Tree Planting Guide for Town and Parish Councils and Community Groups

October 2024

SOUTH KESTEVEN DISTRICT COUNCIL

Introduction

The planting of a tree represents an investment of human effort (time, energy, labour) and finance, and it also comes with a carbon cost due to nursery production processes and the transport of trees to the site. Unfortunately, a significant proportion of newly planted trees fail to survive to maturity.

This document intends to provide practical advice to town and parish councils and other partners who are intending to plant new amenity trees in their area. The notes below, along with the template planting plan provided at the end of the document, will guide your organisation through the process of planning, site assessment, species selection, procurement of nursery stock, the practical act of planting the trees, and post planting maintenance. Considering each of these elements in turn will give your planting scheme the best chance of success.

If you are applying for grant funding for your planting scheme, completing the template provided will help ensure that council officers have all the information they need to process your application.

Step 1 – Planning

Planting trees can provide a variety of benefits. You should spend some time thinking about the benefits you are most interested in delivering and create a list of aims and objectives for your planting scheme.

Potential benefits of tree planting:	
Shading and local cooling effect	Screening of undesirable views
Reduced likelihood of flooding	Providing a 'sense of place'
Improved air quality	Community cohesion
Traffic calming (slower speeds)	Enhanced visual amenity
Crime reduction	Provide habitat for local wildlife

The aims of planting scheme should be basic high-level statements. E.g. *Plant trees to create shade areas within the amenity area*. Once the aims are defined, consider setting some SMART (Specific, Measurable, Achievable, Relevant, Time-bound) objectives for your planting scheme, relevant to each aim. For example, if your aim is to provide shade to an existing amenity area your objective could be '*to provide 16m^2 of dappled shade within 10 years*'.

Whilst tree planting can provide many benefits, you should also consider the potential adverse effects of planting trees. The perspectives of different stakeholders should be considered during this process. For example, is it possible that the trees will grow up to shade a nearby property or garden, or block someone's view of open countryside? Will

the planting of trees remove valued play space? Will the trees degrade other types of existing habitat which support local endangered/sensitive wildlife?

Post-planting management and maintenance will be critical to the success of your planting scheme. You should ensure that resources (human and financial) will be available for post planting maintenance before any tree is planted.

Step 2 – Site Evaluation

Some environmental considerations for planting apply to the whole district. For example, Lincolnshire is prone to periods of drought during the summer months and experiences higher than average (national) summertime temperatures. There are certain site characteristics, however, that need to be assessed at a local level. In addition to an assessment of the physical characteristics of the site, such as the ground conditions and the microclimate, you should also consider the existing features of the site, such as what other trees are in the area, what ground vegetation exists which might compete with the trees during their establishment phase, and what services may be present that would limit safe excavation on the site.

A good understanding of the site conditions is necessary to ensure that the planting proposals are properly informed and effective. Bear in mind that it may be necessary to get advice from a relevant expert.

Step 3 – Species Selection

Once you have a proper understanding of what you are trying to achieve and the constraints of the site, you can then consider what tree species may be suitable for your planting scheme**.**

There are many different species and cultivars available from tree nurseries. The following characteristics should be considered:

- What are the ultimate dimensions of the tree? (And is there space for these to be realised?)
- How fast will the tree grow?
- What form will the mature tree take? (upright, weeping etc.)
- How long will the tree live?
- What are the foliage, floral, fruit/seed and bark characteristics of the tree? (consider colour, texture, longevity, scent, edibility)
- What is the resistance (or susceptibility) to pests and diseases?
- What are the rooting characteristics of the tree?
- What is the tolerance of the tree species to different ground conditions
- If applicable, will the tree tolerate pollution?

There are some resources available online which can help with these decisions:

- Tree Species Selection for Green Infrastructure: A Guide for Specifiers (TDAG, 2019)
- Twigged – A guide to your trees through the seasons (The Woodland Trust)
- RHS Plant finder (select 'trees' in the plant type drop down menu)

Most commercial nurseries also provide information on species/cultivar characteristics on their websites and in their catalogues.

Tree populations are more resilient if they contain trees from different plant families, tree genera and species. Where possible, consideration should be given to selecting a variety of trees within the planting scheme, and which contribute to greater diversity within the wider tree population.

Step 4 – Procurement of Nursery Stock

When selecting the specification of nursery stock consider:

- Whether the trees should have branches all the way to the ground ('feathered'), or have a clear stem to a specified height;
- Whether the tree should have a single stem or multiple stems from ground level;
- Whether the trees will be delivered 'bareroot' (without any soil), with a rootball (with soil, usually wrapped in hessian and wire netting), or containerised (grown in a pot) – each method has advantages and disadvantages.
- What the girth and height of the tree will be at the time of planting.

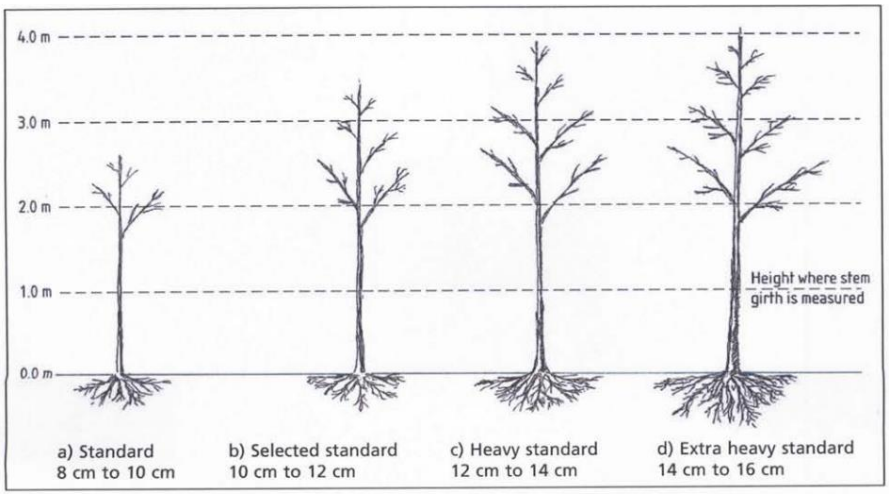

Figure 1. Standard sizes of young tree nursery stock (from BS8545:2014, Trees: from nursery to independence in the landscape – Recommendations).

When your new trees are delivered from the nursery you should check the following before accepting the delivery:

- Graft unions – poor or incompatible bud/graft unions will display disproportionate growth or unnatural swelling.
- Straight, self-supporting leader with good stem taper – your new trees should have a straight stem with sufficient girth/stem taper to support the crown structure without bending over.
- Crown structure – in most cases the tree should have a central leader with subordinate lateral branches, and the crown should be well balanced (equal growth on all sides)
- Root system – the tree should have a well-developed root system with evenly spaced lateral roots and, particularly important for bare root stock, intact fine roots. Containerised trees should not have any circling roots. Where trees are delivered with a rootball, this should meet the minimum size requirements as follows:
    - stem girth 8-12 cm = 300mm rootball
    - stem girth 12-14cm = 400mm rootball
    - stem girth 14-16cm = 450mm rootball
- Soil level – with rootballed and containerised trees, the soil should not be mounded up above the root flare.

Step 5 – Planting the tree(s)

The planting process starts from the moment the nursery stock is delivered. All bare root trees should have their root systems covered to prevent desiccation. If planting cannot happen immediately, bareroot trees will need to be lined out (dug into temporary trenches with roots covered by soil). Rootballed and containerised trees should be kept upright and watered regularly.

General considerations, essential for all planting scenarios:

- Timing – trees should be planted during the dormant season (Nov – Mar).
- Planting depth – The hole dug for the tree should be no deeper than the existing root system/rootball/container. The root flare of the newly planted tree should be clearly visible at the soil surface.
- The planting hole should be slightly wider than the root system/rootball/container.
- Sides of the planting hole that have been smeared or smoothed during excavation should be scarified.
- Do not leave trees with their roots systems exposed or vulnerable to drying out

- For rootballed trees, once the tree is in position, any hessian, twine or wire should be loosened (or removed).
- Ensure there are no air pockets in the backfill medium by 'firming in'.
- Immediately after planting, the tree should be watered until the soil is saturated.

Special considerations:

- **Below ground irrigation aids** (e.g. perforated pipes wrapped around the rootball) ensure that water reaches the tree roots directly, reducing water loss due to evaporation. They can also help conserve water by minimising runoff.
- **Irrigation bags** release a large volume of water over a long period of time to reduce run-off, concentrate watering to a specific area and promote deeper root growth.
- **Biochar** is a soil ameliorant made from woody organic matter which improves soil quality and improves survival and growth rates of newly planted trees.
- **Tree cages/guards** can be used where there is a high risk of damage from vandalism or browsing mammals such as sheep, cattle and deer.
- **Support options** – Trees develop stronger trunks and roots if they are not staked, but some kind of support is often necessary. There are many methods of securing newly planted trees. Whatever method you choose, it should allow for canopy and stem movement as low down the tree as practically possible (whilst still providing sufficient structural support). A staked support system should include a fixing method which allows for growth of the tree stem. All support systems should be removed as soon as possible (i.e. as soon as they are no longer required).
- **Organic mulches** are beneficial to transplanting success and should be used wherever practical. The depth of mulch should be 50-100mm and mulch should be applied to the dripline of the tree. The root flare and the base of the stem should be maintained free from mulch.

Step 6 – Post Planting Maintenance

As a minimum, post planting maintenance should include:

- Irrigation
- Maintenance and removal of support and protection systems
- Management of competing vegetation

The timing and frequency of irrigation should consider the prevailing weather conditions, the characteristic of the soil, and drought resistance of the chosen species. The frequency of irrigation is more important than the volume of water given at any one time. Increased water volumes cannot compensate for a lack of frequency. Excess watering can lead to anaerobic soil conditions which will be detrimental to the tree.

All support systems should be checked at least annually to ensure that the root system remains stable and firm in the ground. Where ties have been used, you should check that they are effective and not causing any damage to the tree. Any stakes and ties that are found to be not fit for purpose should be adjusted, replaced or removed. All stakes and ties should be removed as soon as the developing root system is strong enough to support the tree; two full growing seasons are usually long enough for this to occur.

Likewise, where they are used, guards (and any other protective furniture) should be checked at least annually. Such furniture should be removed as soon as it is no longer necessary to protect the tree.

The area around the base of the tree should be free from competing vegetation. All mulches should be replenished to their original depth (50-100mm), and hand-weeded as necessary, at least once annually.

Your new trees may also benefit from formative pruning, but only after the initial establishment phase is complete. Further guidance on formative pruning should be sought from a competent arborist.

Tree Planting Plan (Template)

Aims of the planting
Objectives for the planting
Potential adverse impacts of the planting
Describe the soil characteristics
[*What is the soil type? Is the site well drained, or prone to water logging? Are there signs of compaction? What is the soil pH?*]
Describe the microclimate
[*Is the site shaded by other trees and buildings? If so, from what direction and at what time of day? What is the aspect of the site? Is the site exposed or sheltered?*]
What other tree species are present in the local area?
What vegetation currently exists on the planting site?
Are there any services in the area?
[*If you have contacted utility companies or used a 'dial before you dig' service, provide details here]*

Details of the type of trees to be planted and the planting layout
[*include common names and scientific names, how many of each species will be planted. Please provide a plan showing the layout of the proposed planting on the site. For blocks of planting above 50 trees, stating the percentage breakdown of each species, rather than the specific number is acceptable. For blocks of planting, where it is not practical to mark the position of each individual tree, please show the outline of the planting block and state the planting density]*
Details of the nursery specification
[*How big will the trees be at the time of planting? Are they single stem or multi-stemmed? Will they have branches all the way to the ground or a clear stem to a set height? Will the trees be bareroot, rootballed or containerised?]*
Details of the planting specification
[*If support is required, how will this be provided? If applicable, please provide details of any irrigation aids, soil ameliorants (e.g. biochar), additional protection measures (e.g. cages and guards) be used. Please provide details of the type and dimensions of any organic mulch you intend to use*].
Details of the post-planting irrigation regime to be implemented
[*Who will monitor the need for watering? Who will undertake the watering? How will water be sourced and, where applicable, transported to site? How will water be applied to the tree? How often will watering occur (or what conditions will trigger watering)? How much water will be applied in each watering event?*]
Details of any other post-planting maintenance to be undertaken
[*e.g. weeding, mulch top-ups, checking/adjusting/removing support systems etc.*]