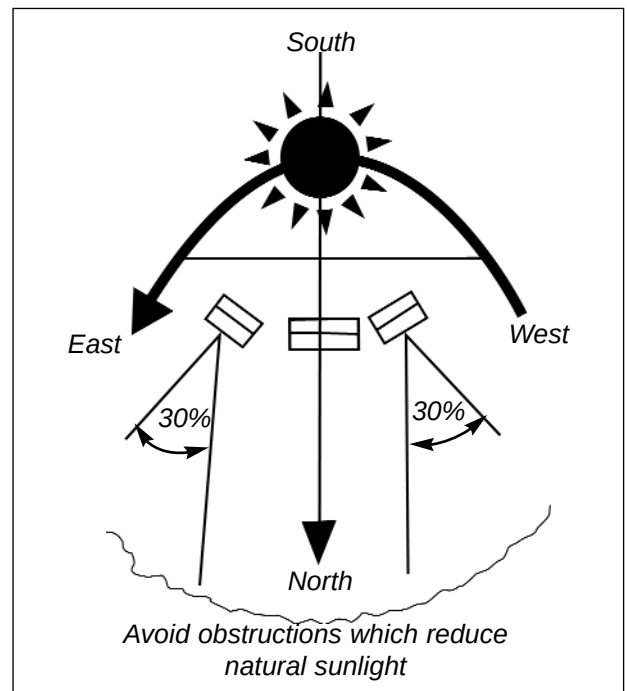


- A** Provide appropriate gateway feature at entrance.
- B** New access road to follow line of old driveway leading to listed building.
- C** Provide an avenue of green space and trees leading to the Listed Building to provide improved setting.
- D** Divert public footpath along new line to reflect informal footpath.
- E** Convert listed building into residential apartments and provide sympathetic subdivision of large unused building.
- F** Close existing vehicular access but maintain gate and opening to form link to new footpath to enable good access to local shops and community hall.
- G** Extension to listed building to restore derelict part of building.
- H** Form new pond and habitat to replace nearby pond.
- I** Provide new footpath on inside of existing wall to retain wall.
- J** Remove poor form tree to allow new vehicular access point to maximise safety.
- K** Provide new focal area in front of listed building to protect important view across the site.
- L** Provide footpath behind hedgerow to maintain hedge.
- M** Carry out hydrological assessment to verify requirements for flood plain area.
- N** Redirect overhead line with agreement with adjacent housing developer to provide a balanced scheme. Assess impact in relation to existing trees.
- O** Provide new community focal point.
- P** Provide adequate separation between new housing and existing tree and proposed planting to allow for future growth and to limit overshadowing.
- Q** Retain trees as focal point.
- R** Retain trees and investigate management scheme for their future maintenance.
- S** New hedge to improve setting of wetland habitat area and to provide additional security for adjacent housing.
- T** Provide new formal play area to be overlooked by adjacent housing.
- U** Enhance existing wetland area.
- V** Remove diseased tree for safety reasons.
- W** Improve pedestrian crossing to adjacent playing field and bus stop.

Step III - The Design Solution

Having followed the first two steps you will be in a better position to draw up detailed plans. You should ensure, as a minimum, the items identified on the validation checklist, are submitted as part of your application. This will ensure we have all the relevant information at the start of the planning process and will avoid unnecessary delay.

In terms of the Design Solution, a range of potential design opportunities will arise having followed the first two steps. The aim should be to create variety and distinctiveness in the layout and design of housing so as to avoid residential developments which lack character and identity. The following design principles may assist you in the preparation of detailed plans. This corresponds to the checklist set out in Step II.



i) Site Layout

- Create organic road layout which is well connected with a staggered building line.
- Ensure the development responds to existing natural features and the wider landscape (usually identified by constraints plan).
- Vary the sense of openness, enclosure, privacy, and views at key locations within the development through the spatial arrangement of buildings, boundary walls, railings and planting.
- Site buildings to provide natural surveillance to public areas and communal garage courts. (refer to Guidance Note 24 - Designing Out Crime).
- Make sure development is well connected with seamless links to the wider road, footpath and cycle path network.
- Maximise the number of dwellings which have windows in the sun's path. Fewer and small windows should generally be located on northern elevations.
- A good standard of privacy can be achieved by attention to detailed design, eg staggered building lines, careful grouping and orientation of dwellings, different sizes and positions of windows and doors and the erection of screen walls, fencing and planting.
- Unless it can be demonstrated that privacy can be maintained through design, there should normally be a minimum separation of 22m between directly facing habitable room windows. (Standards set out in Wrexham Local Planning Guidance Note 21).
- Try to design traffic calming through the site layout (avoid the introduction of ramps/cushions later). 'Pinch points' are an opportunity to introduce variety and landscaping into a layout.
- Avoid providing parking spaces to the front of dwellings. Car parking areas are beneficial in removing visual clutter from the streetscene. (Parking Standards set out in Local Planning Guidance Note 16).
- Consider the use of shared surface areas to allow for turning movements of delivery/service vehicles ie not necessarily a formal turning head, eg square with focal point. Suggest spaces for turning as opportunities to create focal points for the development'.
- Ensure pedestrian routes and cycleways have the most direct access to the existing road network and facilities whilst avoiding excessive gradients.
- Design in easy access to public transport eg direct pedestrian access to bus stops. Loop or spine routes should be provided to allow buses to enter large sites.
- Consider issues of movement and connectivity. The intention should be to create more people-oriented streets in line with the principles set out in Manual for Streets.
- Design layouts to minimise the need to travel with provision for cycling, walking and public transport within and beyond the site.
- Consider potential for re-using buildings. Proposals involving demolition will have to demonstrate the recycling of existing on-site materials.
- Avoid overshadowing effects, particularly when the site adjoins nearby buildings, trees and fences.
- Design site layouts for wind protection. Group or stagger buildings, avoid long passages and short gaps between buildings. To avoid channelling wind and creating areas of high wind speeds taller buildings should be carefully positioned, consider the use of trees as windbreaks.
- Consider the need for space for the storage of refuse bins, recycled materials and compost areas. The Council will expect all developments to consider new techniques for separation and storage of waste.





ii) Building Form

- Use a range/mix of house types and develop small clusters of buildings.
- A unifying design approach should be used throughout the whole of a large development to install an identifiable sense of place, eg same door/windows designs but changing other aspects.
- Avoid plots which are uniform in size. Try to ensure they respond to natural bends and curves, irregularities in plot boundaries, respect the natural landform and avoid excessive engineering solutions.
- Consider creating focal points, whether formal or informal. This adds to the character and sense of place of an area.
- Vary roof heights and styles.
- Use landmark buildings, positioned at key inter-sections where they terminate views and create visual interest and character or add height on some corners.
- Use landscape features such as walls, railings, planting and paving to reinforce the sense of cohesiveness and visual continuity within the development.
- The position of garages should be sited to form an integral and seamless part of the layout, not isolated features stuck out on a limb.
- Roof pitches should allow for the incorporation of solar technology if this renewable energy source is chosen.
- Include photovoltaic (pv) modules and active solar panels to produce energy.
- Use building materials that will enhance wildlife eg 'green' turf roofs which will also reduce rainwater run off.
- Main habitable rooms should be on the south side (S or SE-SW).
- Avoid overglazing which will lead to overheating in summer and loss of heat in winter.
- Maximise natural energy sources eg wind, water and sun and other renewable energy technologies, eg geothermal, biomass and anaerobic digestion.
- On large schemes consideration should be given to combined heat and power (CHP) for community and space heating. CHP is a single process to provide both electricity and heat.
- Consider foul and surface water drainage at the earliest stage eg establish the suitability of using Sustainable Drainage Systems (SUDS) to control flooding and pollution.

iii) External Appearance

- New dwellings should be well proportioned, with windows well balanced within the elevation and should respect but not necessarily mimic the style and character of their surroundings.
- Use building materials to reflect the style of building and local townscape characteristics.
- Site house entrances away from prevailing winds and protect with a porch or lobby.
- Use recycled materials where possible. Most materials provided their construction qualities and appearance are suitable, are capable of being reclaimed and reused eg stone, slates, tiles, timber, paving and bricks. Weathering of building materials needs to be considered.
- Wrexham's Planning Department will provide a portfolio of appropriate building materials.
- Where possible, building materials should be recycled where they reflect local vernacular building materials.
- Windows should be recessed rather than positioned directly flush with the building façade.
- Elevations should be balanced with separate smaller openings in preference to one large opening. Large openings should be located so that they do not form part of the public view of the building.



- Front doors should be the focus of attention, positioned in clear view of the street. It should not appear subservient to adjacent integral garage doors.
- The style of the door and its surround should indicate the status of the building.
- The roof detail and material should suit the dwelling style (eg a heavily detailed eaves would not be appropriate on a small house/cottage).
- Roofs should be proportionate to other elements with dormers used sparingly and kept as simple as possible.
- Chimneys are of great importance as a vertical emphasis and traditionally are sited at the ridge ends.

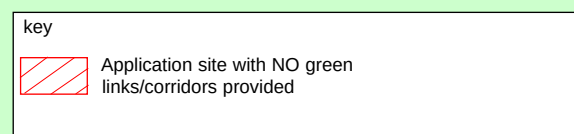
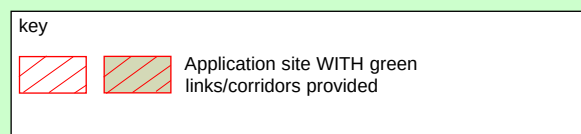


iv) Landscape Proposals

- Provide landscaping details as part of a full application. Landscaping is an integral part of the scheme and should not be considered as an afterthought.
- Public open space should form an integral part of the site layout. Ideally, this should be centrally located and benefit from natural surveillance from adjoining dwellings (further guidance can be found in Local Planning Guidance Note 10).
- Avoid the creation of a high number of small areas of POS. These are difficult to manage and their contribution is less in terms of the wider visual amenity of the area.
- Consider use of hard surface areas to define public and private space.
- The retention of mature trees, hedges and vegetation are particularly important in helping new development blend into the locality, add maturity to the scheme and conserve biodiversity.
- Make effective use of street furniture and lighting. Avoid visual clutter by co-ordinating street furniture, signage and using materials that are appropriate to the context and maximise opportunities for wall mounted signage and lighting.
- Consider the use of hard landscaping as part of the POS provision to create a focal point or square (a sense of place).
- Existing walls and hedges should be retained wherever possible.
- The use of close boarded or other solid fencing should be avoided on front boundaries and site boundaries onto open countryside.
- Retain and enhance biodiversity and provide new habitats and links such as green wedges, buffers and links between existing landscape features within and adjacent to the site to connect habitats. Provide new woodlands, hedgerows, water and wetland habitats as part of a landscape master plan for the site.
- The use of brick or stone walls which blend with adjacent buildings and often abut areas of POS are generally preferable and will be encouraged.
- Consider Public Art or Public Realm works which can help create a sense of local distinctiveness and identity.



- Does the development maintain/enhance opportunities for biodiversity and how will it maintain and improve habitat connectivity through integration of green spaces.
- Incorporating a SUDS scheme into the open space will serve the dual purpose of enhancing the ecological value of a site whilst improving its sustainability credentials.
- Consider a sustainable approach to drainage and water supply e.g. SuDs permeable hard surfaces, green roofs and walls, swales and attenuation ponds to manage runoff. Minimising water use through demand management, rainwater harvesting and choice of low water dependant grass and plant species.
- Maximise the opportunity to support wildlife and in particular native species.
- Incorporate green wedges, buffers and links which provide routes and networks with existing landscape features.
- Provide a variety of new habitats within and around sites eg woodlands, hedgerows, water and wetland habitats.
- Retain trees of significant and potential visual amenity value and ensure sufficient space is available for large street trees within the site layout.
- Native trees and shrub planting is preferred along site boundaries, the edge of POS and in the creation of new habitat areas. Avoid a 'scatter gun' approach, with an overly mixed range of plant species and colours and avoid mass single species planting.
- Ensure services avoid key areas of planting within the development.
- Avoid building roads under the crowns of retained trees.





Web: www.wrexham.gov.uk/planning

Further Information

● Wrexham County Borough Council

Wrexham Unitary Development Plan
Adopted 2005
Supplementary Planning Guidance
16 - Parking Standards
17 - Trees and Development
21 - Space Around Buildings
24 - Designing Out Crime.
Information leaflets on Renewable Energy
www.wrexham.gov.uk/planning

● Communities and Local Government

The Code for Sustainable Homes
www.communities.gov.uk

● Welsh Assembly Government

Improving your home A Climate Change Guide
www.new.wales.gov.uk

● MIPPS

Planning for Sustainable Building
www.wales.gov.uk

● Department for Transport

Manual for Streets
www.dft.gov.uk

● Design Commission for Wales

A Model Design Guide for Wales for
Residential Development (POSW)
Design and Access Statements in Wales,
Why, What and How
www.dcfw.org/publications

● The Commission for Architecture and the Built Environment (CABE)

Design and Access Statements - How to Write them
Building for Life
A Sense of Space
Sustainable Design, Climate Change and the Built Environment
This Way to Better Streets
Design Champions
www.cabe.org.uk/publications