

CALDERDALE COUNCIL GUIDANCE ON STREET TREE AND HEDGEROW PLANTING FOR HIGHWAYS AND DEVELOPMENTS

1. Introduction

Well-designed tree and hedgerow planting is a fundamental element of high-quality place-making. Such planting enhances the character and visual appeal of Calderdale's streets and public spaces, promotes physical and wellbeing for our communities, supports biodiversity, improves air quality and contributes to climate change resilience.

This guidance has been prepared to assist applicants in delivering development and urban landscape schemes that meet high standards of design and sustainability, with particular regard to tree and hedgerow planting. It provides practical guidance and checklists to ensure that planting is well-integrated, resilient and appropriate to the local environment.

2. Overarching policy context

Applicants are reminded of the provisions of Section 131 of the National Planning Policy Framework (NPPF), which highlights the importance of trees in urban environments and their role in mitigating and adapting climate change. The NPPF specifically states that:

- Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change.
- Planning policies and decisions should ensure that new streets are tree-lined.
- Appropriate measures must be secured for the long-term maintenance of newly planted trees.
- Existing trees should be retained wherever possible

The guidance aligns with Calderdale Council's strategic policy framework, including:

- Calderdale Air Quality Action Plan
- Calderdale Climate Action Plan
- Calderdale Ecological Emergency Action Plan
- Calderdale Flood Action Plan
- Calderdale Green and Healthy Streets Policy
- Calderdale Local Plan (particularly policy GN5)
- Calderdale White Rose Forest Plan
- West Yorkshire Local Nature Recovery Strategy
- White Rose Forest Strategic Plan

3. Applicant responsibilities

It is the responsibility of all planning applicants to ensure that landscape proposals and planting specifications fully comply with this guidance. Compliance will be considered as part of the planning application process.

Retention of existing trees

Calderdale Council places the highest priority on the retention of existing trees, in

recognition of the climate and ecological emergency declared by the Council and in accordance with Policy GN5 in the Calderdale Local Plan. Mature trees provide irreplaceable environmental benefits, including carbon storage, biodiversity, improvements to air and water quality, urban cooling and natural flood management, health and wellbeing, as well as contributing significantly to public amenity and visual character of an area.

Newly planted trees, by contrast, do not provide comparable environmental or aesthetic benefits for 20-30 years after planting. Consequently, the removal of existing trees will only be supported where there is robust justification and no realistic practical alternative. Proposals must demonstrate how existing trees worthy of retention have been incorporated into the scheme and the measures taken to ensure their continued protection and survival during construction and beyond.

4. Practical guidance

The following guidance, developed by Calderdale Council in conjunction with the White Rose Forest, provides applicants with a framework for planning and delivering high-quality street tree and hedgerow planting in Calderdale. It is intended to support compliance with the policy requirements set out above, ensure the long-term sustainability of developments and communities, and maximise environmental, social and amenity benefits.

All development proposals that include tree or hedgerow planting must demonstrate compliance with the requirements set out in this guidance as part of the planning application process.

4.1 Drainage and utilities

To ensure coordinated spatial planning and avoid the potential for disruption caused by multiple individual service trenches, landscape plans must clearly illustrate the location and alignment of all proposed utility routes and drainage infrastructure.

In line with best practice guidance from the National Joint Utilities Group (NJUG), applicants are encouraged to utilise shared trenching solutions wherever feasible to minimise spatial fragmentation and preserve planting opportunities.

All landscape proposals must be prepared in full consideration of the drainage strategy and the alignment of all utilities. Particular attention must be given to the location of easements, underground tanks and similar infrastructure, which may render substantial areas of land less suitable for tree planting or other landscape uses. These constraints must be clearly identified and addressed within the submitted plans.

4.2 Residential gardens

Tree planting shall be incorporated into gardens areas as a standard requirement. Particular emphasis shall be placed on areas adjoining the public highway, where planting can deliver the dual benefits of enhancing public amenity while contributing to private outdoor space.

Trees visible above typical boundaries, such as timber fencing, can break up visual

monotony and provide valuable vertical interest within the streetscape and garden environment. Applicants must provide a written statement demonstrating how tree planting in both front and rear gardens contributes to the development's overall landscape character and visual quality.

4.3 Structural planting

Areas designated for structural planting must be protected through the construction process in accordance with BS 5837: Trees in Relation to Design, Demolition and Construction – Recommendations.

Tree protection measures must explicitly include the safeguarding of soil within these areas to prevent structural damage, particularly compaction, which can severely compromise the long-term success of planting schemes. Preserving soil integrity through the development process is critical to ensuring the viability of proposed trees and other vegetation.

These protective measures must be clearly delineated on the Landscape Plan, within the Arboricultural Method Statement and Tree Protection Plans and shall be secured as a pre-commencement requirement of the planning consent.

4.4 Provision of large canopy trees and species diversity

It is the policy of Calderdale Council to require the planting of the largest canopy trees appropriate to the space available. Large canopy species deliver the greatest long-term benefits in terms of public amenity, biodiversity enhancement, air quality improvements and climate change mitigation, and are therefore strongly prioritised in accordance with adopted policies.

The use of columnar or fastigiated tree forms will not be supported unless a clear and overriding constraint can be demonstrated. Applicants must design spaces to accommodate broad, spreading canopy trees wherever practicable.

All planting schemes must also demonstrate an appropriate level of species diversity, including native species, recognising that a more diverse urban tree population builds resilience against pests, diseases and the effects of climate change. Proposals should follow best practice guidance in arboriculture (such as the Trees and Design Action Group's Tree Selection Guide) to avoid overreliance on a narrow range of species or genera.

4.5 Tree spacing and avenue planting

To achieve meaningful canopy coverage and visual impact within acceptable timescales, trees should be spaced more closely than their ultimate mature spread would suggest. Spacing based solely on mature canopy size can result in delays of many decades before a cohesive canopy effect is realised.

Accordingly, the following optimum spacing guidelines shall be applied:

- Large canopy trees (e.g. London Plane): 8 metres
- Medium-sized trees (e.g. Silver Birch) 5 metres

- Small trees or columnar / fastigiated forms: 3 to 5 metres

A staggered grid or double avenue layout may be employed to achieve greater canopy density and visual effect. Where closer spacing is adopted, applicants must incorporate a planned management strategy, including formative pruning and potential thinning, to ensure long-term health and structure of the tree population.

All spacing proposals must be justified within the landscape design strategy and supported by appropriate arboricultural input.

4.6 Tree planting specifications

4.6.1 Tree size standards:

The default specification for trees planting in public or adoptable areas shall be Extra Heavy Standard (14-16 cm girth at 1 metre above ground level), in accordance with BS 8545:2014 Trees: From Nursery to Independence in the Landscape, to ensure resilience and early landscape impact. This should also give due consideration to appropriate sourcing.

In private areas, or in contexts such as shrub bends or naturalistic planting beds, a lower specification (e.g. Standard size trees, 8-10 cm girth) may be considered acceptable, subject to prior approval by Calderdale Council.

For the avoidance of doubt, these standards apply solely to street trees and individual trees. They do not apply to proposals involving the creation of new woodland in open spaces.

4.6.2 Tree pit requirements

Tree pits must be designed to give the maximum available rooting volume, taking a proactive approach to site constraints and opportunities, and may be chosen from a palette of designs that best fit the location and planting scheme. It is advised that reference is made to the Tree and Design Action Group's publications on best practice.

Wherever possible and appropriate, tree pits should be incorporated in green and blue drainage plans. You can find examples of designs for tree pits in Annex 1.

4.6.3 Irrigation

All tree pits for trees of standard size or larger must include:

- An irrigation tube with a cap, unless part of a naturalistic woodland scheme
- A three-year irrigation and maintenance programme, align with the requirements of BS 8545:2014, with prescriptive frequencies and volumes. This programme must be submitted and approved part of the landscape plan.
- You can find a recommended management regime in Annex 2.

4.7 Staking and support systems

Each tree must be appropriately supported by using an approved method, such as one of the following:

- Three low timber stakes (800 mm in height) per tree with flexible rubber ties

Required for all tree planting in grass areas:

- A 1.5 m diameter bark mulch circle must be installed around the base
- A spiral guard or mower guard must be provided to protect against strimmer and mower damage.

Alternative double stake with cross bar:

- Twin vertical stakes with a horizontal cross bar, pinned approximately 300 mm from the tree and 400 mm above ground level.
- A hessian spacer/tie must be securely knotted between the cross bar and the tree as a buffer.
- Stakes and ties must be designed for a functional lifespan of 2-3 years and must be removed thereafter.
- All ties must accommodate trunk growth and prevent girdling or constriction of the tree stem.

Below ground root ball anchoring (for semi-mature trees only)

- Suitable for trees with a healthy root ball of 150 litres or greater
- Utilises ratcheting cables or ties that secure the root ball below ground, offering a clean, unobstructive aesthetic.
- Installation must be carried out by a competent and experienced contractor.
- This system is permanent and does not require subsequent removal.
- Please note that the use of single staking is not supported under any circumstances.

Please ensure that all proposed planting specifications, support systems and maintenance programmes are clearly detailed within the submitted landscape proposals and Arboricultural Method Statement.

4.8 Tree mitigation and replacement planting hierarchy

4.8.1 Hierarchy of planting locations

All tree mitigation and replacement planting shall follow a clear hierarchical approach, prioritising locations where long-term viability, public benefit and climate resilience can be most effectively secured:

4.8.1.1 Primary location – public realm:

The preferred and primary location for replacement tree planting is within the public domain,

where the establishment of larger canopy species is feasible and where benefits, such as public amenity, biodiversity, air quality and climate resilience are maximised. Proposals must demonstrate how replacement trees in public or adoptable areas meet these objectives.

4.8.1.2 Secondary locations – Private or naturalistic contexts

Where planting is proposed in private areas, within shrub beds, or as part of a naturalistic planting belt, a lower specification – such as Standard trees (8-10 cm girth) – may be accepted, subject to prior approval by Calderdale Council. Such proposals must still demonstrate long-term sustainability and integration within the wider strategy.

4.8.1.3 Rear gardens – not eligible for mitigation calculations:

Trees newly planted in rear gardens shall not be considered as contributing toward formal tree mitigation calculations. Rear garden environments often involve competing land uses and pressures that can result in a high rate of premature tree loss. As such, their contribution to long-term canopy cover is considered uncertain.

Notwithstanding, the planting of trees in rear gardens is strongly supported in principle and encouraged as a means of enhancing private amenity and ecological value. It should be noted that trees planted in private gardens are not counted towards Biodiversity Net Gain calculations.

4.8.1.4 Tertiary option – off-site planting:

Where all on-site opportunities for replacement tree planting have been demonstrably exhausted, off-site planting may be considered as a last resort option to satisfy the overall mitigation requirement. Off-site planting schemes must be agreed in advance with Calderdale Council and deliver clear, measurable benefits within the local area. The Council will maintain a list of suitable sites.

4.8.2 Overarching landscape planning considerations

Applicants are reminded that the tree replacement requirements represent a minimum threshold. Landscape proposals must be guided not only by numerical replacement standards but by the broader planning and design needs of the site, including placemaking, biodiversity enhancement, visual character and climate adaptation.

In many cases, the comprehensive landscape strategy will exceed the baseline tree mitigation figures. This approach is both expected and encouraged in order to achieve high quality, sustainable development outcomes.

4.9 Tree setbacks and infrastructure protection

To minimise potential conflicts between tree root systems and surrounding infrastructure, all trees in soft landscape areas must be set back from the edge of the highway or footway, as follows:

- Medium sized trees: minimum set back of 1.5 metres
- Large canopy trees: minimum set back of 2.0 metres or greater, subject to site-specific assessment

These distances are indicative and must be confirmed through detailed site analysis, taking into account the location of services, soil conditions and adjacent structures.

Where necessary, the use of protective root systems, such as copper-lined root barriers or root deflectors, should be incorporated to provide additional protection to adjacent infrastructure, particularly flexible surfaces such as pavements, roads and utility corridors.

Applicants are advised to consult Table A.1 of BS 5837:2012 – Trees in Relation to Design, Demolition and Construction (and any subsequent revisions) for guidance and recommended minimum distances between newly planted trees and built structures.

4.10 Minimum verge width and infrastructure compatibility

Unless otherwise varied in agreement with Calderdale Council, a minimum verge width of 3.0 metres is required for all street tree planting within new highway environments. This dimension ensures the provision of sufficient uncompacted soil volume to support the establishment and sustainability of large canopy trees, while also:

- Reducing risk of pressure-related damage to footways and carriageways
- Eliminating the need for additional street lighting for rear footways

Where planting within narrower verges is proposed, justification must be provided alongside appropriate engineered solutions to secure tree health and infrastructure integrity.

All landscape proposals involving highways must be subject to early consultation with Calderdale Council's Highways Team, particularly with regard to tree placement and its compatibility with lighting columns, visibility splays and other street furniture.

Formal confirmation of agreement from the Highways Team, with the input of the Tree Officer, will be required prior to landscape plan approval. Evidence of such liaison, including lighting assessments where applicable, must be submitted.

4.10.1 Root protection and understory planting

To further safeguard highway infrastructure, the use of copper-lined root barriers is strongly recommended. Where highway safety allows, understory planting shall be incorporated into verges to enhance visual amenity, improve air quality and promote active travel through a more attractive public realm.

4.10.2 Soil requirements for verge and pit planting

Unless in pre-existing and protected soft ground all planting areas, including verges, tree pits and planting beds, must meet the following minimum soil volume and quality standards:

- Total soil depth: minimum of 900 mm

- Maximum 300 mm of certified topsoil in accordance with BS 3882:2015 (multipurpose topsoil)
- Minimum 600 mm of loosened subsoil in accordance with BS 8601:2013 (multipurpose subsoil)

Wherever possible, soils should be left undisturbed in areas set aside for tree planting.

4.10.3 Soil testing and certification

- All topsoil and subsoil, whether site-won or imported, must be subject to laboratory analysis
- Testing must reflect a representative sample based on soil volume used
- Laboratory certificates verifying compliance with BS 3882:2015 and BS 8601:2013 must be submitted to Calderdale Council prior to any filling operations
- If soil is imported, delivery tickets must also be submitted to Calderdale Council to confirm provenance of certified material

4.10.4 Soil preparation and spreading

Before topsoil is spread:

- Subsoil must be de-compacted to facilitate proper infiltration and integration
- A method statement is required, aligning with BS 3882:2015 Section A.3: Preparation of the Receiving Area and Spreading Topsoil

4.10.5 Bark mulch requirements

- Around trees planted in grassed areas: 1.5 metre diameter bark mulch circle at a depth of 75 mm
- In all other planting typologies (e.g. shrubs, hedges, herbaceous beds): bark mulch to 75 mm depth uniformly applied

4.10.6 Edging specification

All mulch areas shall be edged with a shallow dip channel, which provides:

- Visual demarcation between planting and amenity grass
- A mowing edge to reduce maintenance conflicts
- A physical barrier to retain mulch and improve surface water infiltration

4.11 Street trees – offset from building façades

4.11.1 Required setback distance from tree to building

Where trees are proposed in proximity to residential buildings, a minimum offset distance must be maintained between the tree stem and the building façade. This setback shall be calculated based on:

- The ultimate canopy spread radius of the proposed tree species plus
- An additional 2 metres to allow for essential maintenance access and daylight penetration

This formula ensures long-term compatibility between the growing tree and the adjacent building form, supporting both arboricultural sustainability and building amenity.

Typical standoff distances range from 5 to 9 metres, depending on species selection and site constraints.

4.11.2 Soil volume and infrastructure coordination

All planting proposals must ensure that adequate soil volume is provided to support the mature size of the intended tree species. Soil design must follow BS standards as set out in Sections 4.10 and 4.16 of this guidance.

Early engagement with Calderdale Council's Highways Team, with the input from the Trees Officer, is essential to verify that the proposed tree locations are compatible with existing and planned infrastructure, including utilities, lighting and visibility requirements.

4.12 Rotavation within Root Protection Areas (RPAs)

The Tree Protection Plan (TPP) must clearly display the full tree survey information for all retained trees, including the precise location and extent of their Root Protection Areas (RPAs). This information must be prominently presented, with a bold and unambiguous warning stating that no mechanical cultivation (e.g. rotavation) is permitted within the RPAs.

Mechanical cultivation within RPAs is expressly prohibited in accordance with BS5837, as it poses a significant risk of damage to tree roots. Instead, all works within these zones must be carried out using low-impact, non-mechanical methods. This requirement must be clearly specified in all relevant drawings and documentation.

4.13 Hedging

4.13.1 Plant specifications

Hedging plants are typically supplied as transplants or whips, ranging from 40-60cm to 60-90cm in height. They may be provided either as bare root stock or container-grown and wrapped. While both are acceptable, container-grown plants are generally more successful due to improved establishment and the benefit of an extended planting season.

Hedging is available in a variety of forms, including native and ornamental types, each serving different functional and aesthetic purposes.

4.13.2 Planting layout and mulching

For native hedges using 60-90cm plants, the standard layout is a double, staggered row with 45cm spacing, requiring approximately 4-6 plants per linear metre.

All planting must incorporate either:

- A 75mm depth or bark mulch, or
- A suitable mulch matting system

In public areas, where possible, biodegradable tree tubes or shelters should be used for individual hedge plants. Where non-biodegradable options are used, the developer should remove them within five years.

4.13.3 Additional protection

In rural or edge-of-settlement locations, a double line of stock-proof fencing may also be required to protect young hedging from grazing or trampling.

4.13.4 Species composition

Native hedges typically consist of 5 to 7 species and are designed to replicate traditional countryside hedgerows. A standard native hedge mix may include:

- 70% Hawthorn (*Crataegus monogyna*)
- 5% Beech (*Fagus sylvatica*)
- 5% Holly (*Ilex aquifolium*)
- 5% Guelder rose (*Viburnum opulus*)
- 5% Wild rose (*Rosa canina*)
- 5% Hazel (*Corylus avellana*)
- 5% Blackthorn / Sloe (*Prunus spinosa*)

A hedge tree at every 8 – 10 m within the hedge where appropriate.

Alternative species ratios can be used where justified for site-specific conditions or biodiversity objectives.

Ornamental hedges are typically composed of a single species, though mixed-species ornamental hedges are also acceptable. These are selected for their decorative qualities, which may include seasonal flowers, colourful foliage, distinctive bark, or attractive fruit and seed heads.

4.13.5 Seasonal considerations

- Deciduous hedges are generally easier to maintain and offer seasonal interest, but provide limited screening in winter.
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4.14 Instant hedging

4.14.1 Definition and purpose

Instant hedging refers to pre-grown, mature hedgerows supplied in continuous lengths by the linear metre, rather than as individual plants. These hedges are cultivated over time to form dense, cohesive units and are ready for immediate planting to achieve an established effect.

Instant hedging is suitable for a range of applications, including:

- Immediate boundary treatments and privacy screening
- Filling gaps in existing hedgerows to restore continuity

- Replacing removed hedges to recreate original landscape structure
- Providing biodiversity and seasonal interest through native or evergreen species.

A line of individual hedge plants, regardless of height or spacing, does not qualify as instant hedging unless grown and maintained as a cohesive, pre-formed hedge. Instant hedges are distinct in that they have been clipped and managed over several years to form a tight, interwoven structure.

4.14.2 Benefits

Instant hedging provides a number of benefits over more traditional approaches

- Immediate visual and functional impact
- Reduced time to maturity (typically saving 2-5 years compared to standard hedging)
- Lower risk of establishment failure and early stage maintenance issues
- Can be planted year round with reduced transplant shock

4.14.3 Specification and Quality Standards

There are a number of specifications and quality standards for instant hedging to be aware of:

- **Minimum height:** 1 metre, though higher hedging may be required based on site context and planning requirements
- **Typical dimensions:** supplied in 1-metre-long troughs, usually 40cm wide x 30cm deep, constructed from a permeable fabric (e.g. Mypex)
- **Root structure:** Each unit must contain a well-established, solid root mass that has knitted together over time. Loose or recently planted potted material that disintegrates when removed from the trough will be rejected.
- **Fabric removal:** All trough fabric must be removed prior to planting.
- **Proof of source:** Documentation verifying provenance and compliance with the above requirements must be submitted to Calderdale Council, as the Local Planning Authority, for approval.

4.14.4 Planting and establishment

- All instant hedging must be mulched with a 75mm layer of bark mulch following planting.
- The hedge must be thoroughly watered in time for planting.
- A simple, reliable irrigation system is strongly recommended to support establishment, particularly over the first two growing seasons.
- Ongoing watering requirements should be confirmed with the supplier.

4.15 Tree root planting

Bare root trees are not acceptable for standard tree sizes and above. All trees of standard size or larger must be supplied with appropriate root packaging, with only container-grown, air-pot or root-balled trees permitted.

The use of plastic-free root packaging options is strongly preferred and should be specified wherever possible – see further guidance below on the use of plastics.

Bare root trees are not permitted under any circumstances, as their lower initial cost is offset by high failure rates and the associated expense of replanting.

4.16 Topsoil / subsoil (excluding trees in soil cells)

Poor soil management and compaction are among the leading causes of planting failure in landscape schemes. Effective soil preparation and conformance to relevant standards are essential to ensuring successful establishment. Where planting areas are being constructed from scratch, full engineering details of the soil profile build-up must be provided. These must comply with the specifications set out in BS 8601:2013 (specification for subsoil) and BS 3882:2015 (specification for topsoil).

Before topsoil is applied, the receiving subsoil must be de-compacted to improve permeability and ensure proper integration of soil layers. Over-compaction, whether of subsoil or topsoil, must be avoided, as it inhibits root penetration, limits water infiltration and is a common cause of plant failure. The quality of topsoil is not sufficient; successful performance depends heavily on appropriate ground preparation.

Topsoil should be spread to a maximum depth of 300mm, with the remainder of the rooting depth made up of suitably loosened subsoil, in accordance with BS 8601:2013. The required minimum rooting depths are as follows:

- 450mm for grass
- 600mm for shrubs
- 900mm for trees

In areas designated for tree planting within soft landscape settings, a continuous 900mm soil profile is required across the full extent of the planting bed. This must not be limited to isolated tree pits. This specification must be addressed and detailed within the engineer's groundworks package, as it constitutes a critical engineering matter.

4.17 Ensuring the right amount of bark mulch

All trees planted within grassed areas must be provided with a bark mulch circle of at least 1.5 metres in diameter. Bark mulch must also be incorporated across all other planting typologies, including shrub beds and hedging. To aid moisture retention, define the edge of all mulch areas with a shallow dip channel. This channel not only demarcates the planting area and provides a mowing edge, but also helps to retain water and prevent mulch displacement.

4.18 Use of biodegradable and plastic-free alternatives

In line with guidance from the Department for the Environment, Food & Rural Affairs and Calderdale Council's policy to reduce carbon emissions and plastic usage, we recommend

that all planting materials and associated products are where possible sourced sustainably, with a preference for biodegradable and plastic-free alternatives.

To support sustainable landscape practices, developers should specify products with a low carbon footprint, avoiding conventional plastics for tree planting where possible. Examples include:

- Green-tech Natural Tree Tie, which is made entirely of natural fibres and is fully biodegradable.
- Bio-Earth Biodegradable Plastic-Free Tree Shelter Guard: <https://green-tech.co.uk/category/tree-hedge-planting/tree-shelters-guards/biodegradable-tree-shelters>
- Rainbow Treebio – biodegradable spiral guard
- Gt Greenguard – tree tube made from Kraft paper
- Tubex Nature Shelter – 100% bio-based tree shelter
- The Trainbow Treebio weed mats -made of 100% plant material
- Ecomatt Bio – biodegradable weed mats
- Naturetie – eco-friendly biodegradable tree tie: <https://greenblue.com/gb/products/naturetie/>

It is important to note that tree stakes and ties are typically required only during the first 2 – 3 years post-planting, depending on establishment. These supports must be removed promptly to prevent constriction damage, which can be fatal to trees. As long-term maintenance cannot always be guaranteed, specifying biodegradable alternatives helps mitigate these risks and reduces the need for costly management interventions and replanting.

5. Further information

For further information or guidance on street tree and hedgerow planting, applicants and stakeholders are encouraged to contact:

[Contact details for relevant Calderdale Council officers will be included here in the final version]