

Part M:

Landscape Design and Trees

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This part the Development Requirements SPD provides further detailed guidance on the interpretation of the following Core Strategy policies, as appropriate:

- CS.2 Climate Change and Sustainable development
- CS.5 Landscape
- CS.6 Natural Environment
- CS.7 Green Infrastructure
- CS.9 Design and Distinctiveness
- CS.25 Healthy Communities (open space)

It provides guidance and advice on how applicants can achieve a good standard of landscape design in new development. It should be read in conjunction with other relevant parts of the SPD, in particular Part C & D Design Principles.

This SPD will be used by Stratford-on-Avon District Council to help reach decisions on whether to approve or refuse planning applications. Making sure that applications comply with the guidance contained within the SPD will make it easier for the Council to grant planning permission. The Council's Planning Policies are set out in the Core Strategy available at www.stratford.gov.uk/corestrategy. Key words or terms which appear throughout the document are included in the Glossary.

M1. Landscape context

In addition to meeting any open space requirements (see Part O: Open Space) the starting point for landscape schemes for major developments should be led by the findings and outcome of their landscape and visual appraisal or assessment (LVIA). These should be prepared by a chartered Landscape Architect (MLI) following the latest edition of Landscape Institute's Guidelines for Landscape and Visual Impact Assessment and submitted as part of the application. This should help to explain the landscape approach, layout or provision of landscape space being provided at the development as well as the species that are being shown in the detailed landscape plan accompanying the development proposal. Such assessments will have provided useful identification of the immediate local landscape character and features in and around the site, the wider Warwickshire landscape character context as well as identifying the key public views leading to the areas of the proposed development where mitigation is most required in order to sufficiently reduce the development's visual impact. Where landscape plans are submitted that appear to be out of context to their surrounding local setting, such plans are unlikely to be supported, without significant amendments.

Even for much smaller scale development proposals, consideration of the existing landscape character of the locality; amount of tree cover; topography; any existing tree features; typical hedge or other types of boundary treatments in the locality; are all useful indicators of what new landscape proposals are likely to be appropriate site.

The success of a Landscape scheme will therefore depend on the way in which it helps to integrate the development proposals with its wider surroundings setting and local context. Schemes should therefore seek to incorporate as many existing site features as possible, both to retain a sense of continuity in the appearance of the site and to re-use any existing valuable resources. Existing features may include trees, hedgerows, boundary walls or railings, water features, heritage paving or other details particular to the site.

New Structural Planting

In addition to retaining existing trees and hedges, developments, particularly major schemes, are likely to require new structural planting (buffers) around site boundaries, especially if they are proposed within open countryside or have a boundary with open countryside or are at the edge of a settlement. Consideration of the scale bulk and height of the development and the mature size and stature of any proposed tree species should be considered when designing a landscape scheme. Landscape cross sections may also assist in selecting suitable tree species.

Such buffers should contain a mixture of planting sizes including (60-80cm) whip planting at 1m centre densities, but also including feathered and light standard trees. Such planting should consist of locally, rather than nationally, native species. The exact tree and shrub planting species mix should depend on the local character area where the development site is situated. Across the District there is some species variation, related largely to soil types. For example birch trees are not characteristic and therefore not appropriate in Feldon, Ironstone Uplands, Cotswold Fringe and Stour Valley areas but they can be appropriate within a landscape scheme for the northern, Arden part of this District. See Part N – Appendix 1 for extracts from Warwickshire

Development Requirements Supplementary Planning Document (SPD)

Landscape Guidelines showing character areas and locally native species lists for each area.

The structural planting buffer areas should be of sufficient width to allow for mature native tree crown spreads. However required widths will vary depending on other individual site specific factors, for example including topography, existing local landscape character regarding trees or woodland, the heights and scale of the proposed development. There are also parts of the District where new tall dense structural mitigation tree planting may be inappropriate amongst the key characteristics of that landscape type. (For further detailed information on landscape character in Warwickshire, please find the link to Warwickshire County Council's Warwickshire Landscape Guidelines

https://www.warwickshire.gov.uk/?page_id=713128

The long term objective of such structural soft landscape planting is to help create attractive, positive edges to developments to help them integrate better into open countryside or edge of settlement locations. They provide a 'green' planted buffer between what is often contrasting hard materials such as brick buildings, roofs, hard standing and fencing associated with built developments and undeveloped, open countryside land use beyond.

New Native species hedges

These are usually appropriate as soft boundaries within open countryside or rural settlement locations. (Please see species list section Part N – Appendix 1). The usual native hedge planting standard expected is 5 No. plants per linear metre in a double staggered row, 450mm apart. Other green leaved hedge species may be appropriate in more urban locations.

In rural areas, new planting should predominantly consist of locally native species, as per Warwickshire Landscape Guidelines, particularly if a development is either within or forming a boundary adjacent to open countryside at a settlement edge. , Within the more urban areas, more ornamental plant species that are appropriate to the site and its function may also be considered.

Generally spiral topiary or other highly contrasting architectural, urban accent style or highly coloured shrubs are unlikely to be appropriate on landscape schemes within this rural District. However they may be considered on planting schemes associated with contemporary designed developments located in town centre locations, where there is no identifiable more traditional or native planting context to the site surroundings. Similarly new bulb planting and wetland planting around SUDS areas should be appropriate to its context with native bulbs and native marginal or aquatic planting being more likely to be suitable.

¹ Warwickshire, Coventry & Solihull Sub-Regional Green Infrastructure Study (2013)



Fig. M1 shows an example of appropriate hedging in a new development in Stratford-upon-Avon.

Strong, attractive coherent design is created from a simple, clearly identifiable limited palette of plant materials. Incoherent, ad hoc planting using extensive different tree and shrub varieties will not be supported. It results in weak, unrecognisable design, which lacks any identifiable local distinctiveness or sense of place. Such patchy 'scattergun' planting also tends to be removed more quickly by future owners, as it appears to offer little public amenity purpose to the surrounding area. This results in poor long term landscape planting quality overall within the development.

Within proposed Public Open Space (POS) areas, the Council is likely to accept greater flexibility on proposed species, provided that any ecological habitat biodiversity requirements are still met and that the species proposed remain visually unobtrusive and are not of highly contrasting form, colour or character with the location.

The concept of 'edible planting' such as fruit trees, plants with berries and herb species is encouraged. This would be particularly appropriate in association with new community orchard areas or new allotments in public open space areas.

Community Orchard

The introduction of new orchard planting in this District is positively encouraged. As well as being highly appropriate to maintain, enhance and restore links between sometimes remnant or isolated local landscape character orchard features, particularly along the elevated fringes of the Avon Valley, they can also provide valuable new community assets. It is expected that appropriate locally native 'heritage' fruit species should be proposed eg Warwickshire Drooper Plum, Wyken Pippin.

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For further useful information on Warwickshire Orchards, suitable species and existing local community orchards please contact Warwickshire Wildlife Trust www.warwickshirewildlifetrust.org.uk or see Warwickshire County Council website for the latest orchard plan within the Warwickshire, Coventry and Solihull Local Biodiversity Action Plan. In addition Natural England www.naturalengland.org.uk has technical information notes that can be accessed regarding traditional orchard information.

Community Allotments

These are also encouraged where there is appropriate local demand and space in association with a major development. The provision of a water source as well as rabbit proof perimeter fencing and benches are likely to be required. Some raised beds to enable accessibility to all may also be appropriate where such a local need is justified. The implications for parking provision will also need to be considered.

Street trees

On larger developments, new street trees will be expected along new primary routes to create high quality new residential areas. Further information on street trees is available in M2-M5 of this document.

[Part N Appendix 1](#) of this SPD recommends appropriate species for the various landscape character areas across the District. Consideration should be given to those species that are more resilient to the effects of climate change, including the increase in pests and diseases. As such a range of appropriate species will be encouraged.

Landscape Specification

All landscape plans should include written landscape specification text regarding the operations associated with tree, plant and grass establishment to ensure satisfactory quality of materials and workmanship, referring to relevant BS standards as and where appropriate. It should include (but not exclusively) for example, proposed soil preparation and amelioration, planting pit depths, use of fertilizer and bark mulch details. In a rural district such as this it must include the proposed protection method for native shrub planting from animal browsing eg use of spiral guards. On schemes that propose public open space areas, the text should include the use of mower guards to protect all new tree planting. On a small scheme the specification might be provided down the side of the landscape plan, on a large scheme a separate landscape specification should accompany the landscape plan.

Landscape Schedule

A schedule including proposed species, plant sizes and proposed densities of the planting should be included either on the landscape plan or else as a separate text document for major schemes. Shrub planting densities and shrub sizes at the time of planting should be appropriate to the location. Low density hedge planting and small size shrub planting, that might be acceptable for internal domestic garden use, are unlikely to be either visually acceptable or robust enough for most development proposal landscape schemes. In many circumstances light or selected standard sized trees may be appropriate. However tree sizes may need to be tailored to the individual

site circumstances depending on various factors, for example: existing local tree cover character; tree loss within the site; the extent of tree planting proposed or the visual sensitivities of a particular development.

Other landscape plan requirements

These include existing trees to be removed or to be retained - based on a detailed topographical survey. See Section N6 below for further advice on existing trees.

Existing and proposed finished ground levels including details of grading or earthworks and the means for accommodating change in level eg steps, retaining walls.

Hard landscape – further guidance on proposed boundary treatments is set out in section D8 for further details) and surface materials – manufacturer, type, colour, laying pattern. Website links to the proposed product and/or elevational details should be submitted for the avoidance of doubt.

Larger developments may require details of eg street furniture, play areas, signage, lighting.

Maintenance and Management Plans

Ongoing maintenance and management is essential to ensure the long term sustainability of any landscape scheme. As part of the landscape scheme, the first five years of maintenance schedules during the development of the site should be submitted to demonstrate that the landscape scheme will be adequately looked after and where necessary replaced during the establishment period. These should include a brief text description of operations including for example: weed control; adjusting tree ties; watering; grass cutting; litter removal; remulching; replacement of failures and a table showing the frequency of site visits and timings of the proposed operations for the 5 year period.

On major developments or schemes with significant non-domestic landscape areas, the future long term management arrangements of the site will need to be explained within a management plan covering the overall design and management objectives for up to a 25 year period. It is essential to clearly delineate public and private areas and their corresponding management responsibilities.

Structural planting and hedgerows particularly at the edges of development sites, where they border open countryside, should be within the collective ownership of a single management body with an access gate or similar arrangement provided in order to maintain these landscape buffer areas. Private, domestic fragmented ownership, split between individual plots of these wider landscape planting areas or hedges will not be acceptable. This is because it results in varied ad hoc management styles and different levels of retention of the same structural landscape features. The desirability of a countryside view to occupiers of a development at the edge of a settlement is unlikely to be compatible with the public wider interest of protecting landscape character and reducing visual harm of the development from public views within the wider countryside.

M2. Trees

Trees can create a wide range of significant economic, social and environmental benefits to the local communities. Trees can bring a diverse and long lasting range of benefits to urban space, particularly if they are established trees with large canopies. The changing climate and need to adapt to a low carbon economy means that our neighbourhoods and towns need to adapt to expected conditions in the future. Ways to help achieve this through sustainable development are woven into the Council's Core Strategy policies.

The retention of existing trees and landscape on a development site and the provision of new, well-designed landscape is considered an effective response. In particular, tree canopy cover can contribute to urban cooling and should be an important part of the landscape or green infrastructure element of your development.

Development proposals should therefore contribute by making space for existing trees and vegetation and considering new tree planting and landscape design early in the design and layout of your site. By doing this you can design-out potential conflicts with the built form whilst designing in opportunities for long-term provision of these sustainable development essentials.

Trees will bring the following benefits:

- Shade and shelter;
- Cooling;
- Flood reduction;
- Reduction of airborne pollution;
- Habitat linkages and refuges for animals and plants;
- Sound attenuation;
- Provide oxygen;
- Reduce windspeed;
- Provide seasonal interest; and
- Create a sense of place.

Well thought out tree cover and landscape design can also:

- Increase house and property values, typically between 5-18%;
- Lower air-conditioning costs and carbon emissions;
- Encourage walking and cycling;
- Improve physical and mental health;
- Increase consumer activity in retail areas and productivity and job satisfaction of employees in industrial areas; and
- Attract higher levels of inward investment for commercial and urban areas and bring nature into the built environment and assist in education.

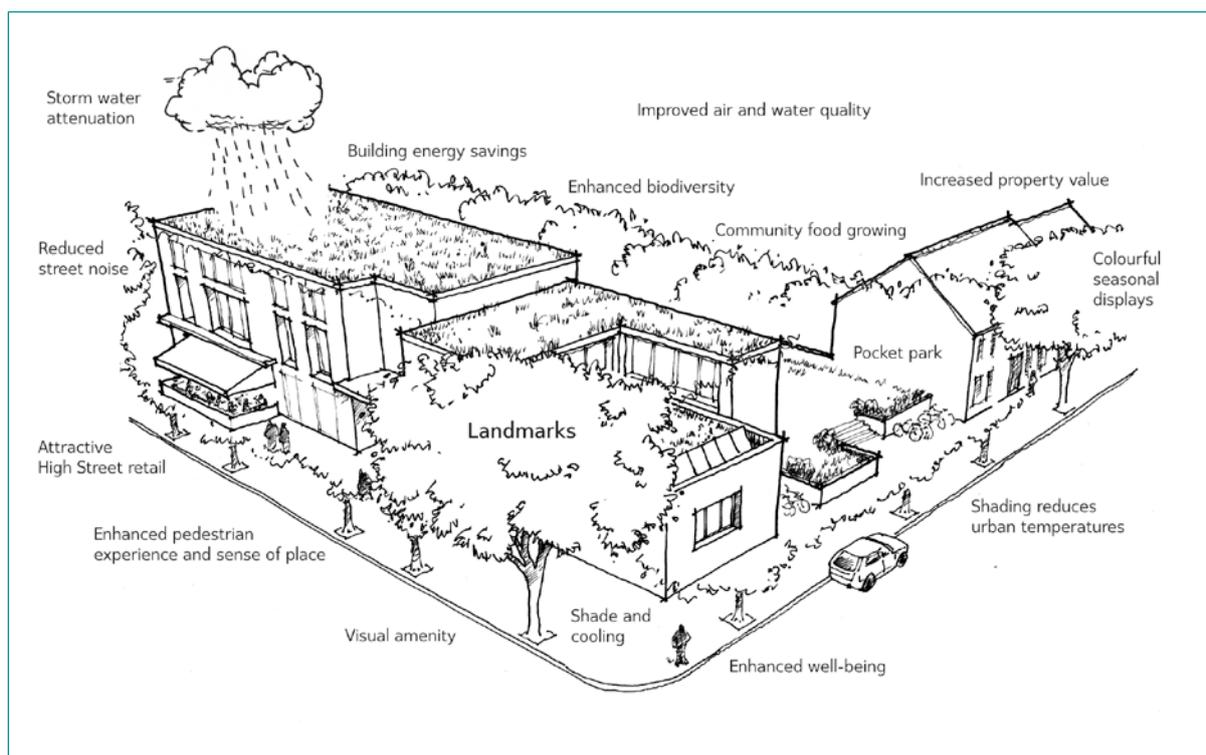


Fig. M2 illustrates the multi-functional benefits of trees.

Tree Protection

It is essential that new trees within a development are afforded long term protection to ensure their survival to maturity. In areas prone to damage from rabbits and other animals suitable guards should be provided and the trees given suitable support systems.

In locations where vehicles are likely to be close to street trees there will need to be suitable protection from vehicle damage, including tree guards.

It is normal that conditions of planning permissions require that all newly planted trees that die within 5 years of being planted are replaced with suitable planting. It is therefore cost efficient to ensure that the initial planting is provided with suitable protection as highlighted above.

M3. Existing Trees on Development Sites

It is essential that the design stage allows sufficient space for existing trees to mature and flourish and to implement protection measures during the construction stage. Sufficient space is also necessary for new tree planting to become established, in order for these trees to be able to contribute to an area in years to come. By giving careful consideration to both existing and proposed trees in terms of design and layout, this will ensure that trees are successfully integrated into a scheme.

The Council advocates the recommendations given in the British Standards 5827: 2012 'Trees in Relation to Design, Demolition and Construction' and subsequent updates of this Standard. This is a key document for trees and development.

It provides recommendations and guidance to achieve juxtaposition of structures with trees, hedges and shrubs. Advice is provided within the document, guiding applicants on the delivery of tree-related documents into the planning process.

M4. Street Trees

In line with the Council's Core Strategy Policies CS.2 and CS.5, the Council will expect all major development to include new street trees along the primary routes. In terms of the design process, the District Council Design Guide recommends different hard and/or soft landscape treatments to delineate between primary and secondary routes within developments. This can be achieved by street tree planting and different boundary treatments to plots, particularly where housing is proposed.



Fig. M4 - An example of street trees planting in a new development in Alcester.

The environmental conditions found in urban spaces can often be a barrier to the successful establishment of trees and shrubs and their long term survival. In order to provide urban trees with the best opportunity to thrive and survive to maturity, it is essential to consider the following at an early stage in the design process:

- the condition of the soil;
- the availability of future rootable soil;
- the choice of species for the location;
- the appropriateness of the surfacing around the tree;
- the availability of water the microclimate of the chosen planting position;
- the location of utilities etc.

If the above factors are not given due consideration at the design stage, the harsh conditions, which new trees are subjected to, when they are planted in towns and cities, are more likely to lead to their failure and they will not provide the long-term benefits of trees with mature canopies.

Tree Pits

The correct design and installation of tree pits will mitigate the negative effects of the urban environment. The term 'tree pit' is a widely adopted to generally refer to the space created for accommodating trees in paved areas. However, there is a direct correlation between the provision of an adequate rooting environment for the tree and the achievement of canopy potential. Large canopy trees bring greater benefits and therefore, need to be designed into schemes.

Hard standing associated with street tree planting should incorporate root cell soil structure systems, which can allow for up to 30 cubic metres of rootable soil volume for 1 no. tree. These systems allow the hard standing to be constructed on top, whilst allowing sufficient rooting space beneath. Irrigation is incorporated in the design and these systems can also be designed to incorporate sustainable urban drainage systems. Trees slow water run-off and the systems are designed to temporarily hold the water within the tree pits.

The photo below (Fig. M5) clearly shows the significant difference to tree canopy growth that can be achieved by having larger areas for tree roots compared to small sized tree pits in the centre of the photograph.



Fig. M5 - Courtesy of Jeremy Barrell of Barrell Tree Consultancy.

<http://www.greenblue.com/gb/resources/process-successful-tree-pit-design/>

Developers are advised to refer to further information on planting trees in hard landscapes 'Trees in Hard Landscapes: A Guide for Delivery' (September 2014).

http://www.tdag.org.uk/uploads/4/2/8/0/4280686/tdag_trees-in-hard-landscapes_september_2014_colour.pdf

Adoption of Highway Trees

Trees that lie within the public highway are normally the responsibility of Warwickshire County Council (WCC) as Highway Authority to manage and maintain. Discussions should be held with County Tree Officers in relation to existing highway trees and proposed new trees in regard to development proposals at the earliest opportunity.

Any trees proposed within the public highway will therefore need to be adopted by WCC and a Commuted Sum secured for their future management and maintenance. The Commuted Sum is normally secured via s106 Agreement linked to the planning

permission. It is therefore essential to involve WCC in any discussions regarding the use of street trees to ensure that they are of an appropriate type and in an acceptable location (e.g. not impacting on forward visibility splays or affecting street lighting) for adoption.

Find out more

The following contacts at WCC may be of assistance:

Warwickshire County Council Forestry Section – 01926 736480

foresty@warwickshire.gov.uk

N8. Tree Species

Different trees are required for different locations and to achieve varying design goals, the following guidance and suggested species will assist in securing appropriate planting in various circumstances:

Primary Routes through developments/Wide streets

The main routes through development sites should be designed with tree planting on wide verges. The trees should be positioned to provide a continuous avenue either side of the carriageway. Careful consideration of the siting of each tree is needed so as to avoid access points to private drives and to not unduly interfere with highway visibility splays. Consideration should also be given to the position of lampposts and service runs to ensure rooting systems are not affected. The blocking of street light and road signs is also a consideration. The distance from tree canopies to the windows of properties also needs to provide sufficient space to allow natural light to rooms, as a general guide a minimum of 2m distance from the edge of a mature tree canopy to a habitable room window is required. Street trees are also likely to need protection from vehicle collision where parking bays and access points are nearby. Thought should also be given to avoiding certain trees that might drop fruit or sticky residue onto any cars parked under the canopy. Some examples of large stature trees that might be appropriate to plant along Primary Routes are Oak and Beech, although other species may be appropriate. The 'Tree Species Selection for Green Infrastructure –A Guide for Specifiers' (Hiron & [Sjöman](#), January 2018) is an excellent source of information to help choose the appropriate species of tree, together with the general guide to appropriate species Part N Appendix 1.

Secondary Routes through developments/Medium width streets

Secondary Routes might only require street trees in staggered formation or along one side of the road. The species should be smaller in size to fit into the less wide streets. The same considerations as for Primary Route street trees are also relevant. Some examples of trees that might be acceptable along a Secondary Route are Field maple, Hornbeam, White Poplar and Small Leaved Lime.

Narrow Streets

There may be limited scope to plant trees along narrow routes but spaces should be designed into the scheme to achieve this where possible. The planting of trees within private gardens along the route might be an appropriate way of achieving being able to view trees within such streets.

Other Areas

Larger stature trees can be provided in the areas of open space that serve developments. Trees may be used to either terminate or frame particular views. Trees and large shrubs might also offer a solution to soften the impact of parking courtyards and large areas of parking bays or to screen areas of infrastructure such as pumping station compounds.

