



INSET SCALE: 1:500

Specimen Tree Planting
Planted within proposed hedgerow infill planting and to avoid RPAs of existing trees. Planted at 5-7m (linear meter) spacing's to allow for mature canopy growth. Species groups of 2-3.

- Acer campestre 12-14cm girth
- Quercus robur 12-14cm girth

Existing Trees and Shrubs

- Where existing trees & shrubs are to be retained they should be subject to a full arboricultural inspection for safety.
- Any surgery required shall be in accordance with BS 3998 (2010) 'Tree Work - Recommendations', shall comply with any existing T.P.O requirements and shall require the prior approval of the Landscape Architect.
- Avoid damage to branches, trunks and roots of trees. All existing trees & hedges to be retained are subject to BS 5837 (2012) 'Trees in relation to design, demolition and construction - Recommendations', and should be fully fenced off, prior to the commencement of any works, in accordance with Figure 2 (p20) at the full extent of the root protection area, as determined by section 4.6 (p10-11) and Annex D (p40).
- No storage of materials, disposal of rubbish, site fires, spillage of oil and chemicals, ground compaction, excavation or changes in level shall be carried out within existing tree / hedge canopies.

Native Hedgerow Planting Requirements
"Double staggered row in two rows about 25cm apart with plants at approximately 35cm in each row. This would equate to 6 plants per linear metre."

Typical Stock specification would be as below ie. 80-100mm whips, best planted from November to March as bareroot stock, providing not freezing / waterlogged conditions.

Native Hedgerow Planting Mix
Native hedgerow to be Hawthorn dominant mix as follows:

- Crataegus monogyna: 60%
- Corylus avellana: 10%
- Ilex aquifolium: 10%
- Prunus spinosa: 10%
- Acer campestre: 10%

Native Hedgerow Specification Notes
Planting Depths:

- Cultivation Depth: 300mm deep
- Topsoil Depths: 300mm deep

Rabbit Protection:
"Bareroot plants within native hedge planting mixes to be protected from rabbit damage with the installation of 1No. shrub shelter and 25mm softwood stake per shrub / tree. Type 'Shelterguard', colour GREEN as supplied by Tubex www.tubex.com or similar and approved. Shrub species to receive 110mm diameter x 60cm high shelter, hedgerow tree species to receive a clear spiral guard."

Native Hedgerow Maintenance Requirements

- Enhance visual amenity.
- Enhance biodiversity.
- Provide habitat connectivity
- Integrate with surrounding landscape and character
- Screening to the built form, including means of enclosure and other structures.
- Define differing areas and routes.

Native Hedgerow Management Objectives

- Hedgerows that adjoin footpaths therefore likely to cause obstruction if growth is left unchecked should be cut back annually outside the bird breeding season (March to August inclusive) to a neat and consistent finish to maintain a vigour with all arisings removed off site.
- All other native hedgerows on site are to be cut every 2-3 years (on rotation) to allow flowering and fruiting and the development of a structure of benefit to wildlife, outside the bird breeding season (March to August inclusive). Remove arisings off site.
- Clip to form a neat, compact hedgerow with a tapering top. Maintain at approx height of 2.5 - 3m.
- Remove any dead, dying and damaged growth or growth obstructing pedestrian or vehicular routes outside of bird breeding season (March to August inclusive).
- Check condition of stakes, ties, guys and shelters and replace broken or missing items until such a time as they become redundant. Adjust if necessary to allow for growth and prevent damage to bark.
- Re-firm any plants that have been disturbed by adverse weather or interference.

BS 4428: Code of practice for general landscape operations
BS 7370-4: Grounds maintenance

Hedgerow Specimen Trees Maintenance Requirements

- Reinforce site layout and legibility.
- Enhance visual amenity.
- Enhancement of the site's microclimate.
- Enhance biodiversity.
- Provide habitat connectivity

Wild Bird Cover Seed Mix Planting

- Time of sowing: end of August to mid-September
- Depth of sowing: 2.5cm
- Check the soil pH which must be a minimum of 6.0 (below this you will need to add lime).
- Use of a stale seedbed is advised
- Suitable for planting in the early autumn on challenging sites or where heavy soil types have previously caused establishment problems. Contains: barley, Coleor kale (treated with Synergy), fodder radish, forage rape, Gold of Plesure, Kings kale rape, linseed, phacelia, Stand and Deliver (perennial chicory), Vittasso brown mustard and triticale."

Fertiliser:
Assuming your situation allows the use of fertiliser:

- 30 kilograms per hectare (24 units per acre) Nitrogen
- 30 kilograms per hectare (24 units per acre) Phosphorus
- 30 kilograms per hectare (24 units per acre) Potassium

Where soil nutrient reserves are unknown, apply the above to the seedbed and incorporate pre-drilling. Where soil nutrient reserves are known adjust this rate accordingly. Always take into account nutrients from organic manures that have been applied."

(Taken from KingCrops Growing Guide)

Hedgerow Specimen Trees Management Objectives

- Screening to the built form, including means of enclosure and other structures.
- Maintain a well-balanced crown, shape and character typical of the species, clear of any crossing or overhanging growth allowing a clear stem, 2m above ground level (retain if field tree feathered to ground).
- Remove any dead, dying and damaged branches or growth obstructing pedestrian or vehicular routes (obtain advice from an ecologist regarding possible presence of bat roosts prior to undertaking work).
- Check condition of stakes, ties and guys and replace broken or missing items until such a time as they become redundant. Adjust if necessary to allow for growth and prevent damage to bark.
- Under take Pest and Disease Control using suitable pesticides or fungicides as advised, only if severe infestation occurs.
- Maintain a weed free area at the base of all trees, 1m diameter mulch area for trees in grass or planting BS 3998: Recommendations for tree work

The Arboricultural Association Standard Conditions of Contract and Specification for Tree Works Sept.

Planting
All plants and planting to comply with the requirements of all current / relevant British Standard specifications including BS 8545 (2014) 'Trees from Nursery to Independence in the Landscape', BS 3936: Part 1 (1992), Part 2 (1990) and Part 4 (2007) and BS 4043 (1989) where applicable, BS 4428 (1989). All plants to be supplied in accordance with the plant schedule and with regard to imported stock and notifiable diseases within the Plant Health Act 1967 (revised 2009). Any plant material planted outside the recognised planting season (Nov-Feb), to be containerised stock and supplied at the sizes specified. Where possible, trees and shrubs of UK provenance are preferred.

Plant Material Treatment

- NB All to be British grown stock and fully hardened off.
- Root Dip - Proprietary Root Dip applied to all bare rooted stock (1) at time of lifting at nursery and (2) prior to planting
- Anti-Desiccant - Proprietary anti-desiccant to be applied to foliage of all containerised / rootballed material in leaf, specimen conifers and evergreens etc. (1) prior to transportation and (2) during any delay in planting.
- Pruning - Allow for pruning of all deciduous trees and shrubs by 1/3rd following planting at Landscape Architects direction or as indicated in the planting schedule.
- Tree Stakes & Ties - Stakes to be pressure treated, round, smooth and peeled Larch or Chestnut, not less than 100mm in diameter. Advanced nursery stock - double staked with cross bar.

Ecological Meadow Buffer & Grazing Mixture Planting

- Good preparation is essential to success so aim to control weeds and produce a good seed bed before sowing.
- Overgrown hedgerows which have been recently cut back or laid sometimes offer up a strip of open bare ground ready for seeding
- To prepare a seed bed first remove weeds using repeated cultivation.
- Then plough or dig to bury the surface vegetation, harrow or rake to produce a medium tilth, and roll, or tread, to produce a firm surface.
- Cultivation close to established trees and shrubs can be damaging to their root systems so take care not to dig too deep, keeping disturbance to the minimum required to expose fresh soil.
- Seed is best sown in the autumn or spring but can be sown at other times of the year if there is sufficient warmth and moisture. The seed must be surface sown and can be applied by machine or broadcast by hand. To get an even distribution and avoid running out, divide the seed into two or more parts and sow in overlapping sections. Do not incorporate or cover the seed but firm in with a roll, or by treading, to give good soil/seed contact."

Ecological Meadow Buffer First Year Management

- Most sown meadow wild flower and grass species are perennial; they will be slow to germinate and grow and will not usually flower in their first growing season. There will often be a flush of annual weeds from the soil in the first growing season which may grow up and obscure the meadow seedlings beneath. This annual weed growth is easily controlled by topping or mowing.
- Mow newly sown meadows regularly throughout the first year of establishment to a height of 40-60mm, removing cuttings if dense. This will control annual weeds and help maintain balance between faster growing grasses and slower developing wild flowers.
- Avoid cutting in the spring and early summer if the mixture has been sown with a nurse cover of cornfield annuals, or is autumn sown and contains Yellow Rattle. These sown annuals should be allowed to flower, then in mid-summer cut back and the cut vegetation removed. It is important to cut back cornfield annuals before they die back, set seed or collapse; this cut will reveal the developing meadow mixture and give it the space it needs to develop.
- Dig out any residual perennial weeds such as docks."

Ecological Meadow Buffer Management Once Established

- Hedgerows, woodland edges, rides, glades and other semi-shaded communities usually sit on the boundary between one habitat type (eg open grassland) and another (eg closed tree canopy). The management requirements of established hedgerow mixtures can be tailored to light levels and to fit in with adjacent vegetation types.
- Zoned management of hedgerow margins frequently produces the best diversity of habitat structure: areas closest to the hedge or woodland boundary and those which are more shaded are left uncut in most years. Areas that are further from the margin and more open can be managed as grassland habitat. For example in a 6 metre sown margin the 2-3 metres against the boundary could be left uncut, the next 3-4 metres cut once or twice a year.
- Hedgerow vegetation that is not mown or grazed each year will become rough and "tussocky" in character. It can form useful refuge habitat on corners and margins of a site. To control scrub and bramble development, these tussocky areas may need cutting every 2-3 years between October and February. For wildlife this cutting is best done on a rotational basis so that no more than half the area is cut in any one year leaving part as a undisturbed refuge.
- Hedgerows and margins that are cut regularly can be managed as grassland."

Grazing Mixture First Year Management

- In good growing conditions (warm soils and adequate rainfall) the grass will establish and need its first management around 6-10 weeks from sowing, by which time grass will have reached around 10cm height.
- Light grazing with livestock can be introduced at this stage. Sheep are to be preferred as they have lighter feet and nibble grass back neatly and so encourage the grass to thicken up by tillering at the base. Cattle are likely to damage a young sward by tugging at the grass, and from their heavy hooves. Graze for short periods initially to avoid over grazing and allow time for the grass to recover. Avoid grazing if the soil is saturated with water.
- Alternatively, top initial growth (sown species and weeds) to encourage the sward to thicken up and restrict any weed growth. Remove or disperse cuttings so as not to leave mulched patches which will kill young grass."

Grazing Mixture Management Once Established

- Once the sward is well established with good ground cover and strong roots livestock can be introduced freely to graze as appropriate to the season and amount of growth.
- Do not over-stock to avoid sward damage and poaching. Rotating grazing round different fields or sub-dividing fields is a good way of preventing over-grazing and allowing the sward recovery time. Aim to keep a sward height of at least five centimetres through most of the grazing period, and not less than two to five centimetres at the end of a grazing period.
- Remove animals from pastures if the ground is very wet or waterlogged as their hooves will very quickly destroy the sward and churn up the ground. Such poaching destroys the sward and opens it up to invasion of problem weeds like thistles and ragwort.
- Control any weeds like docks and thistles.
- Top any un-grazed tall growth in pastures with a rotary or flail mower (or a scythe) each year in late June to early July. This topping will help keep weeds like thistles at bay, and even up the sward, inhibiting tussock formation from grasses like cocksfoot. Note: If you have nesting birds using the pasture delay topping until they have fledged in late July.
- Chain harrow in early spring as soon as the ground dries enough to even out mole hills, remove dead grass and reinvigorate the sward. Over-seed any significant bare areas.
- These grazing mixtures can be used to produce a hay crop from the second year onward if required Shut up the pasture removing livestock from spring through to midsummer. Take a hay cut late June/July. After the hay crop has been removed return livestock to graze the aftermath."

(Taken from the Emorsgate Seeds Growing Guide)

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Key

Proposed elements

- APPLICATION SITE BOUNDARY
- 2 x 12 = 24 MODULE PANEL (12m)
- 2 x 24 = 48 MODULE PANEL (24m)
- PRIVATE CABLE
- SECURITY FENCE Extent of 5m Ecological Buffer
- 3.5m ACCESS TRACK
- INVERTER SUBSTATION
- FIELD REFERENCE FOR LVIA

SOFT LANDSCAPE

Proposed elements

- SPECIMEN NATIVE TREE PLANTING
- NATIVE HEDGEROW PLANTING
- ECOLOGICAL MEADOW BUFFER E11 - Hedgerow Mixture (Emorsgate), or similar and approved
- WILD BIRD COVER SEED MIX Enhanced Autumn Sown Wild Bird Seed Mix KEAULTI (KingsCrops), or similar and approved
- GRAZING MIXTURE EG26/27 - Old Fashioned Grazing Mixture (Emorsgate), or similar and approved
- MEADOW GRASS MIXTURE EG5 - Meadow Grass Mixture for Loamy Soils (Emorsgate), or similar and approved
- MEADOW MIXTURE EM5 - Meadow Mixture for Loamy Soils (Emorsgate), or similar and approved

BIODIVERSITY ENHANCEMENTS

- ECOLOGICAL ENHANCEMENTS As per ecological report, including marginal planting, thinning of vegetation, retaining mixed species etc.

Existing features

- APPROXIMATE LOCATION OF EXISTING TREE
- EXISTING HEDGEROW
- EXISTING TREE & SHRUB GROUP
- EXISTING POND
- EXISTING PROW

Rev	Description	By	Clk	Date

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