

East Staffordshire Tree Planting Guidance



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1. Introduction

- 1.1 This Guidance takes key parts of the document ***Staffordshire Developers and Public bodies toolkit for designing and managing public realm trees***¹ and gives it a specific East Staffordshire context.
- 1.2 This guidance provides information for those designing public realm schemes and for planning applicants to enable cost effective and efficient implementation of national and local planning policies relating to trees, landscape and development. It achieves this through the provision of guidance on design principles and sets out best practice in relation to the incorporation of tree planting within development proposals.
- 1.3 It also aims to encourage greater awareness of the importance of trees in development, and to ensure early consideration is given by the applicant to tree and landscape matters in order that the design of the development evolves to create a strong sense of place and character.
- 1.4 This document is made available for adoption by all Parish councils within the Borough, with the aim of creating a framework for managing public spaces and decision taking to ensure a consistent methodology and practical management of our trees and woodlands.
- 1.5 Trees can provide multiple benefits to local communities. This includes reducing the impact of climate change, enhancing health, biodiversity and sustainability. In addition trees can also provide individual benefits such as increased property values and improved environmental performance of buildings. Public realm trees play a critical role as they are accessible to all, and shape spaces and places used on an everyday basis. It has also been proven that work output is improved when trees are in view or around work places.
- 1.6 This guidance is specifically aimed at:
 - Developers and their design and contractor teams as they develop proposals
 - Development control officers as they advise prospective applicants, determine applications and monitor implementation.
 - Public realm designers, as they develop projects in East Staffordshire.
 - Those who maintain and own public space in East Staffordshire
 - Members of the public who have responsibility for trees covered by Tree Preservation Orders or trees in Conservation Areas

¹ Prepared in 2018 with funding from The National Forest Company. Its content was drafted by Anne Jaluzot, compiling local policy and resources with guidance published by the Trees and Design Action Group (TDAG) and other key references.

2. The Importance of trees in East Staffordshire

2.1 Trees and other planting offer a number of benefits that improve the visual and environmental quality of the public realm. Opportunities for introducing new trees often stem from new developments or regeneration projects, where trees are not the primary goal of the investment. In these situations, trees can sometimes be overlooked or an afterthought, however, there is a lot of benefits from their inclusion.

2.2 For a developer

Good public realm tree planting can improve the attractiveness, provide a sense of place and help demonstrate the quality of the proposed development to enhance marketability.

2.3 For local planning authorities

Local Planning Authorities have a statutory duty to consider the effect of proposed developments on existing trees, and to ensure that provision is made for planting new trees. Local authorities have a large number of national priorities and duties to deliver against, such as public health, local regeneration, adaptation to climate change and biodiversity. Trees can have a positive influence on all of these.

2.4 For Staffordshire County Council

Trees can make positive contributions to road safety and traffic calming, encourage active travel and provide sustainable drainage, especially in a town centre context or in residential streets.

2.5 Trees and other ornamental planting within urban environments offer a number of benefits that improve the visual and environmental quality of the public realm. Having said this, the use of planting is not appropriate in every location and the aim must be for quality over quantity. New planting should only be undertaken where it would make a positive contribution to the public realm, such as:

- Providing a focal point or framing a focal point or view;
- Demarcating routes and highlighting key transport corridors through the use of boulevards and avenues;
- Improving the scale and proportion of very wide streets and spaces;
- Acting as a sound barrier to reduce noise levels on roads;
- Improving air quality and helping to neutralise carbon emissions;
- Providing shelter from wind, rain and sunlight;
- Replacing trees which have been removed;
- Improving the urban ecosystem by supporting a variety of wild life; and
- Helping to screen ugly or blank facades.

3. The East Staffordshire context

Burton Tree Project

- 3.1 The tree population across East Staffordshire isn't known. However, data is available for Burton-Upon-Trent, where an i-Tree Eco assessment² was conducted in 2016.
- 3.2 The assessment showed that Burton has 9.4% tree cover, which is lower than the average 14% found in other UK towns and cities where similar studies have been conducted. This, together with the age and species profile of the tree population (which features few mature trees) limits the benefits the urban forest brings to the area. Increasing the tree cover as well as the species and age diversity are priorities to maximise the contribution trees provide to the community and environment.

The role of new developments in East Staffordshire - the policy framework

- 3.3 New developments are a major source of rapid change across Staffordshire. Local planning policies and guidance help to set a framework to ensure new developments incorporate the retention and planting of trees, and should be referred to when planning a new development.
- 3.4 As an example, policies in the East Staffordshire Local Plan (2012-2031)³ require development proposals to:
- Maximise the healthy retention of existing trees and minimise conflicts between trees and buildings through the design, layout and construction of the development (Detailed policy 8).
 - Provide new tree planting, including street trees, urban woodlands, and National Forest planting where applicable (Strategic policy 23).
 - Design green infrastructure to deliver a range of benefits, such as wildlife habitat improvement and provision, landscape enhancement and informal recreation, as well as – whenever possible, stormwater management. Street trees are among the suggested landscape features to be used to deliver Sustainable Drainage Systems (Strategic policy 27).
 - For developments falling within the National Forest, follow National Forest Company's Guide for Developers and Planners (Strategic policy 26).
- 3.5 In order to ensure that tree planting is appropriate and sustainable, there are eight principles that need to be addressed.

² Staffordshire County Council (2017). *Putting a Value on the Urban Forest. Burton-upon-Trent Tree Project*. Found at: www.staffordshire.gov.uk/environment/Burton-Tree-Project/Burton-Tree-Project.aspx

³ Adopted 2015. Available at www.eaststaffsbc.gov.uk/planning/planning-policy/local-plan-2012-2031

Principle 1: Understanding the site

Get an early understanding of the existing trees, landscape character and below-ground constraints.

Action	Why	Further guidance
Seek to retain healthy mature trees.	Mature trees provide the greatest amount of environmental, social and economic benefits. Their retention is a priority in local policy and a material consideration in planning consent determination.	<ul style="list-style-type: none"> • BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (BSI, 2012) – Sections 3-6.
Provide the design team with information on soils and any existing utilities.	Quality upfront information on site constraints affecting potential new planting is needed to produce cost-effective and realistic planting proposals and building layouts.	<ul style="list-style-type: none"> • Construction Code for the Sustainable Use of Soils on Construction Sites (DEFRA, 2011). • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) - Paragraph 6.3 and Annex B2. • The SuDS Manual (CIRIA, 2015) - Chapter 25. • PAS 128:2014 Specification for Underground Utility Detection, Verification and Location (BSI, 2014).
Gather information on local landscape character, including the tree species and planting style(s)	Context appropriate planting will enhance prospect of gaining local support for the scheme.	<ul style="list-style-type: none"> • Staffordshire Landscape Character Assessment (Staffordshire County Council, 2000).
Fully consider the Burton Town Centre character	<ul style="list-style-type: none"> • Adequate space for mature canopy and roots • Natural surveillance/position of CCTV cameras • Impact on night-time lighting • Views of important and attractive building facades • Underground services (in important locations and where budget allows consideration could be given to rerouting and grouping services in ducts). • Proximity of vehicle and pedestrian routes 	<ul style="list-style-type: none"> • Burton Public Realm Implementation Plan



Whilst the mature tree has been retained, the proximity to the dwelling is likely to cause difficulties in the future



This shows that the poorly sited trees which now grown have lead to overhanging of a footpath leading to works being required to the tree.



Whilst the mature tree has been retained, the proximity to the dwelling is likely to cause difficulties in the future

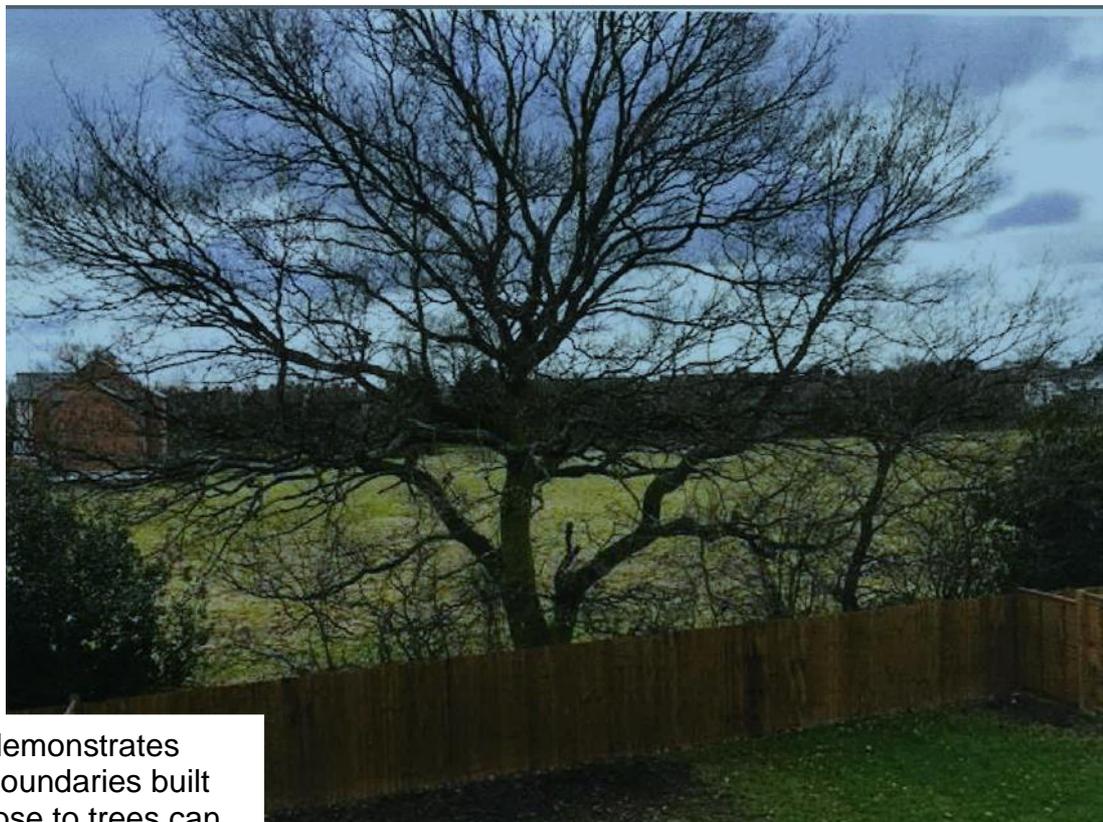
Principle 2 Make tree friendly places Create places where trees have space to thrive and deliver their full range of benefits without causing a nuisance.		
Action	Why	Further guidance
Seek to incorporate long-lived, large-growing trees	Larger trees provide greater environmental benefits.	<ul style="list-style-type: none"> • The benefits of large species trees in urban landscapes (CIRIA, 2012), Part A.
Promote the use of shared service trenches	Shared trenches free-up space for planting and healthy tree-root growth while allowing future access to and maintenance of utilities.	<ul style="list-style-type: none"> • Streetworks publication volume 4: Guidelines for the Planning, Installation and Maintenance of Utility apparatus in the Proximity of Trees (Streetworks, formerly NJUG, 2007).
In areas with clay soils prone to subsidence, consider pile and beam foundations over trench fill foundations. Leave appropriate distance between properties and existing trees	In areas with clay soils prone to shrinking and swelling pile and beam foundations are often more cost-effective and provide greater ability to have buildings and trees safely coexist.	<ul style="list-style-type: none"> • NHBC Standards (NHBC, 2018) - parts 4.1 and 4.2 • The benefits of large species trees in urban landscapes (CIRIA, 2012), Part B, paragraph 7.2.3
Discuss conflicts such as lighting, CCTV, commercial signs or shop window visibility early to identify mutually agreeable solutions.	Site-specific dialogue (preferably also carried onsite) can create more creative solutions for integration of trees.	<ul style="list-style-type: none"> • Trees in Hard Landscapes: A Guide for Delivery (TDAG, 2014) Paragraphs 2.3.2 and 2.3.3.
Take a context-sensitive approach to resolve potential conflicts with highway visibility splays.	In built-up areas, increasing forward visibility for vehicles can lead to speeding. Occasional obstacles found within visibility splays, such as trees, can be acceptable.	<ul style="list-style-type: none"> • Manual for Streets 2 (Department of Transport, 2010) - Paragraph 10.7.7. • Trees in Hard Landscapes: A Guide for Delivery (TDAG, 2014) - Paragraphs 2.1.1. • Secure by Design
Where tree planting area is restricted, review carriageway dimensions and consider alternative tree positioning options.	There is a legacy of over design of carriageways. Planting within the car parking lane, on only one side of the street, or in front gardens can provide effective alternatives to footpath planting.	
Ensure new development is not	There will be a presumption that trees on development sites will be retained	

<p>located too close to existing trees or proposed new trees and that there is sufficient space for all trees to reach maturity over the lifetime of the development without impacting on the development or use of the site</p>	<p>unless there are exceptional circumstances to justify their removal. Developments which are built too close to existing trees can often lead to a request for their removal in the future. Likewise if new trees are planted without proper consideration, there could be canopy overhang on public places, neighbouring land or highways. The aim is to ensure that all trees can reach maturity naturally without impacting on, or being impacted by development.</p>	
<p>Clear lines of site must be maintained through spaces.</p>	<p>Where there is a possibility of attracting anti-social behaviour, trees must have their canopy raised to 3m and shrub species that grow higher than 1m in height should not be used.</p>	

Case study



In this case, due to the proximity of the property, the tree became dangerous and removal was agreed with the condition that two suitably located trees were planted



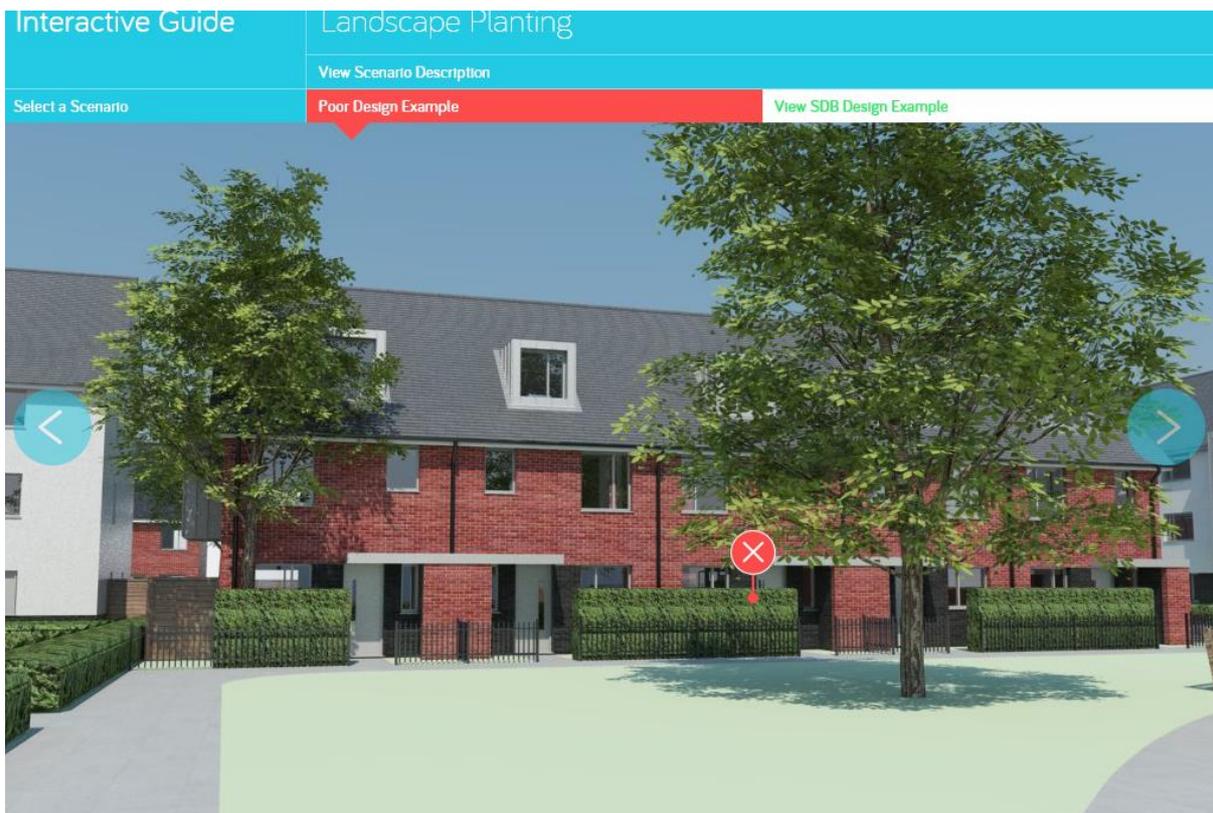
This demonstrates how boundaries built too close to trees can cause future issues of overhanging

This initial layout showed properties too close to mature trees, to the south of the site.

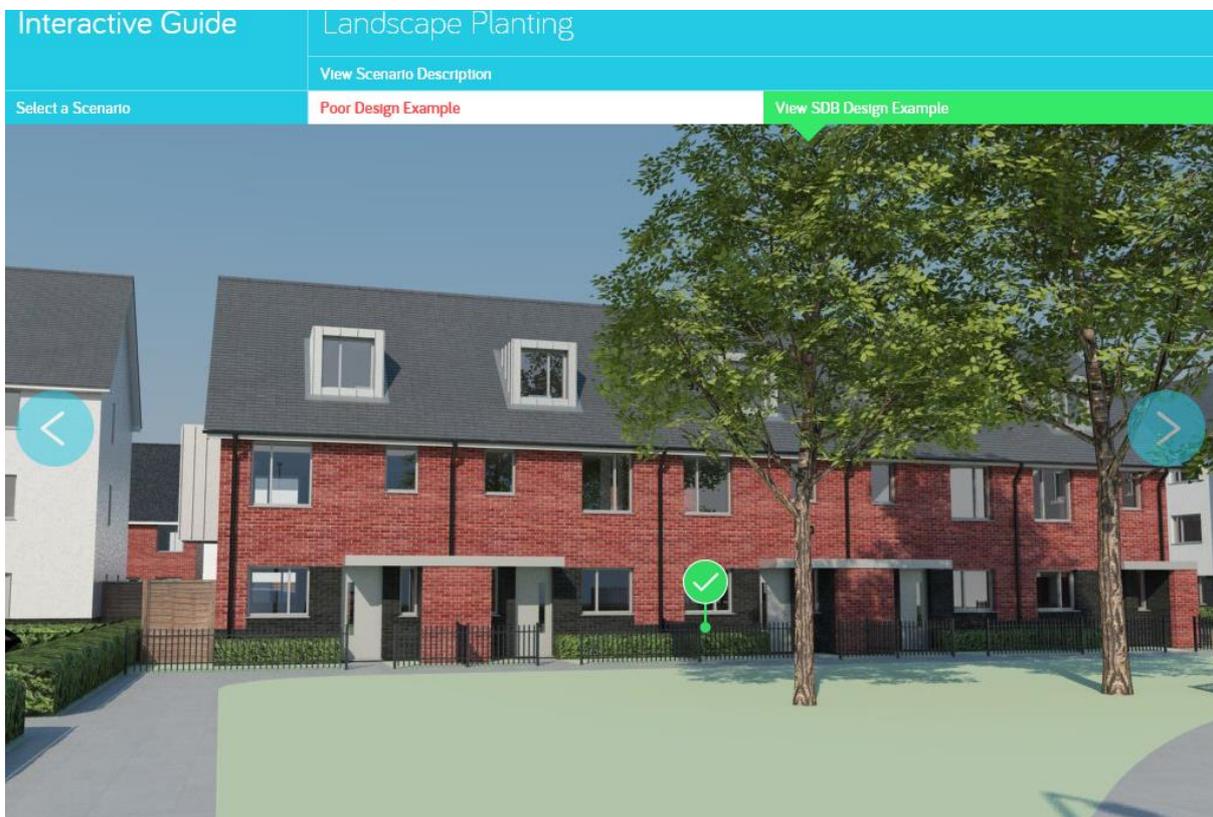


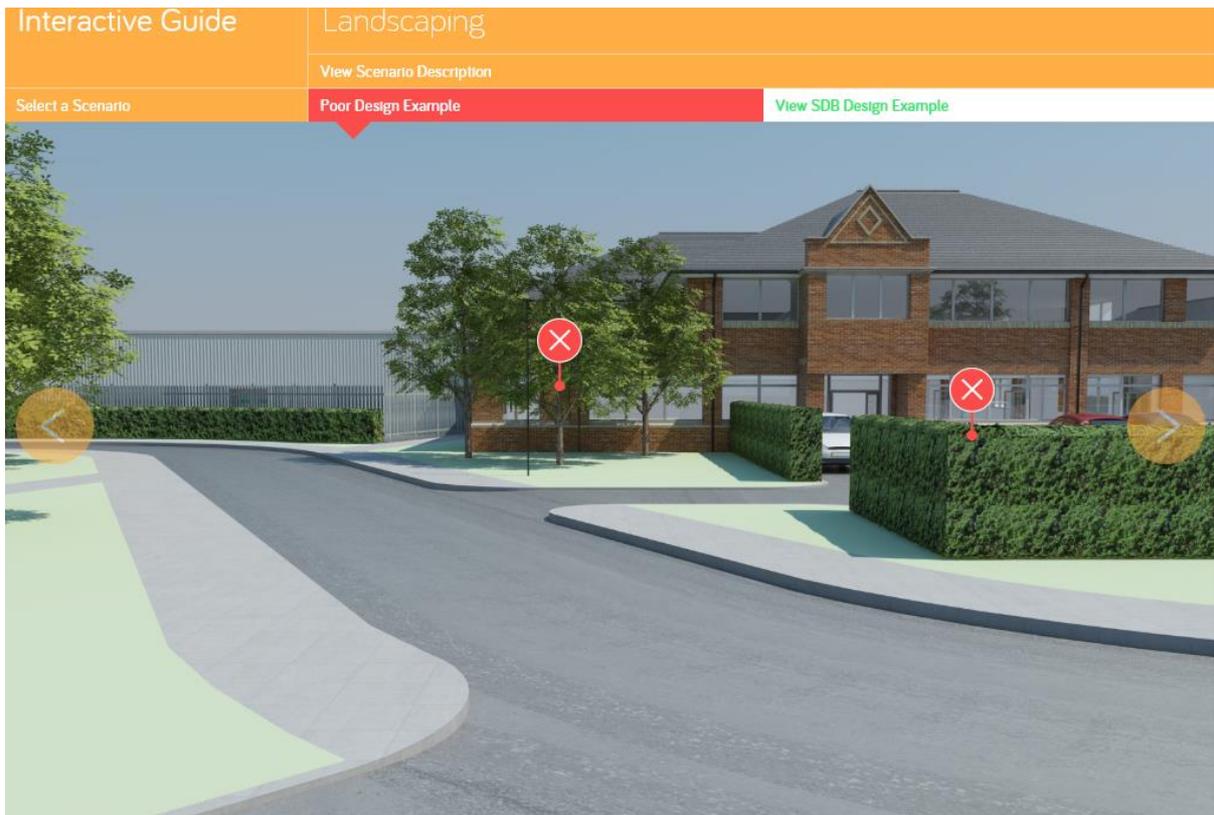
Amendments to the layout included a rearrangement of house types, with those with larger gardens incorporating the larger trees



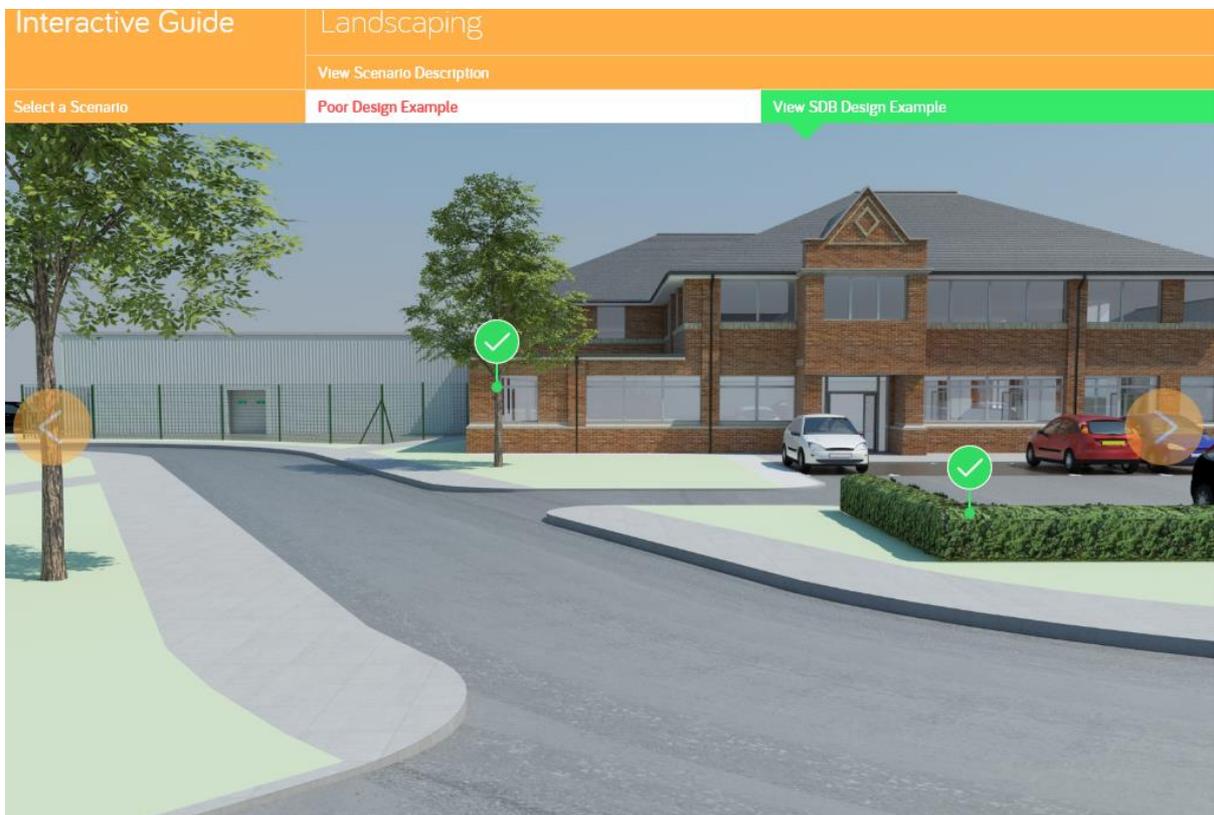


The example above shows poor tree and hedge planting, with trees blocking visibility from windows. Alterations to the proposal as shown below allow for natural surveillance from properties, whilst incorporating a suitable planting scheme.





The example above shows trees too close to the building which will not only reduce daylight, but the hedging surrounding the car park could lead to anti social behaviour.

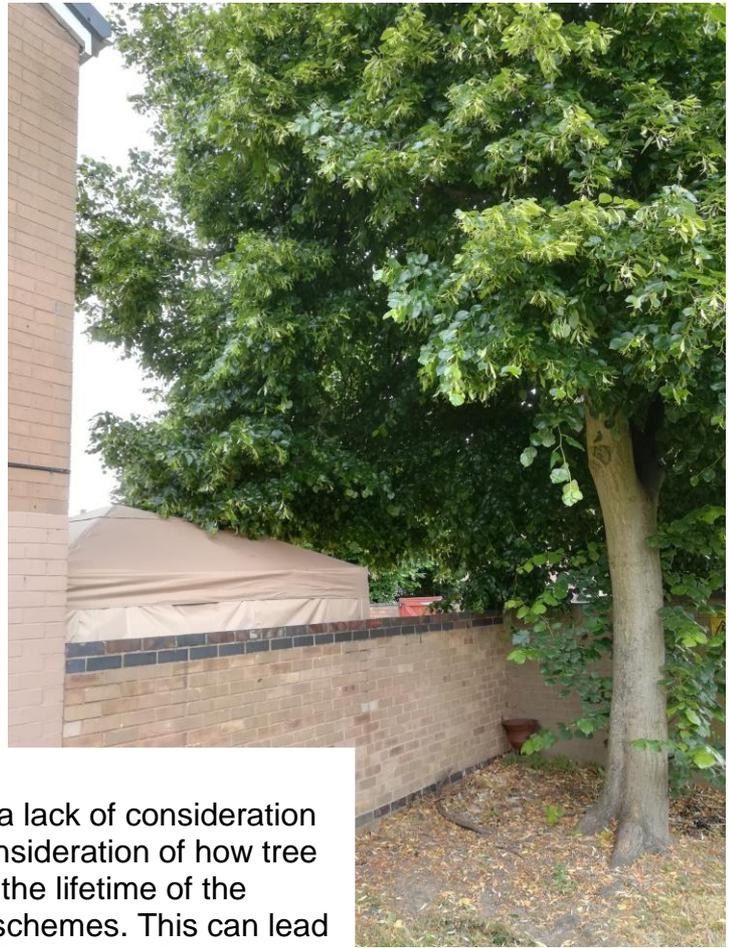




Whilst this tree may act as a natural traffic calming barrier, it is likely that in the longer term, as the tree matures, maintenance will be required to ensure clear visibility of the road. An alternative location for tree planting would be preferred.



When developing sites, it is important that the location of proposed boundaries consider existing trees.



These cases all demonstrate a lack of consideration of existing trees, or lack of consideration of how tree planting will mature over the lifetime of the development when designing schemes. This can lead to problems of branch overhang, root damage, uncertainty over ownership and unplanned costly maintenance which are likely to impact on the long term health of the tree



Principle 3: Use trees to reinforce project benefits Maximise the value trees have for the project.		
Action	Why	Further guidance
Identify how trees can support the vision and provide solutions to the issues identified.	A well thought out design where trees have a clear set of functions will be more widely accepted, more cost-effective and therefore more sustainable.	<ul style="list-style-type: none"> • Trees in Hard Landscapes: A Guide for Delivery (TDAG, 2014). Detailed paragraph references are: <ul style="list-style-type: none"> – Quality of place (2.1.3-2.1.5) – Economic potential (2.3.2) – Encouraging walking and cycling (2.2.4) – Other health and wellbeing (2.5.1-2.5.3) – Nature conservation and habitat connectivity (2.5.5) – Traffic calming (2.2.3) – Stormwater management (2.4 and 3.5) – Temperature and wind control (2.5.4).
Public realm schemes to include trees	Resources for new tree planting should favour permanent trees planted in the ground over the use of temporary trees in pots.	<ul style="list-style-type: none"> • Burton Public Realm Implementation Plan

Principle 4: Pick the right trees		
Select and use trees appropriate to the context.		
Action	Why	Further guidance
Seek competent professional advice for tree selection.	Poor species choice for the site is one of the most common sources of tree failure.	<ul style="list-style-type: none"> • Species Selection for Green Infrastructure: A Guide for Specifier (TDAG, 2018). • Burton Public Realm Implementation Plan
<ol style="list-style-type: none"> 1. Understand the local environment and conditions and draw up a shortlist of potential trees that are suitable for the site. 2. Narrow down the shortlist based on constraints: including site (available space, proximity to structures, etc.), biological (species diversification objectives) and practical issues (budgetary considerations, management requirements etc). 3. Consider aesthetics last in the tree selection process. 	<p>There is no value in a dead tree: the ability for the chosen specie(s) to adapt to and thrive in its environment needs to be considered first in the selection process.</p> <p>The tree which is selected should be one which will grow naturally within the development and one when reaches maturity will not impact on development, including public spaces, and boundaries and one where the root system will not be affected by development.</p>	

Further guidance on picking the right tree is set out below.

Species Selection:

3.6 It is essential that the tree species selected for a particular location is an appropriate choice. To help enable this choice, the following factors should be considered:

- **Ornamental or native species:** due to Burton's presence in The National Forest, native species should be preferred over ornamental species. Due to the often restrictive space associated with planting in an urban environment, cultivars and clonal selections of native species are acceptable in some cases. This guidance though does not preclude the use of ornamental species which can be used appropriately.
- **Deciduous or ever-green:** generally only deciduous trees will be appropriate as ever-green trees cause excessive shading in winter but there will be situations where ever-green trees are acceptable.
- **Growing Requirements:** Some species are more suited to urban environments (e.g. more tolerant of compaction around the base of their

roots). Shallow rooting species can cause disruption to paved surfaces (e.g. Prunus spp.). Light and shelter requirements are also relevant. It is important that in response to climate change, species are also selected for their ability to withstand drought or waterlogged conditions. More trees fail in an urban environment due to water-logging than good detailing and construction of tree pits is critical to the development of a healthy tree.

- **Size and Scale:** Where street trees are proposed, these should be specified as semi-mature (20cm girth +) specimens as a minimum, with a stem clearance of 2.1m where they are within a paved area. A more robust tree will stand up to the impact vandalism. The future height and width of a tree should be considered to ensure compatibility with the scale of a space at full maturity. Vegetation overhang throughout the growing season should be maintained for 2.1m clearance from pavement level.
- **Form and Habit:** Canopies should display and generally retain a tidy and balanced shape.
- **Canopy density and leaf size:** Where larger trees are specified, species should be selected that have more open canopies so that light can penetrate through to the street below. Smaller trees provide the opportunity for a denser canopy. The generation of plant litter (leaves and fruit) will be a maintenance (and health and safety consideration), as well as species that are prone to honeydew.
- **Aesthetics:** Trees should be selected for their high amenity value and seasonal interest. Feature trees should be selected for their distinctive colour and form and for their year-round seasonal interest.

3.7 The following tree species have been selected as suitable for planting within the town centre and public realm. This list is intended as a guide and other species with similar habits and characteristics will also be acceptable.

Strategic approaches and routes

3.8 In comparison to the town centre core, a number of Burton's strategic approaches and routes are of poor visual quality and dominated by vehicles. Avenue tree planting can be used, wherever possible within verges and central reservations, to define and raise the visual quality of routes. It is anticipated that trees along these routes would be medium-large sized (see species table for appropriate examples).

Medium – large size trees for strategic approaches and routes

Species	Height and spread after 25 years	Growing requirements	Form and features
Carpinus betulus 'Streetwise' (Common Hornbeam cultivar)	9m height, 3m spread	Generally tolerant of a wide range of conditions (although prefers soils to be not too light/dry)	Striking orange/yellow autumn colour.
Ulmus new horizon (Elm)	10m height, 4m spread	Disease resistant elm, good in most soils	A good tree for urban planting, suitable substitute for ash
Quercus robur (Common Oak)	12m height 8m spread	Well-drained or Moist but well-drained Acid, Neutral or Alkaline Loam, Sand, Clay or Chalk	Large spreading tree needs lots of space, not normally a street tree. The fastigiata version may be better for town centre schemes due to its thin crown.
Tilia cordata 'Streetwise' (Small Leaved Lime cultivar)	10m height, 6m spread	Suited to difficult urban environments.	Medium/large tree. Shiny dark green foliage. Neat balanced form. No problem with aphids in summer.

Street trees to key links

3.9 Links into the retail core and to key destinations within the town can lack definition. The use of street tree planting along these routes would help improve the quality of the streets for pedestrians in particular, creating attractive vistas and encouraging visitors to explore further afield. Again, consistent use of species will be important at these locations. It is anticipated that trees along these routes would be small-medium sized (see species table for appropriate examples).

Small – medium size street trees to key links

Species	Height and spread at maturity	Growing requirements	Form and features
Acer campestre 'Streetwise' (Field Maple cultivar)	7m height, 3m spread	Tolerant of all soil types	Medium tree with neat, upright habit. Brilliant yellow autumn colour.
Carpinus betulus 'Frans Fontaine' (Common Hornbeam cultivar)	9m height, 2.5m spread	Best in well drained and rich soils, but can still thrive in sandy or dry soils.	Medium tree with narrow upright habit. Dark green leaves, yellow autumn colour.
Pyrus calleryana 'Chanticleer' (Ornamental Pear)	8m height, 3m spread	Very hardy and drought tolerant. Well suited to planting in streets.	Upright, tidy form. White blossom in spring. Glossy green leaves with good autumn colour.
Sorbus aria	7m height 5m spread	Well-drained Acid or Neutral Loam or Sand	deciduous trees or shrubs with simple or pinnate leaves and clusters of small white or pink flowers, followed by white, yellow, pink, red or brown berries; some have fine autumn colour
Sorbus aucuparia spp.	7m height 5m spread	Well-drained Acid or Neutral Loam or Sand	upright deciduous tree with pinnate leaves turning yellow in autumn, and flat clusters of white flowers in late spring, followed by orange-red berries in early autumn
Tilia cordata 'Rancho' (Small Leaved Lime cultivar)	8m height, 3m spread	Tolerant of a wide range of conditions/situations.	Small/medium tree with upright conical habit and attractive dark green glossy foliage. No problem with aphids in summer.

Ornamental tree and other planting to spaces and gateways

3.10 Ornamental tree planting can be employed at the key spaces and gateways to announce arrival and emphasise a change in character of the public realm. Species should generally be consistently used, or at least used in bold blocks. Tree species in these locations are likely to vary in scale, depending on the space available and will be selected for their distinctive decorative features.

Ornamental trees to spaces and gateways (ranging in size)

Species	Height and spread at maturity	Growing requirements	Form and features
Acer platanoides 'Globosum' (Norway Maple cultivar)	4m height, 3m spread	Good on all soils (except where prone to water-logging).	Small tree. Striking mop head shape (specimens can become wider than they are tall). Good yellow/orange autumn colour.
Acer platanoides 'Obelisk' (Norway Maple cultivar)	10m height, 1.5m spread	Good on all soils (except where prone to water-logging).	Medium sized tree with striking columnar habit.
Corylus colurna (Turkish hazel)	8m height, 3m spread	Good on all soils	Good urban tree with neat form
Amelanchier lamarckii 'Robin Hill' (Snowy Mespilus)	7m height, 2.5m spread	Tolerant of range of growing conditions.	Small tree. Narrow upright canopy. Early spring - white blossom. Oval coppery red leaves follow and rich red/orange autumn colour.
Betula nigra (River Birch)	10m height, 5m spread	Will tolerate extremely wet and dry soils.	Medium sized tree. Distinctive pink/orange flaking bark.
Fagus sylvatica 'Dawyck Gold' (Common Beech cultivar)	8m height, 2m spread	Any free draining soil.	Medium/Large tree with tight columnar habit. Striking form suited for planting in soft landscape as feature. Attractive yellow/green leaves.

Prunus serrula (Tibetan Cherry)	6m height, 4m spread	Tolerant of range of growing conditions.	Small tree. Shiny red/brown bark (particularly attractive as multi-stem).
Quercus palustris (Pin Oak)	10m height, 5m spread	Will not grow on alkaline soils.	Large tree with pyramidal form and attractive habit. Leaves turn scarlet red in autumn.

Tree planting to surface car parks and internal side streets

3.11 First impressions of the town are often influenced by the views of these areas and the addition of tree planting would do a great deal to assist. Similarly, internal side streets within the main perimeter blocks of the town centre provide access to some smaller businesses as well as vehicle access to service yards. The use of occasional tree planting along these side streets would help to screen less attractive boundaries, enhancing the environmental quality of these routes and encouraging greater footfall for businesses. A consistent use of species across a single car park or along a street will help to prevent a haphazard look. It is anticipated that trees along these routes would be small sized (see species table for appropriate examples).

Small size tree planting to surface car parks and internal side streets

Species	Height and spread at maturity	Growing requirements	Form and features
Malus trilobata (Crab Apple)	6m height, 2.5m spread	Very tolerant of urban environment and wide range of conditions.	Small, narrow headed tree. Flowers white Maple like leaves, with strong autumn colour.
Sorbus aucuparia 'Streetwise' (Rowan cultivar)	7m height, 3m spread	Very tolerant of urban environment and wide range of conditions.	Neat upright habit. Bright orange berries in autumn.
Sorbus hupehensis (Hupeh Rowan)	8m height, 5m spread	Very tolerant of urban environment and wide range of conditions.	Small tree with bold compact canopy. Foliage blue/green and fruits are white with tinge of pink.
Sorbus x thuringiaca 'Fastigiata' (Whitebeam cultivar)	6m height, 4m spread	Very tolerant of urban environment.	Small tree, with formal 'lollipop' head. Pinnate, grey/green leaves with red berries in autumn.

Principle 5: Procure healthy stock Plant healthy, vigorous and adequately conditioned trees for their environment.		
Action	Why	Further guidance
Understand size trade-offs.	Older, semi-mature trees deliver greater instant impact, they also bring greater constraints than younger trees to establish well.	<ul style="list-style-type: none"> • BS 3936-1:1992 Nursery stock. Specification for trees and shrubs (BSI, 1992). • Trees in Hard Landscapes: A Guide for Delivery (TDAG, 2014) - Paragraph 2.1.4.
Understand the different nursery production systems.	Bare root, root-balled and containerised each have advantages and disadvantages and call for different specifications to achieve best-practice.	<ul style="list-style-type: none"> • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) – Annex D3 and table D2.
Use specifications to get healthier, nursery grown trees.	Combined with a nursery visit, specifications are the only tool the buyer has to ensure the product bought will be fit-for-purpose.	<ul style="list-style-type: none"> • Trees in Hard Landscapes: A Guide for Delivery (TDAG, 2014) - Paragraph 4.5. • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) – Annex D
Liaise with the nursery at design stage.	Nurseries hold a limited stock range, but almost any specification can be met if adequate time is allowed. Reliance on the availability of tree stock at the time when that stock is required can result in design or other requirements having to be compromised.	<ul style="list-style-type: none"> • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) – Annex D5
Arrange a nursery visit.	A visit to the nursery is the best way to ensure the nursery adheres to good practice, specifications are met and tag the chosen trees.	<ul style="list-style-type: none"> • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) – Paragraph 8.5.2, Figure D13.

Principle 6: Specify fit-for-purpose tree planting details

Ensure trees have access to the nutrients, oxygen and water as well as adequate protection and early support.

Action	Why	Further guidance
Ensure roots have access to oxygen and adequate rooting volume.	Soil aeration and adequate rooting volume are essential for trees to perform well in the built environment.	<ul style="list-style-type: none"> • Trees in Hard Landscapes: A Guide for Delivery (TDAG, 2014) - Paragraph 3.1.3.
Ensure enough water can reach the root ball of the tree and provide drainage to prevent waterlogging.	Both too little and too much water can kill a tree.	<ul style="list-style-type: none"> • Trees in Hard Landscapes: A Guide for Delivery (TDAG, 2014) - Paragraph 3.1.5. • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) – Paragraph 11.3, Annexes B2.4 and G2.
Re-use in situ soils as much as possible to backfill the planting hole.	Soil re-use helps limit changes in texture around the root ball of the new tree to allow similar drainage to the surrounding soils to be retained and successful establishment maximised	<ul style="list-style-type: none"> • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) - Paragraphs 6.3 and 10.2.5 to 10.2.6. • Construction Code for the Sustainable Use of Soils on Construction Sites (DEFRA, 2011).
Where surfaces around the tree need to accommodate significant load, such as high footfall, a cycle path, car parking and/or vehicular traffic, use engineered rooting media.	Engineered (i.e. load bearing) rooting media such as structural soils, raft systems and crate systems alleviate the tree growing media from compaction while providing adequate support for hard surfaces. The use of flexible paving can help to prevent surface damage	<ul style="list-style-type: none"> • Trees in Hard Landscapes: A Guide for Delivery (TDAG, 2014) - Paragraph 3.2. • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) - Paragraph 10.2.9 and Annex F1.3.
Provide above-ground protection from potential injuries and support.	Without protection or support, young tree can easily be toppled and/or injured and fail. Relevant proposals should be accompanied by a tree protection plan	<ul style="list-style-type: none"> • Trees in Hard Landscapes: A Guide for Delivery (TDAG, 2014) - Paragraph 3.1.6. • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) - Paragraph 10.3.1-10.3.6. and Annex F2.1.

General Principles for tree planting:

- Trees should be planted in the ground, rather than in raised planters. Planting in the ground should ideally be in uncontained, free draining soil.
- Where contained tree pits are needed they should be as large as is feasible. For example, the use of a single tree pit linking a row of trees (in the form of a trench) is better than a series of smaller individual pits.
- Tree grilles/tree pit surfacing should be used to protect and aerate tree root systems and allow rainwater irrigation.
- It is essential that a trees roots are in free draining soil, where there is a localised high water table or impermeable soil this may require positive piped drainage from the base of the tree pit.

3.12 The actual design and specification of tree pits will vary depending on the exact location, layout and species and all requirements. The key elements of each design solution will include the following:

- Tree pits should contain a suitable primary growing medium comprising a system such as Greenleaf's RootCell system (or equal approved), which provides a load bearing structure used in conjunction with topsoil. A sand based load bearing soil, such as Greenleaf's Arbor soil/Amsterdam tree soil (or equal approved) in general is only recommended for use as a secondary rooting zone underneath paved areas.
- It is imperative to the survival of any tree that roots are in free draining soil achieved either by incorporating a drainage layer/soak-away to prevent water-logging or positive piped drainage from the base of the tree pit.
- The tree grille/surfacing should be supported by a frame so that the surface paving is not bearing down on the tree pit soil, which might lead to compaction and potential subsidence.
- Once established, trees should not require watering. During establishment, watering of trees should be via an in-situ inlet pipe for manual watering or an automatic system. This will improve the efficiency for watering large number of trees during maintenance operations. The inlet pipe should be protected when not in use, using a cast aluminium lid. Automatic systems may be able to make use of water collected from surrounding drainage systems. It is important to note that irrigation pipes also assist in aerating the roots.
- Root barriers/root directors should be used as an aid to direct the spread of the root system to prevent damage to buildings, services and surfacing.
- Rather than using tree guards, it is proposed that trees be planted at a suitably robust size (semi-mature + with a 2100mm clear stem) and anchored using a below ground tensioner and anchor system. Depending

upon ground conditions Deadman anchors or alternative anchor systems can be used. Individual requirements should be discussed with the tree product supplier on a site-by-site basis.

Principle 7: Anticipate and reduce maintenance needs Incorporate post-planting care and long-term maintenance requirements in capital budget and design decisions.		
Action	Why	Further guidance
Identify long-term management arrangements early enough to inform design.	For new streets intended for adoption by Staffordshire County Council, adherence to the <i>Staffordshire Residential Design Guide 2000</i> will be required for the planting design. For the refurbishment of existing public realm, seeking feedback from the maintenance team on the proposed design will help determine whether the option being pursued is practical.	<ul style="list-style-type: none"> • Staffordshire Residential Design Guide 2000, Staffordshire County Council - Appendix D. • Trees in Hard Landscapes: A Guide for Delivery (TDAG, 2014) - Paragraph 1.2.4.
Budget for a minimum of five years of post-planting care as part of the capital expenditure.	Post-planting care is an integral part of the installation process.	<ul style="list-style-type: none"> • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) – Paragraph 11.2 and Annex G.
Use Planning Conditions as appropriate	Planning conditions will ensure that existing trees and proposed new planting is protected during construction phase	National Planning Policy Guidance
Open Space Management Plans to include tree management	Post-planting care is an integral part of the installation process.	<ul style="list-style-type: none"> • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) – Paragraph 11.2 and Annex G. • East Staffordshire Open Space SPD

Principle 8: Achieve quality delivery		
Ensure that what was agreed on plan gets delivered on the ground.		
Action	Why	Further guidance
Address foreseeable risks to retained trees through keeping the tree protection plan and arboricultural method statement updated as construction details become available.	Tree retention can only be realised if adequately planned for. Typical sources of risks include site access, demolition site clearance, excavation and construction.	<ul style="list-style-type: none"> • BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (BSI, 2012) – Section 7.
Arrange effective handover of tree protection and planting information from the planning/design team to the construction team.	A pre-commencement meeting and site visit before construction starts will allow requirements to be discussed and fully understood.	<ul style="list-style-type: none"> • BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (BSI, 2012) – Paragraph 3.2.2 and Figure 1.
Use adequately trained or supervised individuals for tree handling and planting.	Tree handling and planting require skills and knowledge to avoid damage and failure.	<ul style="list-style-type: none"> • BS 8545:2014 Trees: from nursery to independence in the Landscape. Recommendations (BSI, 2014) - Paragraphs 9.5 and 10.5.
If the works encroach upon the root protection area of retained trees, secure qualified arboricultural supervision.	The on-site presence of a tree specialist working closely with the construction site manager can make a big difference to achieving successful tree retention and provide reassurance to the Local Planning Authority.	<ul style="list-style-type: none"> ▪ BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (BSI, 2012) – Paragraph 9.1.2.



Tree protection fencing should be in place throughout the construction

4. Tree Management – Council owned trees

Council Owned Trees

4.1 East Staffordshire Borough Council will take all reasonable steps to fulfil duties and obligations to ensure tree safety for public and private property by taking action where any of the '4 D's' apply. These are in situations where trees are Dangerous, Damaging, Diseased or Dead/Dying. The Council will also follow these steps:

1. Carry out replacement planting when a tree is removed. The replacement planting location and species of tree will be assessed.
2. The council will not normally undertake any tree pruning works or removal of trees in direct response to any natural or seasonal phenomena, for example:
 - a. falling leaves;
 - b. sap exudation, (honeydew);
 - c. falling fruits, nuts or seeds;
 - d. bird droppings;
 - e. blossom or pollen;
 - f. reduction or increased moisture to gardens;
 - g. germinating seeds from council owned trees;
 - h. blocked or obstructed drains, gutters, flat roofs
3. The council will not normally undertake any tree pruning work due to:
 - a. Loss or interference with TV or satellite signal reception;
 - b. Loss of sunlight or man-made lighting during any part of the day;
 - c. Damage or "heave" to adjacent surfacing due to a nearby tree;
 - d. Blocking or obstruction of a view from a residence.
4. The council will not normally prune trees to avoid shading solar panels.
5. The council will not remove or prune a tree even if someone is willing to pay.
6. Where birds are found to be nesting in trees, tree works will normally be delayed until the end of the nesting season (February – August), or the birds have fledged (whichever is sooner).

7. Any trees identified and confirmed to be supporting roosting bats will not be worked on until Natural England is consulted. We will then act upon the advice given to us.
8. When investigating claims of subsidence/heave and damage to properties from underground tree roots evidence will be required from claimants by way of a report from an appropriately qualified person. The report should discuss the following.
 - a. A description of the property, including a description of the damage and the crack pattern, the date that the damage first occurred/was noted, details of any previous underpinning or building work, the geological strata for the site identified from the geological map.
 - b. Details of vegetation in the vicinity and its management since discovery of the damage. Include a plan showing the vegetation and affected building or surfacing material.
 - c. Measurement of the extent and distribution of vertical movement using level monitoring.
 - d. A profile of a trial/bore hole dug to identify foundation type and depth of soil characteristics
 - e. The sub-soil characteristics including soil type (particularly that on which the foundations rest), liquid limit, plastic limit and plasticity index.
 - f. The location and identification of roots found. Where identification is inconclusive, DNA testing should be carried out.
 - g. Proposals and estimated costs of options to repair the damage.
 - h. A report from an Arboriculturist to support the tree work proposals, including arboricultural options for avoidance or remediation of indirect tree-related damage.
9. The council will not permit notices to be affixed to council owned trees by any means.

5. Tree Preservation Orders

What is a tree preservation order?

5.1 It is a written order made by a local planning authority (e.g. a borough, district or unitary council or a national park authority) which, in general, makes it an offence to cut down, top, lop, uproot, wilfully damage or wilfully destroy a tree protected by that order without the authority's permission.

What is the purpose of a tree preservation order?

5.2 To protect trees which bring significant amenity benefit to the local area. This protection is particularly important where trees are under threat.

What type and species of trees can a tree preservation order protect?

5.3 All types, but not hedges, bushes or shrubs. An order can protect anything from a single tree to all trees within a defined area or woodland. Any species can be protected, but no species is automatically protected by a tree preservation order.

What if my application to carry out work to a tree protected by a tree preservation order is refused?

5.4 Should the local planning authority refuse an application, it will explain the reasons why and, where relevant, describe any work which may be acceptable. You can then decide whether to submit a new application or appeal against the refusal to the secretary of state.

What if a tree causes damage to people or property?

5.5 Responsibility for looking after a tree lies with the owner. The owner will be liable if it can be proven they have been negligent in looking after it. In that case, you will need to prove the owner knew the tree was dangerous and did nothing about it to make it safe.

What if a protected tree is unsafe?

5.6 If you know of a protected tree which is unsafe, or you believe unauthorised work is being carried out on a protected tree, [please contact us](#).

6. Trees in Conservation Areas

6.1 Trees within conservation areas are automatically protected from being cut down or pruned unless written notice (by letter or email) of the proposed tree works has first been served on the local planning authority. This is because the trees may contribute to the special character of the conservation area. The purpose of the notice is to allow the tree's contribution to the visual amenity of the area to be assessed.

How to apply for consent to remove a tree

6.2 To apply for consent to remove a tree within a conservation area you can either:

- [Apply online using the planning portal website](#)
- [Download and print an application form](#) and email to dcsupport@eaststaffsbc.gov.uk (link sends e-mail) or post it to East Staffordshire Borough Council, Development Control, P.O. Box 8045, Burton upon Trent, DE14 9JG

6.3 The council has six weeks from the date of receiving the notice to determine whether or not the proposed works would adversely affect the appearance of the tree and/or the visual amenity value of the locality. If it is determined that the proposed works are inappropriate a tree preservation order will be made to protect the tree. Otherwise you will be notified that the intended work is acceptable.

6.4 You do not normally need consent to cut down or do work to trees that are:

- less than 75mm in diameter (measured 1.5m above ground)
- less than 100mm in diameter (measured 1.5m above ground), if it is to help the growth of other trees
- a tree that is dead or dangerous
- a fruit tree, grown for fruit production

6.5 To ensure there is no misinterpretation of the above, it is advisable to contact the council before carrying out any work. All work should be carried out in accordance with good arboricultural practice.

6.6 If you deliberately destroy a protected tree, or damage it in a manner likely to destroy it, you could be liable to a fine.

7. National Forest Creation and Management – Approach to securing planting – S106s

- 7.1 The National Forest is one of the country's boldest environmental projects, creating a new Forest, for the nation, across 200 square miles of central England.
- 7.2 The National Forest, since its creation in 1995 has secured around 1,400 hectares of new green infrastructure through the planning system by way of on-site tree planting, mineral site restoration and derelict land reclamation schemes or through financial contributions. This represents around 22% of the 6,580 hectares so far planted in the Forest (as at March 2012).
- 7.3 The National Forest covers both the south-eastern rural areas of East Staffordshire and the urban centre of Burton upon Trent, which is the capital of the National Forest
- 7.4 The Borough Council will continue to work in Partnership with The National Forest Company to ensure tree planting is included in new developments through the application of this policy in planning decisions, ensuring standards for tree planting are met on site and where appropriate off site in accordance with National Forest Planting Guidelines
- 7.5 New developments within the National Forest are encouraged to follow the [National Forest Guide for Developers and Planners](#), which includes site-specific woodland planting and landscaping targets:

Development Type	Threshold	Proportion of site to be woodland planting and landscaping
Residential	Between 0.5ha and 10ha	20%
Industrial, commercial and leisure	Between 1ha and 10 ha	20%
All development	Over 10 ha	30%

- 7.6 In exceptional circumstances, where planting cannot be accommodated to this scale within the development, the shortfall should be addressed by a contribution towards off-site planting of £50,000 per hectare secured through a Section 106 agreement.