

F. STREET TREES & PLANTING

Trees in urban areas have a calming and softening effect on the built environment; they enliven a space, provide colour, contrast and seasonal changes, provide an ecological resource, improve the local *micro-climate* (through the reduction of wind speeds and increase of ambient temperatures), and most of all they can humanise a space. People like trees, and respond positively to spaces that have them. Today's concerns about the environment also support the introduction of vegetation to our urban areas to help to absorb pollution and contribute towards a more ecological and sustainable urban environment.

Design Principles

Trees should be actively encouraged in urban areas wherever possible.

The selection and location of them should be carefully considered.

Existing tree stock in the town centres should be retained wherever possible to ensure that the existing level of greenery is not reduced. Existing mature trees provide positive visual benefits to new developments and the urban realm.

New trees should not be scattered randomly but strategically placed to maximise their benefit, trees should be used:

- To define key routes and desire lines through the use of avenues/boulevards (2&4)
- Create a focal point to a space (5)
- to provide spatial definition where there is a poor urban grain, provide an edge(s) to a space (1)
- to reinforce the scale and proportions of a street or spaces (6)
- to conceal views and screen undesirable features (3)
- to enhance the streetscape and the buildings themselves by adding greenery and colour
- to improve the micro climate through air quality and reduction in noise levels in problem areas such as adjacent to road corridors (8)
- to demarcate different uses of the space, for example between traffic and pedestrian routes (7)
- to provide shelter from wind and rain, or reduce glare and reflections

Trees should not be used where they will:

- obscure important facades or features
- interfere with the urban form of the town centre
- interfere with pedestrian desire lines, or sight lines for vehicles

Consideration also needs to be given to the impact the siting of a tree, or trees, may have on the safety and security of a space particularly in relation to the CCTV and lighting. Any adverse effect that trees have on existing or proposed CCTV cameras should be identified and mitigated by relocation of the tree or camera, or supplementary cameras.



Tree Planting Guidelines

Where trees are to be introduced in built-up areas, cues should be taken from the surrounding urban form as to their suitable location, size and form. When new developments are brought forward, trees and planting should be viewed as an integral component of the urban form.

Where trees are introduced for initial impact, and may not be suitable to be left to grow (unrestricted) to maturity, the implications for management and pruning should be recognised as well as the likely period before medium term replacement is required.

In areas with a strong geometry trees should have a formal arrangement and be planted in strong patterns.

Street trees should be planted at existing ground level as opposed to raised in planters, this maintains the correct balance of scale and reduces the potential obstruction to pedestrian movement.

Tree pit design can ensure the success or failure of an urban tree scheme.

- Tree pits should be at least 1.5m² and should be of a minimum width that allows a clearance of 300mm in all directions beyond the root spread of the trees being planted.
- Tree pits should incorporate a drainage layer/*soakaway* to prevent tree becoming waterlogged.
- Tree pits should contain a suitable growing medium such as *Urban Tree Soil*.

Tree grilles should be adequately supported to prevent the tree soil from becoming compacted, avoiding the potential for tree loss and subsidence. Open tree grilles that can collect litter or cigarette ends, should be avoided as

these cause additional maintenance problems, and can be problematic to pushchair or wheelchair users.

Watering of the tree is necessary due to the limited rainfall the plant will receive. An insitu hose for manual watering of the tree is recommended. An irrigation system which can water many trees simultaneously should also be explored, either as an automatic system, or periodically switched on manually. This would ensure the tree's longevity and increase its chances of survival whilst reducing the burden on maintenance teams in the long term.

Root barrier material or root directors should be included in construction to help prevent physical lifting of the surrounding surfaces.

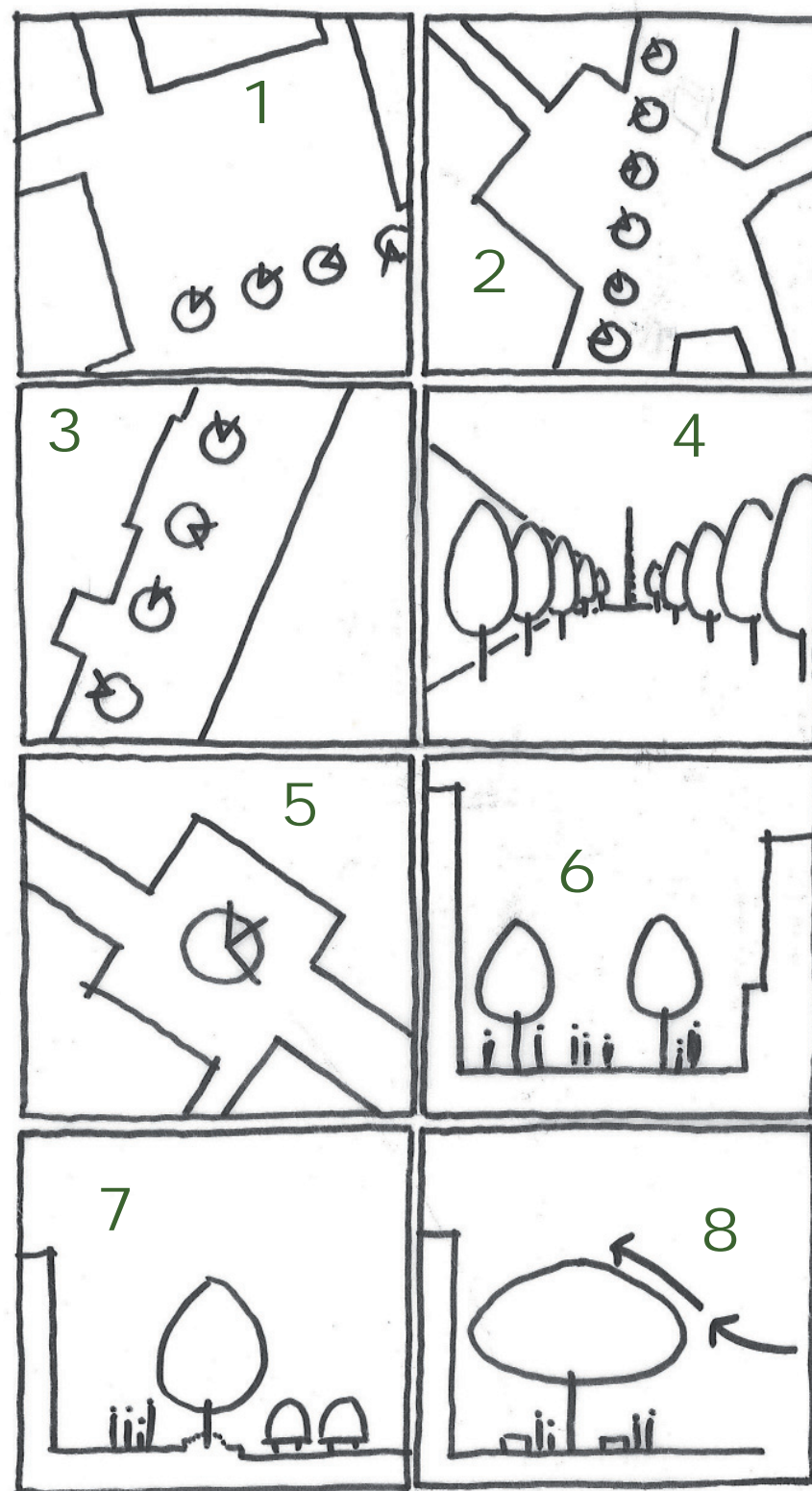
Surface water run-off should be prevented from draining into the tree pit. In winter de-icing salt water run-off will contaminate the soil and kill the trees.

Groups or avenues of trees benefit from a continuous trench of soil which allows them to share nutrients, water and space.

Tree guards are necessary to protect the tree from vandalism, and to reinforce the stature of the tree in the streetscape until it is established. Once a tree is fully established the tree guard should be removed.

Public Utilities are the main factor governing the physical positioning of street trees within new developments. The grouping of appropriate services in ducts in a common trench should be considered.

Root barriers should be used where necessary to prevent damage to adjacent buildings or services.



Tree Specification

The specification of a tree should be carefully considered for a space:

Form

- Species should demonstrate a tidy overall form. The branch network should provide a strong architectural form when visible in winter.

Size and scale

- Trees should be specified and planted as semi-mature specimens so that they provide an instant impact and will be more resistant to damage or vandalism.
- Trees should have a clear stem of at least 2.0m. This avoids injury to pedestrians and vandalism through snapping of lower branches.
- Long term height must be considered to ensure that the ultimate height of the tree remains compatible with the scale of its surroundings.
- The size of a tree for a space depends on the design ethos, smaller trees can be used as ornamental objects that punctuate a space whilst larger trees can provide a green leafy canopy that will shelter a space and create a big impact on the space.

Canopy density and leaf size

- In most town centre situations it is desirable for light to filter to the ground, therefore the canopy of large trees should be open and airy.
- Smaller leaved trees are more preferable in urban situations. In the autumn, large leaves lying on the ground represent a hazard in the rain, when they become slippery, whilst smaller leaves disperse more easily.

Maintenance and training

- Where a specific shape, style or defined scale of tree canopy is required through intensive pruning or pleaching, maintenance implications must be identified and provided for.
- Deciduous tree species that are relatively tolerant to salt should be planted; most evergreens are particularly vulnerable and should only be planted in locations where salt run-off does not occur.

Tree Type

Selection of tree species for specific locations within the town centre must take into consideration the following points:

- orientation
- function of the trees
- proximity to buildings and features
- adjacent tree planting

The tree species highlighted on the following page are a selection of good urban street trees.

Guidance for use of trees in the urban realm

Avenue Tree Planting:

Compact, uniform canopies, good resistance to urban climate and pollution, medium size at maturity

e.g.: *Acer platanoides* 'Globosum'



Narrow Streets:

Slender columnar trees, medium size at maturity

e.g.: *Acer platanoides* 'Columnare'



Informal planting areas:

Open ovoid canopies, medium size at maturity

e.g.: *Betula Utilis* 'Jacquemontii'



Creation of strong architectural forms:

Trees with a slender, conical and symmetrical habit, medium size at maturity with an excellent tolerance of pruning

e.g.: *Carpinus betula* 'Fastigiata'

Creation of focal points:

Trees with a pyramidal habit, open and loose canopy, medium/large size at maturity

e.g.: *Gleditsia triacanthos*

For Small Spaces:

Upright, dense, ovoid habits, small to medium at maturity

e.g.: *Prunus padus* 'Watereri'



Trees for pleaching:

Narrow conical habits, loose crowns, medium size at maturity

e.g.: *Pyrus calleryana* 'Chanticleer' or *Tilia europaea* 'Pallida'

The use of evergreen species could also be considered within the species palette as they provide good all year round structure and greenery. For example species such as *Pinus* var. may be appropriate in some areas

Planting and Floral Displays

The use of planting areas should be carefully considered within the urban realm. It is an important element that can add greenery, soften the hard urban edges and enliven a space, but if not specified properly can be uninspiring, bland and create inherent maintenance and safety issues for the future.

Shrub planting unless it is been used specifically for screening or structural planting purposes should aim to be low lying (maximum height 1m), ensure that pedestrian movement/desire lines are not hindered and should be approached as a way of providing interest and character within the public realm in terms of colour, texture and seasonal variety. Shrub planting areas should be designed to be low maintenance and avoid creating dead or underutilised spaces.

Off-the-shelf portable planters should be avoided in the public realm. These seem out of scale and context in an urban situation and planting often appears perched and disconnected from its surroundings. If raised planters are to be considered they should be designed as an integral part of the public realm; preferably in the form of a permanent structure that fulfils a range of objectives such as informal seating or organising the layout of a space.

Bedding displays should be encouraged as they provide colour, variety, and year round interest and focus to a space. Bedding displays are expensive to maintain and replant each year, and so it is suggested that this type of planting is only introduced in the exemplar quality streets and spaces - concentrate on focal areas rather than spreading displays too thinly around the town centre and increasing the maintenance burden.

'Britain in Bloom' should be embraced and promoted within focal areas of the urban centres. New urban realm projects should facilitate the ability to include bold planting displays and hanging baskets. Lighting columns are recommended as the supporting structures for the hanging baskets and must be designed at the outset to support the additional weight.

As well as formal annual displays, in recent years there has been a more sustainable emphasis on planting with swathes of perennials being introduced into urban areas.

Within all public realm schemes there should be a consideration as to how biodiversity and ecology can be either retained or introduced and how such spaces can begin to form a network of interconnected habitat spaces.

Bedding displays should be:

- raised slightly above ground level so that they have a greater impact on a space and are less likely to be walked over; raised beds however should not be higher than 500mm to avoid looking perched
- designed to have year round interest so that there is never a fallow period, careful design of the planting plan will include a combination of structure planting and different flowering periods to ensure year round interest
- well maintained! if a floral bed is proposed then the maintenance resources need to be put in place to ensure that it is successful
- large, bold and striking to have an impact on an urban space, smaller strips of planting will be lost in a busy space and serve no function

Lawned Areas

The importance of areas of grass should not be underestimated. A grass area will green up a space all year round, be a stage for activity, congregating and informal seating. By slightly raising the grass area and locating it away from main pedestrian desire lines it is less likely to be heavily worn. Where grass areas are introduced access for mowing equipment needs to be considered so that equipment can be moved on and off easily and safely without damaging the grass.

Where elements are introduced into grass areas such as seating and trees, a flush mowing strip should be used around them so that there is less of a need for strimmers and less chance of damaging the element itself.

It is recommended that simple lawn areas with trees planting are adopted for most 'green space' areas. This treatment provides maximum greenery whilst providing flexible, usable spaces that are easier to maintain.

