



# LANDSCAPE DESIGN GUIDE



The landscape of Harrogate District is rich and varied, encompassing the apparent wilderness of the moors and intensively cultivated farmland, the natural beauty of wood and water and carefully tended gardens and parks, town and country, small-scale details and large-scale planning, new schemes and the legacy of the past.

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BOROUGH COUNCIL

**INTRODUCTION**

- LDG1.1 Introduction to the Landscape Design Guide
- LDG1.2 The Landscape Profession
- LDG1.3 Legislation and Planning Policy
- LDG1.4 Landscape Designations
- LDG1.5 TPOs, Trees in Conservation Areas
- LDG1.6 Landscape Assessment and Landscape Character
- LDG1.7 Hedgerows and the Hedgerow Regulations

**LANDSCAPE DESIGN**

- LDG2.1 Landscape Design for Development Sites
- LDG2.2 Residential Care and Nursing Homes
- LDG2.3 Domestic Curtilages
- LDG2.4 Public Open Space and Recreation
- LDG2.5 Development on Sites with Trees
- LDG2.6 Boundaries

**HARDSURFACING**

- LDG3.1 Pavements
- LDG3.2 Roads
- LDG3.3 Footpaths and Footways
- LDG3.4 Surfacing in Conservation Areas
- LDG3.5 Trees in Paving Areas

**STRUCTURES AND EARTHWORKS**

- LDG4.1 Lighting
- LDG4.2 Public and Landscape Art
- LDG4.3 Groundshaping

**BOUNDARY TREATMENT**

- LDG5.1 Walls of Harrogate District
- LDG5.2 Fences of Harrogate District
- LDG5.3 Gates and Stiles of Harrogate District
- LDG5.4 Retaining Walls and Structures

**PLANTING DESIGN**

- LDG6.1 Plant for a Purpose
- LDG6.2 Plant for a Sense of Place
- LDG6.3 Plant for the Future
- LDG6.4 Shelter Belt and Tree Screen Planting
- LDG6.5 Structure Planting
- LDG6.6 Ponds
- LDG6.7 Grass and Meadow

**PLANTING SPECIFICATION AND MANAGEMENT**

- LDG7.1 Topsoil and Subsoil
- LDG7.2 Ground Preparation and Planting Procedure
- LDG7.3 Plant size, Form and Cost
- LDG7.4 Plant Protection
- LDG7.5 Plant Establishment, Maintenance and Management
- LDG7.6 Hedgerow Management

**PLANTING CHARACTER**

- LDG8.1 Woodland:
  - LDG8.1.1 Woodlands of the Gritstone Plateaux, Dales and Upper/Middle Valley (CA21, NA8)
  - LDG8.1.2 Woodlands of the Dales Fringe and Lower Valley (CA22, NA15)
  - LDG8.1.3 Woodlands of the Limestone Ridge (CCA30, NA23)
  - LDG8.1.4 Woodlands of the Vale of York (CCA28, NA16)
- LDG8.2 Hedges:
  - LDG8.2.1 Hedges of the Gritstone Plateaux, Dales and Upper/Middle Valley (CA21, NA8)
  - LDG8.2.2 Hedges of the Dales Fringe and Lower Valley (CA22, NA15)
  - LDG8.2.3 Hedges of the Limestone Ridge (CCA30, NA23)
  - LDG8.2.4 Hedges of the Vale of York (CCA28, NA16)
- LDG8.3 Ornamental Shrubs and Ground Cover:
  - LDG8.3.1 Ornamental Shrubs and Ground Cover of the Gritstone Plateaux, Dales and Upper/Middle Valley (CA21, NA8)
  - LDG8.3.2 Ornamental Shrubs and Ground Cover of the Dales Fringe and Lower Valley (CA22, NA15)
  - LDG8.3.3 Ornamental Shrubs and Ground Cover of the Limestone Ridge (CCA30, NA23)
  - LDG8.3.4 Ornamental Shrubs and Ground Cover of the Vale of York (CCA28, NA16)
- LDG8.4 Climbing Plants and Wall Shrubs:
  - LDG8.4.1 Climbing Plants and Wall Shrubs of the Gritstone Plateaux, Dales and Upper/Middle Valley (CA21, NA8)
  - LDG8.4.2 Climbing Plants and Wall Shrubs of the Dales Fringe and Lower Valley (CA22, NA15)
  - LDG8.4.3 Climbing Plants and Wall Shrubs of the Limestone Ridge (CCA30, NA23)
  - LDG8.4.4 Climbing Plants and Wall Shrubs of the Vale of York (CCA28, NA16)



# Introduction to the Landscape Design Guide

## The Purpose of Landscape Guidance

The design guidance sheets for landscape provide supplementary guidance to the Harrogate District Local Plan (adopted in February 2001) and are intended:

- to clarify landscape requirements for granting planning permission;
- to illustrate and encourage good practice;
- to encourage an integrated approach to landscape conservation and development.
- to help planners and developers implement planning policy

The guidance should be seen as a helpful starting point rather than a substitute for original thought.

## The Importance of Landscape

Our landscape is a complex combination of physical and cultural elements which have evolved through a long process of people working with the land to create places with identity. The landscape is continually changing, but often may be fragile or vulnerable to damage through neglect or inappropriate development.



Nidderdale AONB in winter



Knaresborough House



Queens Court - a recent office/residential development retaining mature trees.

## The problem

Our environment is subject to conflicting demands for housing, industry and commerce, transport, water, energy and food production; yet we value it for its wildlife, scenic beauty and historic interest.



Woodland above Pateley Bridge



Haymaking at Middlesmoor

## Important landscapes in Harrogate District

The high quality landscape of Harrogate District includes landscapes of local, national and international importance such as: Studley Royal/Fountains Abbey (World Heritage Site); the nationally recognised Nidderdale Area of Outstanding Natural Beauty (AONB); Registered Parks & Gardens of Special Historic Interest including the Valley Gardens in Harrogate and Newby Hall near Ripon; natural landscape features such as Almscliffe Crag and Brimham Rocks; strong local landscape characteristics such as the river gorge setting of Knaresborough and the medieval streetscape of Ripon.

Landscape patterns within town and countryside are made up of individual components and features of interest. Plants and animals share this landscape, enriching our inheritance.

Harrogate Borough Council is committed to a strategy for the protection and enhancement of the special character and environment of Harrogate District.

## Our solution

We strive to create an attitude to development that conserves what is valued, enhances the environment and encourages good design, addressing needs rather than demands.

The use of professional agents is strongly recommended. Harrogate Borough Council can provide addresses of arboriculturalists and horticulturalists. Design Guidance Sheet 1.2 explains the landscape profession, and contains a list of registered landscape practices in Yorkshire and Humberside.

## National Guidance

Guidance on landscape assessment and design is published by the Countryside Commission, The Forestry Authority and the Landscape Institute amongst others. A bibliography sheet for further reading is available from The Conservation and Design Section of the Council's Technical Services Department.

## Landscape Design Guidance

This advice has been developed through consultation with the public and is available as Supplementary Planning Guidance, to be read in conjunction with the Harrogate District Local Plan.



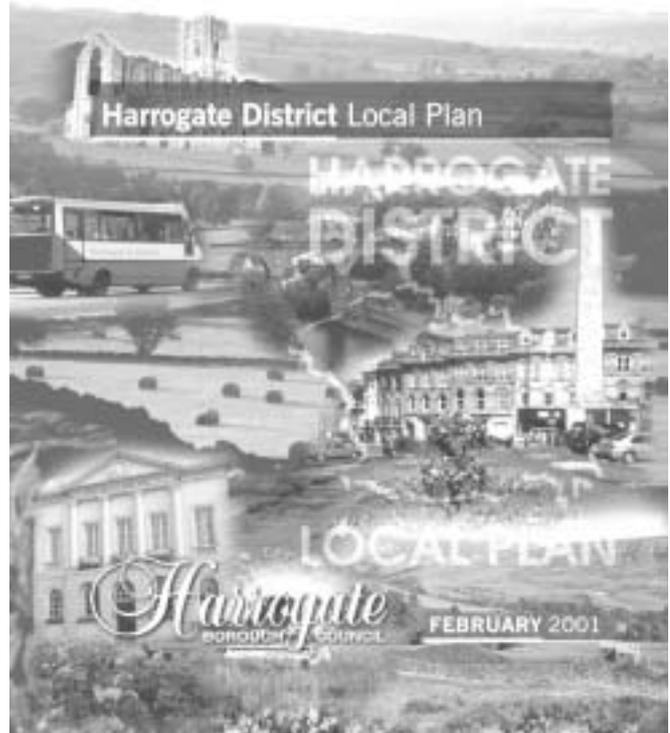
A suburban street with mature tree mix

## Designations (ref: LDG 1.4)

Specific areas and sites are protected through designations at local, national and international levels, for example Sites of Special Scientific Interest, Scheduled Ancient Monuments, World Heritage Sites and Registered Parks & Gardens of Special Historic Interest.

## Other Publications

Harrogate Borough Council publishes the Countryside Schedule and Heritage Schedule, which list sites and areas of value within the District. Leaflets describing each Conservation Area and giving advice on Listed Buildings, Parks & Gardens, Ancient Monuments and Conservation Areas within the District are also available.



## Harrogate District Local Plan

The Local Plan was adopted in February 2001. Policies relevant to landscape conservation and development are found throughout the Plan, since landscape matters are integrated into all aspects. (For planning policy see Sheet LDG 1.3)



Nidderdale AONB in winter



Brimham Rocks gritstone outcrops

Harrogate Borough Council guidance on other issues includes:

- Residential Design
- Energy and Sustainability
- Biodiversity
- Shopfronts
- Rural Reuse

In certain cases these are linked or complementary.

## Further advice

Further advice on Local Plan policies, any of the issues raised in this guidance note, Planning Application forms and other related matters may be obtained from Planning Enquiries, Department of Technical Services.

The landscape profession consists of landscape designers, managers, scientists and planners who are Members of the Landscape Institute (MLI), the Chartered Institute in the UK for Landscape Architects. Landscape designers, managers, scientists and planners work on all types of external space of varying scales (gardens to forestry and parkland) in all types of location (urban to rural).

Landscape Architects can provide an invaluable service to the design team in the early stages of a project, ensuring that the end result is acceptable in terms of its impact on the surrounding landscape and complies with relevant planning policy.



## The Landscape Institute

The Institutes of Landscape Architects was established in 1939 and changed to the Landscape Institute in 1978, broadening its membership to include landscape managers and scientists. In 1997 the Landscape Institute was granted a Royal Charter.

There are four membership divisions for the Landscape Institute:

- Landscape Designers plan, design and create all types of outdoor space;
- Landscape Managers advise on the long term care and development of the landscape;
- Landscape Scientists have specialist skills such as soil science, hydrology, geomorphology or botany that they relate to the practical problems of landscape work; and
- Landscape Planners are concerned with the location, scenic, ecological and recreational aspects of land use.

## Professional Membership

Landscape Professionals become Chartered Landscape Architects through study at university followed by a minimum of 2 years work experience prior to taking the professional practice exam.

A list of members and registered practices is kept by the landscape Institute. For information and registered landscape practices in the UK visit the Landscape Institute website: [www.l-i.org.uk](http://www.l-i.org.uk) or the Yorkshire Branch website [www.liyorkshire.or.uk](http://www.liyorkshire.or.uk)

There follows a list of 2001 registered practices in Yorkshire and Humberside with contact phone numbers.

- Abber Holford Rowe Landscape and Environment Ltd (Huddersfield) 01484 537411
- Alison J Campbell (Huddersfield) 01484 361 526
- Babtie Group Landscape (Wakefield) 01924 362 915
- BDP Landscape Ltd (Sheffield) 0114 273 1641
- BHWP Environmental Design & Planning (Bramham) 01937 541 200
- Brown Associates (Sheffield) 0114 268 6444
- Camlin Lonsdale (Huddersfield) 01484 841 000
- DLA Landscape & Urban Design (Wakefield) 01924 858 585
- ECUS (Sheffield) 0114 266 9292
- Estell Warren (Leeds) 0113 294 5720
- Farmer Design Associates (Huddersfield) 01484 861 611
- Fawcett & Fawcett (Northallerton) 01609 770 767
- Gillespies (Leeds) 0113 247 0550
- Horsman Woolley (Hebden Bridge) 01422 845 845
- Insite Environment (Harrogate) 01423 799172
- Landcare (Huddersfield) 01484 686 462
- Landscape Contract Designs (York) 01904 489 403
- Maslen Environmental Ltd (Bradford) 01274 723 837
- Mike Spence Environmental (Silsden) 01535 658749
- Peter Conlon Landscape Architect (Sheffield) 0114 286 4667
- Popplewell Associates (York) 01904 656 484
- RPS Consultants (Huddersfield) 01484 543 124
- Scott Wilson (Leeds) 0113 246 1844
- Smeedon-Foreman Partnership (Harrogate) 01423 520 222
- Sue Wilson (Huddersfield) 01484 652 270
- The Landmark Partnership (Thirsk) 01845 537 961
- The Landscape Practice (Northallerton) 01609 772 554
- Wainwright Landscape Architecture Ltd (Wakefield) 01924 318 256
- Watkins:Dally (Sheffield) 0114 267 9175
- Weddle Landscape Design (Sheffield) 0114 275 7003
- Welch Landscape Architect (Scunthorpe) 01724 712 812
- Whitelaw Turkington Landscape Architects 01977 646 929
- Win Derbyshire - Landscape Architect (York) 01904 620 799



## The Landscape

The landscape is a complex arrangement of elements within the physical environment. Some of this arrangement is natural but for most of the UK the influences of man have left their mark. Landscape is valued in different ways for different reasons. Some have local amenity and recreation value, others are valued for their heritage while others are valued for their unique sense of place. As with everything where man has influence some are considered good and others bad. Whatever the type and quality the landscape surrounds us and affects our lives just as our activities impact upon its landscape character.

Landscape encompasses all space outside buildings from the urban pedestrian precincts in cities to the wide open spaces of moorland. Therefore all forms of development impact upon the landscape to some degree and this needs to be assessed to determine its significance and identify possible mitigation.



## When to involve a Landscape Architect

Developers should seek landscape advice in the early stages of project development. Early involvement of a Landscape Architect as part of the design team to help determine form, scale and siting of new developments can be invaluable and is encouraged by Harrogate Borough Council. This will ensure the best possible solution is reached through the application of landscape appraisal as part of the design process.

For single household applications it will often be enough to be aware of the landscape issues to consider as part of the application and to show that consideration has been given.

Examples of projects which Landscape Architects work on include:

- Housing area, industrial parks and commercial developments,
- The space around schools, universities, hospitals and hotels
- Small private gardens and private estates
- Public parks, golf courses, theme parks and sports facilities
- large or small urban regeneration schemes
- Forest, tourist or historic landscapes
- Landscape appraisal or conservation studies
- Environmental assessment, planning advice and land management proposals.

Landscape Architects are specialists in understanding the diverse aspects of the landscape. Relevant experience is important: some Landscape Architects are more experienced in urban landscape design than rural and semi-natural settings. Therefore, always ask about previous experience prior to appointing a Landscape Architect for your project.

Conservation and development are regulated by numerous Acts of Parliament. Landscape issues such as the preservation of unique landscape character, Historic Parks and Gardens and the protection of landscape features such as buildings, trees, woodland, hedges, habitats and geological landforms are dealt with. In addition Planning policy from national to district level aims to protect those areas and structures which have statutory designations and protection as well as ensure good integrated design in development.

## Legislation

National and international legislation protecting the environment in which we live includes measures which ensure the protect and consideration of the landscape and elements which make up the landscape. Legislation has enabled designations for protection to be made and a list of designations relevant to the landscape is given below. In addition to designations regulations have been introduced which contribute to the protection of the landscape.

The Residential Design Guide and the Biodiversity Design Guide also refer to relevant legislation related to development and conservation.

The following is some of the key legislation and regulations which is relevant to and has influenced the landscape of our countryside, towns and cities:

- **The Countryside and Rights of Way Act 2000**
- **Town and Country Planning (Trees) Regulations 1999**
- **The Hedgerow Regulations 1997**
- **Planning and Compensation Act 1991** sets out requirements for planning permission
- **Town and Country Planning Act 1990** provides for additions to types of projects requiring EIA and strengthens LA powers to safeguard conservation areas
- **Planning (Listed Buildings and conservation Areas) Act 1990**
- **Town and Country Planning (Assessment of Environmental Effects Regulations) 1988** requires EIA for all schedule 1 projects and for schedule 2 projects under certain conditions as set out in the EC directive 85/337
- **Wildlife and Countryside Act 1981** deals with designation of SSSIs, NNRs, MNRs and Areas of Special Protection for Birds (AOSPs), Nature Conservation Orders, Limestone Pavement Order and protected species.

- **Ancient Monuments and Archeological Areas Act 1979**
- **The Countryside Act 1968**
- **National Park & Access to the Countryside Act 1949** is the primary enabling act for National Parks and Areas of Outstanding Natural Beauty. Although sections of this act have been superceded by the 1968 and 1981 Acts.

Various EC Directives and International Agreements not mentioned here have influenced national legislation.



Knaresborough Castle (Ancient Monument No. 481)

## Planning Policy

Guidance for local planning policy is given at a national level using Planning Policy Guidance Notes (PPGs) and Department Circulars. At a regional level there are Regional Planning Guidance (RPGs) notes. These feed into Planning policy developed at a county and district level. PPGs including advice related to landscape issues include:

- PPG1 General Policy and Principles (1997) includes guidance for good design and states that “*landscape design should be considered as an integral part of urban design.*”
- PPG2 Greenbelts (1995)

- PPG3 Housing (1992)
- PPG7 Environmental Quality and Economic and Social Development (1997) includes advice on achieving good quality development and respecting the character of the countryside.
- PPG15 Planning and the Historic Environment (1994) gives guidance on the importance of historic landscapes, not just those designated but the wider landscape as an "archeological and historic artifact, the product of complex historic processes and past land-use."
- PPG16 Archaeology and Planning (1990) highlights the importance of archaeological remains and their potential contribution to historic landscape character in both urban and rural situations.
- RPG12 This is the Regional Planning Guidance for Yorkshire and the Humber. Policy N3 states "the quality, diversity and local distinctiveness of landscape character throughout the region should be protected and enhanced.

The North Yorkshire County Council Structure Plan sets out the policies relating to the responsibilities of the County. Landscape is addressed directly in Chapter six: Built and Natural Environment. Policy BNE1: states that "development should conserve, or where appropriate, enhance the character and distinctiveness of the built and natural landscape resource." Other Policies relevant to landscape in this chapter include BNE2: and BNE3. Chapters throughout the Structure Plan have relevance to landscape issues and have guided the development of the Harrogate District Local Plan.

The Harrogate District Local Plan contains a comprehensive set of policies relating to the overall landscape and the elements which contribute to landscape character. Key policies are contained in the Countryside section of the local plan:

- C1 Conservation of the Nidderdale Area of Outstanding Natural Beauty
- C2 Landscape Character - development should protect existing landscape character, opportunities should be taken for the design and landscaping of development proposals.
- C3 River and Stream Corridors - development will not be permitted where it is likely to have a significant adverse effect on the landscape character and amenity of river and stream corridors.
- C5 Woodland and Forestry - development will not be permitted where it would harm the landscape, screening or wildlife value of woodland.
- C5A Hedgerows - development which would require the removal or important hedges will not be permitted, unless justified in the wider public interests.

- C9 Special Landscape Areas - nine SLAs have been designated in the District around Harrogate, Knaresborough and Ripon. Development which would have an adverse impact on landscape character in these areas will not be permitted. Where development *is* permitted a high standard of design will be required.
- C10 Green wedges in Harrogate - these provide an important link between town and countryside and their character will be protected and access to open land maintained.
- C11 Landscaping of Development sites - for development a landscape scheme is required which takes account of surrounding landscape features and character.
- C18 Extension of Curtilages into the countryside -these will only be permitted where there will not be an adverse impact on the character and appearance of the countryside or the setting of a settlement.

In addition to these key policies there are other policies which are relevant to landscape issues. In particular, there are policies relating to Nature Conservation, Green Belt, Heritage & Design, and Recreation & Amenity, which require the protection, maintenance, restoration and enhancement of key landscape features and landscape character.

The Council's Design Guides for Biodiversity and Residential Development (as well as this Landscape Design Guidance) augment Local Plan policies.

The General Development Order sets out what is considered Permitted Development and what requires planning permission.

The Government's position is set out clearly in the Action Plans for Biodiversity and Sustainability, and White Papers "This Common Inheritance" and "Rural England".



Harrogate's "Hydro" swimming pool

The landscape of Harrogate District is acknowledged to be high quality, attractive and varied, much of which is subject to designations which offer protection from inappropriate development. Applications for planning permission on designated land will be assessed in accordance with the policies of the Harrogate District Local Plan. The extent of different designations is shown on the Proposals Map. This sheet lists the landscape designations found within Harrogate District and summarises their implications. Designations for nature conservation, archaeological and architectural interests are not included here.

## Studley Royal & Fountains Abbey World Heritage Site

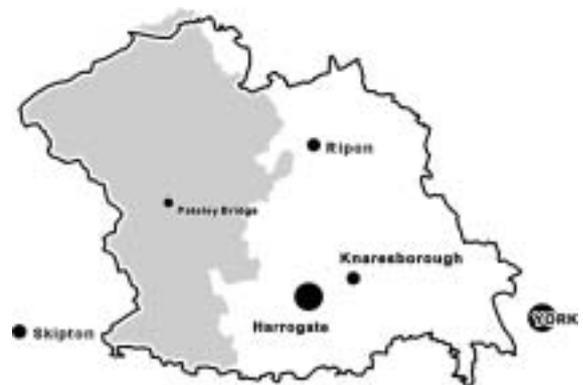
The International Council on Monuments and Sites (ICOMOS) advises the United Nations Educational, Scientific and Cultural Organisation (UNESCO) on the identification of cultural World Heritage Sites: outstanding sites which are of world importance and universal significance. Studley Royal is one of 16 sites within the UK (630 sites world-wide) identified as a World Heritage Site<sup>1</sup>. Although there are no additional statutory controls, the international status of this designation is a key material consideration to be taken into account when determining planning and listed building applications.<sup>2</sup> (See Harrogate District Local Plan Policy HD7)

## Nidderdale AONB

Areas of Outstanding National Beauty are landscapes of national importance, designated by the Countryside Commission under the terms of the National Parks and Access to the Countryside Act of 1949. National planning guidance states that *"the primary objective of designation*

*is conservation of the natural beauty of the landscape... In all cases the environmental effects of new proposals will be a major consideration."*<sup>3</sup>

Harrogate District Local Plan Policy C1 gives priority to the conservation of the natural beauty of the landscape. Applications for development which are likely to have a significant impact on this nationally important landscape are also scrutinised by the Nidderdale Joint Advisory Committee, an independent body with representatives from the principal groups within Nidderdale.



Nidderdale AONB takes up the western half of Harrogate District



Ripley Castle parkland

# Parks & Gardens of Special Historic Interest

12 parks and gardens within Harrogate District are registered by English Heritage as being of special historic interest<sup>4</sup>. The effect of development on a registered park or garden and its setting is a material consideration in the determination of a planning application.<sup>5</sup> Harrogate District Local Plan Policy HD7A states that development which adversely affects the character or setting of registered parks and gardens will not be permitted.

## Green Belt

Areas of open countryside in the southern parts of the District and between Harrogate and Knaresborough have been designated as “Green Belt” for their strategic importance in maintaining separation between urban areas.

The quality of the landscape is not a reason for designation, but the purposes and objectives of Green Belt designation do make specific reference to landscape issues such as:

- to assist in safeguarding the countryside from encroachment;
- to preserve the setting and special character of historic towns;
- to retain attractive landscapes, and enhance landscapes, near to where people live;
- to improve damaged and derelict land around towns.<sup>6</sup>

National and local planning policies state that development which compromises the openness of the Green Belt and which fails to meet Green Belt purposes and objectives will not be permitted.<sup>7</sup> (See Harrogate District Local Plan Policies GB1 - GB7)

## Special Landscape Areas

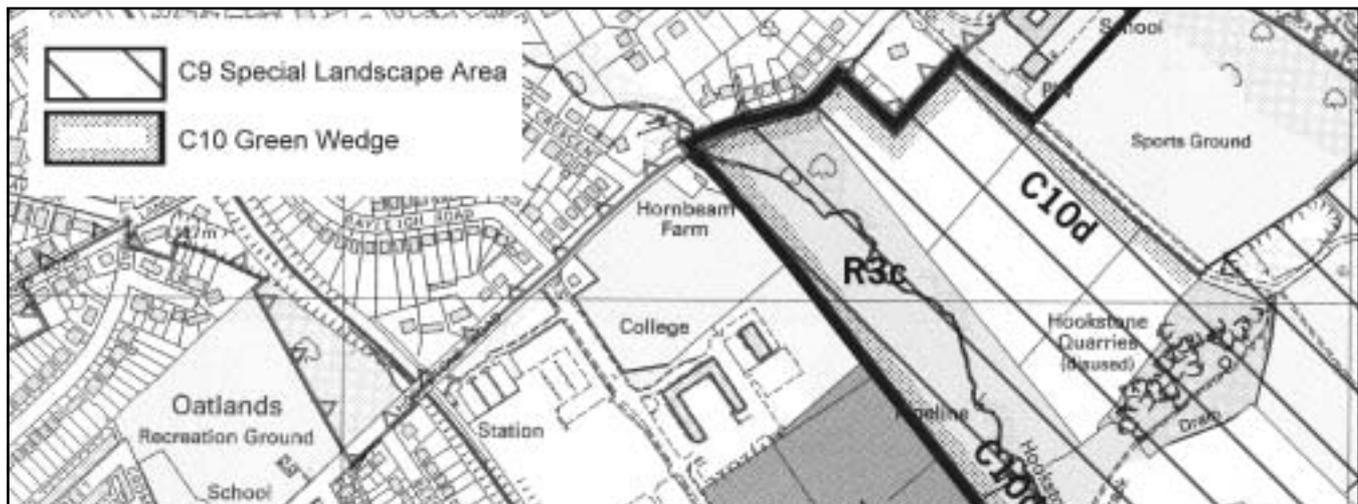
The Harrogate District Local Plan identifies areas which are of high landscape quality and important to the setting of Harrogate, Knaresborough or Ripon as Special Landscape Areas. This is a local landscape designation and carries less weight than the national designation of AONB. Local Plan Policy C9 states that development which adversely affects the character of the Special Landscape Area or setting of Harrogate, Knaresborough or Ripon will not be permitted.

## Green Wedge

Areas of land that provide open breaks in the built-up area and link to the countryside beyond are identified as “green wedge” on the Harrogate District Local Plan Proposals Map. This is a local landscape designation. Local Plan Policy C10 states that development which adversely affects the character of a “green wedge” will not be permitted.

## Conservation Areas

Conservation Areas are designated to preserve and enhance the special architectural or historic interest of an area. This protects the landscape character of the area whether it be rural or urban. (See Harrogate District Local Plan Policy HD3)



An extract from the Harrogate District Local Plan Proposals Map

1 in January 2000

2 Department of the Environment, Department of National Heritage (1994) PPG15 Planning and the Historic Environment

3 Department of the Environment (1997) PPG7 The Countryside – Environmental quality and economic and social development.

4 Allerton Park (II), Hackfall (I), Long Walk (II), Newby Hall (II\*), Norton Conyers (II), Plumpton Rocks (II\*), Ribston Hall (II), Ripley Castle (II), Rudding Park (II), Studley Royal (Grade I), Swinton Castle (II\*), Valley Gardens (II)

5 DoE, DNH (1994)

6 Department of the Environment (1995) PPG 2 Green Belts para. 1.6

7 PPG2, HDLP GB1-7

# Tree Preservation Orders & Trees in Conservation Areas

Trees are valued features of our towns and countryside and make an important contribution to the character of the local environment. Under the Town and Country Planning Act 1990<sup>1</sup>, local planning authorities have a power to protect trees and woodlands in the interests of amenity by making tree preservation orders (TPO), and a duty to make adequate provision for the preservation and planting of trees when granting planning permission for development. (See Harrogate District Local Plan policies C5 - Woodland & Forestry and HD13 Trees & Woodland)



Veteran trees at Birstwith reveal the extent of the mediaeval deer park.

## Amenity reasons for protecting trees include:

- **historic interest:** old trees can be living archaeology or part of local history as a boundary marker, a relict of a mediaeval deer park, part of a designed landscape or the setting for a historic event.
- **visual appearance:** as a landmark, to screen an eyesore, or simply look beautiful.
- **local distinctiveness:** creating or strengthening sense of place.
- **cultural heritage:** a tree can be a leading character in local stories & traditions (cherry feast at Whixley).
- **landscape character:** a characteristic element of the local landscape.

- **rarity:** representing the limit of a species range, or protecting genetic material of a variety that is in danger of extinction.
- **wildlife interest:** established trees are valuable as wildlife habitat, with some species dependant on a single type of tree such as the Purple Hairstreak Butterfly which lives on old oak trees.

The Town and Country Planning (Trees) Regulations 1999 sets out the procedures for Tree Preservation Orders, which can be made for an *individual tree*, a *group of trees* or a *woodland*. Fruit trees and orchards can be protected by a TPO where they have amenity value, but the consent of the local planning authority is not required for the pruning, in accordance with good horticultural practice, of any tree cultivated for the production of fruit. This exemption could apply to most

varieties of apple, pear plums and cherries which are normally pruned to encourage fruit production, but not to ornamental varieties of these species or such trees as Mulberry or Walnut.

The landowner and the occupier are notified of Tree Preservation Orders, and since August 1999 anyone with an interest in the land affected by the order is also notified (which includes all adjacent landowners and occupiers). Anyone else wishing to check whether a TPO has been made can check the local land charges register or contact Planning Enquiries (01423 556666).

## You may not:

cut down, top, lop, uproot, wilfully damage or wilfully destroy; cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of any tree protected by a TPO unless:

- consent (which may be conditional) for works to the protected tree has been granted by the local planning authority; *or*
- the work is part of development approved by full planning permission (not outline planning permission); *or*

- the work is carried out by or at the request of the following: a statutory undertaker<sup>2</sup> (and the tree is on operational land); the Environment Agency as part of permitted development; the drainage body; a license holder under the Electricity Act 1989 (Schedule 4 paragraph 9); *or*
- where such work is to a tree cultivated for the business production of fruit and is in the interests of that business or trade, or in accordance with good horticultural practice; *or*
- the tree is dead, dying or dangerous (5 days advisory notice to Harrogate Borough Council of works proposed under this exemption would be appreciated).

In conservation areas, anyone proposing to cut down, lop or top a tree which is not subject to a TPO is required to give 6 weeks notice to the local planning authority who will then consider making a TPO, taking into account the visual, historic and amenity contribution of the trees to the character and appearance of the area.<sup>3</sup> This restriction in conservation areas does not apply to trees less than 7.5 centimetres in diameter (measured 1.5 metres above the ground) or 10 centimetres if this is to help the growth of other trees.



mixed exotic & native trees create a wooded suburb in the Duchy, Harrogate.

<sup>1</sup> as amended by the Town and Country Planning (Trees) Regulations 1999 (SI 1999 no. 1892)

<sup>2</sup> statutory undertaker means: persons authorised or licensed to carry out any transport undertaking, hydraulic power supply undertaking; airport operation; licensed electricity supplier; public gas transporter; telecommunications code provider; water or sewerage undertaker; Civil Aviation Authority; Post Office.

<sup>3</sup> paragraphs 4.38 - 4.40, PPG15 Planning and the Historic Environment (1994) DoE, DNH

Landscape assessment encompasses appraisal of physical, aesthetic and intangible attributes including sense of place, rarity or representativeness, and unspoilt appearance. The combination of landscape elements (trees, hedgerows, woodlands, arable and pasture land, settlement and buildings, their architecture and fabric) and their arrangement give the different areas a unique sense of place, or 'character'. These aspects, together with scale and character of surrounding landscapes, patterns and scale of landform, landcover and built development, need to be taken into account when assessing landscape impact. Analysing and describing the landscape is called Landscape Character Assessment.

## Landscape Character Assessment

This involves an appraisal of the characteristics of the landscape. It can be done on a national, regional, district, local or site scale. Guidance on Landscape Character Assessment has been produced by the Countryside Agency and Scottish Natural Heritage.

"Landscape Character is defined as a distinct recognisable pattern of elements that occur consistently in a particular type of landscape."<sup>1</sup>

There are a range of uses for Landscape Character Assessment in Planning, Landscape Conservation and Management, Landscape Change for Regeneration and wider environmental initiatives.

## Landscape and Visual Impact Assessment

As assessment of landscape character is an essential element of gathering baseline information for Landscape and Visual Impact assessments and should be conducted at a scale relevant to the development proposal and its landscape setting.



An assessment of landscape character enables an appraisal to be carried out to determine the sensitivity of the landscape to change, the extent of landscape and visual impact when development occurs, what is acceptable and what mitigation measures may be appropriate.

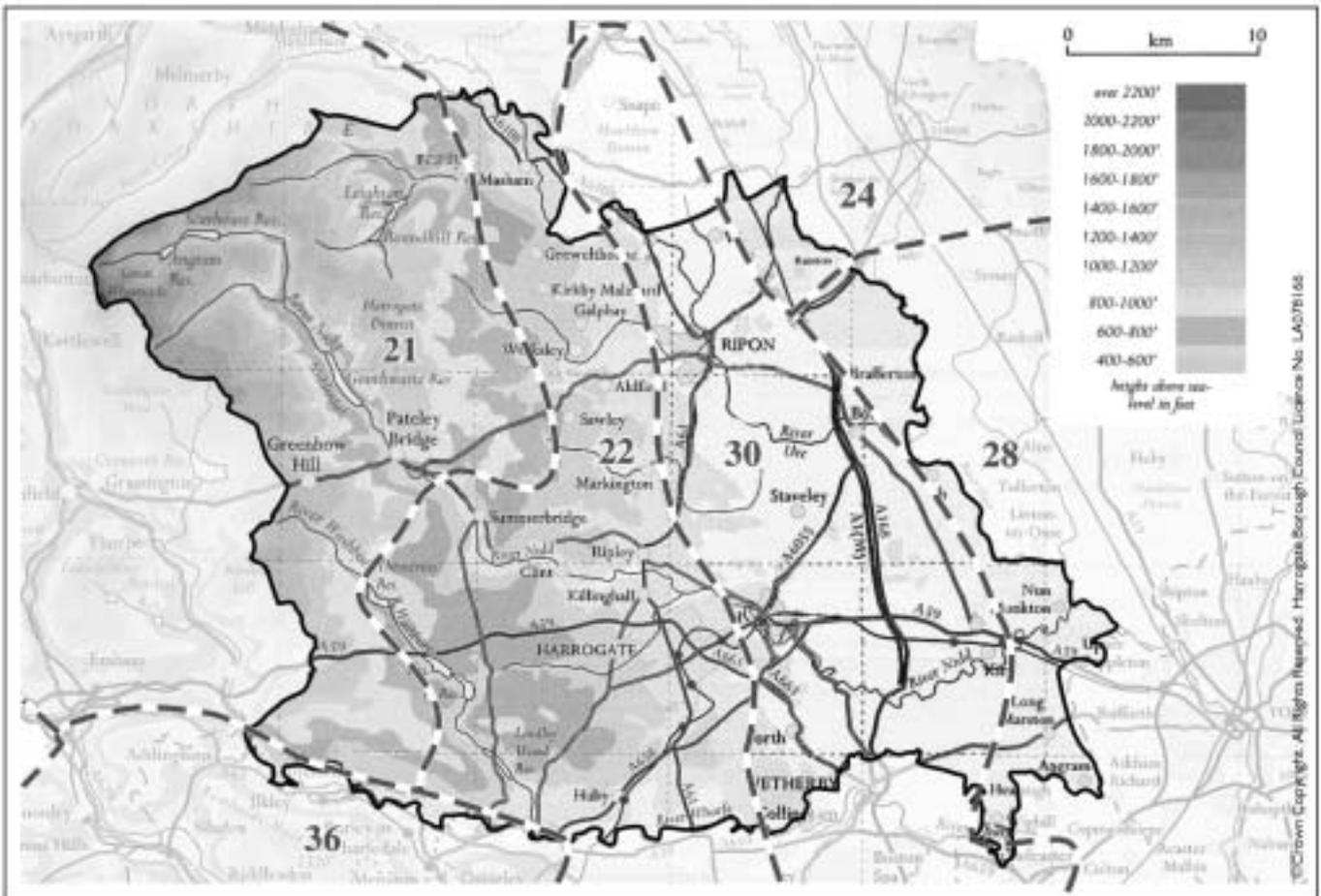
Landscape impact occurs as a result of changes in the fabric, character and quality of the landscape due development. Therefore landscape impact assessment is concerned with:

- direct impact on specific landscape elements;
- more subtle effects on the overall pattern of elements that gives rise to landscape character and regional and local distinctiveness;
- impacts upon acknowledged special interests or values such as designated landscapes, conservation sites and cultural associations.

Visual impact is a subset of landscape impact and relates solely to changes in views of the landscape and the effects of those changes on people. Visual impact assessment is concerned with:

- direct impact on views
- reaction of viewers who may be affected
- overall impact on visual amenity.

<sup>1</sup> Countryside Agency and Scottish Natural Heritage, Interim Landscape Character Assessment Guidance 1999.



## Landscape Character

The Countryside Agency has produced a Countryside Character Map for England which identifies broad areas of different Countryside Character. These are identified in The Character of England: landscape wildlife and natural features maps and publications prepared by the Countryside Commission in the early 1990s. The character map takes account of the physical landform and the effect of human activities on the natural world. Countryside Character. Volume 3: Yorkshire and the Humber covers Harrogate District. Four Countryside Character Areas cross Harrogate District. They are:

- **CCA21 Yorkshire Dales** - The eastern part of this character area covers a large part of the Nidderdale AONB in the western part of the district.
- **CCA22 Pennine Dales fringe** - This character area crosses the district north to south adjacent to the Yorkshire Dales character area.
- **CAA30 Southern magnesian limestone** - This character area also runs north to south across the centre of the district and is influenced by the magnesian limestone geology of two escarpments no more than a few miles wide.
- **CCA28 Vale of York** - The eastern most part of Harrogate district is part of the Vale of York character area which is low lying, generally flat or gently undulating.

Within the broad landscape character areas identified on the England map further subdivisions can be made at a regional and district level. This was first done for Harrogate in 1993 resulting in the Harrogate District Landscape Appraisal. Methodologies for landscape character assessment have moved on since then and the Harrogate District Landscape Appraisal is subject to review. In the meantime the Landscape Appraisal for Harrogate District is still in use but its limitations should be recognised.



# Hedgerows and the Hedgerow Regulations

Hedgerows are distinctive features of the countryside, contributing positively to landscape character and interest.

As the most traditional type of field boundary in many areas, hedgerows and their banks are often of considerable historic interest. Many date back to the very first enclosure of the land and may incorporate other historic features such as ancient earthworks, parish or estate boundaries. Some hedges are thought to date back to Romano-British time, whilst others are recent enclosures of the late 19<sup>th</sup> century.

Hedges, particularly older hedgerows, often contain a great diversity of plant and wildlife species. Hedgerows play an important part in conserving and enhancing biological diversity.

Loss of hedgerows in England is a continuing cause for concern:

- Between 1984 – 1990 total hedgerow length was reduced by 20%;
- 5% of total hedgerow length was new planting rather than established hedges;
- 19% of former hedgerows could no longer be classified as hedges due to neglect.

Hedgerow grant schemes were introduced in 1992 to encourage new hedgerow planting and combat neglect of hedgerows. 1990-1993 showed a slowing rate of hedgerow removal and increase in new hedge planting.

## Protection of Hedgerows

The Hedgerow Regulations were made under section 97 of the Environment Act 1995 and came into operation on 1 June 1997. They aim to protect important hedgerows in the countryside by controlling their removal through a system of notification.

The system applies to Countryside Hedgerows which are 20 metres or more long, or which meet a hedgerow at either end. (*Garden Hedges are not affected.*)

Owners, tenants or utility operators wishing to remove a hedge or part of a hedge must notify the Local Planning Authority (using a "Hedgerow Removal Notice" form) setting out their reasons. The Local Planning Authority then has 6 weeks to give or refuse consent.

The Local Authority assesses the hedge against set criteria to determine whether or not it is important prior to making a decision.

## Hedgerow Regulations

Under the Hedgerow Regulations 1997: it is a **criminal offence** to remove most countryside hedgerows deliberately without permission.

if you remove a hedgerow without permission (whether it is important or not) you may face an unlimited fine. You may also have to replace the hedgerow, which will then be automatically "important" for 30 years.

To get permission to remove a hedgerow, you must notify your local planning authority. You can contact Harrogate Borough Council Planning Enquiries who will send you a form called a **Hedgerow Removal Notice** for you to complete and return with a map showing the location of the hedgerow. There is no charge.

In many cases the Council's Landscape Architect will visit the site to assess the wildlife and landscape value of the hedge. At the same time, the County Records Office and County archaeologist assess the historical and archaeological value of the hedge. If the hedge meets one or more of the strict criteria under the Hedgerow regulations, it is deemed to be "important."

If the hedge does not meet the criteria, it is not considered "important" and the Council will inform you that the works described in your notification may proceed.

If the hedge is found to be "important" the Council then decides whether the works you propose are permissible, given that there is a presumption to protect "important" hedges. Unless satisfied that removal is justified, the Council must refuse permission.

If the Council decides to prohibit removal of an important hedgerow, it must let you know within 6 weeks. The Council will usually send you a notice saying that the hedgerow is to be retained (**Hedgerow Retention Notice**) or a letter saying that you may carry out the works despite the hedge being "important."

If you have not heard from the Council within 6 weeks of the date on which they received your Hedgerow Removal notice, you can carry out the works anyway.

Permission for the works lasts for 2 years from the date of the written permission or the ending of the 6-week period. A hedgerow retention notice is permanent.

**If you require a Hedgerow Removal Notice form or have any further questions about the Regulations please contact Planning Inquires on 01423 556666.**

## What is a countryside hedgerow?

A hedgerow is "a row of bushes forming a hedge, with the trees etc. growing in it."

A hedgerow does not have to contain trees, but any trees growing in it form part of the hedgerow.

Where a former hedgerow has not been actively managed and has grown into a line of trees, it is not covered by the Regulations. However, lines of trees may be protected by Tree Preservation Orders and be subject to felling license arrangements.

Countryside hedgerows are defined as those on, or running alongside:

- common land;
- village greens;
- Sites of Special Scientific Interest, National Nature Reserves, Special Protection Areas under the Birds Directive, Special Areas of Conservation under the Habitats Directive, Local Nature Reserves;
- land used for agriculture, forestry or the breeding or keeping of horses, ponies or donkeys;
- Harrogate Borough Council Public Open Space (according to HBC Legal).

Gaps of 20 metres or less are counted as part of the hedgerow. A gap may be a break in the vegetation or it may be filled by, for example, a gate.

Hedges shorter than 20 metres (unless both ends join up with other hedgerows or it is part of a longer hedgerow) or hedges in your garden or which border it are not subject to the Regulations.

You do not need permission to remove your hedgerows to get access:

- either in place of an existing opening, providing that you plant a new stretch of hedgerow to fill the original entrance within 8 months, or;
- when another means of entry is not available, except at disproportionate cost;
- to gain temporary entry to help in an emergency;
- to comply with a statutory plant or forestry health order e.g. to prevent the spread of/ensure eradication of a plant or tree pest;
- to comply with a statutory notice for preventing interference with electric lines and apparatus;

- in connection with statutory drainage or flood defence work\*;
- in connection with Highways Agency work;
- for national defence purposes;
- to implement a planning permission (but in the case of permitted development rights, most hedgerow removal WILL require prior permission).

*\*A statutory notice is where the local district drainage board or the Environment Agency issue notice for the hedge to be removed. A farmer's decision to remove hedgerows as part of his private ditch works is not considered to be statutory and a Hedgerow Removal Notice is required. Often agreement can be reached so that the ditch can be maintained without hedgerow removal.*

## What is the difference between hedgerow removal and hedgerow management?

Hedgerow removal means action that results in the hedge being destroyed.

Normal hedgerow management i.e. cutting back a hedge in a manner that does not result in its destruction is unlikely to constitute removal and does not need to be notified. Acceptable management practices are intended to revitalise hedges and should reflect local practices.

However, some forms of normal hedgerow management can *look like* hedgerow removal; and, if done in too severe a fashion *can result* in hedgerow removal.

For example, removing the top growth and grubbing up the roots is clearly hedge removal; whereas cutting down the hedgerow growth to the stumps is called "coppicing" and is an accepted form of hedgerow management to promote bushy growth and would be exempt from the need to notify.

However, coppicing that is repeated at too frequent intervals can *kill* the hedge plants and result in hedgerow destruction.

Coppicing would be *considered removal* where it has never formed a traditional technique of hedgerow management in the area.

The general public are alert to hedgerow removal and can mistake normal hedgerow management for removal. If you are considering carrying out dramatic hedgerow management, it would be a good idea to notify the Council informally of your proposals so that they can reassure public enquiries.

This guidance sheet assumes that feasibility has been carried out to determine the suitability of the site for the proposed development.

Planning for development should consider the landscape setting and design aspects from the outset and it is an essential part of the ongoing process. When developing a site it is important to consider the context of its particular Landscape Character. This will result in an appropriate design solution which reflects local character and will help to tie a development into its setting. The input of a Landscape Architect as part of the design team from the outset will ensure that an appropriate design solution is achieved and the creation of a high quality living environment. (See Harrogate District Local Plan Policy C11 - Landscaping of Development sites requires appropriate design solutions)

## Introduction

Development constitutes a change of use and can be a change of land use from agriculture to garden or building use such as from hotel to residential on a small scale or from brown field site to industry on a large scale.

All development proposals should be considered in terms of their landscape context and their impact on landscape character from the outset. In the case of small scale development this may involve an overview of the local landscape setting and assessment of potential impact not requiring the services of a landscape professional. However, for many development proposals a detailed look at the landscape setting of the site should be demonstrated to ensure the best possible design solution for the site and its locality.

## Landscape information:

There follows a list of landscape information required as part of planning application:

### 1. Landscape statement

including analysis of landscape character, design philosophy and management aims, addressing sustainable principles and local distinctiveness; spatial analysis and schematic plan.

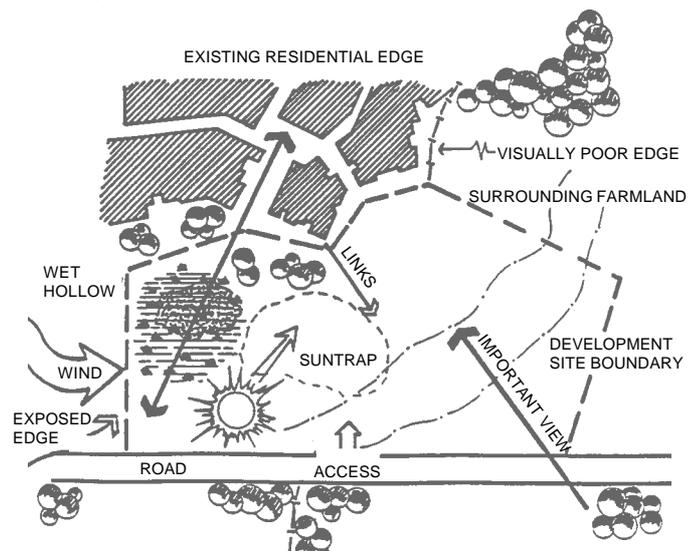
### 2. Survey and analysis

information on:

- landform
- geology, soils and drainage
- ecological information
- existing vegetation including canopy and condition of existing trees and shrub areas
- circulation, access and open space
- services
- views

- site boundaries
- site features essential to be retained
- major constraints.

### Site Appraisal



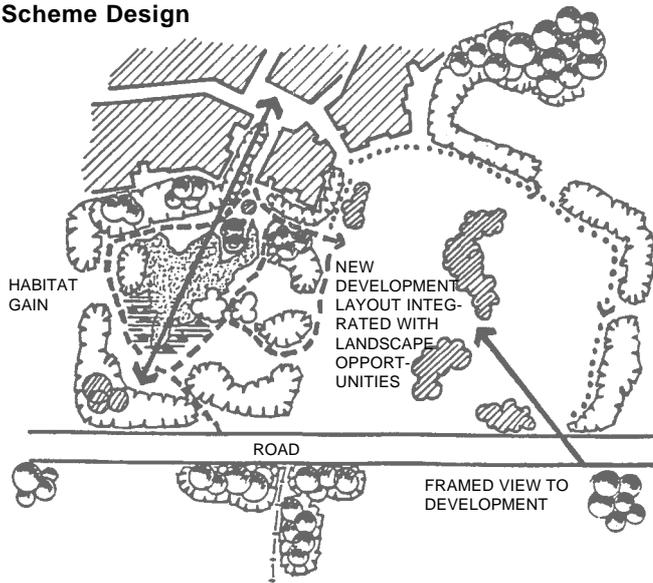
### Considerations:

- existing habitat value, especially semi-natural habitats
- existing character and its conservation
- surrounding landscape pattern
- view into/out of site
- features/focal points
- exposed areas/suntraps
- links to existing/new development
- footpath/access potential
- sustainable urban drainage
- floodplains
- status and value of farmland particularly on the urban fringe
- harmful practices and better design solutions

### 3. Masterplan

or scheme design showing general arrangement, lighting, hard landscape materials, boundary treatment.

#### Scheme Design



- create shelter on exposed edges linked to open space/site features
- structure planting to link development with wider landscape
- countryside recreation/footpath links
- buffer between farmland/urban edge
- habitat gain - wetland feature
- visually diverse/attractive edge to new development
- framed views to development.

### 4. Landscape Design details

- Proposed level, earthworks and drainage plan and section showing areas of excavation and spreading; location and heights of retaining walls; topsoil stripping, storage and spreading; contamination control services
- Planting plan showing location, species, sizes, density, provenance and site preparation
- Phasing plan showing any advance works, features to be retained, features to be removed, protective fencing, phases construction and planting, programme of works
- Arboricultural method statement to BS 5837:1991
- Sketches and sections to illustrate walls, retaining walls, fences, changes in levels, site furniture etc.
- Outline specification including preparatory works; plant species, size, provenance, treatment between lifting and planting, planting operations; protection; maintenance provision including watering; materials and construction of paving, roads, railings, fences, steps, walls and gates.

### 5. Management

strategy including identification of long term management commitment and the mechanism for ensuring this commitment is implemented.

### 6. Risk Assessment

listing features and tasks that would require formal risk assessment.

## The Design Process

The process of design begins with an assessment of the existing landscape character. Guidance sheet LDG1.5 provides information on Landscape Assessment and Landscape Character.

The recognition of landscape character aids the assessment of how character will be affected by land use changes and enables an appropriate landscape approach to integrate development into its landscape setting. Landscape quality is often ignored or undervalued resulting in the failure to produce a design responsive to place. This can lead to a loss of local identity. Landscape design should be an integral part of the development process.

A detailed site appraisal uses the survey information gathered along with the design brief for the site looks at a range of elements mentioned above.

A synthesis of the site appraisal information will enable a masterplan or scheme design to be developed which takes account of the opportunities and constraints of the site within its landscape setting while achieving the development brief.



Hackfall Wood ( a Registered Historic Park)

The landscape design details add information to the masterplan which gives more information about how the development will look during and after construction. Details such as materials used, planting mixes and phasing of work demonstrate how the development will relate to its surroundings.

Management and maintenance is vital to ensure the success of any development and this must include any planting and landscape elements requiring long-term care.

# Some factors to consider during design

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## 1. Settlement edges/approach views

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Development on the edge of existing settlements should show consideration for the impact of development on the wider landscape. It is important to design the landscape scheme which creates a bold enough framework of planting to balance the scale of the development within the context of the local landscape character.

## 2. Sequence of road views

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New hedgerow/tree planting on road verges can contribute to landscape character in certain parts of Harrogate district and creates interest. However, this approach to design near development sites would not be appropriate in locations where it is not characteristic of the landscape. LDG8.2 gives guidance on the types of hedges found in Harrogate District.

## 3. Function of planting

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Landscape proposals should be considered in relation to their contribution to retaining and enhancing existing landscape character, enhancing and protecting existing ecological diversity, habitats and wildlife, shelter and climatic improvements, as a buffer between uses, enabling development to link into/become part of the surrounding landscape pattern as well as visually enhancing the site. If the function of planting is considered early, it is more likely the eventual landscape plan will be based on a design which has purpose.

## 4. River corridors and streams

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These often make up the boundary of development sites and are ill considered in design. In such cases the opportunity exists to develop the wider natural habitat value as part of the design for a development site. River and stream corridors are an important elements of the fabric of landscape character and should be integral to design on sites where they occur.

## 5. Setting of individual houses in the countryside

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The landscape element for such sites should structure and integrate the development into the wider landscape. Once the setting has been established planting proposals within the garden are of little concern.

## 6. Ecological Principles

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It is important to recognise when a more ecological approach to the design is appropriate. Habitat creation may be appropriate and the local landscape character will provide a guide to appropriate habitat types for the area, but re-creation is never as good as retaining existing semi-natural features.

## 7. Vistas/views

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The creation of vistas and views is often a more effective approach to landscape design where the site has features or focal points of merit or where there are features to view outside the site. Where there are important public views, every endeavour should be made to ensure that these are preserved. However, where there is little of merit on site and development is visually intrusive and woodland/forestry planting is appropriate to the landscape character then screening is often the only solution.



A disused railway finds a new lease of life in the form of a footpath and cycleway.

# Residential Landscapes

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Residential developments can involve a single building or a number of buildings on one site. The landscape design solutions for residential sites will depend upon the scale and type of development in relation to its landscape context. As highlighted previously it is important to consider development design in terms of landscape setting through assessment and appraisal of existing features, identifying constraints and solutions and possible mitigation of impact on landscape character. Developers will often think about how a site works on its own but not in the context of the site surroundings.

The Harrogate Borough Council Residential Design Guide provides detailed guidance addressing the design issues of new residential development, house extensions and alterations and considers the landscape context of developments as part of the design process.

Planning policy makes it necessary for developers to make provision for recreation and play areas and public open space within larger developments.

When developing a residential site there is a need to consider how the site relates to the surrounding landscape or townscape and how it works within to provide amenity value for residents. Factors such as how will gardens work and what will the boundary treatment be must be considered in relation to existing landscape context.



Tree planting on Hornbeam Park industrial estate.

## Industrial Estate, Retail and Business Park Landscapes

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The design issues associated with these types of development are different to those of residential developments and will lead to different landscape design solutions to ensure that the development fits into the landscape. Buildings on such developments tend to be large and there are large expanses of car parking. Internal layout as well as boundary treatment plays an important part in the design of these sites.

A common solution is to screen these developments. However, this is often not practical and building design, materials and colour play an important role. Planting beyond the site boundary is often an appropriate solution if the agreement of the landowner can be secured. This approach helps to break up views of large developments (e.g. Melmerby Industrial estate).



Structure planting within Industrial estates and business parks will help to break up the massing of large buildings. There is often conflict between landscape solutions and visibility of the site in terms of advertising (e.g. St James Park). Often business using a site will want maximum visibility so that the passing public can see their products. In such cases design of buildings and the associated landscape scheme is vital to ensuring acceptable development for all.

## Caravan and Chalet site Landscapes

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There appears to be a plethora of caravan and chalet sites (both residential and holiday homes) in the District and applications for such sites continue to arrive indicating that this may be a good alternative source of income for many landowners. However, static caravans in particular have a considerable visual impact and the change of use of a green field site or forestry results in a change to the fabric of landscape character.

By their nature caravan and chalet sites for holiday makers tend to be in rural locations where it is difficult to fit them into the local landscape context. Location and layout is important. A “sea” of caravans should be avoided and where possible the mass of caravans or chalets should be broken up with internal structure planting. Ornamental planting may not be appropriate in the landscape context of the site. Sites should be located where woodland planting is appropriate to the landscape character and where the lay of the land is such that the site is not highly visible. Opportunities to create new habitats and enhance existing landscape features should be considered as a mitigation measure.

A level of design detail is required with a planning application for a caravan or chalet site to ensure that the development is appropriate to the site. All too often the minimum of information is submitted which does not demonstrate an understanding of the potential impact of such development.

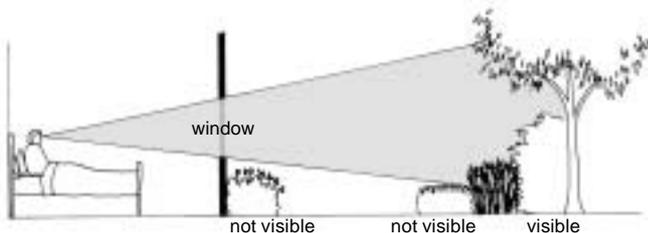
Research over the last decade has shown that good landscape design has therapeutic as well as aesthetic value. Elderly or convalescent people in residential homes may spend a long time inside the buildings where it is easy to lose track of time: the landscape context can be designed to mark the changing of the seasons and day, providing variety and interest and creating connection between the onlooker and the outside world.

## Accessible landscapes

For many residents and convalescents, the landscape context is mainly accessible visually through windows or patio doors. Think about:

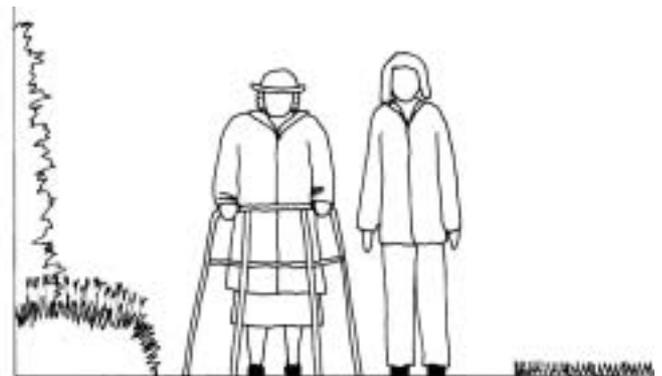
- placing attractive planting to line up with views through windows
- choosing plants that are the right height for best display from the view of someone seated in a chair or lying in a bed within a room (low groundcover may not be visible)
- arranging unattractive features (such as car parking, bin stores) in less visible locations
- windowsill heights and see-through external balconies.

**Design planting to be visible from bed/chair within the room:**



The mobility of elderly residents and convalescents ranges from those able to walk about unaided to those in wheelchairs and electric buggies. Some people may need to use a walking frame, others prefer a walking stick or two. Some people like the comfort of walking next to a friend or carer as an arm to hold if necessary. Details like ordinary kerbs can become large obstacles to those with mobility difficulties - for wheels of a buggy, for those with impaired balance, or as a trip hazard for the visually impaired. Think about:

- making paths wide enough for a carer or friend to walk alongside a person with a walking frame or in a wheelchair, or for 2 wheelchairs to pass (at least 1800mm wide);
- making corners wide enough for an electric buggy, wheelchair or walking frame to negotiate easily;
- resolving changes of level without the need for steps or kerbs;



Path wide enough for walking frame and carer

- providing handrails for extra leverage or comfort;
- providing plenty of seats for rests along a path;
- surface treatment (avoid rough, uneven surface and gravel).

## Interesting landscapes

Looking out of the window at a patch of evergreen shrubs that stay the same throughout the year is boring for anybody! Plants that display seasonal variety help mark the passing of the year, and can trigger memories of other places and times. Plants that attract wildlife such as birds, butterflies and squirrels will add interest and may provoke interaction with the outside world. Get the staff and residents involved in the design so that there is a feeling of shared ownership.

Think about:

- asking residents to name their favourite plants or plants with special associations;
- including plants characteristic of each season including trees, shrubs, climbers, herbaceous plants and bulbs e.g. snowdrops, daffodils, primrose, roses, daisies, iris, maples, autumn crocus, Christmas rose, holly;
- native species such as honeysuckle, hawthorn, field maple and guelder rose;
- including plants known to attract birds and butterflies e.g. Buddleia, plants with daisy-type flowers, plants with edible berries;
- add bird nesting boxes, bird feeding tables and bird baths that are visible from windows.

# Plant list suggestions for nursing homes & residential care homes

## Planting for scent

Buddleia davidii (summer flowers, can be coppiced)
Buddleia globosa (Orange ball tree, orange gobular flowers in summer)
Ceanothus e.g. 'Gloire de Versailles' (Californian lilac, evergreen, blue flowers in summer)
Convallaria majalis (Lily of the Valley, white flowers late spring)
Daphne odora e.g. 'Aureomarginata' (evergreen, purple/white flowers midwinter to early spring)
Daphne x burkwoodii 'Somerset' (half-evergreen, pink-white flowers in late spring-early summer)
Dianthus e.g. 'Mrs. Sinkins' (Pinks, summer)
Endymion non-scriptus (Bluebell, blue flowers late spring)
Hebe 'Midsummer Beauty' (lilac flowers in summer)
Jasminum officinale (white flowers in summer, evening fragrance)
Lavandula spica e.g. 'Hidcote' (Lavender)
Lilium regale (Lily, white trumpet flowers in summer)
Lonicera x americana (Honeysuckle, half-evergreen climber, creamy white/purple flowers in summer)
Mahonia japonica (evergreen, yellow flowers late autumn to early spring)
Narcissus (Jonquil, spring)
Nicotiana (tobacco plant, fragrant flowers in late summer)
Osmanthus delavayi (evergreen, white flowers in spring)
Philadelphus (Mock Orange, white flowers in summer)
R. rugosa scented varieties (summer flowers)
Rosa officinalis (apothecary's rose, summer flowers)
Rosa spinosissima (Scotch rose, summer flowers)
Rosmarinus officinalis (Rosemary)
Syringa vulgaris (Lilac, late spring)
Viburnum x bodnantse (sweet scented pinkish white flowers on bare winter branches)
Viburnum x burkwoodii (spring flowers, evergreen)
Wisteria sinensis (Wisteria, lilac or white flowers early summer)
x Osmarea burkwoodii (evergreen, white flowers in spring)

## Planting for Spring interest

### shrubs:

Chaenomeles
Corylus (hazel, for catkins)
Forsythia
Weigela florida

### bulbs:

crocus, daffodils, snowdrops, tulips
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## Planting for Summer interest

### shrubs:

Cistus varieties (Rock rose)
Hydrangea
Potentilla fruticosa (shrubby cinquefoil)

### bulbs and herbaceous:

Achillea millefolium (ornamental yarrow: white, pink, yellow, red colours available)
Echinops ritro (ornamental blue globe thistles)
Kniphofia (red hot poker, various colours)
Sunflowers (perennial or annual, small or big, very cheerful)
Verbascum

## Planting for Autumn interest

### shrubs:

Acer palmatum (Japanese maple; acid soils preferred)
Cornus alba 'Elegantissima'
Euonymus alatus
Euonymus europaeus (Spindle)
Parthenocissus quinquefolia (Virginia creeper)
Parthenocissus tricuspidata (Boston ivy)
Pyracantha (wall shrub, orange berries)
Viburnum opulus

### bulbs and herbaceous:

Anemone x hybrida (Japanese anemone)
Aster (various)
Crocus
Cyclamen
Sedum x Autumn Joy etc. (stonecrop, colourful in late summer to Autumn)

## Planting for Winter interest

### winter flowers:

Crocus
Erica x darleyensis (Heather)
Erica carnea (Heather)
Galanthus (Snowdrop)
Hamamelis mollis (Chinese Witch Hazel: demands acid soils)
Helleborus niger (Christmas rose), H. orientalis (Lenten rose)
Viola hybrids (winter-flowering pansies)

### interesting bark or twigs:

Acer griseum (Paperbark maple)
Betula utilis var. jacquemontii (Himalayan birch with very white bark)
Cornus alba 'Sibirica' (red-stemmed Dogwood)
Cornus stolonifera 'Flaviramea' (yellow-stemmed Dogwood)
Corylus avellana 'Contorta' (Corkscrew Hazel; summer leaves are twisted which may be considered unattractive)
Eucalyptus niphophila (Snow gum, creamy white/grey mottled bark)
Phyllostachys nigra (Black-stemmed Bamboo)

## What is domestic curtilage?

“a small court, yard, garth, or piece of ground attached to a dwellinghouse, and forming one enclosure with it, or so regarded by the law; the area attached to and containing a dwellinghouse and its outbuildings.”<sup>1</sup>

Domestic curtilage is usually a garden, but can include parking areas, access roads, vegetable plots, children’s play equipment, and stables (where the horses are kept for pleasure rather than agricultural use). The domestic curtilage is not necessarily marked off or enclosed, but it should be clearly attached to the house or serving the purpose of the house in some useful and intimate way.<sup>2</sup>

## Change of use to domestic curtilage

National and local planning policy seeks to restrict encroachment of development into the countryside. Change of use of land to domestic curtilage will not be permitted where this would cause a significant adverse impact on countryside character, agricultural land, or designated interests (such as listed buildings, conservation areas, scheduled ancient monuments, sites of special scientific interest etc.)

The significance and type of impact depends on the context and on the development proposed. New domestic curtilage should be designed to fit into the local context and respect the established pattern without causing harm.

Harrogate District Local Plan Policy C18 deals with the extension of domestic curtilages into the countryside, which will only be permitted where there would not be an adverse impact on the character and appearance of the countryside or the setting of a settlement.

## Context and character

Think about:

- the existing pattern e.g. gaps, enclosures, accessways, plot sizes, field pattern, settlement form;
- the relationship with the dwelling house, existing curtilage and boundaries, countryside character and designated interests including listed buildings, Conservation Areas, landscape quality;
- the local tradition of garden location, shape, size and pattern e.g. in the Dales, small flower gardens/ vegetable plots are traditionally on the south side of

the dwelling with fields right up to the house wall on the north side;

- local garden boundaries e.g. gritstone walls, brick and cobble walls, hedges.

Creation of new domestic curtilages for conversions of barns in the open countryside to residential use is particularly sensitive. Where there are existing foldyard boundaries enclosing one or more sides of the barn, it is sometimes appropriate to treat the enclosed area as a small garden.

However, the essential character of a field barn in the Dales and its relationship with the countryside depends upon the field running right up to the side of the barn: any “garden” treatment will have a significant adverse impact on the character of the barn and of the countryside and will not be permitted (Local Plan Policy C18).



This barn sits comfortably in a wide open space and does not lend itself to conversion into a dwelling which would require the additional of a boundary wall.

## Impact

Think about:

- the type and significance of impact: e.g. on village form, on designated interests; and whether this can be mitigated;
- the “worst case scenario” (once the land becomes domestic curtilage, there is no control over future garden design style);
- the impact of associated uses or features within the domestic curtilage e.g. glasshouses, washing lines, fountains, children’s play equipment, colourful/exotic planting, lighting;
- whether the proposal is in itself harmful, or whether it causes harm through the loss of existing features e.g. gaps, views, grassland, trees, semi-natural habitats.
- boundaries - defining curtilage by using appropriate materials and styles for the immediate environment will help a development blend with its surroundings (see guidance sheets on fences, walls and hedges).

**Example:** (see drawing below)

Neither Site A nor Site B is appropriate as proposed domestic curtilage extension to *House X* in this specific landscape context:

Site A is **not acceptable** due to adverse impact on:

- the ancient monument, the setting of the listed building and their relationship;
- the established settlement form and plot boundaries;
- the historic field pattern.

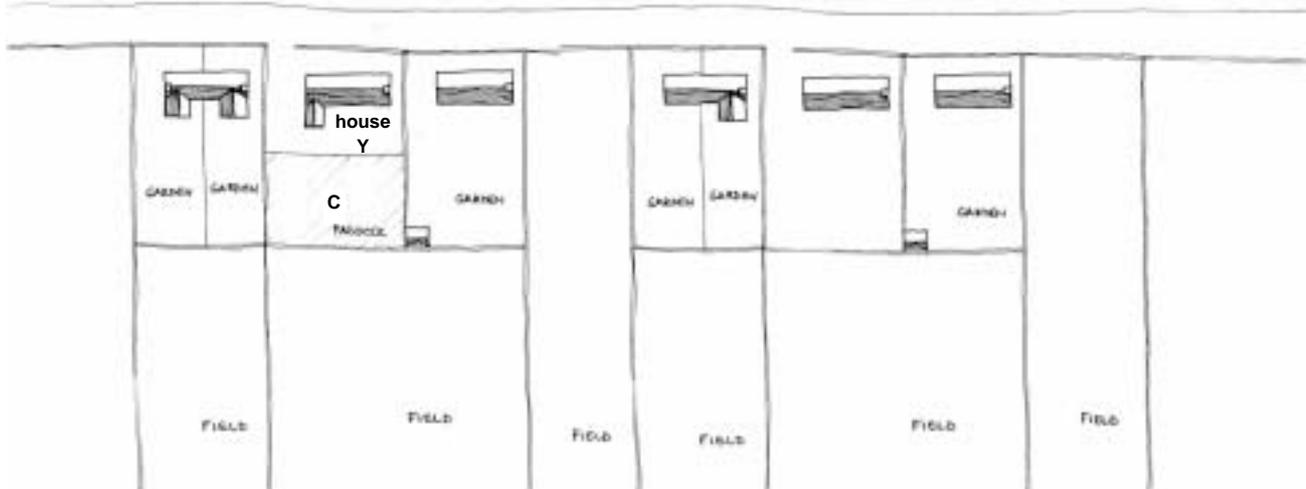
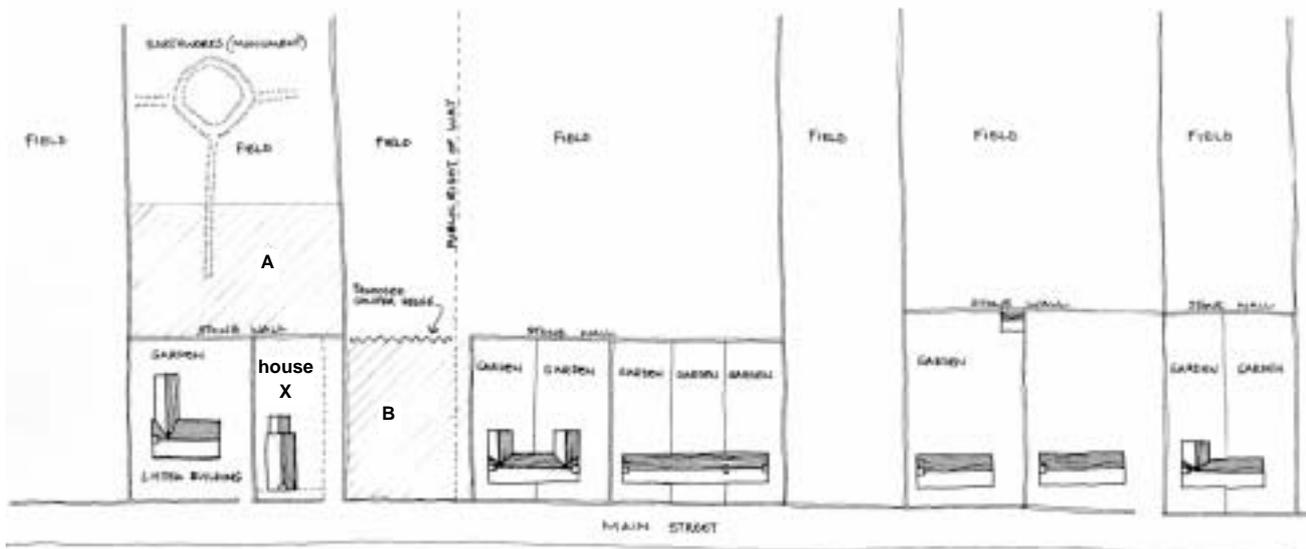
Site B is **not acceptable** due to adverse impact on:

- the historic field pattern and settlement form which is characterised by fields running right up to the main street;

- strong visual link between the countryside and the main street;
- the amenity of the public right of way; in addition, the proposed conifer hedge boundary does not respect the local distinctiveness of stone wall boundaries.

Site C domestic curtilage extension to *House Y* further along the street is **acceptable** since it respects countryside character and settlement form, fitting into established plot boundaries and the historic field pattern without causing adverse impact on any interests.

- 1 Oxford English Dictionary
- 2 General Permitted Development Order 1995, Schedule 2 Part 1 para. 3B-2055



**Government policy gives strong emphasis to the importance of open space provision: *it is important that people - particularly children and elderly people - should have access to open space close to where they live. Open space, whether or not there is public access to it, is also important for its contribution to the quality of urban life. It enhances the character of conservation areas, listed buildings and historic landscapes; it can attract business and tourism; it is part of the urban regeneration process. Use of land as open space is no less important than other uses. (PPG17).***

**Policy HD12 of the Harrogate District Local Plan states that amenity open space should be protected from development where it contributes to visual amenity and character.**

The Harrogate District Local Plan requires new housing development to contribute towards provision of public open space (Policy R4). Guidance on the type and amount of open space required for housing development is set out in the Council's leaflet *Provision of Open Space in connection with New Housing Development* revised April 2001.

Public open space may also be provided as a development in its own right, for example by a community group or a school or in relation to a commercial development.



Within Harrogate District, most existing public open space is adopted by the Council and managed by the Department of Leisure and Amenity Services (DLAS); a commuted payment by the developer to the Council helps towards the costs of maintenance. Where unusual or high-maintenance features are included in the open space, the Council may require a separate commuted sum to cover replacement parts or specialist management e.g. for a water feature. For further

information contact the Commuted Sums Officer tel: 01423 556758.

In some cases a local community group or Parish Council may elect to maintain the open space themselves for example at Tockwith; alternatively a management company may be set up for the open space and structure planting of a new housing estate.

Open space requirements fall into three categories :-

- formal recreation needs (fully equipped children's play areas, kickabout spaces, youth and adult play areas);



- informal amenity open space (an attractive space for people to enjoy rather than for active recreational use);
- open space as an integral part of the development.

Open Space proposals should be submitted to the planning authority as part of the planning application. The Council will comment on the proposed design on a case-by-case basis: every site is different with differing recreational needs, but there are some general principles which should be considered at the outset:-

- respect local distinctiveness and landscape character, reflecting key characteristics of the neighbourhood: locally characteristic plants such as lime-tolerant species in Boroughbridge and Ripon; generous lawns echoing the Stray in Harrogate; "borrowing" views of the Nidd Gorge in Knaresborough;
- include specified features within the site (where required by DLAS): kickabout space, seating area, children's play area, teenagers' meeting place;

- consider the form and layout of the open space as an integral part of the overall site design and layout and in the context of public open spaces within the neighbourhood;



- ensure safe construction and maintenance (in accordance with CDM Regulations): to be safe and effective at all times of year, without unnecessary financial or skills burden (e.g. ensure mown grass areas are of a size and shape to facilitate ease of maintenance, choose non-invasive shrub species which will fit the space available without onerous maintenance, allow machinery room to manoeuvre, make sure site is safe and accessible for grounds maintenance staff, use bark mulch for better plant establishment, reduced water-loss and improved weed control);
- carefully assess safety of any water features: existing or new water bodies should have shallow margins, gently sloping sides and good visibility (see *Ponds* design guidance sheet for further information).
- consider wild spaces such as reed beds, species-rich grassland and native woodland.

For further information or general advice contact the Play Areas and Open Spaces Officer tel: 01423 528102.



- protect public safety: good visibility especially at entrances, along paths and for children's play areas; reduce conflict between different users e.g. cyclists and children; provide safe water features;
- respect neighbouring properties: achieve specified distance between residential properties and formal play areas, design distinctive boundaries between private and public spaces;

Open space can be multi-functional: planting can look good and provide visual or noise screening and be beneficial to wildlife; low-lying grassy areas can provide areas for water to percolate into the ground during exceptionally wet weather (in accordance with Sustainable Drainage Systems) and be used as an informal kickabout area the rest of the time.



Trees are valued features of our towns and countryside and make an important contribution to the character of the local environment.

Under the Town and Country Planning Act 1990<sup>1</sup>, local planning authorities have power to protect trees and woodlands in the interests of amenity by making tree preservation orders (TPO - see also Guidance Sheet LDG 1.5), and a duty to make adequate provision for the preservation and planting of trees when granting planning permission for development. (See Harrogate District Local Plan Policies HD13 - Trees & Woodland and C5 - Forestry and Woodland)

In Conservation Areas, anyone proposing to cut down, lop or top a tree which is not subject to a TPO is required to give 6 weeks notice to the local planning authority who will then consider making a TPO, taking into account the visual, historic and amenity contribution of the trees to the character and appearance of the area.<sup>2</sup>

## Designing with trees in mind

Trees are often seen as a constraint for development, restricting the available area for new buildings. However, development that is sympathetically designed to work with trees can benefit from:

- a mature setting that complements new buildings and integrates them into their context.



Queens Court, Harrogate.

- microclimatic effects such as reduction of adverse wind effects and excessive heat gain, reduction in airborne pollution including dust particles.
- an established sense of place.
- aesthetic experiences including seasonal change, sounds of birdsong or rustling leaves, movement between sunshine and shade.

A good understanding of the amenity value, health and condition of the trees is an essential element in assessing development potential of a site. The local planning authority can advise on the amenity value of the trees. An arboricultural survey from a qualified arboriculturalist will set out the location, spread and condition of existing trees and will recommend any tree surgery works needed to keep the trees in good health or to remove them safely.

Tree surgery works and removal of trees should be carried out by a professional tree surgeon. Local Authority permission is required for works proposed to trees subject to Tree Preservation Orders, and 6 weeks notification is required for works proposed to trees in conservation areas. A felling licence from the Forestry Authority is also required if more than 5 cubic metres of timber is to be felled in any calendar quarter.

*A tree may take a century to reach maturity, but it can be damaged or felled in only a few minutes.<sup>3</sup>*

## Existing Trees with New Developments

The implications of trees for the **design of new development** vary according to the site conditions, the tree species, the habit of the tree on site, and the development proposed. A tree survey of the site may be required. The requirements of a tree survey are outlined at the end of this Design Guide Sheet. Think about:

### the stage of the tree:

- Will it spread further or increase in height, will the trunk girth get bigger, or is the tree at its maximum size already?
- The ultimate size quoted in plant books often relates to the largest specimens found growing in good soil and open ground situations: most trees are limited by their situation and never attain ultimate size, altering their form to suit the context.

### the habit of the tree:

- Has it adapted a particular form to cope with site conditions, and what will be the effect of altering these conditions?

<sup>1</sup> as amended by the Town and Country Planning (Trees) Regulations 1999 (SI 1999 no. 1892) <sup>2</sup> paragraphs 4.38 - 4.40, PPG15 Planning and the Historic Environment (1994) DoE, DNH <sup>3</sup> BS5837:1991 paragraph 3.1.5

## the type of tree:

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- Is the root system deep/shallow, spreading/compact or plate-forming?
- Is water demand high/low?
- Is the canopy dense/light, deciduous/evergreen, early/late opening?

## the site conditions:

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- Is the soil/subsoil clay, rock or sandy? (clay soil shrinks when the water content is reduced but other soils are more stable)
- What are the groundwater conditions? (existing mature trees can remove significant amounts of water from a site.)

## the long term health & management of the tree:

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- Can air and water penetrate to the root system?
- Who will be responsible for management of the trees?

## the proposed activity & use:

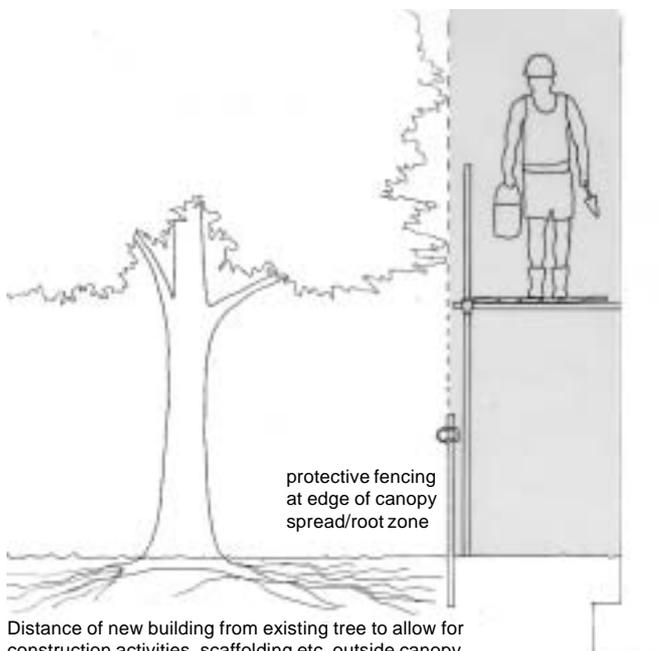
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- Are there potential conflicts?
- Is there sufficient unshaded space for residential amenity?
- Are there future planned developments which should be taken into account?

## the construction period:

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- How will protective fencing for the trees affect phasing and construction methods?
- Where will materials be stored?
- How will large machinery move around the site?
- A construction stage plan to accompany the planning application is very helpful.
- How will scaffolding avoid conflict with the trees?

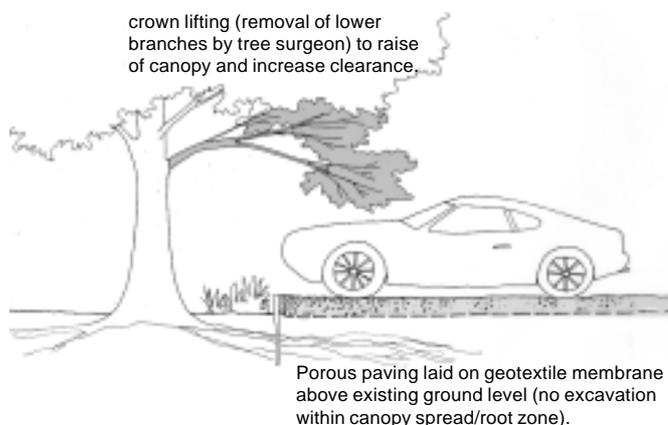


# Design Solutions

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There are design solutions to most issues, for example:

- Crown lifting raises the canopy by removing lower branches, creating higher space beneath the branch spread.
- Crown thinning reduces the amount of branches within the canopy, reducing the amount of shade and improving air circulation
- Porous paving materials (such as gravel, porous asphalt) cater for pedestrian and vehicle movement whilst allowing air and water to penetrate to the roots.
- Cantilever and lintel foundation systems can bridge over root systems and avoid their severance or removal.



- Appropriate foundations can prevent damage from soil shrinkage.
- Root barriers can prevent roots invading ducts or foundation zones.
- Location and orientation of buildings together with site-specific internal arrangements can make best use of sunshine and shade within the development site.

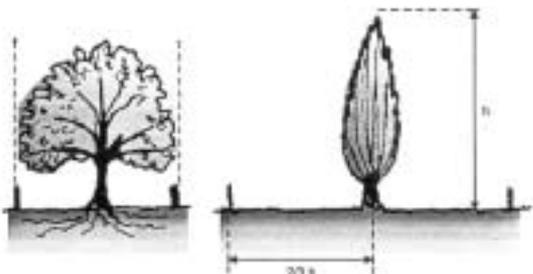
## Plan the construction stage carefully:

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select an area for the site compound that will:

- Avoid areas of landscape elements to be protected such as tree canopy spread, shrubberies, future planting areas;
- Minimise disturbance to adjacent residents;
- Allow safe and efficient working;
- Identify construction routes: construction traffic causes compaction which destroys topsoil and kills trees; traffic may also require height clearance so avoid overhead cables and trees.

Prior to site clearance work or construction work: fence off trees, shrub areas and hedgerows to be retained; preferably by a sturdy fence of timber post and rail or scaffolding poles to discourage accidental damage. The fencing should run outside the 'drip-line' of the canopy except for fastigiate (columnar) trees where the fencing should be at a distance of two-thirds the height of the tree.



As part of the planning application, the local planning authority will require the applicant to declare if there are trees on/adjacent to the application site. If there are trees, the following information is required:

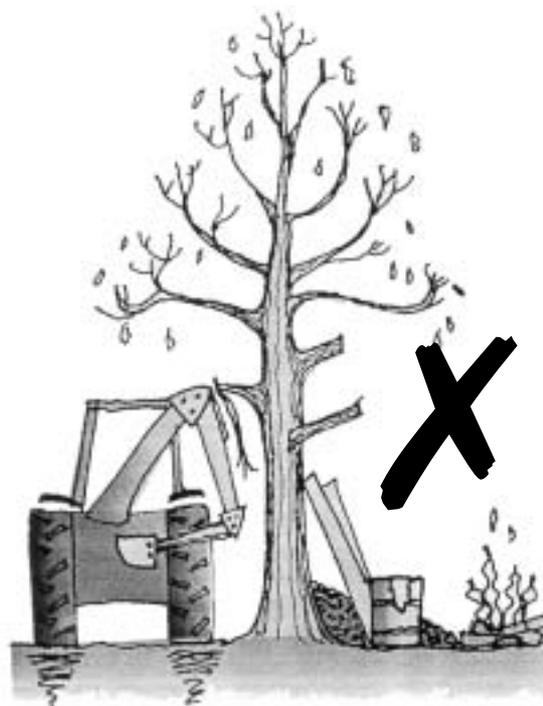
- An arboricultural method statement and survey to BS 5837:1991 assessing the trees on/adjacent to the site, describing proposed tree surgery works and their phasing, and an assessment of the ability of the trees to withstand the proposed changes in site conditions.
- Plan showing the proposed development including utility services and changes in ground level, trees to be retained and any to be removed, canopy spread, location of protective fencing during construction, extent of scaffolding, compounds and construction access.
- Details on type and phasing of protective fencing including provision for tree protection during demolition and site clearance works.
- Where the site contains woodland or substantial tree belts, a long term management plan including identification of responsibility. In residential developments, woodland or tree belts should not become part of individual gardens but should be managed through a management company.

## Tree Protection

To avoid mistakes on site, clearly identify trees to be removed by brightly coloured spray paint. Make sure the contractor has a copy of the plan and schedule identifying trees to be retained and those to be felled. Where work near trees is unavoidable, take care! Damage to trees is caused by:

- Indiscriminate, unskilled lopping or felling: use a professional tree surgeon.

- Change of ground level within the root spread: excavations may expose, sever or kill roots; raising of levels suffocates roots and rots bark.
- Heavy traffic over roots: this compacts the soil, suffocating and killing roots.
- Storage of chemicals near trees: weedkillers, concrete mixer washing, paints and fuel oils are poison to trees.
- Bonfires within 3 metres of branch spread: keep bonfires more than 3 metres away and downwind to avoid scorching.
- Stacking/storing material under trees: causes compaction and can physically damage trunk and branches.



Minimise trauma to the tree by:

- Hand-digging excavations.
- Bridging over significant areas of roots with a beam or lintel.
- Treating damaged roots by cutting back cleanly and treating with a fungicidal sealant.
- Backfilling round exposed roots by hand with small size material such as sharp sand before placing foundation materials such as hardcore.

# Tree Survey

Where there are trees on development sites a tree survey is required. This survey should show the location of all the trees on the site, their species, appearance and overall health and any work proposed in a schedule of tree works. Remember that over-mature trees have the highest wildlife value and retain them wherever possible.

The following is a specification showing the requirements of a detailed tree survey which should be carried out by a qualified arboriculturalist. This can be used as a basis for specifying tree survey work but the level of detail shown here may not be required for every site.

## Tree Survey Specification

A plan showing the location of the trees to be surveyed is required.

The following shall be included in the survey:

- a) A brief introduction which describes the location and extent of the survey, states the number of trees/scrub groups surveyed and gives the relevant drawing number(s).
- b) Schedule of trees and related drawing(s) with references. Tag trees individually on site. All trees shown on the drawing(s) exceeding 75mm diameter at 1.25 metres (breast height) from ground level are to be surveyed. Tree numbers shall be plotted on drawing(s) supplied by the EA.
- c) Dimensions of trees to be provided as follows:
  - overall height
  - crown diameter
  - bole diameter
  - height of first branches.
- d) Condition and quality of trees to be defined by class.
- e) Age of trees by class.
- f) Note and comment on any of the above aspects which may be relevant to EA considerations and interests e.g. future management requirements.
- g) Scrub groups and hedgerows to be numbered and species composition described.

The above information shall be supplied as set out below:

No:	Refers to metal or plastic tag fixed to tree and plotted on drawing.
Name:	Botanical name in full followed by common name for first entry thereafter abbreviated botanical name eg. Sambucus nigra (Elder) becomes Sam nig.
Height:	Estimated in metres

Crown Diameter:	Estimated in metres
Bole Diameter:	Diameter of trunk at 1.25 metres (breast height) from ground level, in centimetres
Height to first branch:	Estimate in metres the under-canopy clearance for machinery.
Condition:	<ol style="list-style-type: none"><li>1. No defects</li><li>2. Minor defects</li><li>3. Moderate defects</li><li>4. Very defective</li></ol>
Amenity Quality:	<ol style="list-style-type: none"><li>1. Excellent</li><li>2. Good</li><li>3. Fair</li><li>4. Poor</li></ol>
Age:	YT Young Tree SM Semi mature M Mature OM Over mature
Descriptors:	Multi (more than 3 stems) Coppice, Pollard etc.

The report cover should include the location and date of the survey and clearly indicate the authorship of the report. Pages must be numbered and Headers/Footers used to identify the Survey location and date on every page.

## Impact Assessment

Assess the effect the proposed works would have on the existing trees and classify the impact in accordance with the following:

1. No adverse effect
2. Minor effect
3. Moderate effect, some remedial work will be required
4. Severe effect that is likely to necessitate removal

The nature of the effects and specific causes are to be described and proposals made for their mitigation. Suggestions shall include adaptation of the design proposals in order to reduce the effect of the works.

If specialist tree work is likely to be required the report should indicate the general nature of this work e.g. hand digging, vast pruning, canopy thinning. A schedule of tree work shall also be produced as part of this brief.

“Good fences make good neighbours.” *Anon.*

**Traditional boundary treatments have evolved to provide the best solution to suit the local situation - designing a new boundary in the local style will often make good sense for functional reasons, as well as fitting into the context.**

Getting the boundary treatment right is essential in any location, but is particularly important where new development is proposed: this is emphasised in Harrogate District Local Plan Policy C11 which requires proposals for new development to have regard to the relationship of the site with surrounding landscape features and landscape character.

When designing your new boundary, think about:

### **function**

boundaries can define ownership; separate different land-uses; provide security or safety; keep in stock or children; keep out pests; provide screening or shelter; provide a new edge to a settlement.

### **legal/planning aspects**

think about the legal requirements for example obligations to provide or maintain the boundary; wayleaves, easements or rights which should be taken into account; effects on adjacent land/landowners; effects on any known interests (e.g. ancient boundary features, trees protected by tree preservation orders, listed buildings, sites of nature conservation or historic interest).

### **aesthetic objectives**

consider what the boundary will look like from within and outside the plot and at different times of the year; how it relates to the existing context and to the new development.

### **management**

think about maintenance or management - if using plants, is there sufficient space for their growth and development? will hedge plants create management problems through shading land or growing too vigorously?

### **wildlife benefits**

hedges or tree belts can provide wildlife corridors linking existing habitats such as ponds or woods; these can also provide habitat for birds or animals, depending on species composition and management. Dry stone walls can also benefit wildlife such as over-wintering amphibians, small mammals and lichens.



New development without landscape framework looks stark on the edge of a settlement.



New development with tree and hedge planting is integrated with the landscape.



# Types of Boundaries

## Walls

Good walls provide robust, long-lasting boundaries that are quite costly to construct but require little maintenance - if constructed well a drystone or brick wall can last for a hundred years before needing much work. Walls can be low, high or retaining (holding back earth behind the wall). Some low walls are backed by hedges, other low walls have, or had, railings along the top.

Types of walls traditionally used in Harrogate District vary from place to place, usually reflecting the underlying geology but also the local history. (See Guidance Sheet LDG 5.1)

## Hedges

Most hedges are comparatively inexpensive if small bare-root plants of native species are used, but can have associated costs (protective fencing during establishment and maintenance costs). Hedges range widely in appearance, species composition and management.

Combinations of plant species vary from place to place depending upon local geology, soil conditions and history. (See Guidance Sheets LDG 6.5 & 8.2)

## Fences

There are many different types of fence, ranging from the simple timber post and wire agricultural fence to ornamental railings to high-security palisade or weld-mesh fencing.

The visual effect of a fence can be minimal (timber post and wire fences can almost seem invisible against rising ground and grey days) or very intrusive both in appearance and in symbolism - a high fence of vertical steel palisade with forked tops sends a strong signal to keep out!

Costs and maintenance vary according to the type of fence, but most fences need regular maintenance to keep them in good order. (See Guidance Sheet LDG 5.2)

## Gates

(See Guidance Sheet LDG 5.3)



## Materials

There is a wide range of paving materials available for the modern designer, allowing flexibility of design style and character. This design guide sets out the principal characteristics of typical paving materials and suggests appropriate materials for different situations.



The choice of paving material is often a compromise between capital cost, maintenance cost, appearance and performance:

- natural stone flags may look attractive but cannot take heavy point loading;
- York stone can become slippery without regular cleaning in damp or shady conditions (due to moss and algae);
- Stone paving should be hard and impermeable: porous stone absorbs water that freezes and splits the stone;
- Riven stone paving can present a markedly uneven surface which pedestrians find uncomfortable and which collects dirt.

Concrete blocks do not have the aesthetic quality or heritage character of natural stone, but can provide perfectly acceptable paving in modern settings. Concrete blocks are initially cheaper than stone blocks but are easily spoilt by oil spills and chewing gum and have a shorter lifespan.

Unusual paving materials may prove difficult or expensive to replace, repair or extend and are therefore unlikely to

be adopted by the local planning authority due to budgetary constraints.

The environmental cost of paving materials should also be considered. Imported material may be significantly cheaper in £££, but may carry hidden environmental costs of long-distance transport (fossil fuels, emissions) and lack of environmental protection at the quarry site. Using local materials reduces environmental costs and respects local distinctiveness; reused or recycled materials will reduce the environmental cost further.

Think about:

- capital cost and construction resources
- maintenance costs and resources
- lifecycle and sustainability
- landscape and built context
- function and performance

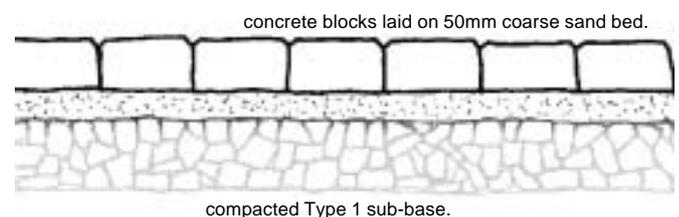
Design Guidance sheets *Roads* and *Footways* give guidance on materials choice and layout considerations for different paving applications.

## Flexible & rigid paving

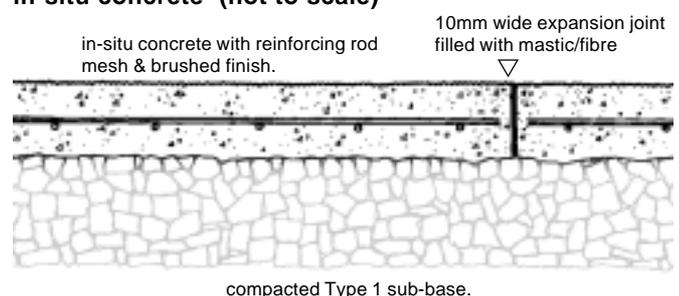
Small unit paving (such as blocks, setts and cobbles) and granular paving (gravel, hoggin, tarmac, asphalt) provide flexible paving: the paving units can take up small changes in levels or deformation caused by subsidence or settling without failure of the paving.

Small unit paving allows for replacement of individual units when damaged or spoilt, although it is difficult to get an exact match in level and colour.

### typical section: flexible paving: concrete blocks



### typical section: rigid paving: reinforced in-situ concrete (not to scale)



Rigid paving e.g. poured/in-situ concrete can be constructed cheaply and quickly to provide a good smooth surface, but is vulnerable to cracking and shearing if the ground beneath moves horizontally or vertically, or with significant variations in temperature.

Expansion and cracking joints can be designed into the paving to provide for minor movement but rigid paving should be avoided where ground conditions suggest movement is likely.

## Permeability

“Soft” surfaces (grass, soil, planting areas) and permeable paving (gravel, proprietary resin-bound stones, special purpose pavers) allow the penetration of air and water into the ground. This is essential for healthy plant growth and recharges ground water.

Impermeable paving (concrete, mortared paving, hoggin) prevents air and water reaching the ground, resulting in stress for plants and increased surface water run-off which can lead to flash flooding.

Sustainable Drainage Systems (SDS) are designed to intercept surface water run-off from paved areas, remove impurities and pollutants and retain the water in soakaways, green swales and balancing ponds to encourage ground water penetration and controlled discharge into watercourses. Contact the Environment Agency (tel: 01904 692296) for further information.

Think about:

- drainage
- groundwater
- nearby planting
- permeable paving design



## Access for all

Large areas of paving are difficult for people with visual impairments to navigate: use of special tactile paving can provide a pathway and/or warn of hazards, whilst use of ordinary paving elements such as kerbs and drainage channels can provide a route to follow.

**Blister Paving:** to identify a pedestrian crossing place (red paving for controlled crossing points e.g. zebra crossings, buff paving for uncontrolled crossing points e.g. side streets).

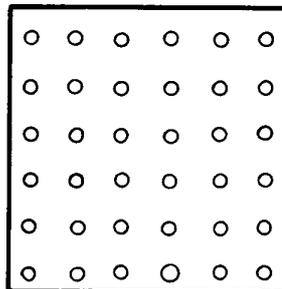
**Hazard Warning Paving:** half-rod shaped bars to warn of a hazard e.g. top/bottom of stairs.

**Directional Guidance Paving:** round-ended flat bars laid *along* a sensible obstacle-free route to guide visually handicapped pedestrians through large open spaces.

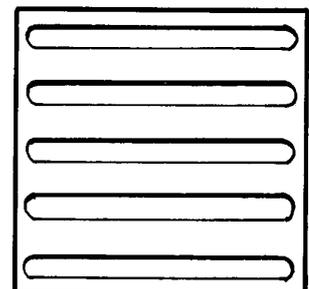
**Cycleway Paving:** bar pattern used on shared pedestrian/cycle routes (laid *along* the cyclepath and *across* the pedestrian path).

In sensitive areas e.g. Conservation Areas the red/buff colours may be omitted and it is possible to obtain tactile paving in clay or York stone, or fix brass studs as blisters to locally-distinctive paving material.

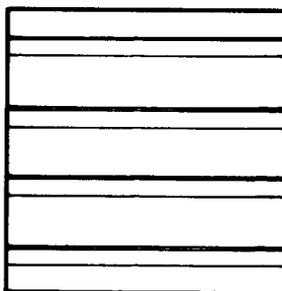
blister



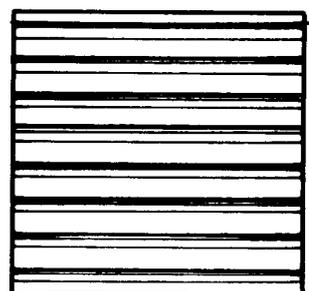
directional



cycleway



hazard

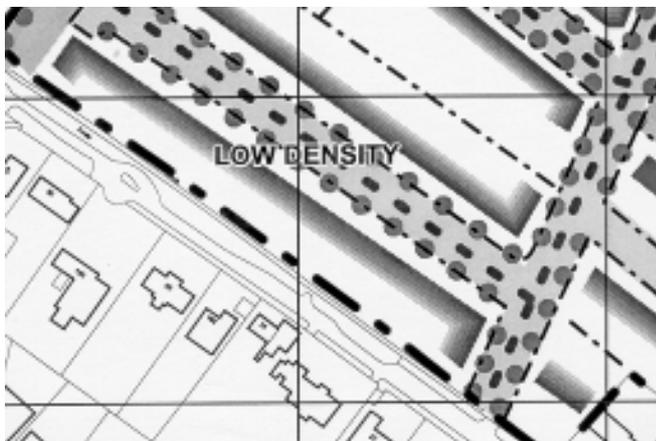


Certain paving surfaces cause accessibility problems: people with diabetes and arthritis find it uncomfortable to walk over bumpy paving (including pimple-blocks at crossing points and cobbles), and it is difficult to push wheelchairs and pushchairs over loose gravel or markedly riven paving.

If a specific visual appearance is required, consider resin coating gravel to provide a smooth surface or providing paths of flat blocks amongst riven paving.

Roads range from major highways (such as motorways and dual carriageways) to private accessways. Approval of road design in Harrogate and Knaresborough is the responsibility of Harrogate Borough Council as agents for North Yorkshire County Council; the Highways Agency are responsible for motorways and trunk roads; and North Yorkshire County Council look at design of all other roads. Cycle ways are an important part of the transport network. There is a Cycle Strategy for Harrogate District. Guidance on the design of cycle ways is available from Sustrans, the organisation responsible for promoting sustainable transport in the UK.

Guidance on road design includes *Design Manual for Roads and Bridges Volume 10: Environmental Design* (HMSO), *Design Bulletin 32* (HMSO 1992), *Street improvements in historic areas* (English Heritage, 1993) and *Residential Highway Design Guide*, 2nd Edition (NYCC, 1994).



Proposed avenues of street trees in new housing area.

Recent guidance in *Places, Streets and Movements* (DETR) recommends that road design standards (as for example set out in the Residential Highway Design Guide) should be interpreted carefully to conserve local distinctiveness rather than rigidly applied.

## Residential roads

Road resurfacing in existing housing areas and design of new roads as part of a development should take account of:

- local distinctiveness: scale, layout and materials of local streets, adjacent footways and buildings context;
- functional requirements: access provision for emergency and service vehicles (including buses where appropriate) in addition to everyday use;
- existing features: for example important trees to be retained (protection during construction; road/footway/verge design to accommodate tree roots), boundary walls, milestones etc;

- sustainability and life-cycle of surfacing materials: road recycling has been used successfully in Harrogate (contact Highways and Transportation tel: 01423 556625 for further information).

Road design should be of high quality with a strong sense of place, complementing the built and landscape context.

Consider including elements such as:

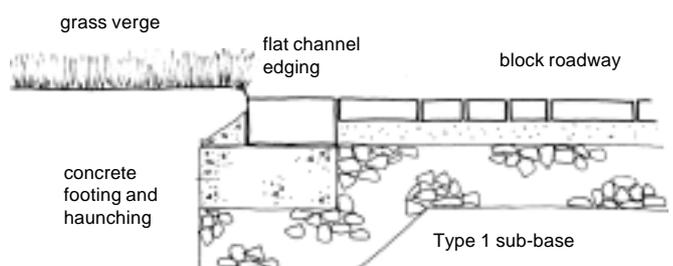
- vistas and views;
- avenues of street trees where these are a local characteristic e.g. Harrogate;
- “occasions” within the roads: for example planted central features/roundabouts can contribute towards traffic calming and can set up a formal design layout for the development.

## Rural areas

New roads in rural areas can be very intrusive, bringing urban or suburban influences into the countryside such as kerbs, concrete footways and parking/turning areas designed around the car.

Rural character can be conserved by:

- “soft” edges e.g. channels which retain the road material but remain at road level;
- avoiding or minimising lighting;





Footway separated from road by grass verge, Beckwithshaw.

- providing a footway of tarmac dressed with chippings rather than concrete flags, separated from the road by a grass verge;
- limiting surfacing to wheel-tracks only with a central grass verge (especially across fields or where the access road is also a bridleway - below) - in

Harrogate District local stone setts were traditionally used for farm tracks in the upland areas whilst in the lowland areas stone chippings are more common;

- surfacing with informal materials in “natural” colours such as self-binding gravel or resin-bound chippings where only light traffic is anticipated (below).



Technical guidance on footpath and footway design is set out in *Design Bulletin 32 Residential Roads and Footpaths: Layout considerations*, 2nd edition (DoE/DTP, 1992) and in *Residential Highway Design Guide*, 2nd edition (NYCC, 1994). Recent guidance in *Places, Streets and Movements* (DETR) recommends that design standards should be interpreted carefully to conserve local distinctiveness rather than rigidly applied.

**Footpath:** a path for pedestrian use;

**Footway:** the pedestrian path alongside a road (also known as "pavement").



Bound gravel path with edging

## Conservation Areas

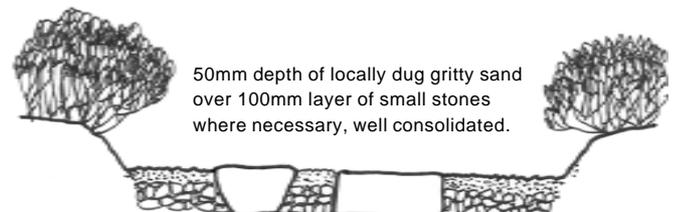
Footways in historic areas may act as a visual plinth for buildings along the street. Resurfacing or extending such footways should respect the proportions and the established pattern of the built context, using locally appropriate materials. In Knaresborough and Harrogate, traditional footways are of riven York stone flags with long kerbs of millstone grit.

## Parks and Open Spaces

Design of footpaths through parks and open spaces should respect the character of the local context: for example, high quality stone paving may be appropriate in a formal garden or town square, whereas a bound gravel surface with metal edging may be appropriate in a parkland setting or informal gardens.

## Rural Areas

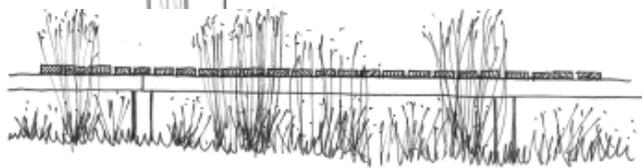
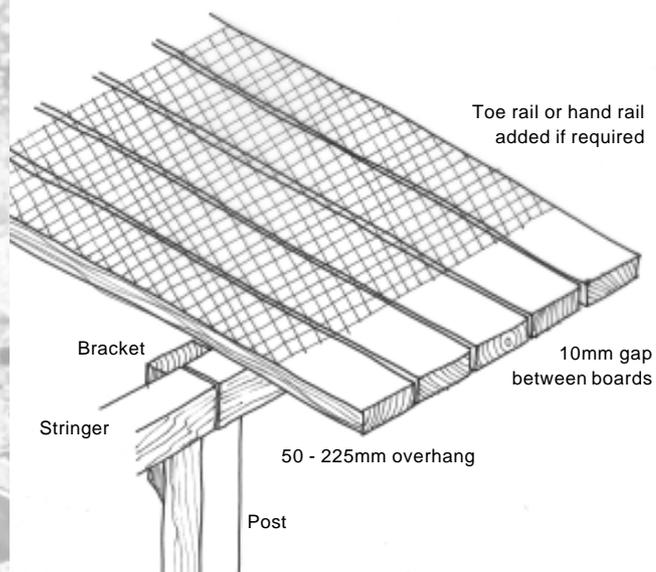
Footpaths in rural areas should respond to the local countryside character. On the moors and uplands, removal of the thin topsoil and turf may reveal a free draining grit or stone surface, which will provide an appropriate footpath for light use. Popular moorland footpaths may need flat stones used as rustic flags or steps in specific areas where erosion is becoming a problem.



50mm depth of locally dug gritty sand over 100mm layer of small stones where necessary, well consolidated.  
large wedge or block shaped local stones, well tamped down.

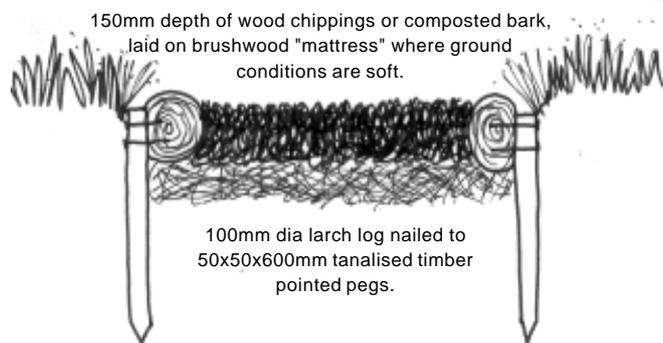
Section: typical grit/sand path construction

In the valleys and lowlands, pedestrian use can create a compacted earth path which can withstand light-to-moderate use in dry conditions and is low-key, rural and informal in character. Where the ground is likely to be boggy, self binding gravel on top of a layer of stone chippings can provide a dry path throughout the year. Timber boardwalks can provide attractive and dry pathways around ponds and across marshy ground.



spacing of posts dependant upon strength of stringer  
- (usually between 1 & 2m)

In woodland situations bark mulch may provide a path in keeping with the context and makes use of local woodland waste product, but are difficult for wheel-chairs and pushchairs to negotiate and require topping up regularly as the bark decomposes.



**Section: bark mulch path construction**

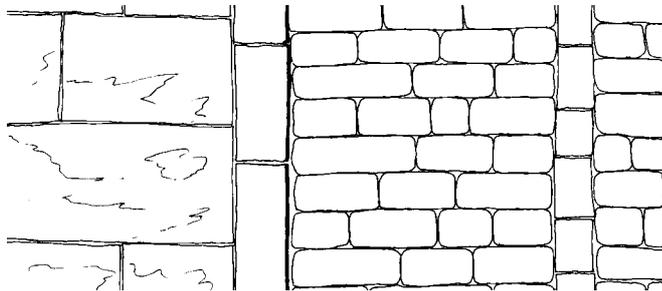
For information on cycleways see the *North Yorkshire Cycleways Design Guide; Cycle-friendly infrastructure* (DETR et al, 1996); *Harrogate and Knaresborough Cycling Implementation Plan* (HBC July 2000) free.



DoE Circular 8/87 states that ‘the floorscape often makes a vital contribution to the character of a conservation area. The District has 52 Conservation Areas varying from Harrogate in a spa town, to Ripon in a Cathedral city. Every effort should be made to retain or reintroduce the traditional surfaces e.g. natural stone paving or setts wherever possible. If the introduction of new surfacing materials is unavoidable, the texture or colour should be sympathetic to the setting.’

#### Plan view of typical traditional road materials used in combination:

Footway:	Kerb:	Roadway:	centre:
York stone flags	York stone kerb block (or channel)	York stone blocks (also known as 'Cobbles')	York stone setts to delineate centre line, parking bay etc.



*Street improvements in historic areas* (English Heritage, 1993) provides comprehensive guidance, which is summarised below:

- identify original street form, pattern, visual quality and materials through townscape analysis and historical research;
- consider the entire historic environment including the relationship between height of buildings, width of footways and total width of street - sometimes the footway forms a visual plinth for the buildings;
- design for pedestrians and those with disabilities as well as vehicles;
- resist clutter of signs, street furniture and traffic calming devices - speed can be reduced and local character conserved by using cobbles or stone setts;
- simple, low key design solutions such as keeping original kerbs and resurfacing existing footways are often preferable; tarmacadam is cheaper and often less intrusive than block paving;
- respect the scale, materials, details and pattern of locally traditional paving;
- try to use natural materials appropriate to the area; ensure artificial materials are high quality and match traditional materials as closely as possible;
- choose tactile paving to blend with surrounding materials, e.g. by adding brass studs to paving flags rather than using red pimple blocks.

In Harrogate District, traditional road materials are:

**field cobbles:** rounded russet-brown field cobbles left by glaciation in Vale of York fields; originally used for yards and roads in the Vale of York and on the Limestone Ridge e.g. stable yard at Ribston Hall, farm track at Green Hammerton, yards in Knaresborough, St. James Square and Hall Square in Boroughbridge



Field cobbles and Yorkstone flags with Yorkstone kerb

**Yorkstone blocks ('cobbles')** and **Yorkstone flags:** buff-coloured Gritstone quarried from the Dales Fringe and Gritstone Uplands; originally used for roads, yards and footways in the Dales Fringe and Gritstone Uplands but also used on the Limestone Ridge e.g. Low Harrogate, Ripley Castle (Dales Fringe), Knaresborough Market Place (Limestone Ridge)



Yorkstone flags and Yorkstone blocks ('cobbles')

**(engineering) bricks, stable blocks:** brought in by canal and later by rail and used in certain locations such as old side streets in Ripon and Knaresborough



Stable blocks



Blue engineering bricks, Ripon

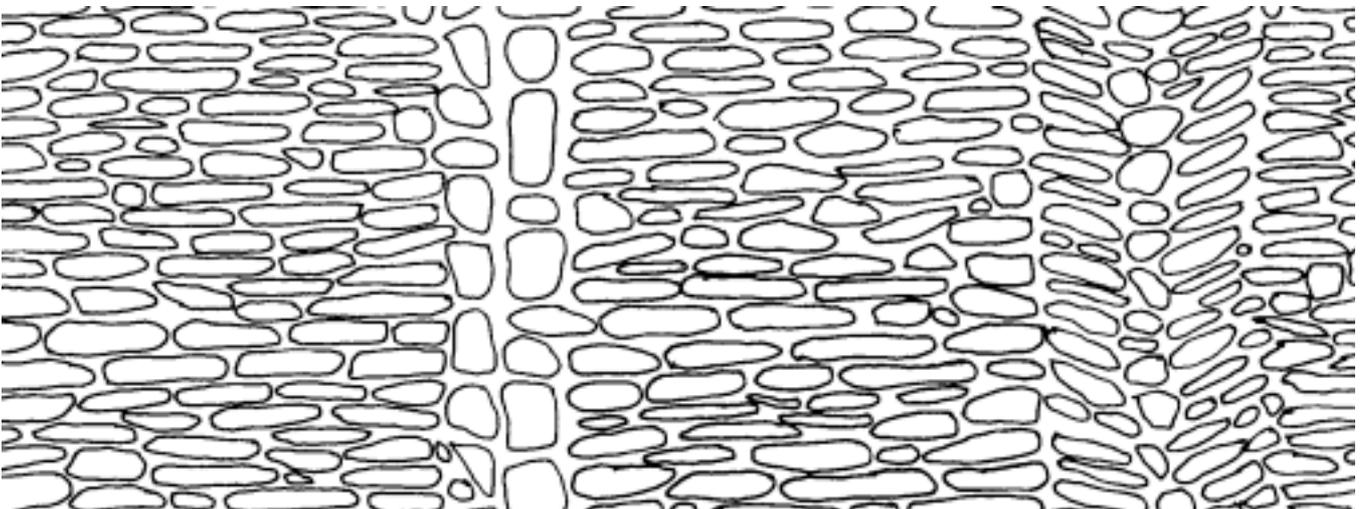
**paving bricks:** made from clay dug from Vale of York fields; originally used in yards and drives in the Vale of York and Limestone Ridge e.g. Boroughbridge.

Individual traditional paving units vary noticeably in size: this variation creates a random appearance even within a strong laying pattern of bands or rows - as shown in the sketches of *Field Cobble Paving (below)* and *Yorkstone Paving (prev page)*.

Modern paving materials include:

- natural stone flags and setts
- concrete blocks and setts
- clay pavers and engineering bricks.

**Plan view of field cobbles used for trackway and channel:**

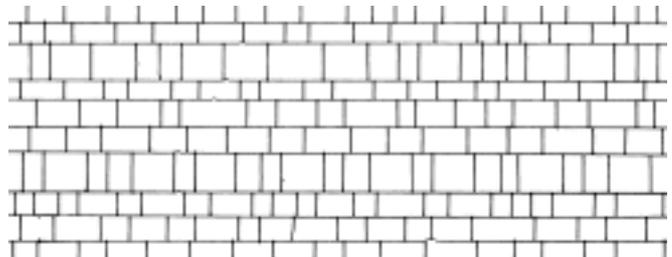


Centreline:

Dished channel:

Where local natural materials are used within a Conservation Area, these will normally be a good match for existing paving. However, if new paving materials are required, their colour and texture will need careful control: "Yorkstone" varies in colour, texture and porosity from quarry to quarry and even within a quarry. Yorkstone with a high proportion of red banding will not normally be appropriate within Harrogate District, where the traditional stone is generally a more uniform buff colour.

Artificial materials such as concrete blocks must be high quality and match traditional materials as closely as possible in colour, texture, size and laying. Colour and pattern varies not only according to manufacturer and product, but also within a product - every batch of concrete is slightly different. Size of modern paving units is uniform and lacks the 'hand-made' variations of traditional materials, although certain products are available in a range of widths and lengths to create laying patterns that appear less regimented.

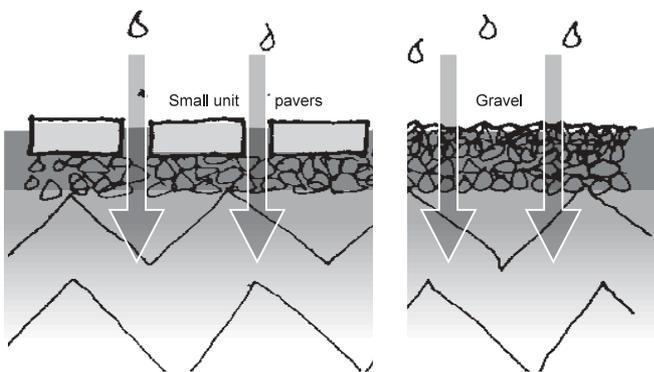


Concrete block paving of different sizes: Beulah Street,

Trees are valuable elements in paving schemes, providing shade, shelter, visual interest, a place for wildlife and a counterpoint to the built environment. However, paving areas are hostile places for trees. The success of trees in paving areas depends upon a sympathetic attitude to trees, an understanding of the tree's requirements, careful plant choice, and good design and construction of paving and planting pit.

## The tree's requirements

Tree roots need porous soil to breathe, absorb water and nutrients: paving may prevent water percolating into the soil; construction work and pedestrian or vehicle traffic can compact the soil suffocating the roots; excavation can sever roots. Address these conflicts by using porous paving; reinforced/protected planting pits; robust and tolerant tree species; hand excavation and filling, careful consolidation.



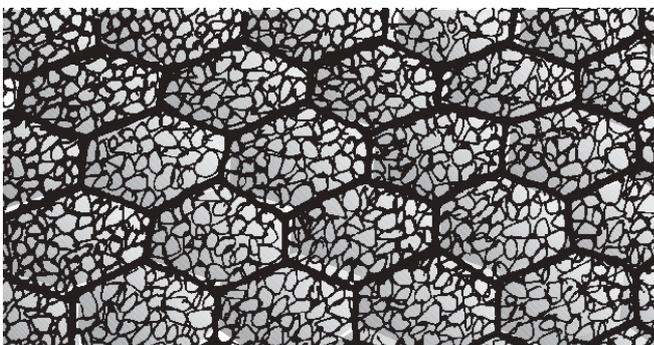
## Reinforced & protected planting pits



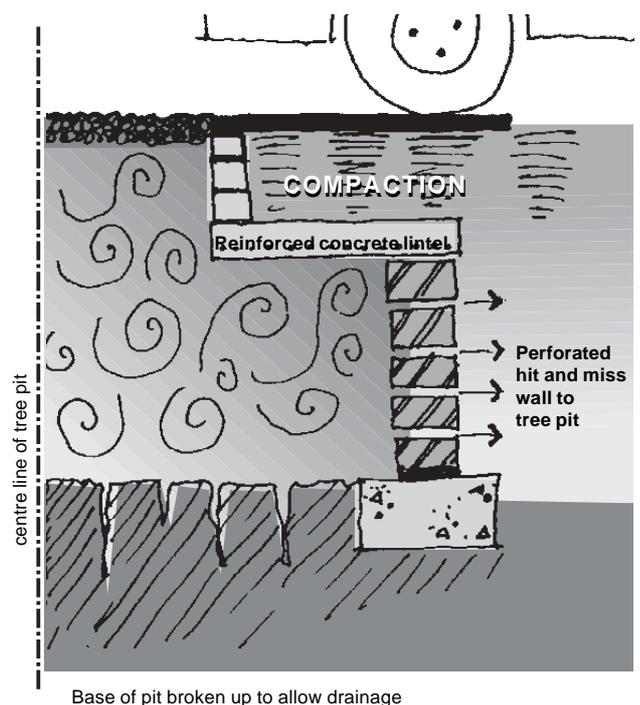
Paving can be carried over large volume planting pits by constructing underground lintels or beams. The pit itself can be reinforced by constructing below-ground hit-and-miss brick walls or using perforated concrete soakaway

## Porous paving

Small unit pavers such as clay or concrete blocks laid on granular material and jointed with sand, grit or open joints will allow some water to percolate into the ground.



Honeycomb units filled with gravel, sand, soil or sand/soil mixtures allow greater permeability to water and air whilst providing a reinforced surface for traffic.



rings: but make sure it is possible to replace the tree if it fails to establish. Using tree-pit soil with a high proportion of grit or sand helps prevent compaction, but retains little water so irrigation is necessary. Alternatively, consider using tree-root trenches or linear pits to encourage extensive yet controlled anchoring.

## Rooting

Research into rooting materials shows that mixtures of compost and sand can be compacted to prevent subsidence and carry vehicular loading whilst providing a good growing medium for the plant as an alternative to topsoil, which is damaged by compaction; several proprietary brands are now available. Avoid choosing surface rooting tree species such as Cherry, or tree species that tend to have buttressing trunks.

## Street trees

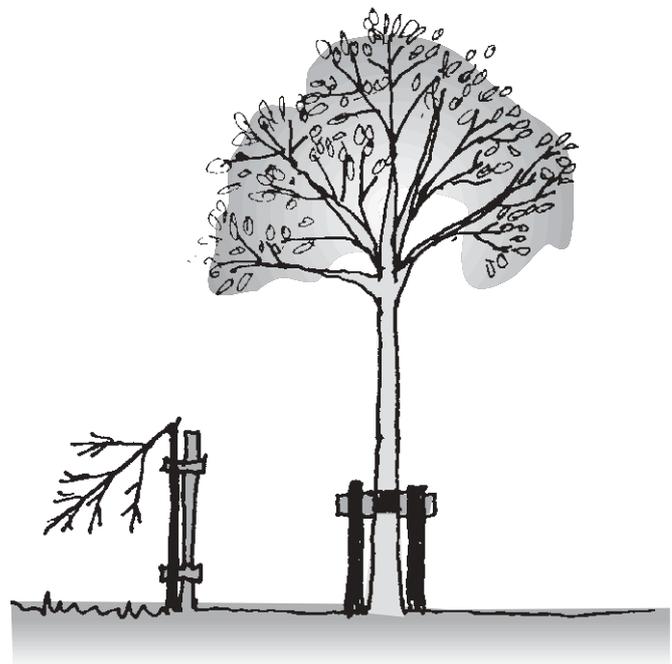
The following species, which have an upright form and light foliage, will usually be preferred by the highways authority along urban streets (use trees such as beech, oak, hornbeam and horse chestnut where there is space to accommodate their broad spread):

Acer saccharinum 'Pyramidale'	Silver Maple (tall, broadly upright)
Acer rubrum 'Scanlon'	Scarlet Maple (tall, columnar, red in autumn)
Betula pendula	Silver Birch (medium, narrowly columnar, short-lived)
Betula pubescens	Downy Birch (medium, narrowly conical, short-lived)
Betula utilis var. jacquemontii	Himalayan Birch (medium, conical very white bark, short-lived)
Carpinus betulus 'Fastigiata'	(medium, broadly conical)
Fraxinus americana	White Ash (tall, broadly columnar, fast-growing)
Fraxinus angustifolia	Narrow-leaved Ash (tall, rounded crown)
Fraxinus excelsior	Ash (tall, vigorous, rounded crown)
Fraxinus ornus	Manna Ash (tall, bushy-headed)
Liquidamber styraciflua	Sweet Gum (tall, broadly conical, good autumn colour)
Sorbus aucuparia	Rowan (small, broadly conical, white flowers, berries)
Sorbus aria 'Lutescens'	Whitebeam (small, broadly columnar, berries, white underside to leaves)
Tilia cordata 'Greenspire'	Small-leaved lime (tall, narrow oval crown, aphid-free)
Tilia x euchlora	Lime (tall, rounded crown, aphid-free)
Tilia x europaea	Common lime (tall, broadly columnar, aphids)

Make sure that the paving design allows the tree to develop: for example, if a tree grille paving insert is proposed it should be interchangeable to accommodate the expanding diameter of the tree trunk. Grass verges provide a good growing environment for street trees and are characteristic of Harrogate and many District villages, but can cause maintenance, dog fouling and car parking problems. Geotextiles infilled with fine grit/gravel may provide a useful alternative in some locations.

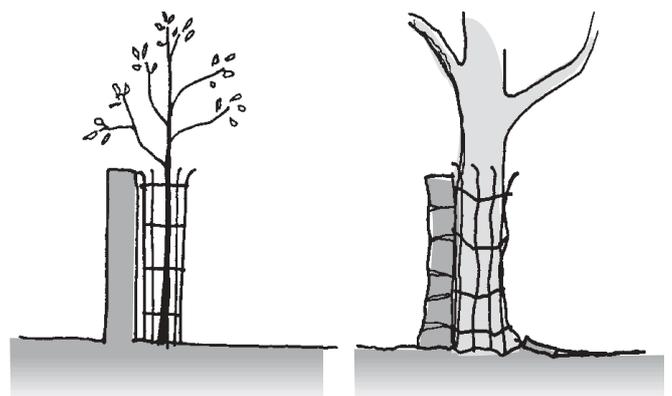
## Robust & tolerant trees

Large plants (extra heavy standards, semi-mature trees) are more difficult to vandalise and provide greater instant effect. Some tree species seem to survive better in paved areas than others: check which species in nearby paved areas are doing well.



## Future growth

Allow for future tree growth both in terms of canopy and trunk: don't plant too close to walls or fences, and avoid using tree grilles or guards that could strangle the tree at a later date.



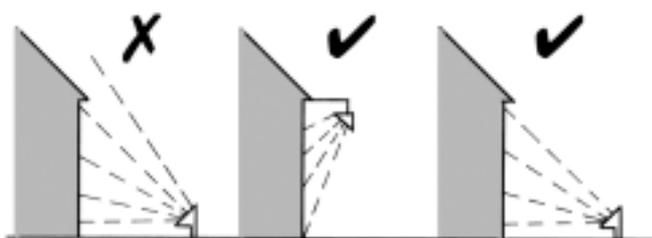
Harrogate Borough Council is responsible for street lighting design and maintenance within Harrogate and Knaresborough (as agent for North Yorkshire County Council) and on land within the ownership of Harrogate Borough Council - contact Street Lighting on (01423 556545). Lighting within the remainder of the District is to be agreed with North Yorkshire County Council tel: (01609) 780780.

Effective lighting for the safety and convenience of people is important in a wide range of circumstances, for example schoolchildren walking home on winter afternoons, workers loading/unloading factory products in the winter or on night shifts, lit car parks for office workers, lit farmyards for early morning winter milking.

However, the need for illumination and the type to be provided should be carefully considered in the light of the following issues:

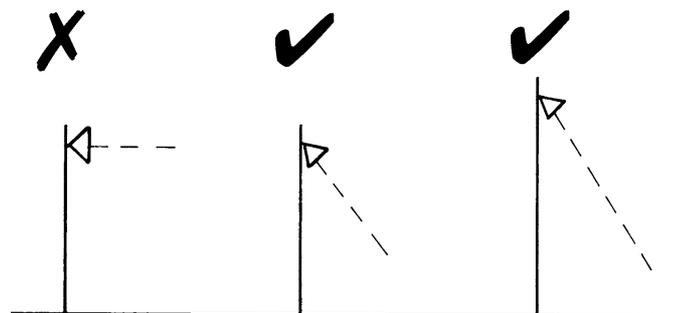
## During darkness:

- street lighting can have an urbanising influence if used in the countryside especially in areas where there is little existing lighting - is the lighting really necessary?
- flood lighting is intense, may be seen for many miles and may constitute a nuisance. Avoiding flood lighting should be considered a first priority unless the development is so enclosed that unnecessary light pollution will not ensue. Provision should be made to restrict lighting to specific times.
- enjoyment of a starry night is part of local distinctiveness in the villages and rural areas within Harrogate District but this depends on darkness to reveal the fainter stars; in the orange glow of towns and cities ("skyglow") most stars disappear from view. This type of light pollution is a serious problem for astronomers. Contact the British Astronomical Association Campaign for Dark Skies<sup>1</sup> for further information.
- try to use down-lighting rather than up-lighting; use of hooded or directional luminaires can reduce upward and lateral light-spill, but light may be reflected upwards from wet surfaces e.g. car parks in the rain (soft surfaces such as grass or shrubs are less reflective).

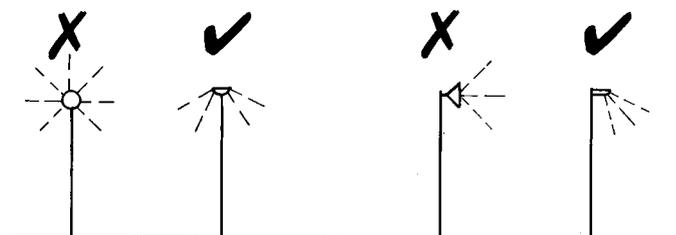


If uplighting must be used then the lamp should be shielded to reduce 'wasted' upward light.

- make sure lights are correctly adjusted so that they only illuminate the surface intended and that main beam angles are below 70 degrees to minimise glare.
- lighting uses energy, which in most cases comes from fossil fuel: unnecessary lighting wastes money and resources, causing other environmental damage.



To reduce the effects of glare, main beam angles of all lights should be less than 70 degrees from vertical.



Do not install equipment which spreads light above the horizontal.

## During daylight:

- columns can be very intrusive in a restricted area - consider mounting the lights on walls of buildings instead, as at Knaresborough Market Place (wayleave permission may be required if the electricity supply has to cross neighbouring buildings).
- where columns are essential, think about using them positively - to demarcate a footway, to hold hanging baskets, or to carry signage e.g. Oxford Street, Harrogate.
- column and lantern design can make a significant contribution to the overall appearance of a project - in some historic areas traditional street lights still remain which can be copied where reinstatement is required, or which can inspire modern street lighting design e.g. lighting on Beulah and Oxford Streets in Harrogate is based on the design of 19th century street lights on the Stray.



New lighting columns in a Traditional style were installed in the pedestrianisation schemes for Oxford Street and Beulah Street, Harrogate.

- lights on top of garden walls can look very suburban - downlights mounted on the side of the wall are more discreet.



An example of a 'gaslight' column on Cornwall Road, Harrogate.

## Existing lighting

Existing schemes may be upgraded by:

- adding extra lanterns to a column.
- providing additional lights within an existing scheme.
- using lanterns which throw light further.
- using lamps which provide light of better quality or stronger intensity.

Light is measured in lux and is a product of both the luminous intensity (brightness) of the lamp used and the distance from the lamp to the surface being lit. Typical outdoor levels of illumination include:

Night-time in a dark landscape (remote area, national park)	<1
Night-time in a rural location	1
Night-time in a suburban street	5
Night-time in a town centre street	10
Floodlighting of buildings	60
Football match/sports ground	200-500
Televised football match	700-1600

(this table and illustrations overleaf based upon Local Environment: light pollution, National Society for Clean Air and Environmental Protection, August 2000).

Lighting schemes should be designed in accordance with the recommendations of British Standard 5489 and the guidelines issued by the Institution of Lighting Engineers.



19th Century street light on The Stray, Harrogate.

## Further information:

Institution of Lighting Engineers, Lennox House, 9 Lawford Road, Rugby, Warwickshire CV21 2DZ Tel: 01788 576492 e-mail: ile@dial.pipex.com

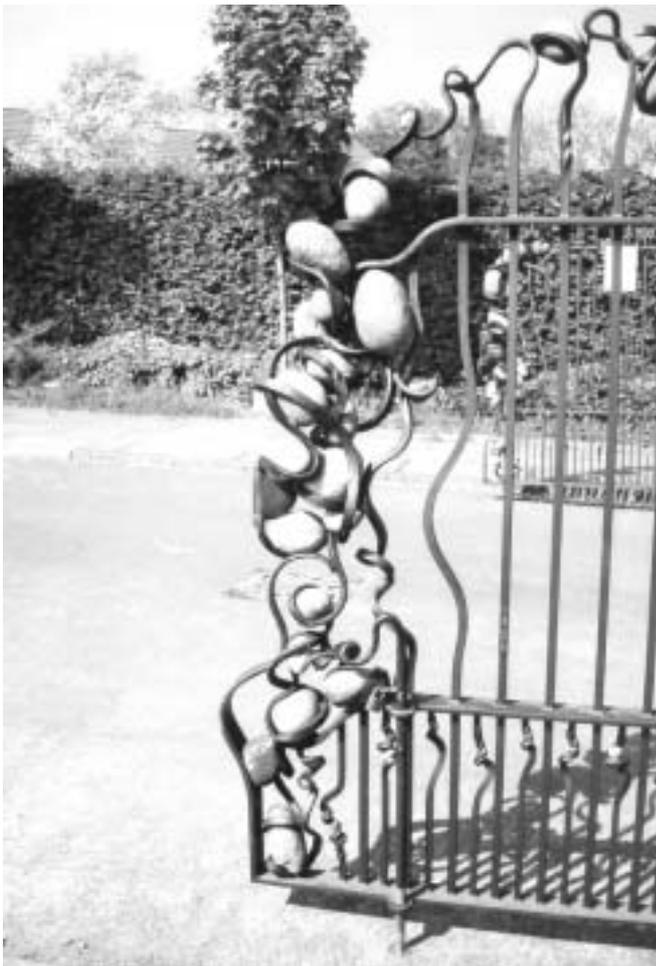
Chartered Institution of Building Services Engineers (CIBSE), Lighting Division, Delta House, 222 Balham High Road, London, SW12 9BS Tel: 0208675 5211.

Lighting Industry Federation (LIF), Swan House, 207 Balham High Road, London, SW17 7BQ Tel: 0207675 5432.

National Society for Clean Air & Environmental Protection (NCSA), 44 Grand Parade, Brighton, BN2 2QA Tel: 01273 878770 e-mail: info@nsca.org.uk <http://www.nsca.org.uk>

1 British Astronomical Association, Campaign for Dark Skies, Burlington House, Piccadilly, London, W1V 9AG <http://www.dark-skies.freereserve.co.uk>

The opportunity often exists to introduce ornamental and decorative features into design, particularly in urban areas. This could relate to a building or landscape feature. Such elements of design are meant to stand out and their location and design will make an important contribution to local identity and character. The use of ornament is also often an opportunity to involve local communities and develop public ownership of a project.



Stonefall cemetery gates (detail).

## Introduction

The use of art and design to create an ornamental feature has long been used. The purpose of the use of ornament is varied. It could be to commemorate or remember, it could be to make a statement or for prestige or it may simply be to detract attention from something else. When deciding to commission a piece of art or include artwork in a design detail the purpose of the ornament must be clear from the outset.

Works of art usually invoke a response from people and can be a talking point of design. It is not appropriate in every situation to make a statement using art and many developments are required to blend into their landscape setting rather than stand apart. Therefore the appropriate use of ornament is vital for its success.

## Art and Design

In addition to features which have a solely ornamental purpose many elements of the landscape can be works of art in their own right. For example fencing, street furniture, surfacing details and planting design. Landscape architects can carry out elements of art work but there are also specialist artists and sculptors who work in a variety of different materials and can be commissioned to design a specific feature.

## Sculpture

When we think of ornament in the landscape sculpture often comes to mind and there are many examples of sculpture used in external spaces throughout the world. Some sculptures are of garden scale while others are of such a scale they are meant to be viewed by many from a distance. For example, The Angel of the North.





"Wave" fencing in the Hydro Swimming Pool car park continues the theme of the building's wave-like roof line and the facility's corporate logo.

## Fencing

The opportunity to use metal fencing and gates as the material for art works is common practice and examples of this can be seen throughout the District.



## Street Furniture

Street furniture is frequently designed for specific locations so it contributes to the sense of 'place'. For example, seating in Ripon incorporates the Hornblower's Horn - a symbol often used to decorate buildings and monuments in the City.



The theatrical themed roundel made of bronze, sandstone and granite sets on the road surface of Oxford Street Harrogate.

## Surfacing

The use of surfacing pattern is often used to good effect to introduce interest to large areas of paving in urban areas. Paving pattern and materials are also used to highlight original street pattern and character and reintroduce some of the old character of a space.



Changes to the existing ground levels are sometimes necessary to accommodate development proposals. This can include creating level areas on sloping land, steepening or slackening existing slopes, and forming new mounds or cuttings. Significant changes to landform can be achieved relatively easily and quickly with modern machinery, but the short and long term impacts can be more difficult to overcome.

Earthworks can often be simple to design and construct, but even minor earthworks on sensitive or unstable sites can cause serious difficulties: *if in doubt, consult a civil engineer!*

## Design

Integration of new development with the existing landscape can best be achieved through working in harmony with the landform, responding to the broad scale of the topography, avoiding disruption of major topographical features and respecting small-scale characteristics.

Good design and construction should aim to produce a landscape that is capable of safe and effective long term management. Consider the following:

### characteristics of the existing landform:

What is the overall topography (valley, river terrace, hill side, hill top)? Is this a natural landform or a modified landform? What gradients are locally characteristic? Try to design a landform that looks part of the landscape.

- Steep slopes are characteristic of the glaciated valley forms in Nidderdale, the Washburn Valley and parts of the Wharfe Valley.
- The upland gritstone plateaux are gently undulating but dissected by occasional steep-sided becks and gills.

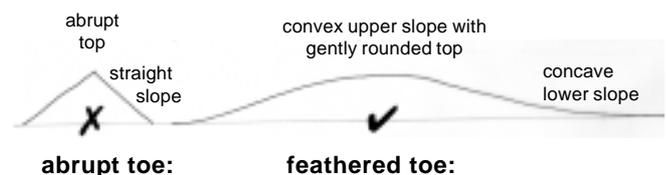
- The undulating upland fringe contains some pronounced landform features such as How Hill and Hackfall Gorge.
- The Magnesian Limestone ridge from Wetherby to Ripon contains locally distinctive features such as gypsum holes, old quarries, knolls such as Grafton hills and gently undulating limestone landform.
- The clay vales are low-lying and slightly undulating, with drumlins, moraines, river terraces and flood defences as locally prominent features.

### the design purpose:

Are the earthworks really necessary? Avoid screen mounds or bunds in an otherwise featureless landscape: they will always look unnatural.

### the edges of earthworks:

How will the proposed earthworks flow into local landforms? Avoid abrupt junctions.



flood defences near Skip Bridge

## context:

Will the proposed earthworks affect other interests nearby (e.g. sites of nature conservation or historic interest, public rights of way, important views, or would they encroach on a floodplain)? Grading out slopes may need to be limited to avoid direct impact on archaeological sites or wildlife habitats; although more expensive, retaining walls take up less land and are sometimes less intrusive; working area/construction access may need careful consideration.

## cut & fill balance:

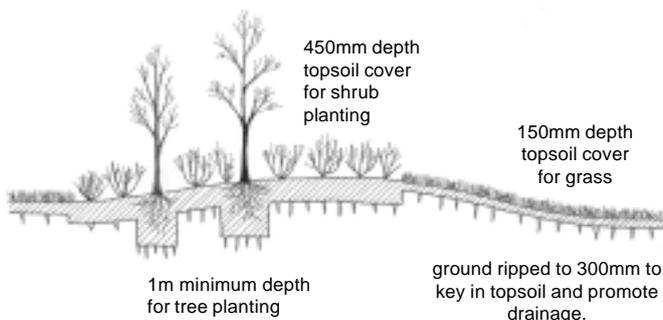
Is it necessary or appropriate to import or export material from the site? Sometimes site-generated material is unsuitable for use on site, but try to minimise import/export of material through clever design.

## stability:

Different materials have different natural "angles of repose" (slopes that are naturally stable) - is the proposed gradient going to be naturally stable? Is slope reinforcement required? Are there existing subsurface instabilities (for example fault lines, shear planes, groundwater problems)? Naturally stable slopes are cheaper, less worrying and usually integrate better with the local landscape.

## drainage:

Are cut-off drains or surface drains required to keep the new slope stable? How will the new slope affect existing ground water and drainage patterns? Changes in groundwater regimes within the site may cause adverse effects some distance away.



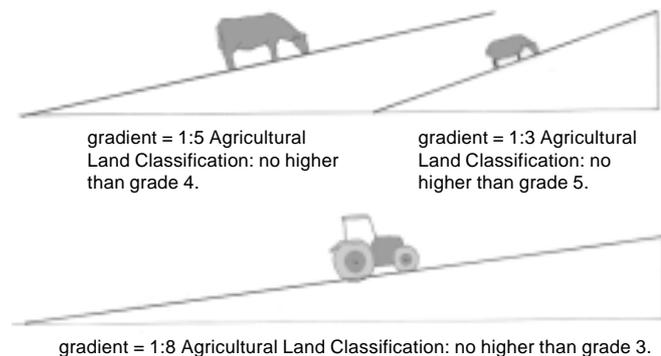
## soil depth:

What vegetation cover is proposed? Different soil depths are required for establishing healthy grass, shrubs, trees or return to agriculture; wildflower grassland and some native tree and shrub species benefit from infertile soil conditions and can be sown directly onto subsoil.

## gradients:

Do the new slopes allow safe working of maintenance equipment such as mowers or tractors? Can they be grazed safely? can routine tree maintenance works be

carried out safely? vegetation is easier to establish on slopes shallower than 1:2; return to agriculture requires minimum gradients of 1:3 for pasture and 1:8 for arable; compaction is easier to avoid on slopes shallower than 1:2.



## soil condition:

Does the soil structure or fertility need improvement (due to construction problems; on a regular basis)?

# Construction

Implementing earthworks designs can be a messy, difficult job; often problems only come to light once construction begins. Consider the following:

## safety:

Construction Design and Management Regulations (1996) require safe working practices; does the proposed design, construction and management of the earthworks meet these requirements?

## stability:

Do the proposed construction methods provide stable earthworks during construction as well as in the long term?

## conditions:

Are the site and weather conditions appropriate for earthworks construction? Avoid working with soil in wet or frozen conditions - it will damage the soil and can be dangerous.

## context:

Will the construction of the earthworks affect other interests nearby? Construction activities may need timing to avoid wildlife disturbance; normal techniques may need modifying to mitigate impacts e.g. hand-digging around trees, prohibiting vibrating compactors in the vicinity of fragile walls; ensure important features are protected by fencing off the working area and access routes.

## communications:

What happens if something unexpected turns up? Be prepared to stop work and inform the relevant authority.

Types of walls traditionally to be found in Harrogate District vary from place to place, usually reflecting the underlying geology but also the local history. The distinctive appearance of local boundary walls reinforces local identity and sense of place. Examples of walls typical to specific areas of the District are shown here, but remember that subtle local variations are important and these illustrations should not be slavishly copied. When proposing a new wall, look around the vicinity for good examples of a local style upon which to base your design.

## Vale of York

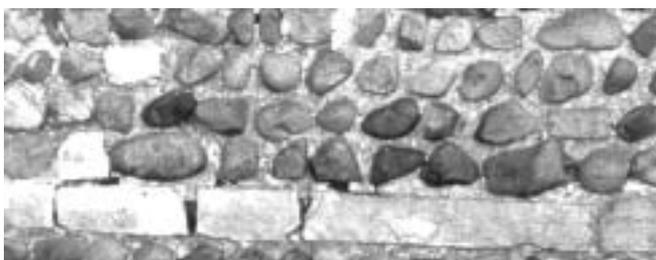
Walls in the Vale of York are predominantly brick (older bricks made from local clay), with local variations in building and coping style. Field stones from the glacial deposits across the Vale are sometimes combined with brick piers and copings.



Brick wall at Kirk Hammerton

## Limestone Ridge

Local limestone is sometimes used on its own for walls on the Limestone Ridge, but usually limestone is combined with field picked stone "cobbles" and brick.



Limestone and cobble wall

## Gritstone plateaux

In the rural uplands, drystone walls of local gritstone are a notable local feature. The style of construction varies across the District according to local tradition: for example around Coldstones, the style of drystone walling changes abruptly in the vicinity of the mines to a style seen more around Grassington. This may reflect the different technique brought in by itinerant miners.

## Gritstone settlements

In the towns and villages, low gritstone walls of mortared masonry are characteristic. Some carry railings whilst others bear the marks where railings were removed for "recycling" during WWII. These walls are often backed by evergreen hedges.



Low wall with evergreen hedge above in the Duchy, Harrogate.

Copings vary from long half-round lengths to short copings of triangular cross section to long flat copings.

## Park walls

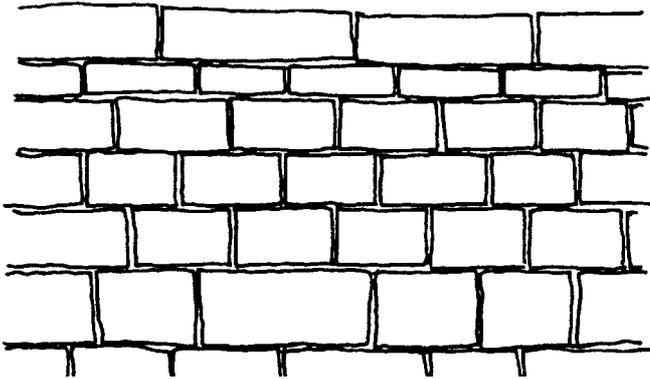
Continuous high walls of masonry stone are a distinctive feature around historic parks such as Ridding Park and Plumpton Rocks, enclosing the designed parkland to separate it from the working farmland beyond.

# Dale fringe

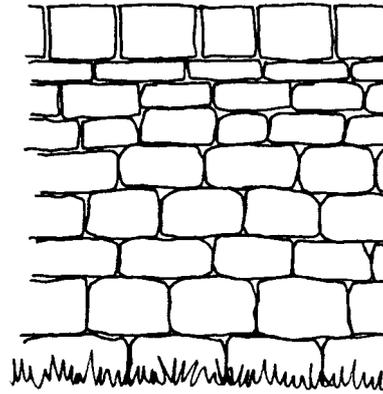
In this transitional area, walls vary from the gritstone drystone walls to stone and cobble or brick, reflecting the varying geology. Here it is particularly important to identify the characteristic walling pattern and materials within the immediate context of any new wall.



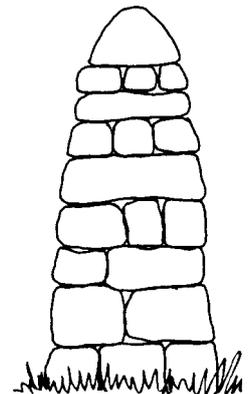
half-round copings on park wall at Killinghall.



Masonry wall with square coping, Ripley Park.



Drystone wall at Fewston.



There is a wide range of fence design which provides boundaries for many different purposes and locations. Good fence design not only ensures that the fence is fit for its purpose, but also reflects local identity and landscape character. Think about relating the fence and gates to the context whether out in the countryside or part of a high-profile urban development. This sheet illustrates some of the characteristic fences found within the Harrogate District and provides examples of good fence design.

## Agricultural fences

Timber post and wire fences provide inexpensive, unobtrusive stock-proof fencing; the timber weathers to a soft grey and the grey wire disappears from view against a background of field, wood or sky. If using this fence alongside a footpath, ensure that barbed wire is fixed on the side away from walkers.

In areas where hedges or drystone walls are locally characteristic, fences should only be used as a temporary measure until the hedge establishes or the drystone wall is built.

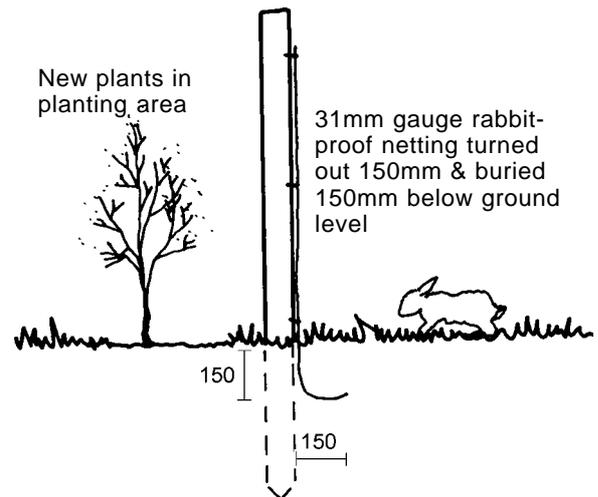


timber post and wire with lamb netting and barbed wire

## Rabbit proof fencing

Chicken wire netting can be used to discourage rabbits from eating new planting. The netting should be attached so that it is at least 900mm (3 foot) above ground and dug in about 150mm into the ground, turned out towards the rabbits and buried.

1 to be confirmed; cross-reference to AONB dry stone walls study.



## Timber fences

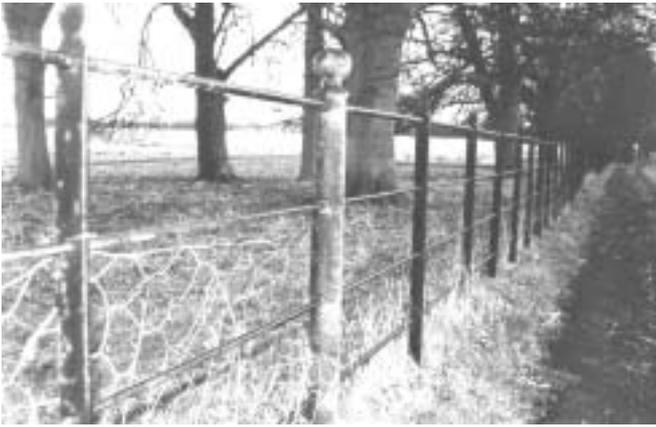
Timber post and rail is popular since it is seen as robust and requiring less routine maintenance than timber post and wire, but it can look intrusive in the countryside creating an "American ranch" appearance (especially when painted white).



post and rail fencing can look out of place in an area where hedges and drystone walls predominate.

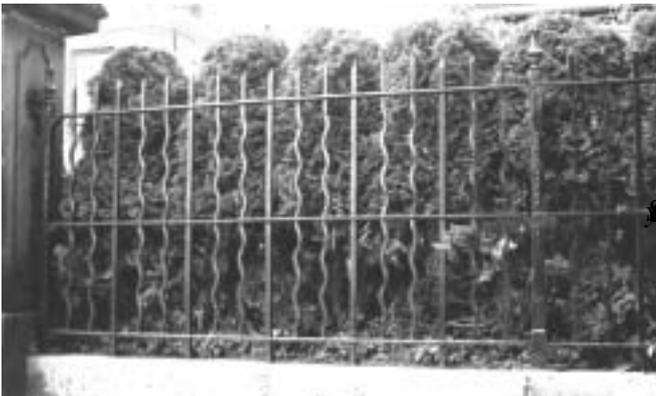
## Park fence

Iron railings of small radius rails and posts are appropriate in a parkland setting or around a public open space (see photo overleaf). These are normally painted black, but sometimes are found in other colours to match the characteristic estate livery.



## Ornamental iron railings

Railings were used on top of low stone walls in the towns and villages of Harrogate District, although many were removed during WWII. Replacement railings can help reinforce local character - it is useful to look around the locality for examples of original railings when choosing a design.<sup>1</sup>



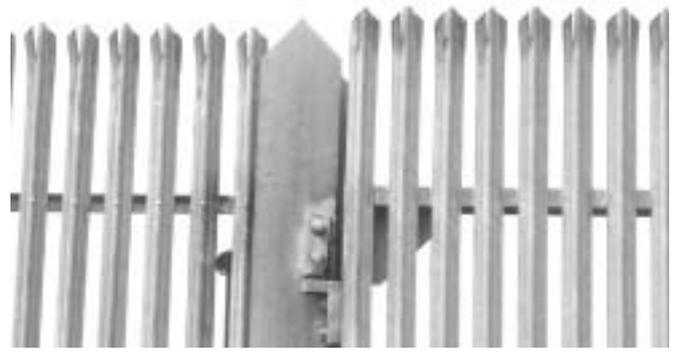
## Security fences

Security fences can look very intimidating, but there are numerous designs which are less intrusive. A weld-mesh fence holds its shape and looks neater than chain link.

The higher-grade weld-mesh fences can perform as well as steel palisade yet are capable of fading into the background, especially if located so they are seen against rising ground or dense tall planting.



Weld-mesh offers a neater alternative.

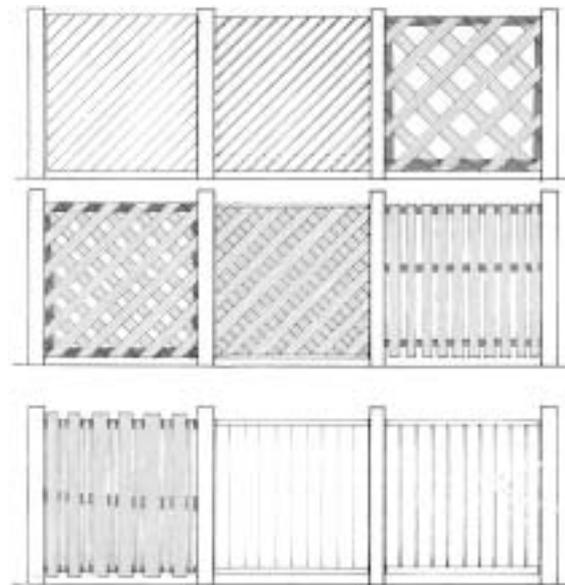


Steel palisade provides an effective, if brutal, deterrent.

## Close-boarded timber fencing

Close-boarded fencing is used around new housing developments across the whole country, and therefore does not create a strong sense of place.

A little thought at the design stage can significantly improve the appearance of fencing and relate it better to the local context - for example combining fence panels with locally characteristic materials such as stone or brick as piers and low wall; creative use of trellis along the top of the fence and finials to posts; using woven fence panels such as hazel wattle or willow withies; overlapping boards on the diagonal or in a lattice fashion.



A variety of treatments of close-boarded fencing

<sup>1</sup> Contact Conservation and Design, HBC for information on grant aid for railing reinstatement

Types of gates traditionally used in Harrogate District relate to the function of the gate, the local context and local history. The distinctive appearance of particular gates such as the 'Harewood gate' and ironwork gates in the Duchy reinforces local identity and sense of place. Examples of gates and stiles found within Harrogate District are shown here, but remember that subtle local variations and relation to the context are important. When proposing a new gate or stile, look around the vicinity for good examples of the local style upon which to base your design.

## Gate Posts

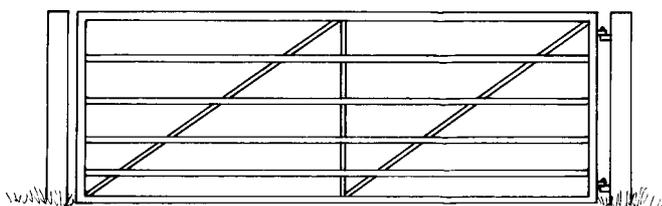
The gate posts are important components of the gateway, adding local distinctiveness and reflecting the status of the gateway: for example, the grand masonry stone pillars usually found at the principal entrances of historic parks emphasise the importance of the estate; whereas the old rough hewn gritstone pillars of the upland drystone walls reflect both local geology and traditional craftsmanship.

## Stiles

Stiles vary from the old stone type associated with dry stone field walls to the modern timber stiles found on public rights of way. Kissing gates provide an alternative to a stile for example where elderly people would prefer not to clamber over a stile: these vary from the round section iron gates often associated with churchyards to timber kissing gates in country parks and to specially designed kissing gates which permit wheelchair and push chair access but deter bicycles, motorcycles and stock. Self-closing mechanisms are important devices for use with kissing gates.

## Field gates

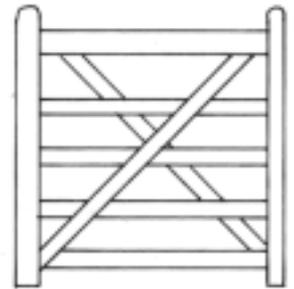
Traditional gates were usually made of timber, hung from gate posts of stone or timber. The traditional size of the gate related to the dimensions of the haywagon pulled by horses; nowadays gateways need to be substantially wider to allow for modern machinery such as combine harvesters. These wider openings are best served by a pair of gates which may include a central dropper into the ground to help keep closed. Timber field gates are still produced but many farmers prefer gates of cylindrical metal which are perceived to require less maintenance and are generally lighter.



Metal gate

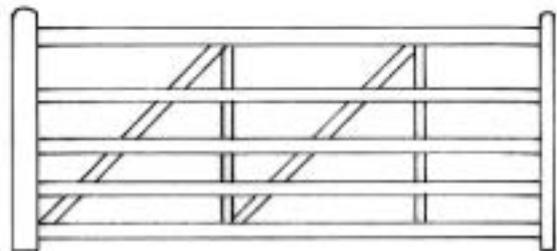
## Hunting gates

These gates are normally wide enough to allow one horse through at a time, and are normally timber (although metal gates are sometimes found). These gates are useful on bridleways for horses and also provide a convenient pedestrian gate. For equestrian use, it is important that the design allows the rider to open and close the gate while remaining mounted.



## Harewood gate

The Harewood estate joinery workshop designed this particular style of gate (below) for use throughout the Harewood estate which extended from Harewood to south of Harrogate. Some Harewood gates are still in use and even though nowadays many of the farms are no longer part of the estate, the distinctive appearance, location and distribution of the gates bears evidence to the former extent of the Harewood estate.



## Domestic gates

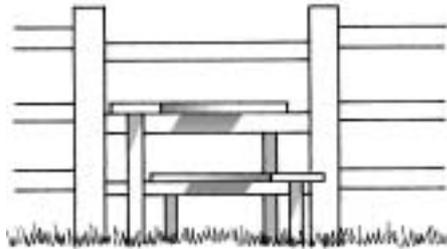
There is a great variety of domestic gates within the District reflecting the individuality of different owners. However, certain styles are closely related to types of property or specific locations: for example, particular council housing estates were built with a single style of gate to give unity and harmony to the street boundary, and many of these original gates have been retained in the original style and colour despite ownership passing

into private hands. There is often a similar unity of style where farmworkers cottages have been provided and maintained by a single estate.

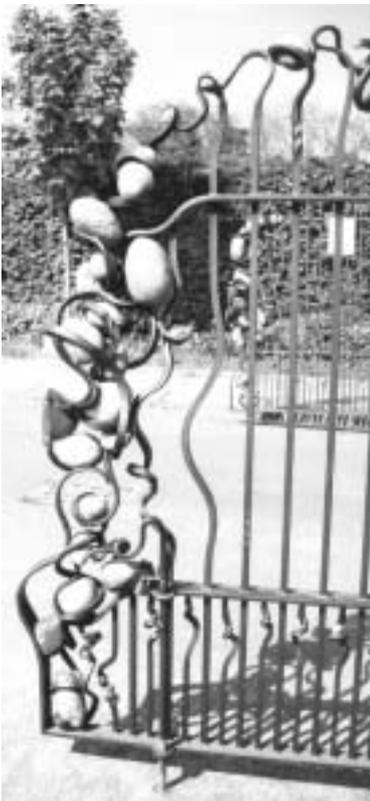


## Crossover stile

Timber cross-over stiles are very popular and can be constructed on site using treated softwood timber, or are widely available from fencing manufacturers. A tall upright pole or post as a hand-hold next to the timber stile provides



extra reassurance for people with uncertain balance.



Traditional grand gates emphasised the status of the entrance to places of importance by being both beautifully crafted and rather large. Often these were in wrought iron, sometimes with gilded details: however, many of these were taken away, ostensibly for melting down to provide raw materials, during the Second World War. Modern grand gates echoing this spirit have been provided at Stonefall Cemetery (left).

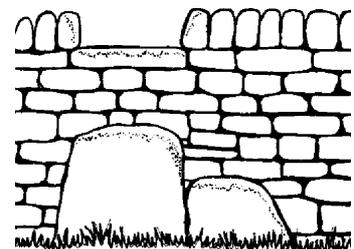
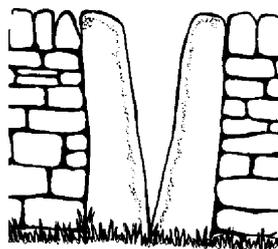
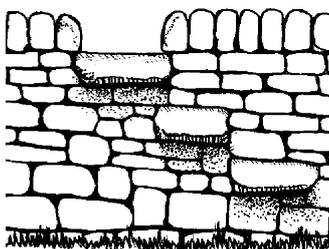
## Ladder stile

These are usually constructed of timber and are useful for crossing tall walls, although can be daunting for people with uncertain balance or a fear of heights.



## Drystone wall stile

There are several different traditional stiles for drystone walls. Good-sized stones jutting out from the wall provide cantilevered steps (see sketch below, left); a narrow v-shaped gap within the wall provides a squeeze-stile (below, middle); whilst occasionally large squarish boulders are placed to create a stairway either side of the wall (below, right).



A retaining wall is a structure which holds back material on one side. These are particularly useful where there is a change in level within a restricted area and insufficient space for banks of appropriate slope. They can also be used to good effect where ground conditions are such that a sloping bank would slump or fail or where there is an awkward junction between adjacent free-standing walls. *Note: retaining walls are costly structures that are clearly artificial: a sloping earth bank of gradient to match local landforms that can carry locally characteristic vegetation is normally preferred in rural locations.*

## Construction & design

Retaining walls carry a substantial amount of loading from the retained material. This loading is increased by water building up in the ground behind the wall, so drainage is essential (by weep-holes or by French drainage behind the wall). As a rule of thumb, when building a retaining wall its thickness should be at least half the height of the retained ground.

Retaining walls should be properly designed and constructed under the supervision of a chartered civil engineer, especially if:

- they are over 1 metre high
- they support land carrying structures or trees
- they support land outside your ownership
- there are concerns about ground conditions (including hydrology)

New retaining walls should be carefully designed to respect local distinctiveness: in Harrogate District, retaining walls of local millstone grit are a traditional and characteristic feature of the upland towns and villages.



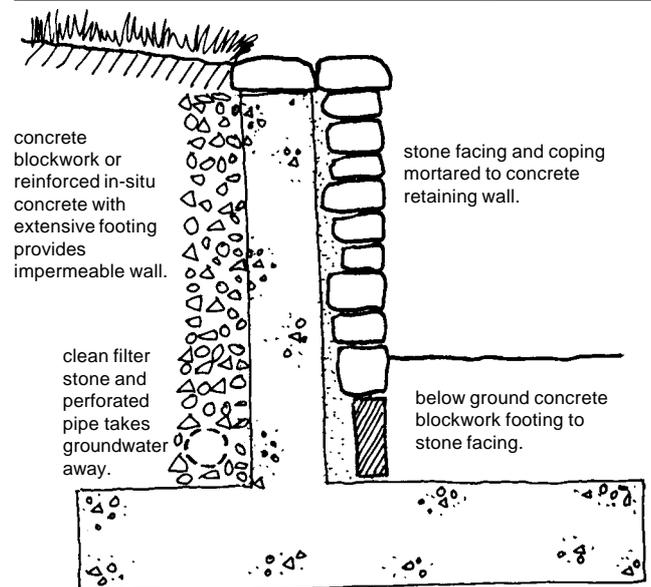
Harrogate, Knaresborough and Ripon offer many fine examples of stone retaining walls

## Types of retaining wall:

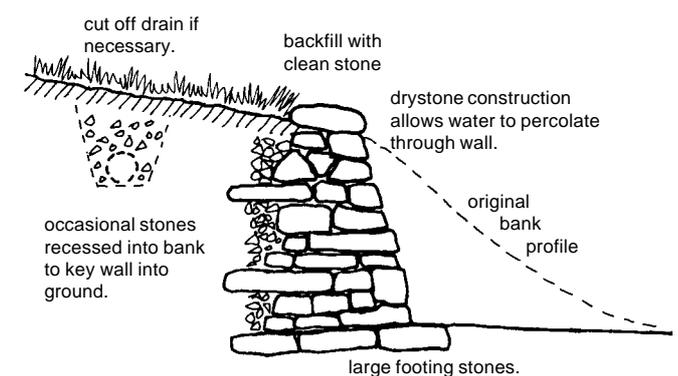
### Stone retaining walls

These may be vertical or battered (sloping). Low retaining walls may be dry-stone, which allows good drainage and looks very appropriate in a rural location. Walls over 1 metre high or where significant loading is anticipated are more likely to be mortared ashlar masonry. Good foundations and good drainage are essential elements in the design of stone retaining walls. Provision should be made for excavating and protecting the natural slope behind the wall as part of the construction.

### concrete/stone faced retaining wall



### drystone retaining wall



## Modular retaining walls:

There are several proprietary systems of modular retaining walls. These are characterised by providing a cellular retaining structure which contains open pockets of soil across the face of the structure to encourage vegetation to grow and thereby soften the appearance of the wall, although the small volume of soil available to plants does not suit many species. These walls are generally at a steep, raked slope rather than vertical. The raw appearance of these walls without vegetation cover means they can look rather modern and mechanical which could be harmful in sensitive contexts.



A crib-lock wall before planting up.

## Gabions

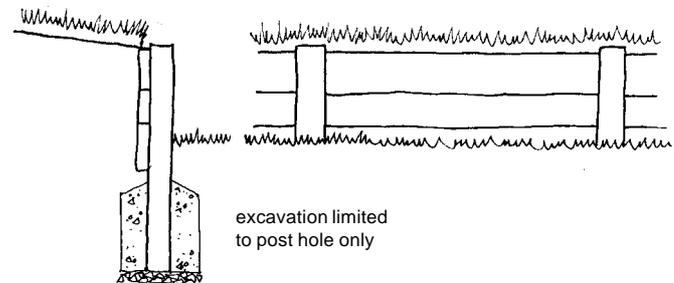
These are “baskets” or cages of wire or plastic mesh which are filled with stone and placed together to form a wall. Gabions allow free flow of water so can be useful as headwalls adjacent to rivers, or where groundwater in retained slopes is a problem. Part-filling the gabions with topsoil can encourage vegetation to grow, although generally the open character of the stone fill means that plants are subject to droughting.



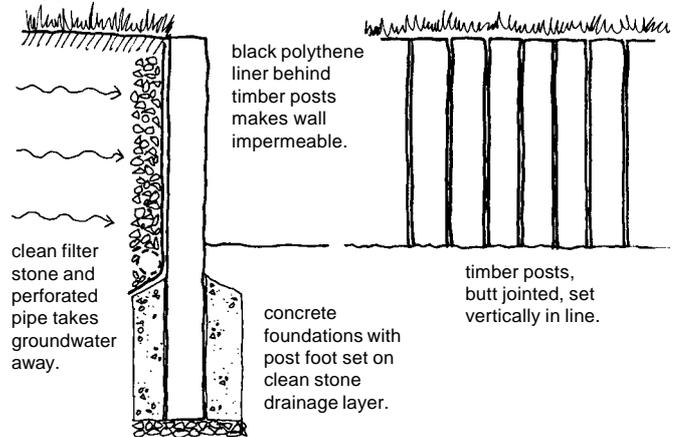
## Plank & pile walls and pile walls:

Where vertical excavation is restricted for example by wishing to avoid damage to tree roots, a simple low retaining wall can be constructed by driving piles into

### a typical plank & pile wall:



### a typical pile wall:



the ground at intervals to miss the sensitive areas and placing planks on the uphill (loaded) side of the piles. Driving piles to form a continuous wall is often used on riverbanks where vertical excavation is not a problem but excavation back into the slope is to be avoided.

## Timber sleeper retaining walls:

Timber sleepers or old timber piles from ports are durable and impervious due to the characteristics of the wood itself (e.g. “greenheart”) or because of the preservative processes used in their manufacture (e.g. pressure impregnated with creosote). With proper foundations and fixing these materials can be re-used to form low retaining walls of attractive appearance where significant loading is unlikely.

## Soil nailing

Soil nailing and benching are engineering works involving tying back the outer face of a wall or slope into stable ground behind. This work should be designed and supervised by a chartered civil engineer.

Reasons for planting are varied: they may be commercial (timber, biomass [fuel] or food production); the landscape may dictate the need for planting (for example for the amenity of residents, screening either visually, or for wind/noise or to enhance the landscape character); there may be nature conservation reasons for planting such as habitat creation/restoration or to connect existing habitats; it may be a reinstatement of an historic landscape pattern/design or as commemorative planting. Consider existing landscape character and its conservation through the retention of key features, for example water bodies, woodland and hedges. (See LDG1.6)

## Planting Layout & Design

Planting consists of many possibilities from habitat creation to ornamental gardens, woodland to avenues of trees, manicured lawns to wildflower meadows. Good planting design depends on a clear understanding of design objectives, plant characteristics, site constraints and management resources (see LDG 2.1). Integration of new development with the existing landscape can best be achieved through planting that respects the local landscape character and the specific site conditions. Look at good examples of plant combinations near your site - which species are present, how they are grouped, and how they relate to site conditions for example poor drainage or local stone outcrops? With new planting, think about:

### Screening:

Can the design of the new development be improved so that screening is not necessary? If not, what height screening is required (is a tall hedge sufficient, or is a tree and shrub belt necessary)? Is screening required to be continuous, intermittent, strategic, all year round and would dense screen planting look intrusive? (it may be sufficient simply to break

up the outline of a large building/filter views rather than provide dense screening.)

### Effect:

Will planting make a new landmark? Will it create or emphasise a vista, seize attention or add colour, texture, form and scent?

### Aesthetics:

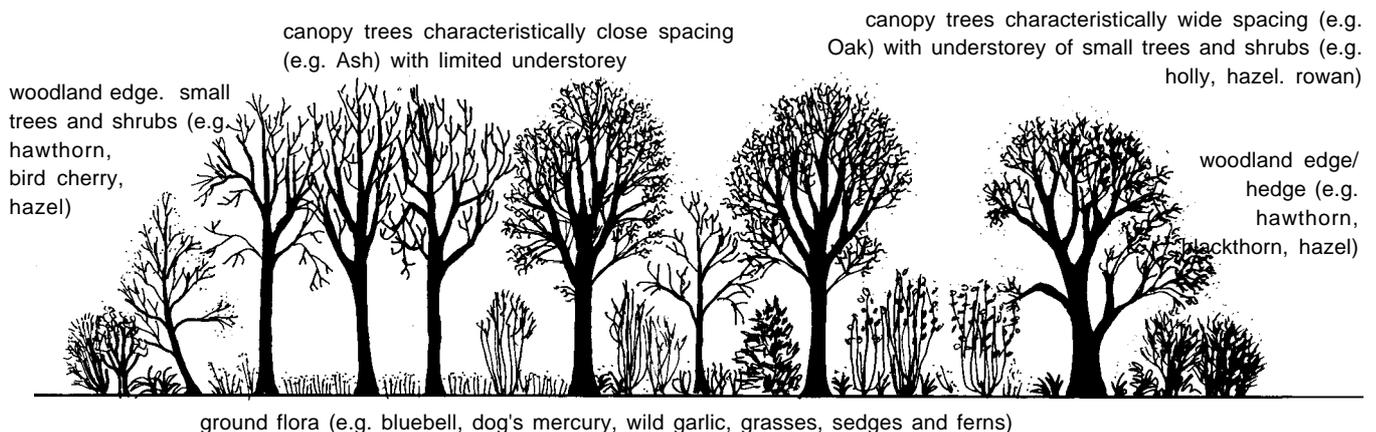
What design style is appropriate? What form or style is required, and will this be achieved by choice of plant species or by future management? How does the planting relate to the style of the proposed development and to the surrounding landscape context? Formal landscape schemes may demand plants of predictable habit, for example cloned trees of neat form for a formal avenue; whereas if the landscape objective is habitat creation and there is a natural seed bank (for example in a woodland glade) natural regeneration may be more appropriate than planting.

### Wildlife interest:

Could the planting design benefit wildlife?

## New woodland: plant communities

Use of local native plant species will provide food and habitat for native wildlife. 'Natural' vegetation is made up of plant communities of different species and ages. Reflect this complexity in the design and management of new habitats, for example when creating a new woodland, consider planting canopy tree species, shrub understorey and edges, and woodland ground flora. Plant similar species in groups that mimic local natural grouping and spacing.



**Different plants appreciate different conditions. LDG1.6 highlights the importance of landscape character assessment which can be used to identify key features which give an area its "sense of place". Acknowledging the characteristics of the site and choosing plants appropriate to local conditions will achieve better establishment and growth and will also help reinforce local distinctiveness. This helps remove the need for peat - an environmentally unsustainable product.**

Acid-loving plants such as azalea or camellia species will thrive on the gritstone of the Upland Plateau and Dales Fringes west of Harrogate and Masham, but will struggle in alkaline soils of the Limestone Ridge running through Ripon and Knaresborough even with intensive care (*plants for different areas of Harrogate District are listed on Hedges, Woodlands, Climbers and Ornamental Shrubs & Groundcover sheets*).

Plants which require warm, dry soils will thrive on the Limestone Ridge, on the sandstone cap of Harlow Hill and on the sandy areas within the Vale of York, but will drown in the waterlogged clay soils of part of the Vale of York and the Gritstone Plateau of the western District.

Some plants have specific sunshine or shade requirements, other plants are not so fussy.

## Context:

How will the planting proposals relate to the context? Can the planting design make links with existing vegetation or echo patterns in the local landscape? (e.g. extend planting to join up to neighbouring hedgerows, create new woodland features that fit in with the distribution of woodlands locally, plant along drainage systems within the site to reflect nearby streamside shrub and tree cover)

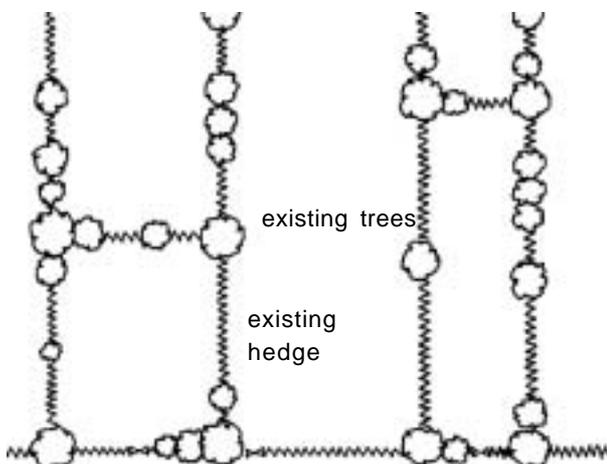


A shelter belt around farmstead on Grassland Plateau.

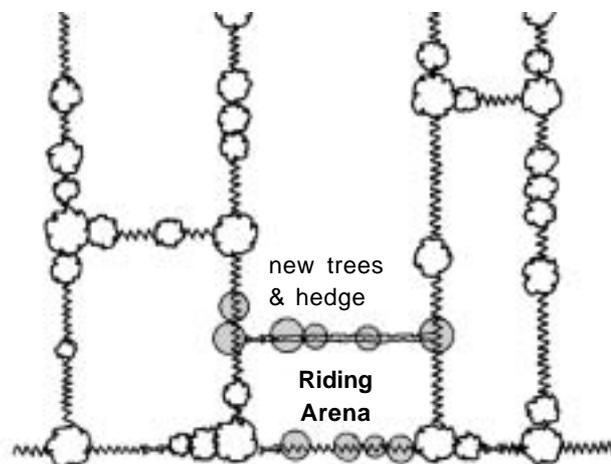
## Local distinctiveness:

Does the planting design, species choice and layout respect local landscape characteristics? Will it enhance local distinctiveness, help create a sense of place? (e.g. linear narrow shelter belts of Scots Pine and Oak are characteristic around farmsteads on the upland plateaux of Harrogate District, whilst around farmsteads in the Vale of York clumps of Ash trees are more typical).

In settlements, different planting styles reflect different urban character areas (e.g. tall deciduous and evergreen trees underplanted with large dense evergreen shrubs and small ornamental trees are typical of the Duchy area in Harrogate whereas fruit trees and mixed hedges are typical of Moor Monkton.)



Existing rectilinear field pattern defined by hedges with occasional trees.



New hedge and tree planting around new riding arena, designed to respect the existing landscape pattern.

Planting design is a four-dimensional "artform" which has to include provision for change over time: design for growth, seasonal variation, maintenance and long term management.

Think about:

## Winter effects of leaf-loss on screening:



High maintenance pollarding to control canopy size.

use evergreens strategically in the mix or provide wider planting belts of densely twigged species to achieve winter screening.

## Summer effects of shading:

To reduce shading - use lighter foliated species, consider management techniques of coppicing or pollarding, increase spacing of denser canopied trees to allow light to reach the ground between, or arrange trees and shrubs to create open glades and rides.

## Room for growth:

Leave plenty of space for planting to mature (although site constraints will naturally limit canopy growth, allow room for trunks to expand in girth and crowns to develop).

## Timescale for effect:

Large plants such as semi-mature trees produce a quick effect at high initial cost; some species are very fast growing in early years (e.g. willow, eucalyptus, alder, periwinkle, Mile-a-minute vine) but may cause management problems later; smaller plant material will establish more easily than larger plants but takes several years to be effective.

## Efficient and safe management:

Design to prevent maintenance and management problems ( e.g. plants which require high maintenance should be easily accessible); avoid creating awkward shaped, narrow, small or pointed beds especially in areas of hard surfacing; reduce the need for thinning by planting at ultimate spacing; avoid the need for pruning or tree surgery works by choosing species which are the right size for their situation<sup>1</sup>.

## Light-foliaged trees

Acer saccharinum	Silver Maple
Betula pendula	Silver Birch
Betula pubescens	Downy Birch
Betula utilis var. jacquemontii	Himalayan Birch
Cercidiphyllum japonicum	Katsura tree
Eucalyptus niphophila	Snow Gum
Fraxinus americana	White Ash
Fraxinus angustifolia	Narrow-leaved Ash
Fraxinus excelsior	Ash
Fraxinus ornus	Manna Ash
Liquidamber styraciflua	Sweet Gum
Populus tremula	Aspen
Prunus subhirtella 'Autumnalis'	Rosebud Cherry
Robinia pseudoacacia	False Acacia
Sorbus aucuparia	Rowan
Tilia cordata 'Greenspire'	Small-leaved Lime
Tilia x euchlora	Lime
Tilia x europaea	Common Lime

Construction Design and Management Regulations (1997) require safe working practices

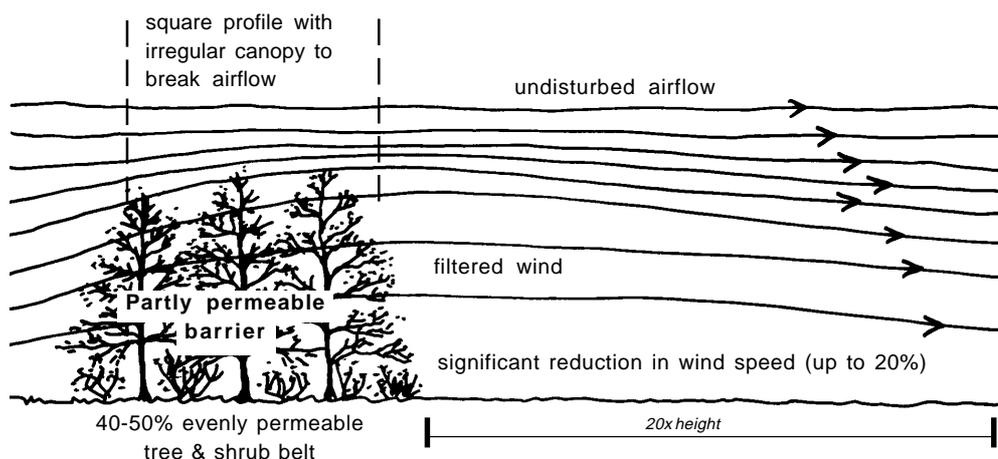
# Shelter Belt & Tree Screen Planting

For maximum effect the length of a shelter belt should be at least 12x its height where the wind is expected to strike the belt at right angles and 24x its height to allow for variations in wind direction of up to +/- 45° from right angle<sup>2</sup>.

- combine tree and shrub species to provide cover at low and high level.
- make provision for thinning/removal of nurse species.
- use fast-growing species, e.g. alder, ash, Scots pine, shrub willow, for quick effect and to act as a nurse crop for slower-growing species.
- use slower-growing species (usually longer lived) for a long term contribution to the landscape e.g. oak, holly, yew.

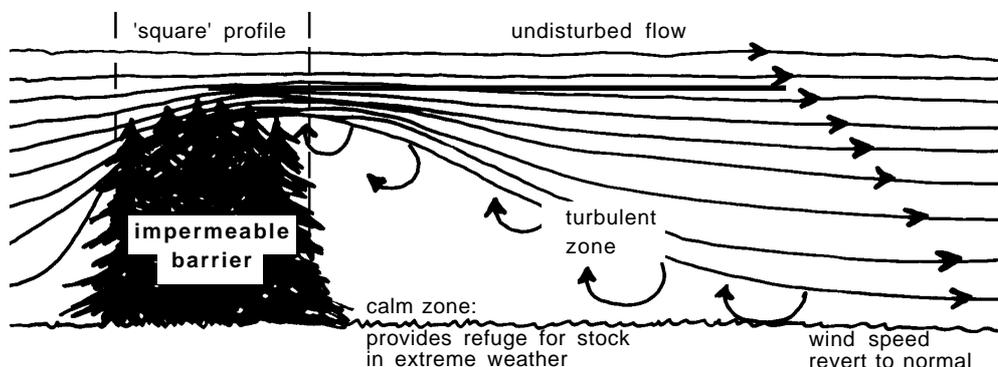
## Permeable tree belts

Planting belts that are 40-50% permeable and square in profile allow the wind to filter through, reducing wind speed by up to 20% over a distance of around 20x the height of the belt.



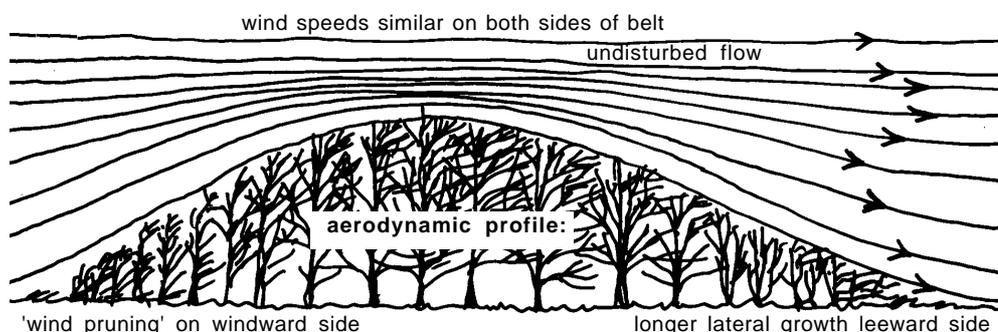
## Dense tree belts

Very dense tree belts e.g. Leyland cypress cause the wind to rise up over the belt with a limited calm zone immediately leeward of the belt; however as the wind descends it creates a turbulent zone which can damage crops.



## Aerodynamic tree belts

Tree belts designed with aerodynamic profiles allow the wind to pass smoothly over the top and return to ground level without slowing wind speed.



- 10 metre wide tree and shrub belts can create noise reduction of 3 dbA (a noticeable reduction in noise).
- shrubby species planted to form as "edge" should be planted at close spacing e.g. 0.5 metre or 1 metre centres; tree species within belt require wider spacing e.g. 1.5 - 3 metre centres (depending on species, interspersed with shrub species).
- screen planting can reduce energy costs in buildings.

<sup>2</sup> Barnett, P. (1989) *Trees for shelter on the lowland farm*. MAFF (ADAS) publication P3187

The use of structure planting is a common mitigation measure for new development. Its purpose should be to integrate the development with the surrounding landscape. As such it must be recognised that structure planting may not always be appropriate in areas where woodland, trees and hedgerows are not key characteristics of the landscape. Existing landscape character is an important consideration and key features, for example water bodies, should be retained.

The purpose of structure planting could include:

- to provide a buffer between incompatible uses
- screening and separating large buildings
- integrating large structures into their surroundings
- framing a view
- complementing and integrating building form and styles
- creation of woodland environment

## Structure planting design

The principles of design are outlined in LDG2.1 Landscape Design for Development sites. Ideally the landscape structure of a site should be designed at the outset when planning a development. In order to integrate the site into its surroundings the existing landscape pattern of the area must be respected. Therefore in areas where woodland is a key characteristic of the landscape structure planting may take the form of woodland planting. In other areas hedges may be characteristic and structure planting may take the form of hedgerow planting with trees.



Structure planting

Scale is an important consideration when considering structure planting. Larger buildings require planting in context with their scale in the landscape. Often, limiting planting to the confines of the development site is not adequate. Where possible opportunities for structure planting beyond the confines of the site should be investigated. E.g. Melmerby Industrial Estate where planting blocks have been introduced to the surrounding farm land to enhance the existing woodland structure and balance the relationship of large buildings with the landscape.

The structure within a planting and the species chosen will depend upon the purpose of the planting as well as the canopy structure ultimately required, the soil and climatic conditions, species growing successfully in the locality (see LDG8.1 to LDG8.4 for guidance on this) and the level of future management.

Structure planting may vary from **high canopy wood** resulting, overtime in the creation of a high canopy dominated by species such as oak (*Quercus robur*) and ash (*Fraxinus excelsior*) with one or two understory canopy layers possibly including tree species such as birch (*Betula pendula*) and gean (*Prunus avium*) and shrub species such as hazel (*Coryllus avellana*) and holly (*Ilex aquifolium*) to **thicket scrub** where thorny species such as hawthorn (*Crateagus monogyna*) and blackthorn (*Prunus spinosa*) dominate.

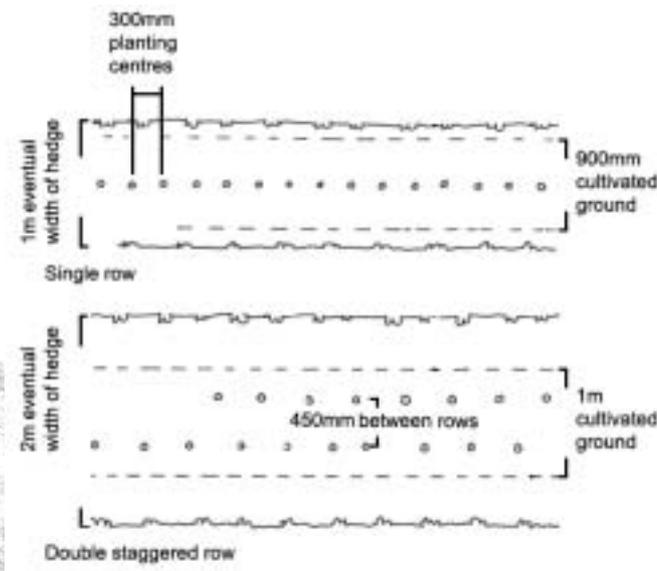
Possible types of structure planting include:

- High Canopy Woodland
- Low canopy woodland
- Woodland scrub
- Thicket scrub
- High Scrub
- Edges
- Perimeter hedging
- Avenue planting

Species mix will vary for each type of planting. Therefore need to be sure of the required end result at the time of planting.

The arrangement of structure planting in the landscape setting of a development is important to ensure that the landscape character of the area is respected, protected and, where appropriate, enhanced or restored.

- Use shrub species to provide cover at low and medium level.
- Some tree species can be managed as shrubs within the hedge e.g. crab apple, field maple.
- Include trees to provide variation in height along the hedge, if appropriate.
- Traditional management techniques include coppicing, laying (which involve loss of screening for a few years on a cyclical basis) and trimming (over-zealous trimming can result in loss of thickness at the base and die-back of individual plants).
- Spacing varies according to species, purpose and budget: typical hedge spacings include: *a single row of transplants at 300mm centres where space is limited; a double staggered row at 450-600mm centres for a robust stockproof fence; 3 or 4 rows, staggered, at 1 metre centres for a tall and broad screen.*



For most schemes, planting design is best carried out by a landscape architect or skilled garden designer.

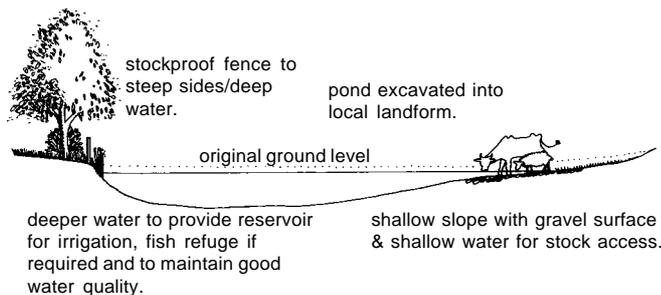
For guidance on species choice, see Hedges, Woodlands, Climbers and Ornamental Shrubs & Groundcover guidance sheets. Don't forget protection against pests! (see also *Planting Protection guidance sheet*).

Ponds have provided water for drinking, washing, fish farming, stock watering, milling and industry. The use of water as ornament was an essential element in early designed landscapes as demonstrated at Studley Royal Water Gardens. It must be recognised that ponds are not appropriate in all situations and local landscape character must be considered. Careful design helps ensure that a new pond will fit into its landscape context:

- Look at the local area to see where ponds are normally found, and choose a location for your new pond that respects this pattern (e.g. in the bottom of a small valley rather than halfway up the slope).
- Make sure that the new pond does not cause the loss of other features of landscape value e.g. trees, marsh of local nature conservation interest, hedges, species-rich grassland.
- Investigate the local soil and geology to help decide on the type of pond (e.g. groundwater, puddled, lined)
- Design the edging, paths, and planting to fit the location: weeping willows and boulders will look very suburban and ornamental in a rural context
- Think about earthworks - where will the excavated material go? Bunds around ponds usually look artificial and alien, so try to minimise their height and slacken side slopes to match local natural gradients.

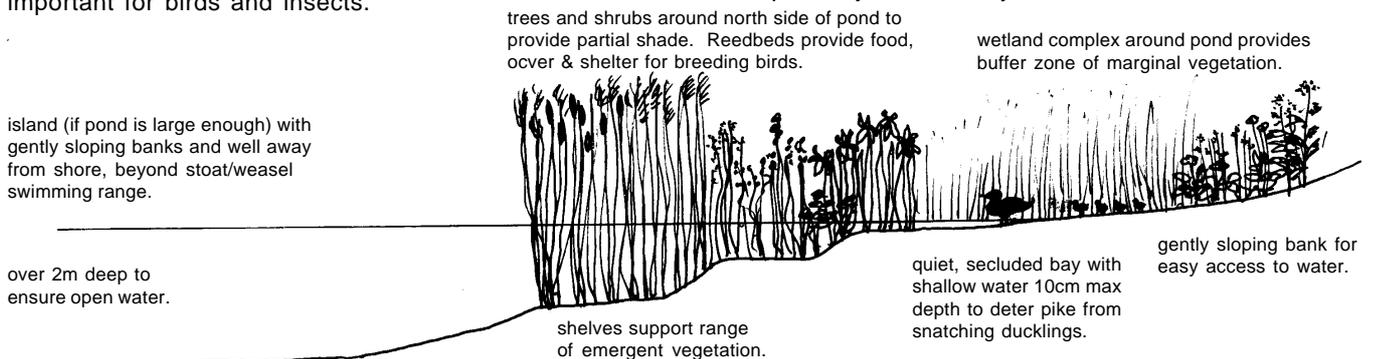
## Stock watering ponds

These may be designed to allow livestock direct access to the water's edge to drink, or may simply provide a reservoir to supply water to field troughs.

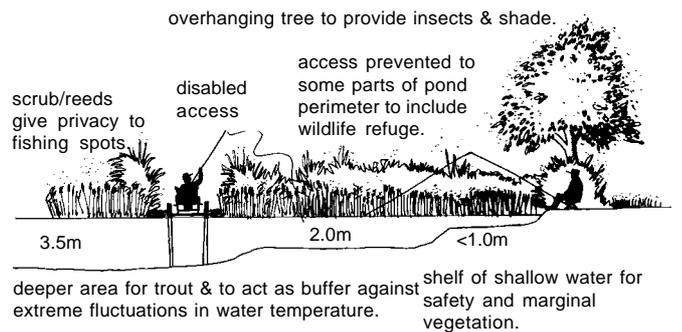


## Wildlife ponds

Wildlife ponds help increase habitat diversity and are important for birds and insects.



## Recreational fishing ponds



These can also have wildlife and amenity benefits. Good fishing pond design includes safe access to the water for all visitors and a sense of peace and seclusion.

Ornamental ponds range from "water features" of public parks and private gardens to the naturalistic lakes designed as "meandering rivers" of Lancelot 'Capability' Brown. These ponds benefit from a careful assessment of the landscape context.

## Safety

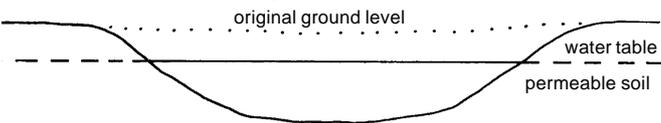
You are responsible for the safety of people entering your land even if they are uninvited or trespassing. Design solutions that demonstrate a responsible approach to safety include:

- sensible fencing of steep slopes or banks which will protect livestock as well as people - agricultural post and wire will prevent someone falling in accidentally
- shallow slopes so that if someone falls in the water they can walk out
- simple "deep water" signs fixed to the fence if the pond is very deep and steep
- lifesaving equipment such as rope-and-float where required by water safety risk assessment.

# Pond Construction

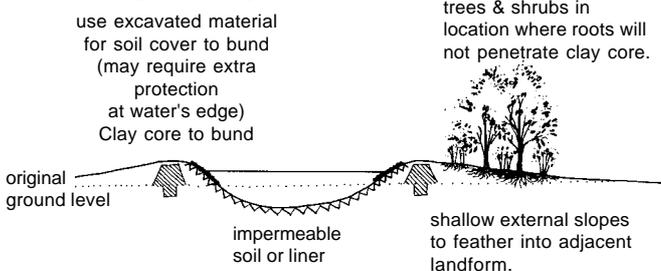
Groundwater ponds are simply excavations down to the natural water table. The groundwater level seasonally fluctuates and can disappear in drought conditions. Abstraction of groundwater locally can also affect the water level. Check with the Environment Agency's Groundwater Team on 01904 692296 for details of abstraction licenses in your area, and for any restrictions (e.g. groundwater sensitive areas).

## Section: Groundwater pond



Impounded ponds rely on raising banks or bunds to hold back or contain water above normal ground level. If a dam has to be built it must be properly designed and constructed under the supervision of a chartered civil engineer.

## Section: Impounded pond

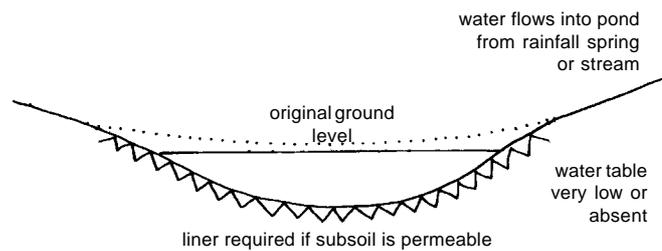


Puddle clay has been used for centuries to line ponds. In areas of clay deposits, this can be a cheap and practical solution. Puddling involves spreading and smearing damp malleable clay over the base and sides of the pond so that it forms an impervious layer. If the clay is allowed to dry out it will crack and lose water. Planting around puddled ponds can cause problems from vigorous roots penetrating the clay layer to create leaks.

## Modern lining solutions:

- PVC or butyl rubber liners: large sheets of waterproof material that can be draped over the base and sides of the pond (butyl is more expensive but lasts longer - up to 50 years)
- sodium bentonite: a manufactured powdered clay which expands when wet, forming an impermeable layer; if the layer is disrupted water will reach granules not previously exposed to water which will then expand and seal the leak (useful for large schemes but expensive, and liable to crack if allowed to dry out).
- high density bentonite and geotextiles (Rawmat) useful in vandal-prone areas.

## Section: Lined pond



# Requirements and Responsibilities

The local planning authority requires prior notification of proposed stock watering ponds or fish farming on agricultural holdings (dependant upon the size of the holding and the size of the proposed pond) and may ask for additional details.

Planning permission is required for the construction of any other new ponds - for example, ponds designed solely to benefit wildlife are not agricultural and therefore planning permission is required. However, stock watering ponds that incidentally benefit wildlife remain prior notification proposals. Contact Planning Enquiries for the appropriate form (tel: 01423 556666).

The Environment Agency need to be consulted if the pond is fed from or discharges into a watercourse. Contact their Environment Protection Team on 01904 692296 for further information.

The Reservoirs Act 1975 sets out requirements for reservoirs. The owner of any reservoir in excess of 25,000 cu.m above adjacent ground level is obliged under the Act to provide for the inspection of the reservoir structure(s) by relevant Panel engineers in the interests of public safety.

The case of Rylands v. Fletcher established in law the principle that if you keep something on your land that escapes and causes damage to another person's property, you are liable for the damage. This applies to water stored in ponds.

## Further reading

Ponds and conservation: a guide to pond restoration, creation and management (1997) Environment Agency.

Waterways and Wetlands - a practical handbook (1990) British Trust for Conservation Volunteers.

There are many different types of grassland each with their own character, from the manicured green carpet of golf greens to the semi-natural grasslands designated as SSSIs or SINCs for their nature conservation value. Whatever the type of grassland it requires some form of management to maintain the characteristics which enable it to serve its purpose. This guidance sheet looks at the different types of grass sward which may be created for different uses.

## Introduction

The design of grass areas makes an important contribution to the character of any development. It is the combination of grass, trees and shrubs and the species chosen which provide the 'soft' element of any landscape scheme and which contributes to the 'sense of place' created and the aesthetic use of space. When creating a grass sward its purpose must be known from the outset so that the appropriate species mix can be used. Sports pitches require species which are hard wearing, putting greens species which will create a smooth carpet and meadows (for biodiversity) grass species which will not compete with wildflower species. Each type of grass sward will also require different management regimes to achieve their purpose.



Domestic lawn grass

## Creating the right grass sward for your purpose

### Amenity Grass areas

Amenity grass areas cover a broad range of grassland types from sports pitches to informal spaces small and large. They are areas which are generally mown regularly throughout the growing season and are used for play by locals and visitors. They therefore need to withstand trampling. There are mixes available for different qualities of surface for different uses, for example on bowling greens finer grass is needed. The amount of maintenance required will be another factor determining the choice of species mix. Fast growing species require more regular cutting during the growing season.

To create amenity grass areas an appropriate seed mix may be sown during spring (March, April, May) or late summer (August, September). Alternatively, for instant effect grass turf could be laid. This is more expensive and generally only a practical solution for small areas, for example garden lawns. In both cases ground preparation is important and watering during establishment is vital when laying turf and often helpful when establishing amenity grass areas.

### Meadow and wildflower areas

Meadow and wildflower mixes are often used to reintroduce biodiversity to grasslands. Meadows can attract a variety of insects and birds and for larger developments and roadside verges the opportunity may exist to create a meadow and wildflower mix. The use of these mixes also adds colour and reduces the management needs of grassed areas. (Generally only one or two cuts are required annually.)

It is the annuals in wildflower meadows which often provide the colour and the seeds of these need disturbed ground to germinate. Therefore where annuals are an important part of the species mix the sward should be harrowed in spring to encourage germination.

Wildflower meadows also require low fertility soils so grass cuttings should be removed from the site two weeks after cutting (the delay allows the cut material to set seed so maintaining the meadow's seed base).



Sports pitch turf being laid.

Where the proposed meadow is already a grassed area it should be assessed to determine whether or not a change in management could achieve a meadow from the existing grass (rather than immediately cultivating and re-sowing with the required mix). Sometimes this can be achieved by simply planting wildflowers amongst the grass.

If the only option is to start from scratch there are seed mixes available from a variety of sources. However, where habitat creation is the objective it is best to create a mix specifically for the site concerned, looking at species which already exist in the area and those which grow on similar sites in similar conditions.



In general for wildflower meadows the (dry weight) mix should contain 80% grass species and 20% wildflower species. Different species will prevail in different conditions e.g. wetland meadow, woodland clearing, sandy soils, etc.

Sowing rates for meadow and wild flower areas are low at about 5 grams per metre square. The ground should have low fertility to avoid competition with the grasses. Where the topsoil is rich and fertile it should be removed if a wild flower grass mix is the desired result.

Opportunities to mix wildflower and amenity mixes should be sought where appropriate. For example the edges of areas of amenity grass could be left unmown and wildflower species introduced to increase diversity and provide habitats of insects and birds.

## Grass car parks

In the countryside and on the urban fringe where car parking is required, reinforced grass systems are used with varying degrees of success. In the past 'grasscrete' was the only option in which more than 50% of the surface is covered in concrete and the remaining grass area is often bare ground with very little grass in evidence. The options for construction have moved on and there are several geo-textile alternatives to grasscrete which allow for a much greater covering of grass - as well as more aesthetically pleasing 'hard' options to grasscrete. The choice of hard-wearing grass species in such situations is important and where areas are in heavy use successful establishment of the grass sward remains limited.

The option of using such 'green' systems for parking areas is not just for 'aesthetic' reasons: grass car parks are permeable, therefore they reduce run off and contribute to sustainable drainage.

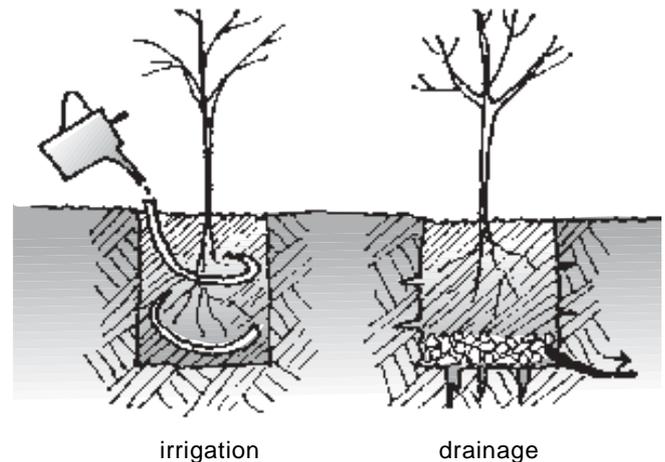
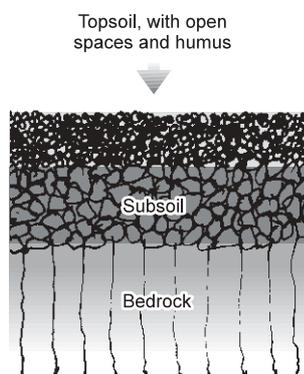


'Grasscrete'.

Healthy topsoil should contain humus (organic matter), generally few stones (of small size) and have good soil structure (crumbly to touch). The successful establishment and growth of healthy plants depends on the quality of the soil and on the work of the many organisms and micro-organisms that live in topsoil. These organisms need air and water to survive: soil compaction kills.

Subsoil is material altered by weathering from the parent geology (bedrock), providing a structured and porous, rootable material generally with little or no organic material. Where soil requires improvement use green waste products, NOT peat which is unsustainable.

Good quality topsoil is a precious, living resource that takes many years to develop: **value it!**



Some soils are rich in nutrients e.g. loam, whilst others are nutrient-poor e.g. sandy soils. Different plants have different nutrient requirements: food crops and some ornamental plants e.g. roses tend to require high nutrient input whilst native wildflower-grassland habitat creation requires a low nutrient level (on development sites, subsoil or poor quality topsoil is appropriate for habitat creation). Test the soil to find out if fertilizers are required.

The water retention capacity of soils varies widely depending on the soil itself and the subsoil/bedrock. Sensible design and plant choice should reflect soil water characteristics, for example planting drought-tolerant species on sandy soils or plants capable of withstanding occasional waterlogging on clay soils.

Long-term irrigation is not a sustainable approach; however, **irrigation** may be required for new plants until the root systems are sufficiently established: this may best be achieved through sub-surface porous pipes.

**Drainage** of individual planting pits or of areas (lawns, playing fields) may be necessary, but can be minimised by choosing species that are adapted to the local site constraints.

## Acid or alkaline?

Many plants tolerate a wide range of soil pH and are generally more particular about soil moisture and fertility (which are usually closely linked to pH).

Alkaline soils overlay permeable chalk or limestone and tend to be free-draining and "light" in terms of texture. Alkaline soils are usually fertile although some plants are unable to take up specific trace elements and may then become chlorotic (severe yellowing of leaves) on very alkaline soils e.g. *Chaenomeles* (flowering quince). Alkaline soils are found on the ridge of Magnesian Limestone running north-south through Harrogate District through Ripon, Knaresborough and Kirk Deighton.

Acid soils are usually very infertile and range from very poorly drained (over impermeable gritstone) to heavy (clay) to very free-draining (sands and gravels with the additional problem that dissolved soil nutrients leach out through the sand).

Certain plant families demand acid conditions (e.g. *Ericaceous* or heath family, *Rhododendron*, *Camellia*, *Magnolia*) whilst other plant families have species that do best on acid soils e.g. although many species of the *Acer* (maple) family will grow anywhere, certain Japanese maples e.g. *Acer palmatum* only thrive on acid soils. Acid soils are found across the gritstone uplands that cover the western half of Harrogate District, and over pockets of sands and gravels in the Vale of York.

# Ground Preparation & Planting Procedure

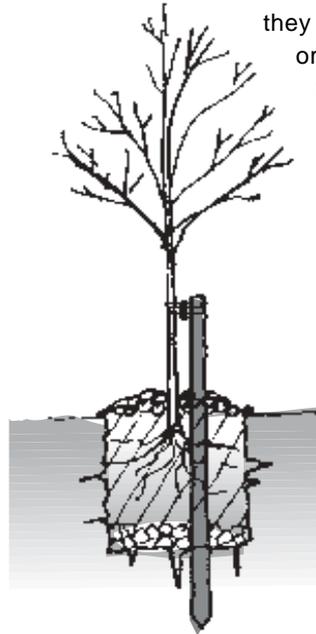
**Good ground preparation is essential for plant establishment and growth. Soil should have good crumb structure, to allow water and air to penetrate through to the root system. Protect the soil to avoid:**

- compaction
- waterlogging
- contamination (see *Development with Trees guidance sheet*)

Cultivate the planting area by ploughing, rotovating or hand digging to relieve any compaction and promote good drainage; if possible, leave for a fallow period then kill weed growth.

Dig pits to a size larger than root-ball or root-spread, breaking up sides and base of pit for drainage. Save any excavated soil and mix with required ameliorants such as compost, grit, fertilizer or water-retention polymers.

Drive stake into firm ground through base of pit: stake height above ground to be one-third the total height of the tree (untreated timber is appropriate for stakes since



they are only usually required for 1 or 2 years). Add drainage layer (stones, gravel) if necessary.

Plant tree in centre of pit in an upright position, spreading bare roots; ensure original soil mark is at finished ground level. Backfill with topsoil (and ameliorants if used), gently firming in layers.

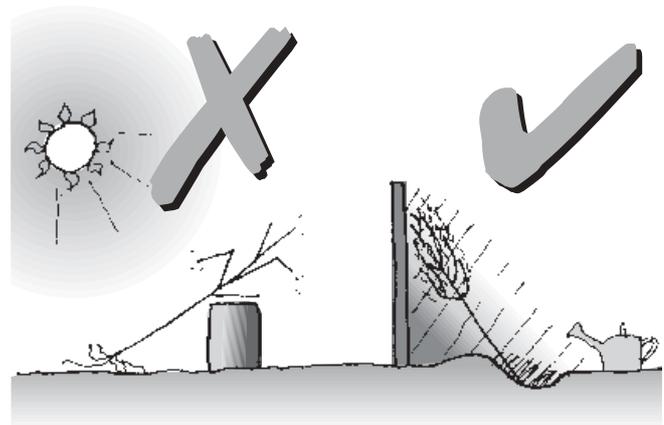
Water well, then top with mulch. Fasten tree to stake using tree tie with spacer, fixed a thumb's width below the top of the stake.

**Plants are most vulnerable between lifting and planting. To minimise the risks:**

- keep period between lifting and planting as short as possible;
- protect roots from drying out by wrapping in polythene, sacking or moist straw, or by 'heeling-in' (temporarily planting in earth trenches);
- protect branches and stems from breaking by wrapping, transporting and storing carefully;
- keep sheltered from hot sun, strong winds, waterlogging and frost;
- don't forget to water!

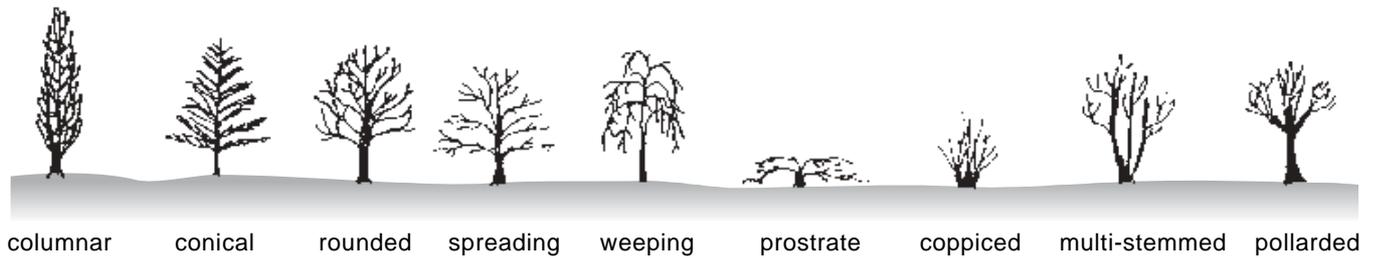
Plants should be handled and planted in accordance with 'Handling and establishing landscape plants' available from the Horticultural Trades Association.

Container-grown plants may be planted throughout the year, but bare-root plants should only be planted during the dormant season after leaves have fallen and before new buds break (generally end of November to end of March, but season may be shortened by an early Spring). Plants establish best in warm soil, and should never be planted when the ground is waterlogged or frozen - for best results, plant before Christmas.



On new development sites, consider planting in advance of the main construction phase, to give the plants a head start - but ensure they are adequately protected from damage by construction traffic (see *Development with Trees guidance sheet*).

Different plants exhibit different forms, either through selective breeding or through management:



## Individual plant costs:

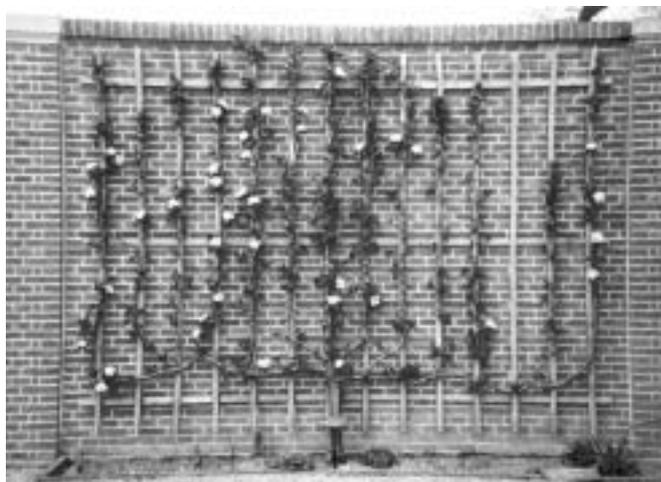
These vary according to their species, size and production method. In general, a small native broad-leaved bare-root transplant will cost about the same price as a Mars bar; a 2 litre pot-grown ornamental plant of height/spread 450-600mm will cost about the same price as fish and chips; a standard ornamental tree will cost about the same price as a popular hard-back book; a semi-mature tree can cost several hundred pounds.

## Site preparation:

Allow for good ground preparation, skilled landscape contractors and generous establishment/early maintenance: the first 3 years are critical to successful planting.

## Resources for future management:

Assess available resources in terms of skills, responsibilities and costs; be aware of long-term implications such as plant replacements, thinning, pollarding, coppicing, training and trimming.



espalier

## Plant types, sizes & forms

Plants are prepared for planting in different ways, depending on age, species and time of year that planting is proposed:

### Evergreens

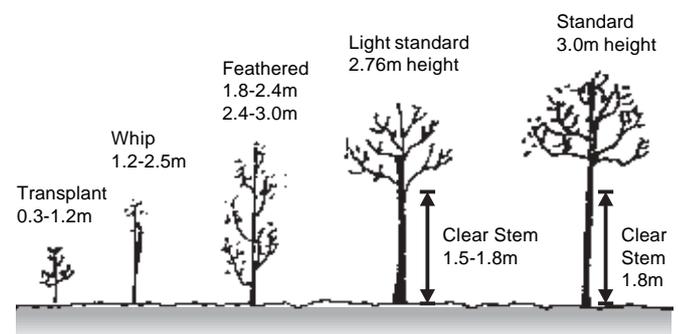
Should always be bought as container-grown (i.e. grown in a pot).

### Deciduous plants

May be bare-root (also known as open-ground, meaning dug from the field with soil removed), root balled (a ball of roots and soil, often wrapped for protection) or container-grown.

Trees and shrubs should be described on planning applications in terms of their species, size and preparation for planting. Latin names (including the variety) are required to identify plants on planning applications, since these are specific.

Names, forms and dimensions of trees and plants are set out in BS 3936 and for semi-mature trees, in BS 4043; tree sizes are summarised in the diagram below.

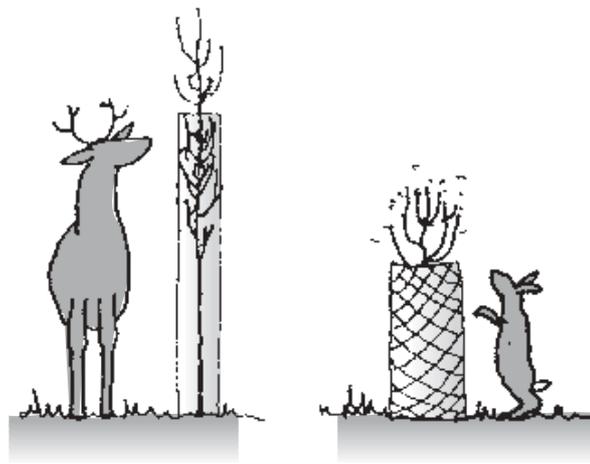
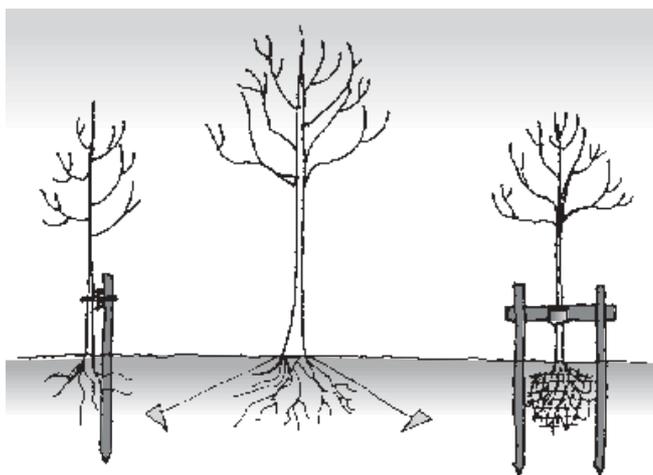


**Plants need protection against the weather, animals, pests and diseases, and people!**

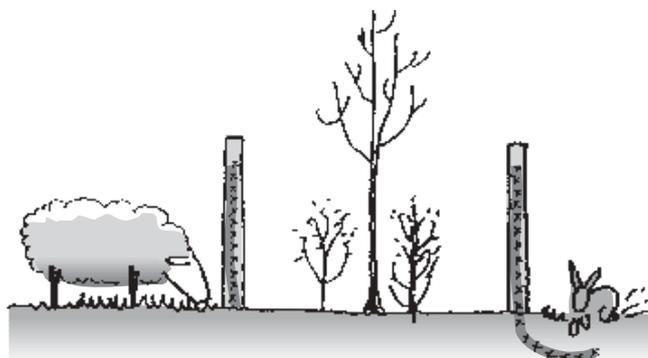
## Weather

Until the root-system grows enough to anchor the plant, it is susceptible to wind-rock, which damages the roots and can blow the plant over. Stake trees and large shrubs against wind-rock during the first year, using stakes up to one-third total plant height for smaller plant material and guys or below-ground anchor systems for semi-mature trees.

In exposed locations, shelter fencing may be necessary: use hurdles, brushwood or plastic netting. Remember to remove stakes, ties and guards: usually at the beginning of the second growing season.



Protect planting areas and new hedges against sheep, cattle and horses with stock-proof fencing; add rabbit-proof mesh, dug in and turned out in the direction from which rabbits are expected (remember to remove rabbits from within the fenced area!).



## Animals

Wild and domestic animals can cause serious damage to plants, eating entire young plants, nibbling out leading shoots, breaking branches and stems by rubbing against them, or ring-barking the stem which kills the plant.

Tree-shelters may be helpful to protect young trees from deer, but should only be used in sheltered locations as they can be blown over, and tend to encourage lush growth which then suffers from wind damage as it emerges from the top of the shelter. Individual plants may be protected from rabbits by plastic guards (spiral for clear stem plants, wide cylinders of plastic mesh for bushy plants).

## Traffic

Protect plants from traffic by robust rails at a height visible to reversing drivers; prevent compaction in tree pits within paved areas by using below-ground lintel construction and reinforced pits (see Trees in Paving Areas sheet), or try sand-soil mixtures.

Planting prickly plants near paths will discourage trampling of the plant bed, but make sure that pedestrians are not inconvenienced! Sturdy stemmed trees are more difficult to snap, so frustrate the vandals by using larger plants with short stakes.

The planting process entails disruption for the plant which may be traumatic or even fatal. For many commercial planting schemes failure rates of 5% or even 10% are considered normal, but these can be reduced by investment in:

- good ground preparation
- sensible plant choice
- using good quality plants
- careful plant handling
- good maintenance during establishment.



New planting at Queen Court, Harrogate

For high-profile planting schemes such as street trees in town centres, plant failure rates must be minimised. Provision of high quality soil in large volume tree planting pits, efficient irrigation systems and substantial protection against vandalism for example by using large size plant material will all help achieve good quality planting schemes in the urban environment (See *Trees in Paving Areas guidance sheet*).

## The Early Years

Plants are most likely to fail during the first three years: allowance for 3 years maintenance during this establishment period is a sensible investment, and should include:

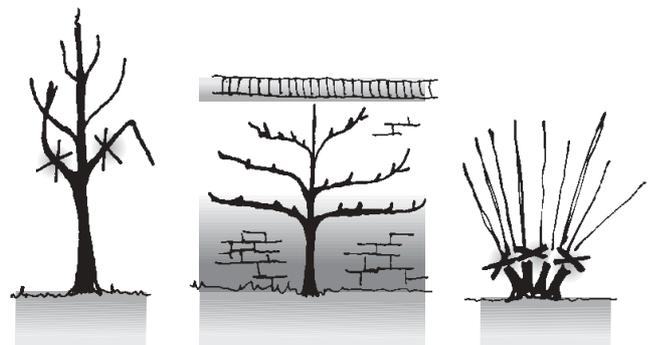
### Weed control:

Keep the ground weed-free to reduce competition for the young plants, achieve good establishment and keep the site tidy.

### Pruning:

Remove dead or damaged branches and crossing branches to promote healthy growth; some plants require pruning to encourage flower/fruit production or to train in shape; coppice or layer to promote bushy growth in hedges; coppicing and pollarding are specific traditional pruning methods in woodland management.

Timing of pruning operations varies according to the species: check with a specialist if in doubt.



Remove dead wood

Training: espalier

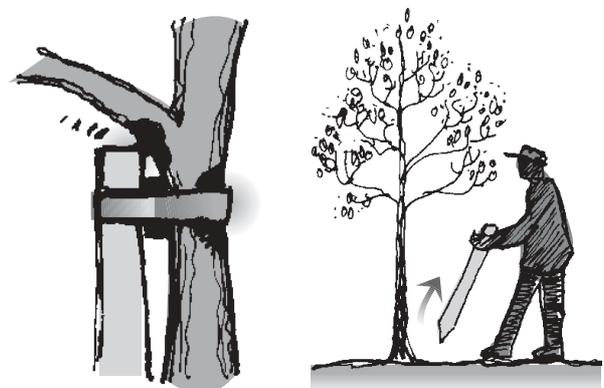
coppicing

### Failures:

Replacement of plant failures is usually necessary to achieve the designed planting scheme

### Stakes and ties:

check that stakes and ties are not chafing the stem, adjust as necessary and remove after the first year's growth.





- not using unsustainable products such as peat or water shed limestone
- using timber from approved FSC sustainable sources
- minimising the use of pesticides, fertilizer and water.

The Council's 'Biodiversity Design Guide' gives further advice on sustainability, particularly with reference to Agenda 21 and biodiversity conservation and restoration.

## Maintenance and Management

All landscape schemes require maintenance and management. For large schemes a plan will be needed detailing periodic maintenance/management activities and including a monitoring element to ensure and verify that the long term planting objectives are met.

'Maintenance' involves ensuring the status quo whereas 'management' allows for change over the years as the landscape matures. For example, a hedge may be *maintained* at a certain height by annual cutting whilst, in a new woodland, planting may be *managed* by thinning and/or coppicing as it grows to achieve the final objective of a diverse, mature semi-natural woodland.

Factors such as planting density, soil type, fertilizer and location will affect the management requirements of any planting, whether it be ornamental or native.

## Grass and Meadow

Management of grassland will depend upon its purpose: lawns and sports pitches require regular mowing during the growing season; meadows will require only one or two cuts annually depending on the species mix. (For further details see LDG6.7)

## Sustainable landscapes

The landscape is always changing as plants grow, flourish and die and season follows season. Gardens need maintenance and renewal but the amount of work can vary according to the design. High input maintenance items such as grass cutting can be designed out: creating a wildflower meadow only requires cutting twice a year and is more attractive to wildlife than a close-mown lawn that is cut once a week; some roses need little pruning (like the old shrub roses) and without dead-heading will produce attractive red hips.

Think about:

- the resources available for the initial work
- the resources available for maintenance
- alternative plants or designs that will be practical given the resources available
- alternative ways of getting the work done - have a "garden party" where all visitors bring a plant (chosen from an agreed plant list), or set up a volunteers gardening group



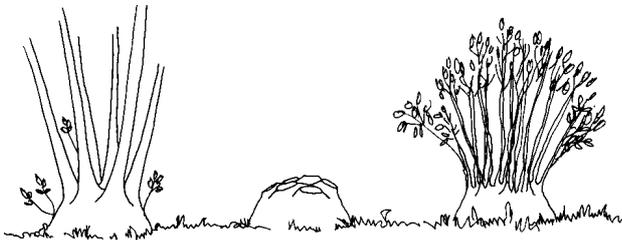
Hedges are an important component of landscape character, and provide essential habitat for birds, butterflies and other animals. However much they appear an integral part of the landscape hedges are not natural - if left unmanaged, individual hedge plants will grow to shade out neighbouring hedge plants to form a line of trees rather than a hedgerow. Hedgerow management needs to be considered as part of a planning application where the function of the hedge is an important part of the overall appearance of the development.

Traditional hedgerow management relies on the ability of hedge plants to make bushy growth when cut back. This has been exploited in coppicing and laying. Cutting hedges to the ground as part of normal good hedgerow management is exempt from the Hedgerow Regulations - but using these techniques in such a way as to cause the removal of a hedge (e.g. by coppicing at too frequent an interval to allow the hedge to recover) would require submission of a hedgerow removal notice to the local planning authority. Contact Planning Enquiries on 01423 556666 for further information.

## Coppicing

The practice of cutting bushes down to just above ground level is called *coppicing*, and is usually used for countryside hedgerows. Most native species used in hedges will respond to coppicing by sending out numerous new shoots from the coppice stool which make the plant much more bushy; the few species which do not coppice well include holly.

Cutting the plants down to ground level generally means that the hedge is no longer stock-proof. Young shoot re-growth needs to be protected from grazing by livestock, rabbits or deer with temporary fencing or by piling thorny branches over the top of the stool.



## Laying

This promotes bushy growth to create a stock-proof barrier and is often used for countryside hedgerows. Tall stems of hedge plants are cut near the base of the plant, almost all the way through the stem (leaving a strip of bark to connect the stem to the root) then bent over to lie horizontal. These stems, known as "pleachers" are held in place by vertical rods (or "stakes"). New shoots grow upwards from the horizontal pleachers, thickening the hedge and binding stems together to create a strong,



stock-proof barrier. However it is the regeneration from the stumps which is critical to the long term survival of the hedge, as this growth increases the density of the hedge and holds the pleachers in place until they rot away.

Different techniques have evolved in different areas, resulting in locally distinctive hedge laying: the traditional method in North Yorkshire uses sawn posts and rails to give the newly-laid hedge strength against stock; the Midland style lays stems down one above the other to create a palisade effect held firmly by split rods of sweet chestnut or oak; and in the South-West horizontal stems are woven in and out of vertical hazel rods driven into the ground to give a stock-proof barrier.



Hedge layers at work

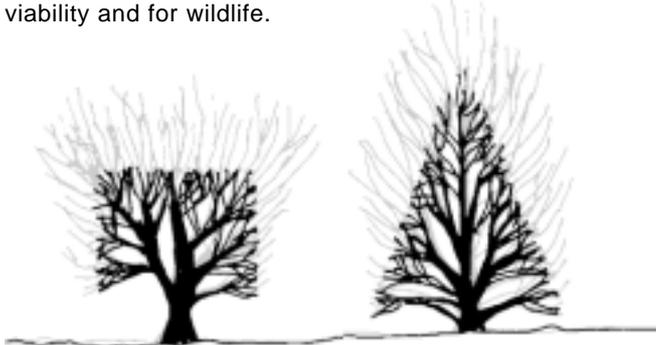
Even low hedges can be laid successfully to create a good dense hedge for the future. Older hedges should be coppiced rather than laid because pleachers can tend to snap off.



Yorkshire-style laid hedge.

# Trimming

Mechanical hedge trimmers are used widely. These can swiftly cut back encroaching branches and reduce the height of overgrown hedges, which is particularly useful in the control of vigorous coniferous species such as Leyland cypress. Native deciduous species tend to respond to cutting by producing numerous shoots at the point of cut: hedge trimming can promote faster growth at the tops and sides of hedges thus exacerbating the initial problem, and causing the plant to expend less energy at the base where gaps start to appear. "A" shaped and "topped A shaped" hedge trimming is best for hedge viability and for wildlife.



widening top, thin bottom from grown-out square

Good shape from grown-out "A".

Mechanical flails smash the branches to bits, leaving a shattered, ugly hedge prone to infection. Reciprocating bar cutters slice through branches, leaving a neater cut which has a better chance of healing without infection.



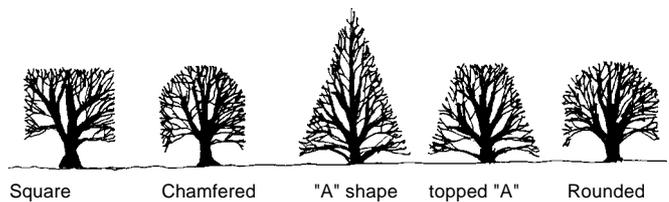
A Reciprocating bar cutter in action.



Regular trimming of ornamental hedges should mean that the branches and twigs to be trimmed do not become too thick and therefore are easier to cut and create less waste material. Uniform trimming of sides and top will create a tidy hedge of formal appearance, but there are other trimming styles, for example topiary trimming which aims to carve and encourage a recognisable shape from the hedge, and cloud trimming which creates a hedge of billowing form.

Different species require different trimming programmes: for example yew grows slowly so should only need trimming once a year, which should generally be carried out in August, whilst fast-growing species such as shrubby honeysuckle may need trimming two or three times during the growing season.

## Hedge trimming shapes:



Square

Chamfered

"A" shape

topped "A"

Rounded



Typical 'A' section hedge

## Timing

It is an offence to take, damage or destroy the nest of any wild bird while that nest is in use or being built (Wildlife and Countryside Act, 1981). Hedge management work should therefore be timed to avoid the nesting period: which in Harrogate District is generally February to July inclusive.

Taking care to avoid nesting birds, leave trimming of hedges as late as possible to keep berries available as bird food.

Hedge laying and coppicing is best undertaken when the plant is dormant (November-March). This combines to make November-January the best period for hedge management.

Harrogate District covers a wide range of growing conditions, from the thin acidic soils of the exposed upland moors to the well-drained alkaline loams of the Limestone ridge to the fertile but heavy clays of the low-lying Vale and the waterlogged soils of the floodplain. The landscape character of different areas is described at regional level in the Countryside Character Areas (CCA) and Natural Areas (NA) identified by the Countryside Agency and English Nature, and at local level in the *Harrogate District Landscape Appraisal (1993)* (See Guidance Sheet LDG1.6) For information about plant suppliers please contact the Landscape Architect in the Planning Division on 01423 556592.

Planting that respects the local landscape character and the specific site conditions (soil acidity, drainage, altitude) will fit in well with its surroundings. Plants of local provenance (that have been raised from local plants and grown locally) will be best adapted to the local conditions and will be better integrated with the local gene pool. Look at good examples of plant combinations near your site to see which species are present, how they are grouped, and how they relate to site conditions for example poor drainage or local stone outcrops.

Good design of new woodlands can integrate them into the landscape context and meet nature conservation and amenity objectives: the size and shape of plantations should follow the landform and reflect the landscape pattern. For further advice on woodland design, read 'Forest Landscape Design Guidelines' published by the Forestry Authority.

Plant lists in this section are grouped under different landscape character areas and sub-divided according to site conditions. The tables comprise:

- examples of woodlands of nature conservation interest under their names (e.g. Birkham Wood SSSI), excluding planted exotic species;
- National Vegetation Classification lists<sup>1</sup> of typical woodland communities, identified by community reference number and description (e.g. W8 Fraxinus excelsior-Acer campestre-Mercurialis perennis).

Botanical names rather than common names are given for precision; an index of botanical: common names is attached as a separate sheet. The dominance of each plant within the community is indicated in the plant list by typestyle.

These lists are a starting point from which to develop your own proposals. The NVC lists represent the total range of plants that may be found in each plant community to provide a 'menu' from which to select a range of plants. Since naturally occurring plant communities tend to be limited in species mixtures, it is not advisable to reproduce the longer plant lists in entirety for new planting schemes.



Coniferous woodland on valley side of River Crimple, Harrogate.

<sup>1</sup> Rodwell, J.S. (ed.) et al *British Plant Communities Volume I Woodlands and Scrub* (1991) Cambridge University Press: Cambridge.

# Woodland planting layout and design

Natural plant communities are a good model to follow for new woodland planting layout and design. Different plant species form characteristic groups and spacing, for example Ash (*Fraxinus excelsior*) tends to form close stands of average 3-7 trees in the group whilst Oak (*Quercus robur*) is often more widely spaced with fewer trees in the group.

Along the woodland edge shrubs are usually closely spaced taking advantage of the lighter conditions to form a dense hedge-like barrier, whilst within the shadier interior shrubs are more widely spaced. Holly (*Ilex aquifolium*) often appears singly or in small groups of say 1 to 3, whereas large groups of Hazel (*Corylus avellana*) say 5-15 are characteristic of many existing Oak coppice woodlands.

## Typical Planting Matrix for New Woodland Planting

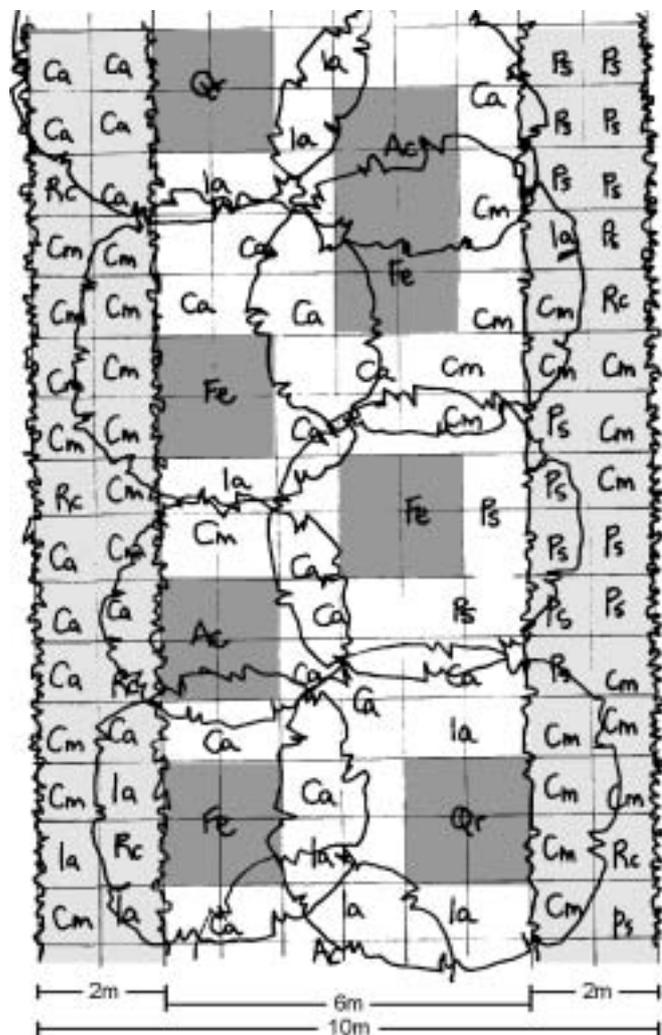
**Key:**

- Woodland Edge: 1 plant per m<sup>2</sup>
- Woodland Interior (trees): 1 plant per 4m<sup>2</sup>
- Woodland Interior (shrubs): 1 plant per 2m<sup>2</sup>

			No. in group
Ac	Acer campestre	Field Maple	1-3
Ca	Corylus avellana	Hazel	5-15
Cm	Crataegus monogyna	Hawthorn	5-11
Fe	Fraxinus excelsior	Ash	3-7
Ia	Ilex aquifolium	Holly	1-3
Ps	Prunus spinosa	Blackthorn	5-11
Qr	Quercus robur	Oak	3-5
Rc	Rosa canina	Dog Rose	1-3



Guisecliffe in Nidderdale.



# Gritstone Plateaux, Dales & Upper/Middle Valley (CCA21, NA8)



Significant areas of upland mixed ash woodland, small areas of upland oak woodland and wet woodland. Principal settlement: Pateley Bridge.

- **Moorland Plateau:** gill woodland along streams & pockets of ungrazed ground.

- **Grassland Plateau:** large scale rectilinear coniferous plantations and shelter belts, semi-natural woodlands along stream valleys.
- **Nidderdale:** concentrations of ancient woodland scattered throughout Nidderdale; semi-natural woodlands along streams and on steep slopes; coniferous plantation woodland.
- **Colsterdale/Burn Valley:** ancient semi-natural gill woodland, deciduous woodland and coniferous plantations.
- **Washburn valley:** coniferous shelterbelts and plantations and ancient semi-natural woodland on steep slopes of upper valley; mixed plantation woodland and ancient semi-natural woodland in middle valley.
- **W3 *Salix pentandra-Carex rostrata*** willow carr woodland with low canopy occurs on peat soils with calcareous groundwater in fragmentary form in Nidderdale, transitional with **W5 *Alnus glutinosa-Carex paniculata*** Carr woodland and **W7 *Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum*** valley alderwoods and flushes.

## Acidic oak-birch woodlands on uplands, steep valley sides & in gills.

Birk Gill Wood SSSI	Upper Fell	Guisecliff Wood SSSI	W16 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Deschampsia flexuosa</i>	W10 <i>Quercus robur</i> - <i>Pteridium aquilinum</i> - <i>Rubus fruticosus</i>
<b><i>Quercus petraea</i></b>	<b><i>Betula pendula</i></b>	<b><i>Betula pendula</i></b>	<b><i>Betula pendula</i></b>	<b><i>Quercus robur</i></b>
<i>Sorbus aucuparia</i>	<b><i>Quercus petraea</i></b>	<i>Ilex aquifolium</i>	<b><i>Ilex aquifolium</i></b>	<i>Betula pendula</i>
<i>Ilex aquifolium</i>	<i>Corylus avellana</i>	<i>Quercus petraea</i>	<b><i>Quercus petraea</i></b>	<i>Corylus avellana</i>
<i>Alnus glutinosa</i>	<i>Prunus padus</i>	<i>Quercus robur</i>	<i>Betula pubescens</i>	<i>Crataegus monogyna</i>
<i>Betula pendula</i>	<i>Sorbus aucuparia</i>	<i>Sorbus aucuparia</i>	<i>Sorbus aucuparia</i>	<i>Fraxinus excelsior</i>
( <i>Calluna vulgaris</i> )			<i>Corylus avellana</i> *	<i>Ilex aquifolium</i>
( <i>Vaccinium myrtillus</i> )			<i>Crataegus monogyna</i>	<i>Quercus petraea</i>
			( <i>Vaccinium myrtillus</i> )	<i>Acer campestre</i>
			* except on impoverished soils	<i>Alnus glutinosa</i>
				<i>Betula pubescens</i>
				<i>Carpinus betulus</i>
				<i>Malus sylvestris</i>
				<i>Populus tremula</i>
				<i>Prunus avium</i>
				<i>Prunus spinosa</i>
				<i>Sambucus nigra</i>
				<i>Sorbus aucuparia</i>
				<i>Tilia vulgaris</i>
				<i>Ulmus glabra</i>
				<i>Viburnum lantana</i>
				<i>Viburnum opulus</i>

**bold type** = dominant, regular type = common, *italic* = occasional

# Woodlands of the Dales Fringe & Lower Valley (CCA22, NA15)



Principal settlements: Masham, Ripley, Harrogate, Huby.

- **Upland Fringe:** ancient semi-natural or deciduous woodlands along becks (gill woodland) and valleys; small mixed woodlands and some large scale coniferous plantations.
- **River Ure Corridor:** Ancient semi-natural woodland in large woodland blocks, often associated with riversides and steeper valley slopes.
- **River Wharfe Corridor:** ancient semi-natural woodland along streams; rectilinear mixed plantation woodland/shelter belts.
- **Vale fringe:** semi-natural woodlands in valleys; mixed plantation blocks/belts.
- W5 *Alnus glutinosa-Carex paniculata* Carr woodland is mainly associated with waterlogged floodplains but grades into W7 *Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum* valley alderwoods and flushes.

## Acidic woodlands

Low Wood (Oak Beck) ancient woodland	W10 <i>Quercus robur</i> - <i>Pteridium aquilinum</i> - <i>Rubus fruticosus</i>	W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i>
<i>Quercus robur</i>	<b><i>Quercus robur</i></b> <i>Malus sylvestris</i>	<b><i>Quercus petraea</i></b>
<i>Corylus avellana</i>	<i>Betula pendula</i> <i>Populus tremula</i>	<i>Betula pubescens</i>
<i>Crataegus monogyna</i>	<i>Fraxinus excelsior</i> <i>Prunus avium</i>	<i>Corylus avellana</i>
<i>Fraxinus excelsior</i>	<i>Ilex aquifolium</i> <i>Prunus spinosa</i>	<i>Sorbus aucuparia</i>
<i>Ilex aquifolium</i>	<i>Corylus avellana</i> <i>Sambucus nigra</i>	<i>Betula pendula</i>
<i>Sorbus aucuparia</i>	<i>Crataegus monogyna</i> <i>Sorbus aucuparia</i>	<i>Crataegus monogyna</i>
<i>Alnus glutinosa</i>	<i>Quercus petraea</i> <i>Tilia vulgaris</i>	<i>Ilex aquifolium</i>
	<i>Acer campestre</i> <i>Ulmus glabra</i>	<i>Salix caprea</i>
	<i>Alnus glutinosa</i> <i>Viburnum lantana</i>	
	<i>Betula pubescens</i> <i>Viburnum opulus</i>	
	<i>Carpinus betulus</i>	

**bold type** = dominant, regular type = common, *italic* = occasional

## Dales Fringe - Wet Woodlands

W6 <i>Alnus glutinosa</i> - <i>Urtica dioica</i> . Fen Woodland	W6 <i>Alnus glutinosa</i> - <i>Urtica dioica</i> . <i>Salix fragilis</i> sub-community Flood Plain Woodland	W5 <i>Alnus glutinosa</i> - <i>Carex paniculata</i> . Carr Woodland associated with waterlogged floodplains, grades into W7.	W7 <i>Alnus glutinosa</i> - <i>Fraxinus excelsior</i> - <i>Lysimachia nemorum</i> . <i>Carex remota</i> - <i>Cirsium palustre</i> sub community Valley alderwoods & flushes.
<b><i>Alnus glutinosa</i></b>	<b><i>Alnus glutinosa</i></b>	<b><i>Alnus glutinosa</i></b>	<b><i>Alnus glutinosa</i></b> <i>Quercus petraea</i>
<i>Crataegus monogyna</i>	<b><i>Salix fragilis</i></b>	<i>Betula pubescens</i>	<i>Salix cinerea</i> <i>Salix pentandra</i>
<i>Fraxinus excelsior</i>	<i>Crataegus monogyna</i>	<i>Crataegus monogyna</i>	<i>Crataegus monogyna</i> <i>Prunus spinosa</i>
<i>Salix cinerea</i>	<i>Salix cinerea</i>	<i>Frangula alnus</i>	<i>Corylus avellana</i> <i>Prunus padus</i>
<i>Corylus avellana</i>	<i>Sambucus nigra</i>	<i>Fraxinus excelsior</i>	<i>Salix cinerea</i> <i>Sambucus nigra</i>
<i>Ilex aquifolium</i>	<i>Betula pubescens</i>	<i>Salix cinerea</i>	<i>Ilex aquifolium</i> <i>Sorbus aucuparia</i>
<i>Quercus robur</i>	<i>Fraxinus excelsior</i>	<i>Ilex aquifolium</i>	<i>Fraxinus excelsior</i>
<i>Salix viminalis</i>	<i>Salix caprea</i>	<i>Quercus robur</i>	<i>Betula pubescens</i>
<i>Sambucus nigra</i>		<i>Rhamnus catharticus</i>	<i>Salix caprea</i>
<i>Viburnum opulus</i>		<i>Sorbus aucuparia</i>	<i>Quercus robur</i>
		<i>Viburnum opulus</i>	<i>Viburnum opulus</i>

**bold type** = dominant, regular type = common, *italic* = occasional

# Woodlands of the Limestone Ridge (CCA30,NA23)



Lowland oak and mixed deciduous woods, small areas of wet woodland with alder. Principal settlements: Ripon, Boroughbridge, Knaresborough.

- **River Ure corridor:** ancient semi-natural woodland on valley sides, scrub woodland on riverside, large woodland blocks of ancient semi-natural woodland or mixed plantation.
- **East Ripon Ridge:** frequent blocks of mixed plantation woodland and remnant ancient semi-natural woodland in south; woodland is confined to streamside and around farmsteads in north.
- **Central Farmland:** small blocks of ancient semi-natural woodland and mixed plantations, some carr woodland.
- **South-east Harrogate Farmland:** ancient semi-natural woodland or mixed plantations along valleys, steep bluffs and isolated hilltops.
- **South Knaresborough Farmland:** woodland on steep valley slopes; some ancient semi-natural woodland, infrequent woodland blocks.
- **East Knaresborough Wooded Farmland:** Frequent broad-leaved/mixed woodland blocks and belts; some ancient semi-natural woodlands; streamside woodlands, scrub woodland and carr woodland in wetter, low lying areas.

## Ash woodland on less acidic soils

Birkham Wood SSSI	Hackfall Wood SSSI	W8 Fraxinus excelsior- Acer campestre- Mercurialis perennis (Anemone nemerosa sub community)	W8 Fraxinus excelsior- Acer campestre- Mercurialis perennis (Allium ursinum sub community)	W8 Fraxinus excelsior- Acer campestre- Mercurialis perennis (Geranium robertianum sub community)
<b>Fraxinus excelsior</b>	<b>Fraxinus excelsior</b>	<b>Fraxinus excelsior</b>	<b>Fraxinus excelsior</b>	<b>Crataegus monogyna</b>
<i>Corylus avellana</i>	<b>Ulmus glabra</b>	<i>Acer campestre</i>	<b>Acer campestre</b>	<b>Fraxinus excelsior</b>
<i>Crataegus monogyna</i>	<i>Corylus avellana</i>	<i>Alnus glutinosa</i>	<b>Corylus avellana</b>	<b>Ulmus glabra</b>
<i>Ulmus glabra</i>	<i>Tilia cordata</i>	<i>Fagus sylvatica</i>	<b>Ulmus glabra</b>	<i>Acer campestre</i>
<i>Acer campestre</i>	<i>Viburnum opulus</i>	<i>Prunus avium</i>	<b>Cornus sanguinea</b>	<i>Corylus avellana</i>
<i>Betula pendula</i>		<i>Prunus padus</i>	<i>Crataegus monogyna</i>	<i>Ilex aquifolium</i>
<i>Cornus sanguinea</i>		<i>Quercus robur</i>	<i>Ilex aquifolium</i>	<i>Quercus petraea</i>
<i>Euonymus europaeus</i>		<i>Salix caprea</i>	<i>Sambucus nigra</i>	<i>Sambucus nigra</i>
<i>Sambucus nigra</i>		<i>Taxus baccata</i>	<i>Euonymus europaeus</i>	<i>Betula pendula</i>
			<i>Prunus avium</i>	<i>Betula pubescens</i>
			<i>Prunus spinosa</i>	<i>Carpinus betulus</i>
			<i>Quercus robur</i>	<i>Cornus sanguinea</i>
			<i>Salix caprea</i>	<i>Euonymus europaeus</i>
			<i>Sorbus aria</i>	<i>Malus sylvestris</i>
				<i>Prunus spinosa</i>
				<i>Quercus robur</i>
				<i>Salix caprea</i>
				<i>Salix cinerea</i>
				<i>Sorbus aria</i>
				<i>Sorbus aucuparia</i>
				<i>Taxus baccata</i>
				<i>Viburnum lantana</i>

bold type = dominant, regular type = common, italic = occasional

## Limestone Ridge - Oak woodland on acidic glacial drift soils.

Birkham Wood SSSI	W10 <i>Quercus robur</i> - <i>Pteridium aquilinum</i> - <i>Rubus fruticosus</i>	
<b><i>Quercus robur</i></b>	<b><i>Betula pendula</i></b>	<i>Malus sylvestris</i>
<i>Betula pendula</i>	<b><i>Ilex aquifolium</i></b>	<i>Populus tremula</i>
<i>Corylus avellana</i>	<b><i>Quercus robur</i></b>	<i>Prunus avium</i>
<i>Malus sylvestris</i>	<i>Corylus avellana</i>	<i>Prunus spinosa</i>
<i>Populus tremula</i>	<i>Crataegus monogyna</i>	<i>Sambucus nigra</i>
<i>Sorbus aucuparia</i>	<i>Fraxinus excelsior</i>	<i>Sorbus aucuparia</i>
	<i>Quercus petraea</i>	<i>Tilia vulgaris</i>
	<i>Acer campestre</i>	<i>Ulmus glabra</i>
	<i>Alnus glutinosa</i>	<i>Viburnum lantana</i>
	<i>Betula pubescens</i>	<i>Viburnum opulus</i>
	<i>Carpinus betulus</i>	

**bold type** = dominant, regular type = common, *italic* = occasional

## Limestone Ridge - Wet woodlands on glacial drift & alluvial soils.

Hackfall Wood SSSI	Aketon Grange, Follifoot	
<b><i>Alnus glutinosa</i></b>	<b><i>Alnus glutinosa</i></b>	
<i>Euonymus europaeus</i>	<i>Corylus avellana</i>	
<i>Prunus padus</i>	<i>Crataegus monogyna</i>	
	<i>Salix cinerea</i>	
	<i>Salix pentandra</i>	

**bold type** = dominant, regular type = common, *italic* = occasional



Woodlands of the Vale of York  
(CCA28, NA16)

Principal settlements: Tockwith, Long Marston, Nun Monkton.

- **West York Farmland:** Blocks of broad-leaved or mixed plantation woodlands (small to large); some remnant ancient semi-natural woodland.
- **East Knaresborough Wooded Farmland:** Frequent broad-leaved/mixed woodland, some ancient semi-natural woodlands; streamside and carr woodland in wetter, low lying areas.
- **Floodplain farmland:** small farm mixed woodlands, some streamside and carr woodland.

- mainly acid or neutral soils.

- W5 *Alnus glutinosa-Carex paniculata* Carr woodland is mainly associated with waterlogged floodplains but grades into W7 *Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum* valley alderwoods and flushes.

## Broad-leaved woodlands

Widdington Wood, Widdington	Great Wood Ancient Semi-natural Woodland	Grange Wood, Rufforth Ancient Semi-natural Woodland	W10 <i>Quercus robur</i> - <i>Pteridium aquilinum</i> - <i>Rubus fruticosus</i>	W8 <i>Fraxinus excelsior</i> <i>Acer campestre</i> - <i>Mercurialis perennis</i>
<i>Quercus robur</i>	<i>Quercus petraea</i>	<i>Quercus robur</i>	<i>Quercus robur</i>	<i>Acer campestre</i>
<i>Betula pendula</i>	<i>Betula pendula</i>	<i>Crataegus monogyna</i>	<i>Betula pendula</i>	<i>Corylus avellana</i>
<i>Fraxinus excelsior</i>	<i>Crataegus monogyna</i>	<i>Prunus spinosa</i>	<i>Quercus petraea</i>	<i>Crataegus monogyna</i>
<i>Corylus avellana</i>	<i>Fraxinus excelsior</i>	<i>Populus tremula</i>	<i>Fraxinus excelsior</i>	<i>Fraxinus excelsior</i>
<i>Ilex aquifolium</i>	<i>Fagus sylvatica</i>	<i>Sambucus nigra</i>	<i>Corylus avellana</i>	<i>Quercus robur</i>
<i>Prunus avium</i>	<i>Sambucus nigra</i>		<i>Crataegus monogyna</i>	<i>Cornus sanguinea</i>
<i>Sambucus nigra</i>			<i>Ilex aquifolium</i>	<i>Ilex aquifolium</i>
			<i>Acer campestre</i>	<i>Sambucus nigra</i>
			<i>Alnus glutinosa</i>	<i>Ulmus glabra</i>
			<i>Betula pubescens</i>	<i>Alnus glutinosa</i>
			<i>Carpinus betulus</i>	<i>Betula pendula</i>
			<i>Malus sylvestris</i>	<i>Betula pubescens</i>
			<i>Populus tremula</i>	<i>Euonymus europaeus</i>
			<i>Prunus avium</i>	<i>Malus sylvestris</i>
			<i>Prunus spinosa</i>	<i>Prunus spinosa</i>
			<i>Sambucus nigra</i>	<i>Rhamnus catharticus</i>
			<i>Sorbus aucuparia</i>	<i>Salix caprea</i>
			<i>Tilia vulgaris</i>	<i>Salix cinerea</i>
			<i>Ulmus glabra</i>	<i>Sorbus aucuparia</i>
			<i>Viburnum lantana</i>	
			<i>Viburnum opulus</i>	

**bold type** = dominant, regular type = common, *italic* = occasional



# Vale of York - Streamside & Wet Woodlands

Nether Poppleton bank,  
Nether Poppleton

Ouse Gill Beck,  
Kirby Hill

W5 *Alnus glutinosa* - *Carex*  
*paniculata*. Carr Woodland  
associated with water-  
logged floodplains

W6 *Alnus glutinosa* -  
*Urtica dioica*  
Fen woodland

<b>Salix fragilis</b>	<b>Alnus glutinosa</b>	<b>Alnus glutinosa</b>	<b>Alnus glutinosa</b>
Crataegus monogyna	Salix aurita	Betula pubescens	Betula pubescens
Fraxinus excelsior	Salix pentandra	Crataegus monogyna	Crataegus monogyna
Sambucus nigra	<i>Salix cinerea</i>	Frangula alnus	Salix cinerea
<i>Aesculus hippocastanum</i>		Fraxinus excelsior	Salix fragilis
<i>Fagus sylvatica</i>		Salix cinerea	Sambucus nigra
		<i>Ilex aquifolium</i>	<i>Corylus avellana</i>
		<i>Quercus robur</i>	<i>Fraxinus excelsior</i>
		<i>Rhamnus catharticus</i>	<i>Ilex aquifolium</i>
		<i>Sorbus aucuparia</i>	<i>Prunus spinosa</i>
		<i>Viburnum opulus</i>	<i>Quercus robur</i>
			<i>Salix caprea</i>
			<i>Salix viminalis</i>
			<i>Viburnum opulus</i>

**bold type** = dominant, regular type = common, *italic* = occasional

A wide range of hedges are found in Harrogate District, growing in ground conditions that vary from the thin acidic soils of the exposed upland moors to the well-drained alkaline loams of the Limestone ridge to the fertile but heavy clays of the low-lying Vale and the waterlogged soils of the floodplain. The landscape character of different areas is described at regional level in the *Countryside Character Areas (CCA)* and *Natural Areas (NA)* identified by the Countryside Agency and English Nature, and at local level in the Harrogate District Landscape Appraisal. (See Guidance Sheet LDG1.6) For information about plant suppliers please contact the Landscape Architect in the Planning Division on 01423 556592.

The species composition of hedges depends on their history and management as well as ground conditions. Some countryside hedges are remnants of ancient woodland left as boundaries when the woodland either side was cleared to make fields: these hedges are likely to contain many woody shrubs and woodland plants.



Some field hedges were planted several hundred years ago using a mixture of good hedging plants: these hedges are often slowly colonised by other woody shrubs over decades. Many field hedges in Harrogate District were planted in the late 18th and early 19th centuries as part of the Parliamentary Enclosure Acts to a strict specification of “quickthorn”: the single species hawthorn hedges are usually from this period.



Some ornamental hedges reflect local history, for example the tall evergreen privet hedges within the Duchy in Harrogate are characteristic of the Victorian garden style and reinforce the local distinctiveness of the Conservation Area.

## General guidelines for hedge species choice

Planting that respects the local landscape character and the specific site conditions (soil acidity, drainage, altitude) will fit in well with its surroundings. In the countryside, hedges of local native species provide useful habitat for wildlife and will reinforce local distinctiveness; look at local hedges to get the proportion of local species right. Respect the subtle muted colours of the countryside when planting new hedges rather than adding greater proportions of the more colourful native plants such as Spindle and Dogwood. Elder should not be used in a hedge planting mix as it grows taller and quicker than other species, and it is relatively short-lived (which would result in gaps appearing in hedges). Elder will, in any case, readily self-colonise an existing hedge.



Garden hedges bordering fields at the edges of settlements often fit in to the landscape better and are less dangerous to grazing animals if they follow the same species composition as local field hedges (some ornamental plant species are toxic to grazing animals; some ornamental plants look inappropriate in a rural setting).



Within settlements, hedges can reinforce local distinctiveness through careful choice of species and consideration of different hedgerow management styles (see Hedgerow Management sheet). Low clipped hedges of dark green privet associated with low walls of local stone are characteristic of certain areas in Harrogate e.g. Haywra Crescent; tall clipped beech hedges are found in Rossett Green, parts of Ripon and Knaresborough.



Think about the rate of growth and the associated maintenance requirement: for example, fast growing evergreen species like Leyland cypress can become a nuisance for neighbours unless they are kept in check by rigorous trimming once or twice a year, and they do not grow back from hard pruning. Yew grows slowly but can be kept in check easily and regrows even when pruned right back to the trunk.



The following plant lists for hedges are grouped under different landscape character areas to provide a 'menu' from which to choose a range of plants. The best existing countryside hedges are also listed as an example under their names. Botanical names rather than common names are given for precision; an index of botanical:common names is attached as a separate sheet. **Note that these lists represent a starting point from which to develop your own proposals.**



# Hedges of the Gritstone Plateaux, Dales & Upper /Middle Valley (CCA21,NA8)



(Upland Fringe, Grassland Plateau, Moorland Plateau. Principal settlement: Pateley Bridge.)

- upland area generally over 150 metres aod.
- poor drainage, winter waterlogging, flushes bogs and streams over clays, some pockets of drier conditions over sandy lenses.
- average winter temperature = , average summer temperature = , rainfall = .
- soils: poor acidic soils overlaying Millstone Grit or Millstone Grit with sandstone .
- moraines with mixed glacial deposits of clays and sandy soils.
- rock outcrops, cliffs and quarries are local features.

## Countryside hedges for fields, village edge and rural dwellings

Low Woodhouse Green Lane, Hartwith cum Winsley		West Field Farm, Glasshouses	
Betula pendula	Birch	Crataegus monogyna	Hawthorn
Ilex aquifolium	Holly	Ilex aquifolium	Holly
Quercus spp.	Oak	Rosa canina	Dog Rose
		Sambucus nigra	Elder

## Ornamental hedges within settlements

Tall evergreen hedge	Tall deciduous hedge	Medium evergreen hedge	Medium deciduous hedge
Aucuba japonica e.g. 'Crotonifolia'	Carpinus betulus	Berberis darwinii	Berberis thunbergii
Ilex aquifolium	Cornus alba	Berberis x stenophylla	Fagus sylvatica*
Prunus laurocerasus	Corylus avellana	Ligustrum ovalifolium	Symphoricarpos
Rhododendron^	Cotinus coggyria	Ligustrum ovalifolium 'Aureum'	
Taxus baccata*	Fagus sylvatica*	Ligustrum vulgare	
Thuja plicata	Rosa rugosa	Lonicera nitida	
Viburnum tinus	Viburnum opulus	Prunus lusitanica	
		Ulex^*	

^ acidic soils \* well-drained soils

Note: Elder is not recommended in a hedge planting mix as it grows taller and quicker than other species, and it is relatively short-lived (which would result in gaps appearing in hedges). Elder will, in any case, readily self-colonise an existing hedge.

# Hedges of the Dales Fringe & Lower Valley (CCA22, NA15)



(including Vale Fringe, South-East Harrogate Farmland, Central Farmland [part]; not Upland Fringe. Principal settlements: Masham, Ripley, Harrogate, Huby.)

- land generally between 80 metres aod and 150 metres aod.
- poor drainage, winter waterlogging, flushes bogs and streams.
- soils: generally neutral brown soils varying where overlaying mixed glacial deposits of moraine, boulder clays and alluvium or gritstone and sandstone outcrops.

## Countryside hedges for fields, village edge & rural dwellings

Laverton, Kirkby Malzeard		Whitewall Lane, Felliscliffe	
Acer campestre	Field Maple	Corylus avellana	Hazel
Corylus avellana	Hazel	Crataegus monogyna	Hawthorn
Crataegus monogyna	Hawthorn	Fraxinus excelsior	Ash
Euonymus europaeus	Spindle	Ilex aquifolium	Holly
Fraxinus excelsior	Ash	Malus sylvestris	Crab Apple
Ilex aquifolium	Holly	Prunus avium	Wild Cherry
Prunus spinosa	Blackthorn	Quercus robur	Pedunculate Oak
Sambucus nigra	Elder	Rosa canina	Dog Rose
		Sambucus nigra	Elder
		Viburnum opulus	Gelder Rose

## Ornamental hedges within settlements

Tall evergreen hedge	Tall deciduous hedge	Medium evergreen hedge	Medium deciduous hedge
Aucuba japonica e.g. 'Crotonifolia'	Berberis x ottawensis 'Superba'	Berberis darwinii	Berberis thunbergii 'Erecta'
Cotoneaster lacteus	Carpinus betulus	Berberis x stenophylla	Chaenomeles
Elaeagnus pungens 'Maculata'*	Cornus alba	Choisya ternata*	Fagus sylvatica*
Elaeagnus x ebbingei*	Cotinus coggyria	Escallonia (various)*	Ribes sanguineum
Euonymus japonicus	Euonymus alatus*	Euonymus fortunei 'Emerald Gaiety'	Rosa spinosissima
Ilex aquifolium	Euonymus europaeus 'Red Cascade'*	Ligustrum ovalifolium*	Spiraea x arguta
Osmanthus delavayi	Fagus sylvatica*	Ligustrum ovalifolium 'Aureum'*	Symphoricarpos
Osmanthus heterophyllus	Prunus cerasifera	Ligustrum vulgare*	
Photinia x fraseri	Rosa rugosa	Lonicera nitida	
Prunus laurocerasus	Viburnum farreri	Osmanthus x burkwoodii	
Pyracantha rogersiana	Viburnum x bodnantse	Prunus lusitanica	
Rhododendron (many)^			
Taxus baccata*			
Thuja plicata			
Vinum tinus			

\*well-drained soils ^acidic soils

Note: Elder is not recommended in a hedge planting mix as it grows taller and quicker than other species, and it is relatively short-lived (which would result in gaps appearing in hedges). Elder will, in any case, readily self-colonise an existing hedge.

# Hedges of the Limestone Ridge (CCA30, NA23)



Lowland oak and mixed deciduous woods, small areas of wet woodland with alder (including South Knaresborough Farmland, East Knaresborough Wooded Farmland [part], Central Farmland [part], East Ripon Ridge. Principal settlements: Ripon, Boroughbridge, Knaresborough).

- lowland ridge of Magnesian Limestone generally 30 - 80 metres aod.
- soils: alkaline loam.

## Countryside Hedges

Pear Tree Farm, Little Ribston		Hugworm Lane, Outer Knaresborough	
<i>Acer campestre</i>	Field Maple	<i>Acer campestre</i>	Field maple
<i>Cornus sanguinea</i> (occasional)	Dogwood	<i>Corylus avellana</i>	Hazel
<i>Corylus avellana</i>	Hazel	<i>Crataegus monogyna</i>	Hawthorn
<i>Crataegus monogyna</i>	Hawthorn	<i>Fraxinus excelsior</i>	Ash
<i>Euonymus europaeus</i> (occasional)	Spindle	<i>Ilex aquifolium</i>	Holly
<i>Ilex aquifolium</i>	Holly	<i>Prunus domestica</i>	Plum
<i>Malus sylvestris</i>	Crab Apple	<i>Prunus spinosa</i>	Blackthorn
<i>Prunus spinosa</i>	Blackthorn	<i>Quercus robur</i>	Pedunculate Oak
<i>Rosa canina</i>	Dog Rose	<i>Rosa canina</i>	Dog Rose
<i>Sambucus nigra</i>	Elder	<i>Rubus fruticosus</i>	Bramble
		<i>Sambucus nigra</i>	Elder
		<i>Ulmus glabra</i>	Wych Elm

## Ornamental hedges within settlements

Tall evergreen hedge	Tall deciduous hedge	Medium evergreen hedge	Medium deciduous hedge
<i>Aucuba japonica</i> e.g. 'Crotonifolia'	<i>Berberis x ottawensis</i>	<i>Berberis darwinii</i>	<i>Berberis thunbergii</i>
<i>Cotoneaster lacteus</i>	'Superba'		'Erecta'
<i>Elaeagnus pungens</i> 'Maculata'	<i>Carpinus betulus</i>	<i>Berberis x stenophylla</i>	<i>Chaenomeles</i>
<i>Elaeagnus x ebbingei</i>	<i>Cornus alba</i>	<i>Buxus sempervivens</i>	<i>Fagus sylvatica</i>
<i>Euonymus japonicus</i>	<i>Cotinus coggyria</i>	<i>Choisya ternata</i>	<i>Ribes sanguineum</i>
<i>Ilex aquifolium</i>	<i>Euonymus alatus</i>	<i>Escallonia</i> 'Apple Blossom'	<i>Rosa spinosissima</i>
<i>Olearia x haastii</i>	<i>E. europaeus</i> 'Red Cascade'	<i>Euonymus fortunei</i> 'Emerald Gaiety'	<i>Spiraea x arguta</i>
<i>Osmanthus delavayi</i>	<i>Fagus sylvatica</i>	<i>Griselinia littoralis</i>	<i>Symphoricarpos</i>
<i>Osmanthus heterophyllus</i>	<i>Hippophae rhamnoides</i>	<i>Ligustrum ovalifolium</i>	
<i>Photinia x fraseri</i>	<i>Prunus cerasifera</i>	<i>Ligustrum ovalifolium</i> 'Aureum'	
<i>Pittosporum tenuifolium</i>	<i>Rosa rugosa</i>	<i>Ligustrum vulgare</i>	
<i>Prunus laurocerasus</i>	<i>Viburnum farreri</i>	<i>Lonicera nitida</i>	
<i>Pyracantha rogersiana</i>	<i>Viburnum x bodnantse</i>	<i>Osmanthus x burkwoodii</i>	
<i>Taxus baccata</i>		<i>Prunus lusitanica</i>	
<i>Thuja plicata</i>			
<i>Viburnum tinus</i>			

Note: Elder is not recommended in a hedge planting mix as it grows taller and quicker than other species, and it is relatively short-lived (which would result in gaps appearing in hedges). Elder will, in any case, readily self-colonise an existing hedge.

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# Hedges of the Vale of York (CCA28, NA16)



**West York Farmland, East Knaresborough Wooded Farmland [part], Floodplain Farmland. Principal settlements: Tockwith, Long Marston, Nun Monkton.**

- low lying, flat or gently undulating land generally below 30 metres aod.
- often with poor drainage and winter waterlogging.
- soils: generally neutral brown soils, varying where overlaying mixed glacial deposits of clays and sandy soils.

## Good Vale of York countryside hedges for fields, village edge and rural dwellings

Woods Lane Hedge, Great Ouseburn		Marston Moor Farm, Long Marston	
<i>Acer campestre</i>	Field Maple	<i>Acer campestre</i>	Field Maple
<i>Cornus sanguinea</i>	Dogwood	<i>Corylus avellana</i>	Hazel
<i>Corylus avellana</i>	Hazel	<i>Crataegus monogyna</i>	Hawthorn
<i>Crataegus monogyna</i>	Hawthorn	<i>Fraxinus excelsior</i>	Ash
<i>Fraxinus excelsior</i>	Ash	<i>Ilex aquifolium</i>	Holly
<i>Lonicera periclymenum</i> (occasional)	Honeysuckle	<i>Lonicera periclymenum</i> (occasional)	Honeysuckle
<i>Malus sylvestris</i>	Crab Apple	<i>Malus sylvestris</i>	Crab Apple
<i>Prunus spinosa</i>	Blackthorn	<i>Prunus spinosa</i>	Blackthorn
<i>Quercus robur</i>	Pedunculate Oak	<i>Quercus robur</i>	Pedunculate Oak
<i>Rosa arvensis</i>	Field Rose	<i>Rosa arvensis</i>	Field Rose
<i>Rosa canina</i>	Dog Rose	<i>Rosa canina</i>	Dog Rose
<i>Salix cinerea</i>	Grey Sallow	<i>Salix cinerea</i>	Grey Sallow
<i>Sambucus nigra</i>	Elder	<i>Sambucus nigra</i>	Elder
<i>Ulmus glabra</i>	Wych Elm	<i>Ulmus procera</i>	English Elm
		<i>Viburnum opulus</i>	Guelder Rose

## Ornamental hedges: clay soils (within settlements)

Tall evergreen hedge	Tall deciduous hedge	Medium evergreen hedge	Medium deciduous hedge
<i>Aucuba japonica</i> e.g. 'Crotonifolia'	<i>Berberis x ottawensis</i> e.g. 'Superba'	<i>Berberis thunbergii</i> 'Erecta'	<i>Chaenomeles</i>
<i>Cotoneaster lacteus</i>	<i>Carpinus betulus</i>	<i>B. x stenophylla</i>	<i>Fagus sylvatica</i>
<i>Euonymus japonicus</i>	<i>Cornus alba</i>	<i>B. darwinii</i>	<i>Ribes sanguineum</i>
<i>Ilex aquifolium</i>	<i>Cotinus coggyria</i>	<i>Euonymus fortunei</i> 'Emerald Gaiety'	<i>Spiraea x arguta</i>
<i>Osmanthus delavayi</i>	<i>Prunus cerasifera</i>	<i>Lonicera nitida</i>	<i>Symphoricarpos</i>
<i>Osmanthus heterophylla</i>	<i>Rosa rugosa</i>	<i>Mahonia aquifolium</i>	
<i>Photinia x fraseri</i>	<i>Symphoricarpos rivularis</i>	<i>Osmanthus x burkwoodii</i>	
<i>Prunus laurocerasus</i>	<i>Viburnum farreri</i>	<i>Prunus lusitanica</i>	
<i>Rhododendron</i> (many)^	<i>Viburnum x bodnantse</i>	<i>Pyracantha</i> e.g. 'Orange Glow'	
<i>Thuja plicata</i>			
<i>Viburnum tinus</i>			

^ acidic soils

Note: Elder is not recommended in a hedge planting mix as it grows taller and quicker than other species, and it is relatively short-lived (which would result in gaps appearing in hedges). Elder will, in any case, readily self-colonise an existing hedge.

# Vale of York Ornamental hedges: well-drained soils (within settlements)

Tall evergreen hedge	Tall deciduous hedge	Medium evergreen hedge	Medium deciduous hedge
Aucuba japonica e.g. 'Crotonifolia'	Berberis x ottawensis 'Superba'	Aucuba japonica e.g. 'Crotonifolia'	Berberis thunbergii 'Erecta'
Berberis darwinii	Carpinus betulus	Berberis darwinii	Berberis x ottawensis 'Superba'
Berberis x stenophylla	Cornus alba	Berberis x stenophylla	Carpinus betulus
Cotoneaster lacteus	Cotinus coggyria	Choisya ternata	Chaenomeles
Elaeagnus pungens 'Maculata'	Euonymus alatus	Cotoneaster lacteus	Cornus alba
Elaeagnus x ebbingei	Euonymus europaeus 'Red Cascade'	Elaeagnus pungens 'Maculata'	Cotinus coggyria
Escallonia (various)	Fagus sylvatica	Elaeagnus x ebbingei	Euonymus alatus
Euonymus japonicus	Hippophae rhamnoides	Escallonia (various)	Euonymus europaeus 'Red Cascade'
Griselinia littoralis	Prunus cerasifera	Euonymus fortunei 'Emerald Gaiety'	Fagus sylvatica
Ilex aquifolium	Rosa rugosa	Euonymus japonicus	Hippophae rhamnoides
Ligustrum ovalifolium	Symphoricarpos rivularis	Griselinia littoralis	Prunus cerasifera
Ligustrum ovalifolium 'Aureum'	Tamarix^	Ilex aquifolium	Ribes sanguineum
Ligustrum vulgare	Viburnum farreri	Ligustrum ovalifolium	Rosa rugosa
Olearia x haastii	Viburnum x bodnantse	Ligustrum ovalifolium 'Aureum'	Rosa spinosissima
Osmanthus delavayi		Ligustrum vulgare	Spiraea x arguta
Osmanthus heterophyllus		Lonicera nitida	Symphoricarpos
Photinia x fraseri		Olearia x haastii	Viburnum farreri
Pittosporum tenuifolium		Osmanthus delavayi	Viburnum x bodnantse
Prunus laurocerasus		Osmanthus heterophyllus	
Prunus lusitanica		Osmanthus x burkwoodii	
Pyracantha rogersiana		Photinia x fraseri	
Rhododendron (many)^		Pittosporum tenuifolium	
Taxus baccata		Prunus laurocerasus	
Thuja plicata		Prunus lusitanica	
Viburnum tinus		Pyracantha rogersiana	
		Rhododendron (many)^	
		Taxus baccata	
		Thuja plicata	
		Viburnum tinus	

^ acidic soils \* well-drained soils



Note: Elder is not recommended in a hedge planting mix as it grows taller and quicker than other species, and it is relatively short-lived (which would result in gaps appearing in hedges). Elder will, in any case, readily self-colonise an existing hedge.

# Ornamental Shrubs & Ground Cover of Harrogate District

Harrogate District covers a wide range of growing conditions, from the thin acidic soils of the exposed upland moors to the well-drained alkaline loams of the Limestone ridge to the fertile but heavy clays of the low-lying Vale and the waterlogged soils of the floodplain. Some ornamental plants look inappropriate in a rural setting: planting that respects the local landscape character and the specific site conditions (soil acidity, drainage, altitude) will fit in well with its surroundings. The landscape character of different areas is described at a regional level in the 'Countryside Character Areas (CCA) and Natural Areas' (NA), identified by the Countryside Agency and English Nature and at a local level in the 'Harrogate District Landscape Appraisal (1993)'. (See Guidance Sheet LDG1.6) For information about plant suppliers please contact the Landscape Architect in the Planning Division on 01423 556592.

Ornamental plants can provide useful habitat and food for wildlife and can reinforce local distinctiveness within the settlements. Look at good plant designs near your site to see which species are present, how they are grouped, and how they relate to site conditions for example poor drainage or local stone outcrops, sheltered southerly aspects and exposed locations.



Ground cover, shrubs and trees

**Shrubs** are plants which have woody stems that are normally multi-stemmed from the ground or very near the base, although some shrubs tend to grow as a single stem like a tree e.g. Syringa (lilac) and some others can be trained or propagated to form a standard tree-like shape e.g. Wisteria. Smaller bushy or multi-stemmed versions of tree species can also be described as shrubs for example Ilex aquifolium (Holly) can be treated as a shrub in a shrubby or hedge or can be left to grow into a tree.



Multi-stemmed shrub



Mixed shrubs

Low growing dense shrubs and climbers which extend sideways over the ground are described as **ground cover**.

## General guide for Ornamental Species Choice

The following plant lists are grouped under different landscape character areas or major settlements and subdivided according to site conditions. The plants listed are those which are robust, generally long lived plants that have been observed in each area as locally characteristic. 'Evergreen' shrubs retain their leaves all year round, whilst 'deciduous' shrubs shed their leaves for winter. Some ornamental plant species are toxic and the risk associated with their use in a given location should be carefully considered.

**These lists represent a starting point from which to develop your own proposals:** professional landscape architects, garden designers, horticulturists and good landscape contractors will be able to recommend many additional plants which can be grown in this area or contact the Northern Fruit Group, Royal Horticultural Society or local horticultural society for further information. The assistance of the Northern Horticultural Society in preparing these lists is gratefully acknowledged. This series also includes sheets on Woodland, Hedges and Trees for Harrogate District.

# Ornamental Shrubs & Ground Cover of the Gritstone Plateaux, Dales & Upper/Middle Valley (CCA21, NA8)



(Upland Fringe, Grassland Plateau, Moorland Plateau).

Principal settlement: Pateley Bridge.

- upland area generally over 150 metres aod.
- poor drainage, winter waterlogging, flushes bogs and streams over clays, some pockets of drier conditions over sandy lenses.
- soils: poor acidic soils overlaying Millstone Grit or Millstone Grit with sandstone.
- moraines with mixed glacial deposits of clays and sandy soils.
- rock outcrops, cliffs and quarries are local features.

## Shrubs

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
Aucuba japonica e.g. 'Crotonifolia'	Cornus alba	Berberis x stenophylla	Berberis thunbergii
Berberis darwinii	Cornus stolonifera Corylus avellana	Gaultheria mucronata^	Hydrangea paniculata 'Grandiflora'
Ilex aquifolium	Cotinus coggyria	Gaultheria shallon^	Kerria japonica e.g. 'Variegata'
Ligustrum ovalifolium	Crataegus monogyna	Kalmia latifolia^	Lavatera (various)
Ligustrum ovalifolium 'Aureum'	Hamamelis mollis ^	Lavatera (various)	Philadelphus (various)
Ligustrum vulgare	Philadelphus (many)	Ledum groenlandicum	Rhododendron (Azalea)^
Mahonia aquifolium	Prunus spinosa	Lonicera nitida	Salix (most)
Pieris^ (various)	Rosa rugosa	Myrica gale^	Spiraea (most)
Prunus laurocerasus	Salix (most)	Pieris^ (various)	Viburnum opulus
Prunus lusitanica	Spiraea (most)	Rhododendron^ (many)^	
Rhododendron (many)	Tamarix^	Ulex^*	
Taxus baccata*	Viburnum opulus		
Thuja plicata*			

## Ground cover

evergreen (requires sun)	evergreen (shade-tolerant)	deciduous (requires sun)	deciduous (shade-tolerant)
Brachyglottis 'Sunshine'*	Aucuba japonica 'Nana Rotundifolia'	Cotoneaster horizontalis*	Cornus candensis^
Calluna vulgaris^	Berberis x stenophylla 'Corallina Compacta'*	Cytisus scoparius subsp. maritimus^*	Stephanandra incisa 'Crispa'
Cotoneaster 'Gnom'	Hedera (most)	Cytisus x kewensis^*	Symphoricarpos x chenaultii 'Hancock'*
Cotoneaster 'Skogholm'	Hypericum calycinum	Potentilla fruticosa 'Abbotswood'*	
Cotoneaster conspicuus 'Decorus'	Lonicera pileata	Potentilla fruticosa 'Longacre'*	
Cotoneaster dammeri	Mahonia repens	Rosa 'Nozomi'	
Erica (most)^*	Pachysandra terminalis	Rosa wichuriana	
Erica tetralix^	Prunus laurocerasus 'Otto Luyken'	Salix repens	
Euonymus fortunei	Prunus laurocerasus 'Zabeliana'	Vaccinium myrtillus^	
Vaccinium vitis-idaea^	Rhododendron (many)^, inc. Azalea (many)^		
	Rubus tricolor		
	Sarcococca hookeriana var. humilis*		
	Sasa veitchii		
	Skimmia japonica		
	Viburnum davidii		
	Vinca major and minor		

^ acidic soils \* well-drained soils

# Ornamental Shrubs & Ground Cover of the Dales Fringe & Lower Valley (CCA22, NA15)



(including Vale Fringe, South-East Harrogate Farmland, Central Farmland [part]not Upland Fringe). Principal settlements: Masham, Ripley, Harrogate, Huby.

- land generally between 80 metres aod and 150 metres aod.
- poor drainage, winter waterlogging, flushes bogs and streams except where overlying sandstone.
- soils: generally neutral brown soils but varying where overlaying mixed glacial deposits of moraine, boulder clays and alluvium or gritstone and sandstone outcrops.

## Shrubs

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
<i>Aucuba japonica</i> 'Crotonifolia'	<i>Acer palmatum</i> ^	<i>Berberis x stenophylla</i>	<i>Berberis thunbergii</i>
<i>Berberis darwinii</i>	<i>Amelanchier canadensis</i> ^	<i>Choisya ternata</i> *	<i>Caryopteris x clandonensis</i> *
<i>Berberis x stenophylla</i>	<i>Berberis x ottawensis</i> 'Superba'	<i>Cotoneaster integrifolius</i> (syn. <i>microphyllus</i> )	<i>Ceanothus</i> 'Gloire de Versailles'
<i>Cotoneaster lacteus</i>	<i>Buddleia davidii</i> cultivars*	<i>Gaultheria mucronata</i> ^	<i>Chaenomeles x superba</i> e.g. 'Knap Hill Scarlet'
<i>Elaeagnus pungens</i> 'Maculata'	<i>Cornus alba</i> 'Elegantissima'	<i>Gaultheria shallon</i> ^	<i>Deutzia</i> 'Mont Rose'
<i>Elaeagnus x ebbingei</i> *	<i>Cornus alba</i> 'Spaethii'	<i>Hypericum</i> 'Hidcote'	<i>Elaeagnus commutata</i> *
<i>Escallonia</i> 'Donard Seedling'	<i>Cornus kousa chinensis</i> ^	<i>Kalmia latifolia</i> ^	<i>Hydrangea microphylla</i> 'Nikko Blue'
<i>Fargesia nitida</i>	<i>Cornus mas</i>	<i>Lavandula angustifolia</i> *	<i>Hydrangea paniculata</i> 'Grandiflora'
<i>Ilex aquifolium</i> + cultivars	<i>Cornus stolonifera</i>	<i>Lavandula spica</i> *	<i>Kerria japonica</i> e.g. 'Variegata'
<i>Lavatera</i> (various)*	<i>Corylus avellana</i>	<i>Ledum groenlandicum</i>	<i>Philadelphus</i> (various)
<i>Ligustrum ovalifolium</i> 'Aureum'	<i>Cotinus coggyria</i> 'Royal Purple'	<i>Lonicera nitida</i> *	<i>Potentilla fruticosa</i> cultivars*
<i>Ligustrum ovalifolium</i> *	<i>Crataegus monogyna</i>	<i>Mahonia aquifolium</i>	<i>Rhododendron</i> (Azalea)^
<i>Ligustrum vulgare</i> *	<i>Crataegus oxycantha</i>	<i>Myrica gale</i> ^	<i>Ribes sanguineum</i> cultivars
<i>Magnolia</i> (many)	<i>Deutzia scabra</i>	<i>Pieris</i> (various)^	<i>Salix</i> (most)
<i>Mahonia japonica</i>	<i>Euonymus alatus</i> *	<i>Rhododendron</i> ^ (many)	<i>Spiraea</i> (most)
<i>Mahonia x media</i> 'Charity'	<i>Euonymus europaeus</i> 'Red Cascade'	<i>Ruscus aculeatus</i> *	<i>Viburnum opulus</i> 'Compactum'
<i>Osmanthus delavayi</i> *	<i>Hamamelis mollis</i> ^	<i>Sarcococca ruscifolia</i> *	<i>Weigela</i>
<i>Osmanthus heterophyllus</i> *	<i>Hamamelis x intermedia</i> 'Pallida'^	<i>Ulex</i> (various)^*	
<i>Phormium cookianum</i> cultivars*	<i>Kolkwitzia amabilis</i> 'Pink Cloud'		
<i>Photinia x fraseri</i> 'Red Robin'	<i>Lavatera</i> (various)*		
<i>Phyllostachys nigra</i>	<i>Magnolia</i> (many)		
<i>Pieris</i> (various)^	<i>Philadelphus</i> (many)		
<i>Prunus laurocerasus</i>	<i>Prunus cerasifera</i> 'Atropurpurea'		
<i>Prunus lusitanica</i>	<i>Prunus spinosa</i>		
<i>Rhododendron</i> (many)^	<i>Rosa rugosa</i>		
<i>Sarcococca confusa</i>	<i>Salix</i> (most)		
<i>Taxus baccata</i> *	<i>Sambucus nigra</i> 'Guincho Purple'		
<i>Thuja plicata</i> *	<i>Sambucus racemosa</i> 'Sutherland Gold'		
<i>Viburnum rhytidophyllum</i>	<i>Spiraea</i> (most)		
<i>Viburnum tinus</i> 'Eve Price'	<i>Symphoricarpos rivularis</i>		
<i>Viburnum x burkwoodii</i> 'Fulbrook'	<i>Syringa microphylla</i> 'Superba'		
	<i>Tamarix</i> ^*		
	<i>Viburnum opulus</i> + cultivars		
	<i>Viburnum plicatum</i> 'Mariesii'		
	<i>Viburnum x bodnantse</i>		

^ acidic soils \* well-drained soils

# Ground cover

evergreen (requires sun)	evergreen (shade-tolerant)	deciduous (requires sun)	deciduous (shade-tolerant)
Brachyglottis 'Sunshine'*	Aucuba japonica 'Nana Rotundifolia'	Cotoneaster horizontalis	Cornus canadensis^
Calluna vulgaris^	Berberis x stenophylla 'Corallina Compacta'*	Cytisus scoparius subsp. maritimus^*	Stephanandra incisa 'Crispa'
Cotoneaster 'Gnom'	Hedera (most)	Cytisus x kewensis^*	Symphoricarpos x chenaultii 'Hancock'*
Cotoneaster 'Skogholm'	Hypericum calycinum	Genista hispanica*	
Cotoneaster conspicuus 'Decorus'	Lonicera pileata	Potentilla fruticosa 'Abbotswood'*	
Cotoneaster dammeri	Mahonia repens	Potentilla fruticosa 'Longacre'*	
Erica (most)^*	Pachysandra terminalis	Rosa 'Grouse'	
Erica tetralix^	Pernettya mucronata^	Rosa 'Nozomi'	
Euonymus fortunei	Prunus laurocerasus 'Otto Luyken'	Rosa wichuriana	
Gaultheria (most)^	Prunus laurocerasus 'Zabeliana'	Salix repens	
Vaccinium vitis-idaea^	Rhododendron (many)^, inc. Azalea (many)^	Vaccinium myrtillus^	
	Rubus tricolor		
	Sarcococca hookeriana var. humilis*		
	Sasa veitchii		
	Skimmia japonica		
	Viburnum davidii		
	Vinca major		
	Vinca minor		

^ acidic soils \* well-drained soils



Shrubs for groundcover

# Ornamental Shrubs & Ground Cover of the Limestone Ridge (CCA30, NA23)



(including South Knaresborough Farmland, East Knaresborough Wooded Farmland [part], Central Farmland [part], East Ripon Ridge). Principal settlements: Ripon, Boroughbridge, Knarsborough.

- lowland ridge of Magnesian Limestone generally between 30 and 80 metres aod.
- warm soils with free drainage, occasional streams and ponds over alluvium deposits.
- soils: alkaline loam.

## Shrubs

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
<i>Aucuba japonica</i> e.g. 'Crotonifolia'	<i>Berberis x ottawensis</i> 'Superba'	<i>Berberis x stenophylla</i>	<i>Berberis thunbergii</i>
<i>Berberis darwinii</i>	<i>Buddleia davidii</i> cultivars	<i>Choisya ternata</i>	<i>Caryopteris x clandonensis</i>
<i>Berberis x stenophylla</i>	<i>Cornus alba</i> 'Elegantissima'	<i>Cotoneaster integrifolius</i> (syn. <i>microphyllus</i> )	<i>Ceanothus</i> 'Gloire de Versailles'
<i>Ceanothus</i> 'Autumnal Blue'	<i>Cornus alba</i> 'Spaethii'	<i>Hebe</i> 'Alicia Amherst'	<i>Chaenomeles x superba</i> e.g. 'Knap Hill Scarlet'
<i>Cotoneaster lacteus</i>	<i>Cornus mas</i>	<i>H.</i> 'Great Orme'	<i>Deutzia</i> 'Mont Rose'
<i>Cryptomeria japonica</i>	<i>Cornus stolonifera</i>	<i>H. brachysiphon</i> 'White Gem'	<i>Fuschia</i> (various)
<i>Eleagnus pungens</i> 'Maculata'	<i>Corylus avellana</i>	<i>H. rakiensis</i>	<i>Hydrangea paniculata</i> 'Grandiflora'
<i>Eleagnus x ebbingei</i>	<i>Cotinus coggyria</i> 'Royal Purple'	<i>Hypericum</i> 'Hidcote'	<i>Kerria japonica</i> e.g. 'Variegata'
<i>Escallonia</i> 'Apple Blossom'	<i>Crataegus monogyna</i>	<i>Juniperus x media</i> 'Pfitzerana'	<i>Perovskia</i> 'Blue Spire'
<i>Fargesia nitida</i>	<i>Crataegus oxycantha</i>	<i>Lavandula angustifolia</i>	<i>Philadelphus</i> (various)
<i>Hebe salicifolia</i>	<i>Deutzia scabra</i>	<i>Lavandula spica</i>	<i>Potentilla fruticosa</i> cultivars
<i>Ilex aquifolium</i> + cultivars	<i>Euonymus alatus</i>	<i>Lonicera nitida</i>	<i>Ribes sanguineum</i> cultivars
<i>Lavatera</i> (various)	<i>E. europaeus</i> 'Red Cascade'	<i>Mahonia aquifolium</i>	<i>Rosa spinosissima</i> hybrids
<i>Ligustrum ovalifolium</i>	<i>Hippophae rhamnoides</i>	<i>Rosmarinus officinalis</i>	<i>Salix</i> (most)
<i>Ligustrum ovalifolium</i> 'Aureum'	<i>Kolkwitzia amabilis</i> 'Pink Cloud'	<i>Ruscus aculeatus</i>	<i>Spiraea</i> (most)
<i>Ligustrum vulgare</i>	<i>Lavatera</i> (various)	<i>Sarcococca ruscifolia</i>	<i>Viburnum opulus</i> 'Compactum'
<i>Magnolia delavayi</i>	<i>Magnolia stellata</i>		<i>Weigela</i>
<i>Mahonia japonica</i>	<i>Magnolia wilsonii</i>		
<i>Mahonia x media</i> 'Charity'	<i>Magnolia x loebneri</i>		
<i>Osmanthus delavayi</i>	<i>Philadelphus</i> (many)		
<i>Phormium cookianum</i> cultivars	<i>Prunus spinosa</i>		
<i>Photinia x fraseri</i> 'Red Robin'	<i>P. cerasifera</i> 'Atropurpurea'		
<i>Phyllostachys nigra</i>	<i>Rosa rugosa</i>		
<i>Prunus lusitanica</i>	<i>Salix</i> (most)		
<i>Sarcococca confusa</i>	<i>Sambucus nigra</i> 'Guincho Purple'		
<i>Taxus baccata</i>	<i>S. racemosa</i> 'Sutherland Gold'		
<i>Thuja plicata</i>	<i>Spiraea</i> (most)		
<i>Viburnum rhytidophyllum</i>	<i>Symphoricarpos rivularis</i>		
<i>Viburnum tinus</i> 'Eve Price'	<i>Syringa microphylla</i> 'Superba'		
<i>Viburnum x burkwoodii</i> 'Fulbrook'	<i>Viburnum opulus</i> + cultivars		
	<i>Viburnum plicatum</i> 'Mariesii'		
	<i>Viburnum x bodnantse</i>		

# Ground cover

evergreen (requires sun)	evergreen (shade-tolerant)	deciduous (requires sun)	deciduous (shade-tolerant)
Artemisia 'Powis Castle'	Aucuba japonica 'Nana Rotundifolia'	Cotoneaster horizontalis	Stephanandra incisa 'Crispa'
Brachyglottis 'Sunshine'	Berberis x stenophylla 'Corallina Compacta'	Genista hispanica	Symphoricarpos x chenaultii 'Hancock'
Buxus sempervivens 'Prostata'	Hedera (most)	Potentilla fruticosa 'Abbotswood'	
Ceanothus prostratus	Hypericum calycinum	Potentilla fruticosa 'Longacre'	
Ceanothus thrysiflorus var. repens	Lonicera pileata	Rosa 'Grouse'	
Cotoneaster 'Gnom'	Mahonia repens	Rosa 'Nozomi'	
Cotoneaster 'Skogholm'	Rubus tricolor	Rosa wichuriana	
Cotoneaster conspicuus 'Decorus'	Sarcococca hookeriana var. humilis	Salix repens	
Cotoneaster dammeri	Sasa veitchii		
Euonymus fortunei	Skimmia japonica		
Hebe 'Autumn Glory'	Viburnum davidii		
Hebe 'Bowles Variety'	Vinca major		
Hebe pinguifolia 'Pagei'	Vinca minor		
Juniperus horizontalis			
Phlomis fruticosa			
Rosmarinus officinalis 'Prostratus'			
Santolina chamaecyparissus			



Shrubs for groundcover

# Ornamental Shrubs & Ground Cover of the Vale of York (CCA28, NA16)



(West York Farmland, East Knaresborough Wooded Farmland [part], Floodplain Farmland) Principal settlements: Tockwith, Long Marston, Nun Monkton.

- low lying, flat or gently undulating land generally below 30 metres aod.
- often with poor drainage and winter waterlogging.
- soils: generally neutral brown soils, varying where overlaying mixed glacial deposits of clays and sandy soils.

## Shrubs

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
<i>Aucuba japonica</i> e.g. 'Crotonifolia'	<i>Acer palmatum</i> <sup>^</sup>	<i>Berberis x stenophylla</i>	<i>Berberis thunbergii</i> *
<i>Berberis darwinii</i>	<i>Amelanchier canadensis</i> <sup>^</sup>	<i>Choisya ternata</i> *	<i>Caryopteris x clandonensis</i> *
<i>Berberis x stenophylla</i>	<i>Berberis x ottawensis</i> 'Superba'	<i>Cotoneaster integrifolius</i> * (syn. <i>microphyllus</i> )	<i>Ceanothus</i> 'Gloire de Versailles'
<i>Ceanothus</i> 'Autumnal Blue'	<i>Buddleia davidii</i> cultivars*	<i>Gaultheria mucronata</i> <sup>^</sup>	<i>Chaenomeles x superba</i> e.g. 'Knap Hill Scarlet'
<i>Cotoneaster lacteus</i>	<i>Cornus alba</i> 'Elegantissima'	<i>Gaultheria shallon</i> <sup>^</sup>	<i>Deutzia</i> 'Mont Rose'
<i>Cryptomeria japonica</i>	<i>Cornus alba</i> 'Spaethii'	<i>Hebe</i> 'Alicia Amherst'	<i>Eleagnus commutata</i> *
<i>Eleagnus pungens</i> 'Maculata'	<i>Cornus kousa chinensis</i> <sup>^</sup>	<i>Hebe</i> 'Great Orme'	<i>Fuschia</i> (various)
<i>Eleagnus x ebbingei</i> *	<i>Cornus mas</i>	<i>Hebe brachysiphon</i> 'White Gem'	<i>Hydrangea macrophylla</i> 'Nikko Blue'
<i>Escallonia</i> 'Donard Seedling'	<i>Cornus stolonifera</i>	<i>Hebe rakiensis</i>	<i>Hydrangea paniculata</i> 'Grandiflora'
<i>Fargesia nitida</i>	<i>Corylus avellana</i>	<i>Hypericum</i> 'Hidcote'	<i>Kerria japonica</i> e.g. 'Variegata'
<i>Hebe salicifolia</i>	<i>Cotinus coggyria</i> 'Royal Purple'	<i>Juniperus x media</i> 'Pfitzerana'	<i>Lavatera</i> (various)*
<i>Ilex aquifolium</i> + cultivars	<i>Crataegus monogyna</i>		<i>Perovskia</i> 'Blue Spire'
<i>Lavatera</i> (various)*	<i>Crataegus oxycantha</i>	<i>Kalmia latifolia</i> <sup>^</sup>	<i>Philadelphus</i> (various)
<i>Ligustrum ovalifolium</i> 'Aureum'	<i>Deutzia scabra</i>	<i>Lavandula angustifolia</i> *	<i>Potentilla fruticosa</i> cultivars*
<i>Ligustrum ovalifolium</i> *	<i>Euonymus alatus</i> *	<i>Lavandula spica</i> *	<i>Rhododendron</i> (Azalea) <sup>^</sup>
<i>Ligustrum vulgare</i> *	<i>Euonymus europaeus</i> 'Red Cascade'	<i>Lavatera</i> (various)*	<i>Ribes sanguineum</i> cultivars
<i>Magnolia</i> (many)	<i>Hamamelis mollis</i> <sup>^</sup>	<i>Lonicera nitida</i> *	<i>Salix</i> (most)
<i>Mahonia japonica</i>	<i>Hamamelis x intermedia</i> 'Pallida'	<i>Mahonia aquifolium</i>	<i>Spiraea</i> (most)
<i>Mahonia x media</i> 'Charity'	<i>Hippophae rhamnoides</i>	<i>Myrica gale</i> <sup>^</sup>	<i>Viburnum opulus</i> 'Compactum'
<i>Osmanthus delavayi</i> *	<i>Kolkwitzia amabilis</i> 'Pink Cloud'	<i>Pieris</i> (various) <sup>^</sup>	<i>Weigela</i> (most)
<i>Osmanthus heterophyllus</i> *	<i>Lavatera</i> (various)*	<i>Rhododendron</i> (various) <sup>^</sup> inc. <i>Azalea</i> (various) <sup>^</sup>	
<i>Phormium cookianum</i> cultivars*	<i>Magnolia x soulangiana</i>	<i>Rosmarinus officinalis</i> *	
<i>Photinia x fraseri</i> 'Red Robin'	<i>Philadelphus</i> (many)*	<i>Ruscus aculeatus</i> *	
<i>Phyllostachys nigra</i>	<i>Prunus cerasifera</i> 'Atropurpurea'	<i>Sarcococca ruscifolia</i> *	
<i>Pieris</i> (various) <sup>^</sup>	<i>Prunus spinosa</i>	<i>Ulex</i> (various) <sup>^</sup> *	
<i>Prunus laurocerasus</i>	<i>Rosa rugosa</i>		
<i>Prunus lusitanica</i>	<i>Salix</i> (most)		
<i>Pyracantha rogersiana</i> *	<i>Sambucus nigra</i> 'Guincho Purple'		
<i>Rhododendron</i> (many) <sup>^</sup>	<i>Sambucus racemosa</i> 'Sutherland Gold'		
<i>Sarcococca confusa</i>	<i>Spiraea</i> (most)		
<i>Taxus baccata</i> *	<i>Symphoricarpos rivularis</i>		

<sup>^</sup> acidic soils \* well-drained soils

## Shrubs (continued)

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
Thuja plicata*	Syringa microphylla 'Superba'*		
Viburnum rhytidophyllum	Tamarix^*		
Viburnum tinus 'Eve Price'	Viburnum opulus + cultivars		
Viburnum x burkwoodii 'Fulbrook'	Viburnum plicatum 'Mariesii'		
	Viburnum x bodnantse		

^ acidic soils \* well-drained soils

## Ground cover

evergreen (requires sun)	evergreen (shade-tolerant)	deciduous (requires sun)	deciduous (shade-tolerant)
Artemisia 'Powis Castle'*	Aucuba japonica 'Nana Rotundifolia'	Cotoneaster horizontalis	Cornus canadensis^
Brachyglottis 'Sunshine'*	Berberis x stenophylla 'Corallina Compacta'	Cytisus scoparius subsp. maritimus^*	Stephanandra incisa 'Crispa'
Buxus sempervivens 'Prostrata'*	Hedera (most)	Cytisus x kewensis^*	Symphoricarpos x chenaultii 'Hancock'*
Calluna vulgaris and cultivars^	Hypericum calycinum	Genista hispanica*	
Ceanothus prostratus*	Lonicera pileata	Potentilla fruticosa 'Abbotswood'*	
Ceanothus thrysiflorus var. repens*	Mahonia repens	Potentilla fruticosa 'Longacre'*	
Cotoneaster 'Gnom'	Pachysandra terminalis	Rosa 'Grouse'	
Cotoneaster 'Skogholm'	Pernettya mucronata^	Rosa 'Nozomi'	
Cotoneaster conspicuus 'Decorus'	Prunus laurocerasus 'Otto Luyken'	Rosa wichuriana	
Cotoneaster dammeri	Prunus laurocerasus 'Zabeliana'	Salix repens	
Erica (most)^*	Rubus tricolor	Vaccinium myrtillus^	
Erica tetralix^	Sarcococca hookeriana var. humilis*		
Euonymus fortunei	Sasa veitchii		
Gaultheria (most)^	Skimmia japonica		
Hebe 'Autumn Glory'	Viburnum davidii		
Hebe 'Bowles Variety'	Vinca major		
Hebe pinguifolia 'Pagei'	Vinca minor		
Juniperus horizontalis*			
Phlomis fruticosa*			
Rosmarinus officinalis 'Prostratus'*			
Santolina chamaecyparissus*			
Vaccinium vitis-idaea^			

^ acidic soils \* well-drained soils

A wide range of climbers and wall shrubs can be grown in Harrogate District, selected to suit ground conditions that vary from the thin acidic soils of the exposed upland moors to the well-drained alkaline loams of the Limestone ridge to the fertile but heavy clays of the low-lying Vale and the waterlogged soils of the floodplain. The landscape character of the different areas is described at a regional level in the 'Countryside Character Areas (CCA) and Natural Areas' (NA) identified by the Countryside Agency and English Nature and at a local level in the 'Harrogate District Landscape Appraisal (1993)'. (See Guidance Sheet LDG1.6) For information about plant suppliers please contact the Landscape Architect in the Planning Division on 01423 556592.

## Types of climbing plant & wall shrubs

**Climbing plants** are generally classified according to the way that they climb:

### Self-clinging

climbers can cling to sheer, vertical surfaces by producing:

*adhesive pads at the end of tendrils to cling to surfaces e.g. Parthenocissus quinquefolia (Virginia creeper);*

*small adventitious rootlets that form along their stems e.g. Hedera helix (ivy). These rootlets will not penetrate into the surface of the wall or tree on which they climb, but because their grip is very strong they may bring with them any loose plaster, crumbling mortar or weak bark if they are pulled off.*



A section of adventitious stem

### Twining

these plants cannot climb a flat surface such as a wall but will explore along wires, over trellis or up branches. These plants can be difficult to remove when they are entwined with other plants. They climb by:

*sending out tendrils which reach out and wind around narrow supports such as wire or slim branches e.g. Lathyrus odoratus (Sweet pea);*

*twining their stems along and around supports e.g. Lonicera periclymenum (honeysuckle);*

*curling special leaf-stalks around supports e.g. Clematis vitalba (traveller's joy/old man's beard).*



A twining tendril

### Scandent, scrambling, rambling and trailing plants

send out long stems which reach up or along and lie over the support. Some of these plants have thorns or spurs which provide extra means of holding onto the support e.g. Rosa 'Constance Spry'. If grown against a vertical structure such as wall these plants will need tying to a trellis or wire framework.



Ceanothus - a wall shrub which benefits from support.

Wall shrubs comprise those plants which are normally grown against a wall or other vertical structure to benefit from additional support, but the term may also be used for those plants which benefit from the warmth and shelter of a wall. The lists below also include those shrubs which are amenable to being trained against a wall to create a decorative effect.

# General guidelines for climbing plant & wall shrub species choice

Planting that respects the local landscape character and the specific site conditions (soil acidity, drainage, altitude) will fit in well with its surroundings. Climbing plants and wall shrubs can provide useful habitat for wildlife and can reinforce local distinctiveness; look at plants in the local area for ideas.

Some ornamental plant species are toxic and the risk associated with their use in a given location should be carefully considered; some ornamental plants look inappropriate in a rural setting.



Think about the rate of growth and the associated maintenance requirement: for example, fast growing species such as *Polygonum baldschuanicum* (Russian vine, Mile-a-minute) and *Hedera helix* (Ivy) can become a nuisance unless they are kept in check by rigorous trimming. Pruning methods vary according to the type of plant and the effect that is required and includes pruning



to create a shape (espalier, fan or cordon fruit trees), pruning required to stimulate flower production (e.g. clematis, roses) and renovative pruning to regenerate an old climber or control a plant that has grown beyond its allocated space.

Look at good examples of climbing plants and wall shrubs near your site to see which species are present, how they are grouped, and how they relate to site conditions for example poor drainage or local stone outcrops. Plants of local provenance (that have been raised from local plants and grown locally) will be best adapted to the local conditions.

The following plant lists for climbers and wall shrubs are grouped under different landscape character areas to provide a 'menu' from which to choose a range of plants. Herbaceous climbing plants (annuals or perennials) are not included. Botanical names rather than common names are given for precision; an index of botanical: common names is attached as a separate sheet.

**These lists represent a *starting point* from which to develop your own proposals.**

# Climbers & Wall Shrubs of the Gritstone Plateaux, Dales & Upper /Middle Valley (CCA21, NA8)



(Upland Fringe, Grassland Plateau, Moorland Plateau). Principal settlement: Pateley Bridge.

- upland area generally over 150 metres aod .
- poor drainage, winter waterlogging, flushes bogs and streams over clays, some pockets of drier conditions over sandy lenses.
- soils: poor acidic soils overlaying Millstone Grit or Millstone Grit with sandstone.
- moraines with mixed glacial deposits of clays and sandy soils.
- rock outcrops, cliffs and quarries are local features.

## Climbers and wall shrubs within settlements

### North and east facing walls

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
<i>Azara microphylla</i>	<i>Forsythia suspensa</i>	<i>Euonymus fortunei</i>	<i>Cotoneaster horizontalis</i>
<i>Hedera colchica</i>	<i>Lonicera periclymenum</i> <sup>^</sup>		
<i>Hedera helix</i>	<i>Parthenocissus</i>		
<i>Pyracantha</i> <sup>*</sup>			

### South and west facing walls

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
<i>Hedera colchica</i>	<i>Hydrangea petiolaris</i>	<i>Euonymus fortunei</i>	<i>Chaenomeles</i>
<i>Hedera helix</i>	<i>Lonicera periclymenum</i> <sup>^</sup>		<i>Cotoneaster horizontalis</i>
<i>Pyracantha</i> <sup>*</sup>	<i>Parthenocissus</i>		

\*well-drained soils ^ moist but well-drained soil

picture of a climber(arboreal ivy)

Another picture of climbing plant

# Climbers & Wall Shrubs of the Dales Fringe & Lower Valley (CCA22, NA15)



(including Vale Fringe, South-East Harrogate Farmland, Central Farmland [part]; not Upland Fringe) Principal settlements: Masham, Ripley, Harrogate, Huby.

- land generally between 80 metres aod and 150 metres aod.
- poor drainage, winter waterlogging, flushes bogs and streams.
- soils: generally neutral brown soils but varying where overlaying mixed glacial deposits of moraine, boulder clays and alluvium or gritstone and sandstone outcrops.

## Climbers and wall shrubs within settlements

### North and East facing walls

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
Akebia quinata <sup>^</sup>	Chaenomeles speciosa*	Camellia x williamsii <sup>^†</sup>	Chaenomeles x superba*
Azara microphylla	Hydrangea petiolaris <sup>^</sup>	Mahonia japonica <sup>^</sup>	Clematis alpina*
Berberis x stenophylla*	Jasminum nudiflorum*	Osmanthus x burkwoodii*	Clematis macropetala*
Camellia japonica <sup>^†</sup>	Lonicera periclymenum <sup>^</sup>	Ribes laurifolium*	Clematis montana*
Crinodendron hookerianum <sup>^‡</sup>	Parthenocissus quinquefolia*		Cotoneaster horizontalis*
Escallonia rubra var. macrantha*	Parthenocissus tricuspidata*		Kerria japonica*
Euonymus fortunei*	Rosa <sup>^</sup> 'Alberic Barbier'		Rosa <sup>^</sup> 'Danse de Feu'
Garrya elliptica*	R. 'Felicite Perpetue'		R. 'Dortmund'
Hedera colchica	R. 'Gloire de Dijon'		R. 'Golden Showers'
Hedera helix	R. 'Guinee'		R. 'Leverkusen'
Lonicera japonica 'Halliana' <sup>^</sup>	R. 'Madame Alfred Carriere'		R. 'Maigold'
Mahonia x media <sup>^</sup>	R. 'Madame Gregoire Staechelin'		R. 'New Dawn'
Osmanthus yunnanensis			R. 'Zepherine Drouhin'
Pileostegia viburnoides*			Viburnum foetens <sup>^</sup>
Pyracantha*			Viburnum grandiflorum <sup>^</sup>

### South and west facing walls

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
Clematis armandii*	Chaenomeles speciosa*	Ceanothus burkwoodii*	Chaenomeles x superba*
Clematis cirrhosa*	Clematis (many)*	Choisya ternata*	Ribes speciosum*
Euonymus fortunei <sup>^</sup>	Humulus lupulus <sup>^</sup>	Piptanthus nepalensis*	
Fremontodendron 'California Glory' <sup>^</sup>	Hydrangea petiolaris <sup>^</sup>		
Garrya elliptica 'James Roof'*	Jasminum officinale*		
Hedera colchica	Jasminum nudiflorum*		
Hedera helix	Lonicera x americana <sup>^</sup>		
Magnolia grandiflora <sup>^</sup>	Lonicera caprifolium <sup>^</sup>		
Osmanthus delavayi*	Lonicera periclymenum <sup>^</sup>		
Pyracantha*	Parthenocissus quinquefolia*		
Solanum crispum 'Glasnevin' <sup>^</sup>	Parthenocissus tricuspidata*		
	Rosa spp. (most) <sup>^</sup>		
	Vitis coignetiae <sup>^</sup>		
	Wisteria		

\*well-drained soils <sup>^</sup>moist but well-drained soils <sup>†</sup>north walls only <sup>‡</sup>acidic soils

# Climbers & Wall Shrubs of the Limestone Ridge (CCA30, NA23)



(including South Knaresborough Farmland, East Knaresborough Wooded Farmland [part], Central Farmland [part], East Ripon Ridge). Principal settlements: Ripon, Boroughbridge, Knaresborough.

- lowland ridge of Magnesian Limestone generally between 30 and 80 metres aod.
- soils: alkaline loam.

## Climbers and wall shrubs within settlements

### North and east facing walls

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
Akebia quinata <sup>^</sup>	Chaenomeles speciosa <sup>*,**</sup>	Mahonia japonica <sup>^</sup>	Chaenomeles x superba <sup>*,**</sup>
Berberis x stenophylla <sup>*</sup>	Hydrangea petiolaris <sup>^**</sup>	Osmanthus x burkwoodii <sup>*</sup>	Clematis alpina <sup>*</sup>
Escallonia rubra var. macrantha <sup>*</sup>	Jasminum nudiflorum <sup>*</sup>	Ribes laurifolium <sup>*</sup>	Clematis macropetala <sup>*</sup>
Euonymus fortunei <sup>*</sup>	Lonicera periclymenum <sup>^</sup>		Clematis montana <sup>*</sup>
Garrya elliptica <sup>*</sup>	Parthenocissus quinquefolia <sup>*</sup>		Cotoneaster horizontalis <sup>*</sup>
Hedera colchica	Parthenocissus tricuspidata <sup>*</sup>		Kerria japonica <sup>*</sup>
Hedera helix	Rosa <sup>^</sup> 'Alberic Barbier',		Rosa <sup>^</sup> 'Danse de Feu'
Lonicera japonica 'Halliana' <sup>^</sup>	R. 'Felicite Perpetue'		R. 'Dortmund'
Mahonia x media <sup>^</sup>	R. 'Gloire de Dijon'		R. 'Golden Showers'
Osmanthus yunnanensis <sup>*</sup>	R. 'Guinee'		R. 'Leverkusen'
Photinia x fraseri 'Red Robin' <sup>^</sup>	R. 'Madame Alfred Carriere'		R. 'Maigold'
Pileostegia viburnoides <sup>*</sup>	R. 'Madame Gregoire Staechelin'		R. 'New Dawn'
Pyracantha <sup>*</sup>			R. 'Zepherine Drouhin'
			Viburnum foetens <sup>^</sup>
			Viburnum grandiflorum <sup>^</sup>

### South and west facing walls

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
Clematis armandii	Abeliophyllum distichum	Ceanothus burkwoodii <sup>*</sup>	Chaenomeles x superba <sup>*,**</sup>
Clematis cirrhosa	Actinidia kolomika	Choisya ternata <sup>*</sup>	Ribes speciosum <sup>*</sup>
Euonymus fortunei <sup>^</sup>	Akebia quinata <sup>^</sup>	Euonymus fortunei 'Silver Queen'	
Fremontodendron 'California Glory' <sup>^</sup>	Ceanothus (various) <sup>**</sup>	Piptanthus nepalensis <sup>*</sup>	
Garrya elliptica 'James Roof'	Chaenomeles speciosa <sup>*,**</sup>		
Hedera canariensis	Clematis (many)		
Hedera colchica	Humulus lupulus <sup>^</sup>		
Hedera helix (various)	Hydrangea petiolaris <sup>^**</sup>		
Magnolia grandiflora <sup>^</sup>	Jasminum officinale <sup>*</sup>		
Osmanthus delavayi <sup>*</sup>	Jasminum nudiflorum <sup>*</sup>		
Pyracantha <sup>*</sup>	Lonicera x americana <sup>^</sup>		
Solanum crispum 'Glasnevin' <sup>^</sup>	Lonicera caprifolium <sup>^</sup>		
x Fatshedera lizei	Lonicera periclymenum <sup>^</sup>		
	Parthenocissus quinquefolia <sup>*</sup>		
	Parthenocissus tricuspidata <sup>*</sup>		
	Rosa spp. (most) <sup>^</sup>		
	Vitis coignetiae <sup>^</sup>		
	Wisteria		

\*well-drained soils ^ moist but well-drained soil \*\* not shallow soils

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# Climbers & Wall Shrubs of the Vale of York (CCA28, NA16)



(West York Farmland, East Knaresborough Wooded Farmland [part], Floodplain Farmland) Principal settlements: Tockwith, Long Marston, Nun Monkton.

- low lying, flat or gently undulating land generally below 30 metres aod.
- often with poor drainage and winter waterlogging.
- soils: generally neutral brown soils, varying where overlaying mixed glacial deposits of clays and sandy soils.

## Climbers & wall shrubs: clay soils (within settlements)

### North and east facing walls (\*north walls only)

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
<i>Akebia quinata</i> ^	<i>Chaenomeles speciosa</i> *	<i>Camellia x williamsii</i> ^†	<i>Chaenomeles x superba</i> *
<i>Azara microphylla</i>	<i>Clematis alpina</i>	<i>Daphne odora</i> ^	<i>Clematis alpina</i> *
<i>Berberis x stenophylla</i> *	<i>Clematis macropetala</i>	<i>Mahonia japonica</i> ^	<i>Clematis macropetala</i> *
<i>Camellia japonica</i> ^†	<i>Clematis montana</i>	<i>Osmanthus x burkwoodii</i> *	<i>Clematis montana</i> *
<i>Crinodendron hookerianum</i> ^‡	<i>Fallopia baldschuanicum</i>	<i>Ribes laurifolium</i> *	<i>Cotoneaster horizontalis</i> *
<i>Escallonia rubra var. macrantha</i> *	<i>Hydrangea petiolaris</i> ^		<i>Kerria japonica</i> *
<i>Euonymus fortunei</i> *	<i>Jasminum nudiflorum</i> *		<i>Rosa</i> ^ 'Danse de Feu',
<i>Garrya elliptica</i> *	<i>Lonicera periclymenum</i> ^		<i>R.</i> 'Dortmund',
<i>Hedera colchica</i>	<i>Parthenocissus quinquefolia</i> *		<i>R.</i> 'Golden Showers',
<i>Hedera helix</i>	<i>Parthenocissus tricuspidata</i> *		<i>R.</i> 'Leverkusen', ,
<i>Lonicera japonica</i> 'Halliana'^	<i>Rosa</i> ^ 'Alberic Barbier',		<i>R.</i> 'Maigold',
<i>Mahonia x media</i> ^	<i>R.</i> 'Felicite Perpetue',		<i>R.</i> 'New Dawn',
<i>Osmanthus yunnanesis</i> *	<i>R.</i> 'Gloire de Dijon', 'Guinee',		<i>R.</i> 'Zepherine Drouhin'
<i>Photinia x fraseri</i> 'Red Robin'^	<i>R.</i> 'Madame Alfred Carriere',		<i>Viburnum foetens</i> ^
<i>Pileostegia viburnoides</i> *	<i>R.</i> 'Madame Gregoire Staechelin'		<i>Viburnum grandiflorum</i> ^
<i>Pyracantha</i> *			

### South and west facing walls

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
<i>Cytisus battandieri</i> *	<i>Chaenomeles speciosa</i> *	<i>Ceanothus burkwoodii</i> *	<i>Chaenomeles x superba</i> *
<i>Euonymus fortunei</i> ^	<i>Humulus lupulus</i> ^	<i>Choisya ternata</i> *	<i>Ribes speciosum</i> *
<i>Fremontodendron</i> 'California Glory'^	<i>Hydrangea petiolaris</i> ^	<i>Myrtus communis</i> ^	<i>Rosa</i> (many) ^
<i>Garrya elliptica</i> 'James Roof'*	<i>Jasminum officinale</i> *	<i>Piptanthus nepalensis</i> *	
<i>Hedera colchica</i>	<i>Jasminum nudiflorum</i> *		
<i>Hedera helix</i> (various)	<i>Lonicera x americana</i> ^		
<i>Magnolia grandiflora</i> ^	<i>Lonicera caprifolium</i> ^		
<i>x Fatshedera lizei</i>	<i>Lonicera periclymenum</i> ^ (various)		
<i>Osmanthus delavayi</i> *	<i>Parthenocissus quinquefolia</i> *		
<i>Pyracantha</i> *	<i>Parthenocissus tricuspidata</i> *		
<i>Solanum crispum</i> 'Glasnevin'^	<i>Polygonum baldschuanicum</i> ,		
	<i>Ribes speciosum</i>		
	<i>Rosa</i> spp. (many)^		
	<i>Trachelospermum asiaticum</i>		
	<i>Wisteria</i>		
	<i>Vitis coignetiae</i> *		

\*well-drained soils ^ moist but well-drained soil

# Vale of York, Climbers and wall shrubs: free draining/sandy soils (within settlements)

## North and east facing walls

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
Akebia quinata <sup>^</sup>	Chaenomeles speciosa	Camellia x williamsii <sup>^†</sup>	Chaenomeles x superba
Berberis x stenophylla	Hydrangea petiolaris <sup>^</sup>	Daphne odora <sup>^</sup>	Clematis alpina
Camellia japonica <sup>^†</sup>	Jasminum nudiflorum	Mahonia japonica <sup>^</sup>	Clematis macropetala
Crinodendron hookerianum <sup>^‡</sup>	Lonicera periclymenum <sup>^</sup>	Osmanthus x burkwoodii	Clematis montana
Escallonia rubra var. macrantha	Parthenocissus quinquefolia	Ribes laurifolium	Cotoneaster horizontalis
Euonymus fortunei	Parthenocissus tricuspidata		Kerria japonica
Garrya elliptica	Rosa <sup>^</sup> 'Alberic Barbier',		Rosa <sup>^</sup> 'Danse de Feu',
Hedera colchica	R. 'Felicite Perpetue',		R. 'Dortmund',
Hedera helix	R. 'Gloire de Dijon',		R. 'Golden Showers',
Lonicera japonica 'Halliana' <sup>^</sup>	R. 'Guinee',		R. 'Leverkusen',
Mahonia x media <sup>^</sup>	R. 'Madame Alfred Carriere',		R. 'Maigold',
Osmanthus yunnanensis	R. 'Madame Gregoire Staechelin'		R. 'New Dawn',
Photinia x fraseri 'Red Robin' <sup>^</sup>			R. 'Zepherine Drouhin'
Pileostegia viburnoides			Viburnum foetens <sup>^</sup>
Pyracantha			Viburnum grandiflorum <sup>^</sup>

## South and west facing walls

Tall evergreen	Tall deciduous	Medium evergreen	Medium deciduous
Cytisus battandieri	Abeliophyllum distichum	Ceanothus burkwoodii	Chaenomeles x superba
Clematis armandii	Actinidia kolomika	Choisya ternata	Ribes speciosum
Clematis cirrhosa	Akebia quinata <sup>^</sup>	Euonymus fortunei 'Silver Queen'	
Euonymus fortunei <sup>^</sup>	Ceanothus (various)	Myrtus communis <sup>^</sup>	
Garrya elliptica 'James Roof'	Chaenomeles speciosa	Piptanthus nepalensis	
Hedera canariensis	Clematis (many)		
Hedera colchica	Cytisus battandieri		
Hedera helix (various)	Hydrangea petiolaris <sup>^</sup>		
Magnolia grandiflora <sup>^</sup>	Jasminum officinale		
Osmanthus delavayi	Jasminum nudiflorum		
Pyracantha	Lonicera x americana <sup>^</sup>		
x Fatshedera lizei	Lonicera caprifolium <sup>^</sup>		
	Lonicera periclymenum <sup>^</sup>		
	Parthenocissus quinquefolia		
	Parthenocissus tricuspidata		
	Polygonum baldschuanicum		
	Rosa spp. (most) <sup>^</sup>		
	Wisteria		

\*well-drained soils <sup>^</sup> moist but well-drained soil