

LANDSCAPE SPECIFICATION FOR OPEN SPACE ASSOCIATED WITH NEW HOUSING DAMFIELD LANE

Penny Bennett
Landscape Architects

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Middle Bottomley, Bottomley Road
Todmorden OL14 6QZ

Tel 01706 812480



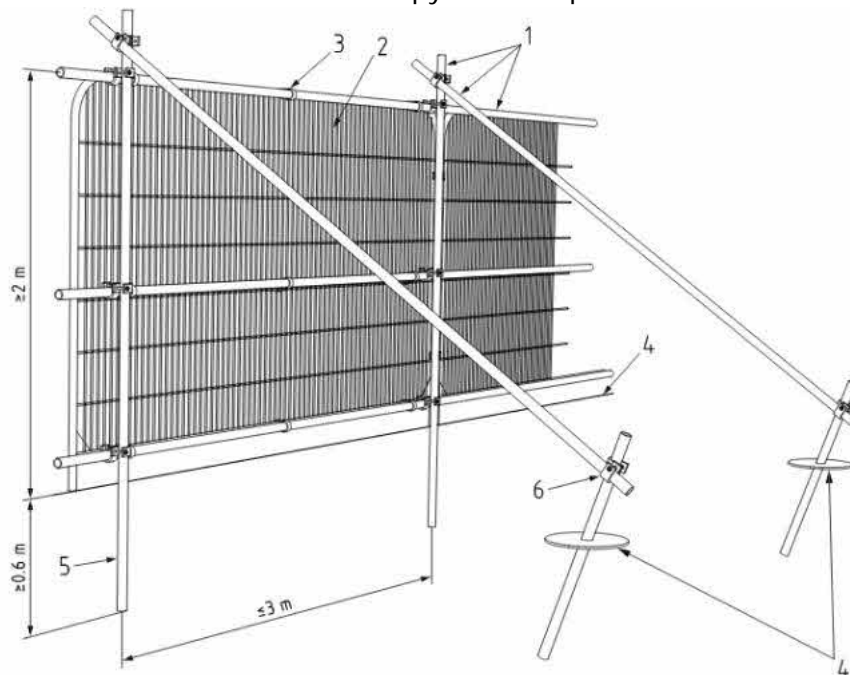
SOFT LANDSCAPE SPECIFICATION

10 Site protection

The following trees should be protected during landscape works in the following locations:

Existing mature birch, mature horsechestnut and sapling self-seeded willow sps along frontage to Leeds & Liverpool Canal

Necessary cultivation work shall ONLY be carried out by hand within the root protection area of these trees to avoid damage to tree roots which will be just below the surface. Landscape works include feathering out of topsoil and cultivation for seeding. Storage of any materials within the root zone should not take place during these works. There shall be no machine works within the canopy and root protection area of existing trees.



Key

- 1 Standard scaffold poles
- 2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6 m)
- 6 Standard scaffold clamps

20 Site clearance

General: Remove rubbish, rubble, stone, concrete, metal, glass, decayed vegetation, old fencing and contaminated topsoil. Ensure that all vegetation to be retained is clearly identified prior to any site clearance commencing.

Stones: Remove those with largest dimension exceeding 25 mm.

Contamination: Substances injurious to plant growth including subsoil, rubble, fuel, and lubricants.

Vegetation: Complete as set out in clause 30 below using mechanical and chemical techniques.

Note: a bentonite pond liner has been used to line the detention pond and sides, this should not be disturbed or removed.

30 Vegetation clearance

D20 EXCAVATING AND FILLING

200 Soiling Generally

No additional soil will be imported to the site, existing soil will be retained and cultivated as necessary.

Site soils should be protected, managed and handled in accordance with the Construction Code of Practice for the Sustainable Use of Soils on Construction sites (DEFRA 2009).

Any foundations, hard standings etc which are likely to impede drainage or plant root growth in any way shall be broken out to ensure free drainage and disposed of off site to a licensed tip. Compacted sub soils / subgrade shall be ripped to remove compaction before placing topsoil or subsoil.

The establishment of wild flora does not require the importation of premium topsoils, which encourage the fast growth of coarse vegetation which will out compete the specified wetland, hedgerow and meadow mixes.

230 Soil protection

Existing soils shall be protected from damage.

Soil shall not be stripped, handled, trafficked or cultivated:

- In a waterlogged condition

- When the ground is frozen or covered by snow; or

- When there are pools of water on the ground surface.

- Select and use plant to minimise traffic, disturbance and compaction;

- Identify any unknown areas of contamination by noxious weeds including Himalayan balsam, Giant hogweed and Japanese knotweed;

- Avoid contamination by subsoil, stone, hardcore, rubbish aggressive weeds or other deleterious material;

290 Soil Conditions

Cultivate and seed /plant into moist friable soil that is not waterlogged. Do not plant/seed into frozen or snow covered soil without prior approval of the CA.

Provide adequate additional root protection and prevent planting pit sides and bases and backfill materials from freezing.

295 Climatic conditions

Carry out the work while soil and weather conditions are suitable for the relevant operations. Do not plant during periods of snow, frost or strong winds, or when the ground is waterlogged. Plant only during the following periods:

- Bare root native hedging: Late October to late March.

- Plug plants can be planted at any time of year but August – October is optimal.

Q30 SEEDING

100 Generally

- Growth and development: Healthy, vigorous grass/ wildflower sward, free from the visible effects of pests, weeds and disease.
- Appearance: A closely knit, continuous ground cover of even density, height and colour.
- Blend areas of new meadow /woodland flora into areas of existing meadow / woodland flora, feathering topsoil into undisturbed edges of existing sward to give a smooth transition from one to another.

105 Machines and tools:

Use only machinery and tools suitable for the site conditions and the work to be carried out. Use hand tools around existing trees, and in confined spaces where it is impracticable to use machinery.

110 Wildflower seeding areas

Seed mixture for meadow areas site shall be:

- Meadow mixture for Sandy Soils EM7 by Emorsgate seeds www.wildseed.co.uk. sown at a rate of 4g per m².

Seed mixture for semi shade area alongside hedge shall be:

- Hedgerow and light shade mix by British wildflower seeds by www.britishwildflowermeadowseeds.co.uk. sown at a rate of 4g per m².

Seed mixture for pond margins shall be:

- Pond edge mixture EP1 by Emorsgate seeds www.wildseed.co.uk sown at a rate of 4g per m².

120 Cultivation for seeding – Meadow, hedgerow edge and pond margins

Works shall be carried out by hand only, within the Root Protection Area of existing trees to be retained, and every effort made to avoid damaging existing tree roots.

This is a site with reasonable soil fertility, and depletion of existing nutrients will benefit the establishment of wild flora and discourage competitive coarse weeds, e.g. docks thistle and nettles.

Meadow and Hedgerow edge area: Cut and remove existing vegetation, dispose of all arisings off-site.

Pond margins: Cut and remove existing vegetation from pond sides, except for small stand of Typha sps (Reedmace/bullrush) which should be left in situ.

All areas: Allow vegetation to re-establish over a 10 – 14 day period and apply glyphosate herbicide.

When vegetation has died off, scratch cultivate the surface in dry conditions. It is important to minimise soil disturbance with deep cultivation, as this can bring unwanted weeds seeds to the surface.

Scratch cultivate with disc or chain harrow in strips, repeating at 90° to first cultivation to a depth of 25 – 50 mm.

Unless otherwise stated, finished levels after settlement of all seeded areas to marry smoothly into existing ground levels and shall be 25 mm above adjoining paving, kerbs, manholes etc, removing all stones and earth clods more than 50 mm in any dimension.

Obtain approval of appearance of prepared soil areas from CA before seeding.

220 Climatic conditions:

Wildflower areas: Optimal sowing time is September-October or during April and May if this is not possible. Autumn cultivation, even if sowing is not possible, is advantageous for allowing the soil to weather over winter.

242 Watering Generally:

Obtain CA's approval before using a supply other than potable mains water. Ensure the full depth of topsoil is thoroughly wetted. Use a fine sprinkler or oscillating spray.

246 Watering:

Water to full depth of topsoil, regularly and evenly without displacing seed, seedlings or soil, when required to ensure the establishment and continued thriving of all seeding. During dry periods keep lightly irrigated during initial establishment period.

250 Drought conditions:

If water supply is or is likely to be restricted by legislation:

Inform CA without delay and ascertain availability and additional cost of water from a sewage works or other alternative source of supply. If seeding has not been carried out, do not do so until instructed. If seeding has been carried out, obtain instructions on watering.

260 Notice to CA:

Advise CA of when the following operations are to be carried out:

- Preparation of seed bed
- Each site visit during maintenance period.

270 Setting Out:

Clearly mark boundaries of seeding areas and obtain approval before starting work.

305 Materials generally:

- Do not use materials containing concentrations of toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Certified materials: For each of the following materials submit a certificate giving supply source, content analysis, confirmation of suitability for purpose and confirmation of absence of harmful substances such as chemical, biological and physical contaminants.

385 Sowing

Carry out during calm weather conditions. Broadcast seed, sowing by hand or small machine at specified rates. Divide into sections and sow with equal quantities of seed mix in two directions at right angles to give correct coverage per metre.

- General: Establish good seed contact with the root zone to promote healthy, consistent growth.
- Method: To suit soil type, proposed usage of grassed area, location and weather conditions during and after sowing.
- Firm immediately after by rolling or treading in in smaller areas to ensure seed is in contact with moist soil.

390 Maintenance following seeding

Continue watering lightly and frequently when required, until roots have established into soil.

Prompt and frequent cutting will be beneficial on moderately fertile soils during the first year of establishment to knock back competitive coarser weeds.

392 Machinery

Use cutter bar or agricultural drum mowers for mowing.

395 First cut and cutting during first year following sowing

Wildflower meadow and wetland wildflowers: cut grasses back to 60 – 70 mm each time growth reaches 100mm (approximately every 6 weeks or so during growing season) to allow perennial wildflowers to establish.

At end of season cut meadow, hedgerow edges areas and wetland wildflower areas back to 50 mm.

Collect and remove all cuttings.

Spot treat with glyphosate or hand pull all invasive weeds, including thistles, nettles, dock.

400 Cleanliness

- Soil and arisings: Remove from hard surfaces.
- General: Leave the works in a clean, tidy condition at Completion and after any maintenance operations.

410 Rectification of sward

Bare areas, areas of dead grass /wildflowers that have failed to thrive, which are apparent during the defects period, will be regarded as defects due to materials or workmanship not in accordance with the Contract and must be made good by re-cultivation and reseeding at times agreed with the CA.

Q31 Plant Material

100 Generally

Plant material is to be to the sizes and dimensions as shown in the plant schedule and shall be bare root or containerised as specified. All plants shall be healthy and have good fibrous root systems, All plants shall comply with BS 3936 for plant material, Parts 1 (1992) trees and shrubs, Part 7 Plug plants grown in trays, and all planting operations shall comply with BS 4428 (1989) & AMD, Code of Practice for General Landscaping Operations.

105 Preparation of planting areas

Refer to planting plan which shows proposed native hedge, areas of marginal aquatic plug planting, and aquatic planting.

115 Peat:

Do not use peat or products containing peat. To date over 95% of the UK's peat bogs have been degraded or lost. This wipes out ecosystems - including wild areas that are home to plants, birds and insects, and also increases carbon emissions.

120 PAS 100 soil conditioner / ameliorant

Shall conform to the following minimum specification as described in Compost Specifications for the Landscape Industry, as published by the Landscape Institute in

association with WRAP, BALI and the NBS. Supplied by Green-tech Tel 01423 332100 or similar approved.

Horticultural Parameters	Reported as (units of measure)	Recommended Range
pH	pH units (1:5 water extract)	7.0 – 8.7
Electrical Conductivity	µS/cm or mS/m (1:5 water extract)	2000 µS/cm or 200 mS/m max
Moisture Content	% m/m of fresh weight	35 – 55
Organic Matter Content	% dry weight basis	>25
Particle Sizing	% m/m of air-dried sample passing the selected mesh aperture size	pass 99% through 25mm screen 90% pass through 10mm screen
C:N Ratio		20:1 maximum
Contaminant Parameters	Various	Meet BSI PAS 100* Criteria

125 Native hedge species

All native tree and shrub shall be species native to Britain and of origin within the UK. Native origin is synonymous with the definition of origin as provided by Directive 199/105/EC on the marketing of forest reproductive materials. Wherever possible, suppliers of native stock shall comply with the voluntary Code of Practice published by Flora Locale and Plantlife for collectors, growers and suppliers of native flora, and shall be approved suppliers of UK Provenance stock in accordance with the Forest Reproductive Material Regulations (2002).

130 Container / Cell Grown/ Plug Plants:

All native wildflower plants shall be species native to Britain and of origin within the UK.

- Supplied in a growing medium with adequate nutrients for the plant to thrive until permanently planted.
- Centred in the container, firmed and well-watered.
- With root growth substantially filling the container, but not root bound, and in a condition conducive to successful transplanting.
- Grown in the open for at least two months before being supplied.
- Grown in containers with holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

135 Bare root plants

All bare root plants shall be supplied in bags containing and enclosing the whole root system and shall have a strong fibrous root system which shall not be allowed to dry out at any time.

140 Oxygenating aquatic plants

These plants are required to prevent the pond nutrient levels from becoming too high and so preventing the development of undesirable algae.

Oxygenators may be free floating, such as hornwort; free floating but weighted such as spiked milfoil or in containers such as water crow foot.

160 Plant handling storage and transport

Comply with The National Plant Specification - Handling and Establishment Published by The Committee for Plant Supply and Establishment - Revised edition - November 1995, Part 3. This Code of Practice shall be binding upon the contractor and any other parties to this contract involved in plant handling.

These recommendations set out the requirements that should be followed and specified in detail according to the situation on each particular site. They assume that the nurseryman supplying the stock has adhered to the "Recommendations for Plant Handling from lifting until Dispatch" and the purchaser has specified, and the nurseryman has adhered to, the "Specification for Packaging and Transporting Nursery Stock". It is also assumed that the species and plant specification (age, size, etc) are correctly chosen for the geographical location and site conditions.

Key elements relating to plant handling of this Code of Practice are:

- All plants shall be carefully and adequately packed and protected during transportation from source to planting on site.
- Plant storage shall be minimised, where storage on site is unavoidable, bare root stock shall be heeled in, in prepared trenches, and watered thoroughly, or plunged into moisture retentive material, roots must never be permitted to dry out.
- Protect plants, from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
- Consignments supplied in bulk shall be split up and wrapped in black polythene bags to minimise the length of time plants are exposed to drying during the planting process.

180 Substitutes The tender must be based on plants which are available. If specified plants are unobtainable or known to be likely to be unobtainable at the time of ordering, submit alternatives with tender, stating price and how they differ from the specification. Such substitutions may not be acceptable and submission of further alternatives may be required. Obtain approval from CA before making any substitution.

280 Planting native hedge

Clear a metre wide strip of vegetation from the proposed hedging line by mechanical means. Plant bare root hedging transplants in double staggered rows in prepared trench measuring 600 mm wide by 300 mm deep, at a rate of approx 6 per m, at spacings of 300 mm, in rows 400 mm apart. Incorporate planting compost into trench at a rate of 1 part compost to 2 parts subsoil /top soil. Species shall be mixed at random, and not planted in single species blocks.

Immediately following planting cut hawthorn down to 150 mm to encourage dense side shoots and a good stock proof hedge.

- Rabbit guards shall only be fitted if there is a confirmed rabbit problem on the site. Rainbow treebio spiral guards shall be used 60 x 38 mm size. Available from www.green-tech.co.uk.
- Tree shelters shall be provided for holly plants if there is a confirmed rabbit problem on the site. Shelters shall be large diameter shrub shelters by Tubex height 75 cm, to be fitted to achieve a diameter of 13- 17 cm. Supplied by www.green-tech.co.uk. Shelters shall be

supported by canes or 30 x 30 x 1000 mm timber posts firmly secured in ground and finishing 10 - 20 mm below lip of shelter. Shelters shall be fitted around trees in an upright position.

285 Planting wildflower marginal aquatic plug plants

Plug plants are included to supplement the wildflower seeding. The intent is to provide small blocks of appropriate species, not to provide continuous cover with plugs.

- Water all plug plants thoroughly prior to planting.
- Plant in same species groups described on the landscape layout drawings, never singly. Autumn/spring is the best time to plant. If rabbits are present protect plants with wire mesh until well established, pegging mesh in place securely until plants are well established. Water regularly until established.
- Where planting yellow rattle plugs into grass, trim grass very short and remove cuttings from areas to be planted.

300 Mulching

Hedge lines shall be mulched with a 75mm. compacted layer of medium grade pulverised composted bark, with a particle size of not more than 100mm. and containing no more than 10 % fines. During dry periods, planting beds shall be watered prior to spreading of mulch. This shall be spread to form a continuous layer covering the whole of the bed. All plants shall be lifted free of mulch following application.

310 Maintenance of planting pre practical completion

Carry out the following operations from completion of planting until Practical Completion or as instructed by the CA.

- Keep all newly planted hedge lines free of weeds;
- Inspect all hedge planting after strong winds, frosty conditions, and very heavy rain and re-firm planting to compensate for wind blow, frost heave and washing out;
- Watering: Water when directed by the CA using a fine rose or sprinkler until full depth of topsoil is saturated. When water restrictions apply, seek guidance from CA;
- Keep all areas free of litter, and dispose of all weed material and any other plant waste off site at a licensed tip.
- Grass and wildflower areas: See clauses Q30 390 – 400.

320 Failures of planting:

The contractor and CA shall jointly inspect the plants and agree any replacements.

The contractor shall replace all plants not deemed to be satisfactory, at his own expense, during the planting season following Practical Completion.

Excepting theft or malicious damage after practical completion, any trees/shrubs/plants that have failed to thrive, which are apparent during the defects liability period, will be regarded as defects due to materials or workmanship not in accordance with the Contract. Unless otherwise instructed they must be replaced by approved equivalent trees / shrubs plants.

Replacements must match the size of adjacent or nearby plants of the same species or should match the original specification, whichever is the greater.

340 Cleanliness:

At completion and at each visit, remove soil and other debris from all hard surfaces and grassed areas and leave the works in a clean, tidy condition.

400 Maintenance

All maintenance to be carried out for a period of 5 years from handover: all dead, diseased, damaged plants must be replaced during this time, using the same species, specification and densities as original planting. Dead or missing stock shall be replaced within 6 weeks of the landscape contractor being notified of the loss.

During this period carry out maintenance of the planted areas as follows:

- Trees: check condition of stakes, ties, guys and guards replacing and adjusting as necessary, cut back any damaged bark.
- Inspect all planting after strong winds, frosty conditions, and very heavy rain and re-firm planting to compensate for wind blow, frost heave and washing out.
- Advise CA of any pest infestation, fungal infection or other disease affecting plant material.
- Watering: Water when directed by the CA using a fine rose or sprinkler until full depth of topsoil is saturated. When water restrictions apply, seek guidance from CA.
- Keep all areas free of litter and dispose of all weed material and any other plant waste off site at a licensed tip.
- Prune trees and shrubs at appropriate times to remove dead, damaged or diseased wood and suckers, to promote healthy growth and natural shape.
- Hedge: in the first spring following planting, cut all lateral branches back by 50% in subsequent years trim to maintain shape and height.
- Once established, keep native hedge clipped to ensure sight lines are retained, at a maximum height of 1200 mm.
- Ensure soil is thoroughly moist and top up with mulch once a year to bring mulch depth up to 75 mm.
- Meadow areas shall be cut annually to 50 mm.

Q32 Maintenance Post Practical Completion

100 Generally

Maintenance obligations to comply with planning requirements should be carried out for a period of 5 years from handover, however this specification reflects long term maintenance requirements which will be needed to achieve the long term design objectives for the landscaping.

During the initial 5 year period, all dead, diseased, damaged plants must be replaced, using the same species, specification and densities as original planting. Dead or missing stock shall be replaced within 6 weeks of the landscape contractor being notified of the loss or at the beginning of the next planting season in the case of bare root and root-balled stock, whichever is sooner.

Any areas of wildflower seed which fail to establish shall be re-sown using the appropriate mix.

200 Operations post 2028

Beyond the 5 year period, maintenance should reflect the requirements of the client and users of the site and there may be scope for updates and revisions to the maintenance schedule beyond 2028.

300 Maintenance operations

Maintenance operations for the planted and seeded areas are set out below.

Generally:

Advise CA of any pest infestation, fungal infection or other disease affecting plant material.

Keep all areas free of litter and dispose of all weed material and any other plant waste off site at a licensed tip.

Ensure soil is thoroughly moist and top up with mulch once a year to bring mulch depth up to 75 mm.

Watering:

Planting has been selected to be resilient to some water stress, following establishment, extensive watering should not be required except in exceptional circumstances.

Water when directed by the CA using a fine rose or sprinkler until full depth of topsoil is saturated. When water restrictions apply, seek guidance from CA.

Hedge:

Undertake formative pruning of hedge to create a close knit hedge.

Once established, keep mixed native hedge trimmed to a maximum height of 1100 mm. Carry out all hedge trimming between September and the end of February to avoid bird breeding season. In the long term i.e. 10 years onwards, hedge laying will ensure the hedge keeps a dense healthy shape.

Remove any shelters when hedge is well established, disposing of or recycling if facilities are available.

Meadow and wetland areas after 1 year establishment period:

Allow for mowing paths through meadow grassland areas every two weeks between April and September, cutting and removing all arisings.

Management shall be reviewed regularly to reflect ecological objectives.

Allow for cutting back 1 -2 times per annum in late summer and autumn, removing all arisings.

Oxygenating plants

Thin out when required so no more than 60% of the ponds is covered with oxygenating plants.