

## 2 TREES AND LANDSCAPING

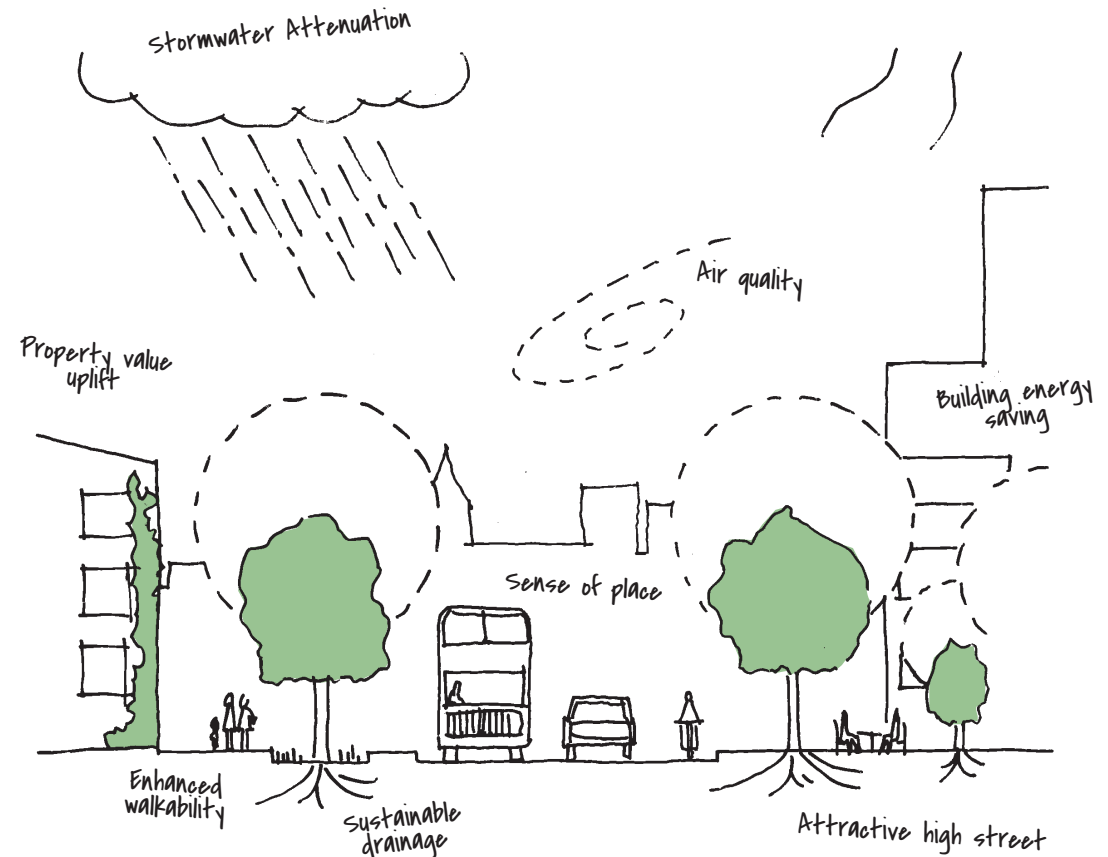
### THE VALUE OF TREES WITHIN THE BUILT ENVIRONMENT

**GOAL:** To understand the value trees can bring to all developments and integrate them properly to enhance the scheme

Trees in all developments are important and have multiple benefits to all of us and to our whole ecosystem. Not only do they enhance the character and appearance of an area, increasing the draw of the area to local visitors and tourists, there is clear evidence that properties on a tree lined street will have a greater financial value than those without.

The environmental benefits are significant. Trees can assist with climate control through air cooling in summer months, filtering pollutants, improving air quality and adsorbing carbon dioxide. They can also play a key role in reducing surface water flooding and provide valuable habitats and migration routes for wildlife. The social and cultural elements of our lives can be enhanced by the presence of trees. They can form attractive features of our outdoor areas for recreation, the backdrop for relaxing, the inspiration and visual relief along our busy transport routes.

The retention of appropriate mature trees within a development can add a valuable sense of maturity to a scheme. Mature trees will visually soften what can otherwise be a harsh development until new planting is established. Incorporating existing trees into public open space as a focal point in a development will achieve the most benefits as they will be dominant landscape features. Younger trees should be planted at an early stage to allow them to grow naturally.



The benefits of tree planting and soft landscaping within the built environment



#### Additional useful and interesting resources:

- British Standard 5837 "Trees in Relation to Design, Demolition and Construction" provides invaluable advice for all stakeholders involved in the design process. Collaboration between arboricultural consultants, drainage / utilities engineers, architects, landscape architects, highways engineers, urban designers, etc will achieve high quality designs, avoiding the common pit falls.
- Lists of consultant arboriculturists can be found on the websites of the Arboricultural Association and the Institute of Chartered Foresters



High value trees incorporated into open space as a key landscape feature for residents and visitors to enjoy (large Cedar, Aston Rowant, South Oxfordshire)



#### To inform your design:

Technical studies including tree survey, tree protection plan, and an arboricultural method



#### To communicate your design:

- Prepare a tree protection plan and arboricultural method statement (see checklist);
- Prepare a landscape strategy (see checklist).



#### TEST YOUR DESIGN:

Ensure that:

- 2.1 the trees on the site have been surveyed by a professional arboriculturist in accordance with the current BS 5837 guidance;
- 2.2 the trees identified as being suitable for retention or removal have been identified and clearly plotted on a scale plan;
- 2.3 there is a tree protection plan and an arboricultural method statement which explains how the retained trees can be protected throughout the demolition and construction process;
- 2.4 a landscape strategy has been written which explains how existing and new trees will can be incorporated into the layout of the new development addressing above and below ground constraints, such as service routes and space for future growth.

Meets criteria If not, reason for not meeting

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## 2 TREES AND LANDSCAPING

### LANDSCAPING PLANTING SCHEMES

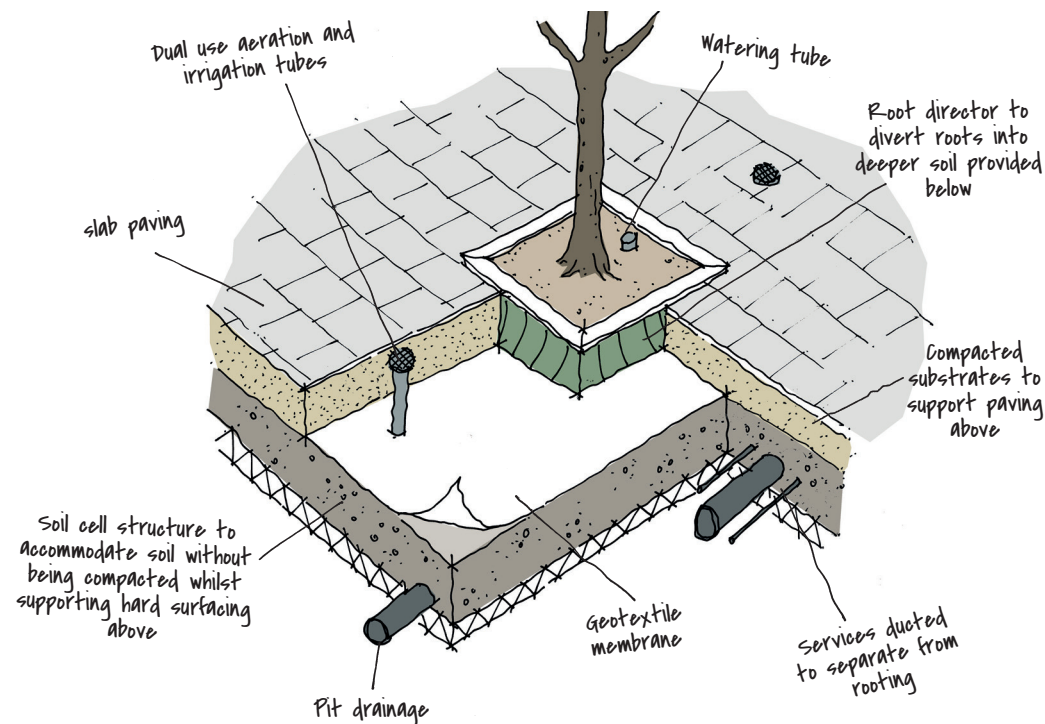
**GOAL:** Use planting to help a development integrate into the landscape with its own character and sense of place

New planting is an essential tool for helping a development mature into an integrated part of the landscape with its own character and sense of place. New planting schemes can have multiple uses such as defining a character of an area, or being part of sustainable drainage systems (SuDS) or traffic calming measures, whilst providing the wider range of benefits stated above.

It is essential that all landscaping is designed in coordination with all other above and below ground utilities infrastructure. This will avoid conflicts that would prevent the planting from being implemented or becoming sustained in the future.

The case for trees is compelling but, unfortunately, there is a gap between the desire to plant more trees and the ability to do so. The biggest barrier is the complexity of the urban infrastructure and the competition for space above and below ground.

Trees should be planted for the long term so that they can grow to maturity and deliver their benefits. This means that they need sufficient soil volume to grow in. To make this possible integrated, joined-up thinking and planning is essential so that the use of space both below and above ground is properly thought through and coordinated.



Generic principles to be addressed when designing a tree pit within a hard surfaced environment. Professional guidance should always be sought from the range of professionals.

#### + Additional useful and interesting resources:

- The Arboricultural Association
- Institute of Chartered Foresters - Directory of consultants
- The Landscape Institute
- The Trees and Design Action Group (TDAG) in particular Trees in the townscape: A guide for decision makers (November 2012) and Trees in hard landscapes: A guide for delivery (September 2014)

British Standard Documents:

- BS 8545:2014 Trees: from nursery to independence in the landscape – Recommendations
- BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations
- BS 3998:2010 Tree work. Recommendations

#### Tree Pit Soil Volumes for planting in or adjacent to hard surface areas

Small Tree Pits	Medium Tree Pits	Large Tree Pits
(For use when planting trees with an expected mature canopy diameter of 3m)	(For use when planting trees with an expected mature canopy diameter of 6m)	(For use when planting trees with an expected mature canopy diameter of 8m+)
4.5 cubic metres per tree*	12 cubic metres per tree*	25 cubic metres per tree*

\*The soil must be oxygenated, hydrated and un-compacted to allow for successful tree establishment. Tree pit drainage and ventilation are key components of tree pit design.

### Planting is your asset

Tree planting schemes should use a range of species, sizes and regular spacing corresponding to the nature and hierarchy of the street. Designing a site layout around green spaces allowing for the future growth potential of the planting scheme will enable the landscape to mature to its full potential and be a key feature of the development.

Seeing your planting scheme as an asset that can add value to a development rather than just an afterthought once all the site layout has been determined will encourage a holistic design approach. Larger trees species should be used where possible as the benefits they provide are much greater, with relatively little installation cost.

Making the most of your planting by designing tree planting for dual use, such as creating or enhancing a certain landscape character to a development, as well as being a key component of a drainage system is a good use of resources.

A correctly designed tree pit with 30 cubic meters of soil, suitable for a large tree, can have up to 6 cubic metres of water attenuation capacity. To achieve this, it is key to get the drainage engineers on board right at the beginning of the project so that they can incorporate the tree pits within their drainage designs.

### Aftercare and maintenance

A key tool to ensure the successful establishment of a planting scheme is aftercare and maintenance programmes, such as a Landscape Management Plan. Seeing your planting scheme as an asset that is worth caring for with simple measures will ensure it achieves its full potential, successful establishment and a return on your investment.



Feature trees to soften the built form (Great Western Park, Didcot and Goring-on-Thames)

Valuable guidance documents



### TEST YOUR DESIGN:

Ensure that:

- 2.5 trees have been designed into the layout rather than added after the layout has been fixed. This should be explained in the landscaping strategy;
- 2.6 contact has been made with the Council's Tree Officer to seek advice and guidance;
- 2.7 all landscaping is designed in coordination with all other above and below ground utilities' infrastructure;
- 2.8 the tree planting scheme uses a range of species and sizes, regularly spaced to correspond to the nature and hierarchy of the street and suited to the site's soil type;
- 2.9 a landscape management plan has been prepared and submitted which explains the aftercare and maintenance programme for the landscaping.

Meets criteria If not, reason for not meeting

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