

LANDSCAPE AND MAINTENANCE SPECIFICATION

All operations to comply with appropriate British Standards unless otherwise stated on drawings or in the specification.

GENERAL TREATMENT OF PLANTING AREAS

Ensure that planting areas are protected from consolidation by heavy construction plant.

For work near a retained tree: Refer to BS 5837 *Trees in relation to design, demolition & construction - Recommendations-* Section 9 (Appendix C).

Damage to Plants to be Retained:- If a plant is to be retained is damaged, the plant is to be repaired or replaced by the contractor at their own expense. "Damaged" means:

- The destruction of a plant the breaking of branches or roots
- The debarking of trunks or limbs
- The contamination of root zone soil or plants from drift sprays, dust or contaminated storm water
- The damage by the placement of fill or building materials within the canopy perimeter or otherwise.

1) GROUND PREPARATION AND SOIL SPECIFICATION

Subsoil:- Before receiving topsoil, subsoil shall be loosened using appropriate equipment to a depth of 300mm. This shall be done when the subsoil is dry so as to encourage soil shattering. All stones and other objects larger than 50mm shall be removed from the prepared surface. The loosened subsoil shall be roughly levelled so that an even depth of topsoil can be achieved.

Topsoil (To Comply with British Standard 3882:2015 - Specification for Topsoil):-

Imported topsoil shall be Multipurpose Grade as described in BS 3882:2015 and suitable for sustaining plant life. Stockpiling of soil shall be avoided whenever possible to minimise loss of physical quality, diffusion of oxygen and biological activity.

Any stockpiling shall not exceed 1.5 metres high and shall be sited so as to avoid risk of muddy water run-off into a watercourse, not exceeding 1.5 metres high.

The site of the stockpile will be prepared in advance by grading, removing rubbish and ensuring no fuel or chemicals were previously stored in area.

Topsoil shall be lightly consolidated in layers not exceeding 150mm using track laying machinery.

Soil shall not be handled in inappropriate conditions of weather and soil moisture i.e.

During or shortly after heavy precipitation

When soil is in a waterlogged condition

When the ground is frozen or covered by snow

When there are pools of water on the ground surface.

Topsoil shall be laid to the following minimum depths:

- 150mm below new grass areas
- 300mm to rear gardens
- 400mm beneath new shrub areas.
- Finished levels, after settlement, shall be as follows:
  - 25mm above adjacent paving from new grassed areas and non-mulched shrub beds
  - 75mm below adjacent paving and grass for mulched planting beds.
  - 150mm below damp proof courses.

2) GROUND CONDITIONING

40 litres of compost to be incorporated into the top 200mm of each square metre of topsoil for all ornamental shrub beds.

3) PLANT AND PLANTING SPECIFICATION

All plant stock, plant handling and planting to be undertaken in accordance with the following British Standard Specifications and Code of Practice:

BS 8945:2014 'Trees' from nursery to independence in the landscape

BS 3936: Part 1 1992 Nursery stock (Specification for trees and shrubs)

BS 3936: Part 4 1984 Nursery stock (Specification for forest trees)

BS 3936: Part 9 1987 Nursery stock (Specification for bulbs, corms and tubers)

BS 3936: Part 10 1990 Nursery stock (Specification for ground cover plants)

BS 4428: 1989 Recommendations for general landscaping operations.

BS 4043: 1989 Recommendations for transplanting root-balled trees. (withdrawn)

The Code of Practice for Plant Handling 1985. (Horticultural Trades Association).

Plant Stock:

Plant stock to be supplied in accordance with the size and description specified ion the plant schedule and position indicated on the most current revision of the planting plan.

Plant stock shall be healthy, vigorous, free from pests and diseases and suitably hardened off for the proposed situation of planting and lifted at a time in accordance with good nursery practice. Stock shall have a well-formed fibrous root system and be free from perennial weeds. The form of trees shall be in accordance with BS 3936: Part 1:1992, Section 7, *Form of Trees*.

Plant Handling:

All plant materials shall be lifted, bundled, labelled, packaged, transported, temporarily stored and planted in accordance with the procedures and methods illustrated in the publication, *"Plant Handling"* (Horticultural, Trades Association) and relevant sections of BS 4043: 1989 *Transplanting Root-Balled Trees*.

Tree Planting:

Trees to be pit planted following supplier recommendations. Minimum pit size: Leader with laterals tree 700 x 700 x 700mm / Heavy standard tree 1000 x 1000 x 750mm.

Pits to be prepared to base and sides of pit to be further scarified.

Deciduous specimen trees to be double staked using two stakes (75mm dia), driven into ground 300mm below bottom of pit. Base of pit to be filled with 200mm of 3:1 mix of approved topsoil / compost.

Trees to be specially located and stem placed in an upright position. Pit to be backfilled with a 3:1 mix of an approved topsoil / compost. Backfill firmly to 50mm above previous ground level to allow for settlement.

Stakes to be saw leave 600mm above soil level.

Water each tree in same day of planting, amount of water dependant on root size and soil conditions.

All works shall be carried out to the minimum standard according to BS 3936: 1992 Part 1 Nursery Stock. Specification for Trees and Shrubs. BS 4043: 1989 Recommendations for transplanting root-balled trees.

Staking:

Stake all deciduous specimen trees with double short stakes, feathered trees with low single stake. Stakes to be round timber with chamfered tops. Position stake close to tree on windward side and drive vertically at least 400mm into bottom of pit before planting. Backfilling: consolidate material around stake. Height of stakes: cut to approximately one third of the tree height above ground level, taking care not to damage the bark. Ties: Hessian. Tying: secure tree firmly but not rigidly to stake with at least 2 ties within 25mm of top of stake.

Mulch:

All shrub beds shall be spread with a medium grade bark mulch to a settled depth of 75mm. Mulch to be free from fines, weeds, disease and contaminants.

Ornamental shrub planting:

To be set out carefully and evenly over indicated areas. Remove plants from pots and plastic containers, plant and water in thoroughly. Shrubs shall be individually pit planted in prepared pits sized to accommodate full spread of roots. Plants shall be evenly spaced over the planting area. Firm backfill by treading, ensuring the ground is not overly compacted and that the plant is positioned upright.

Native tree / shrub planting

Bare root stock shall be planted between November and March/April. Consistent in species, cultivar and clone to ensure a uniform hedge. Plants to be planted in groups of 3, 5 or 7 of the same species.

Plants shall be evenly spaced over the planting area. Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Undertake formative pruning if necessary.

New formal hedges

Consistent in species, cultivar and clone to ensure a uniform hedge. Tips of leading branches of the Cherry laurel 'Rotundifolia' with wilted leaves should be cut as the plant is being planted in the ground.

Cherry Laurel 'Rotundifolia' hedges in front gardens to be planted in a previous prepared planting trench 300mm deep and 0.6 metre wide. 100g per sq/m of blood fish and bone fertilizer should be sprinkled along the base of the trench just before each plant is healed into place with a topsoil mix. The trench is to be backfilled with 300mm of a 3:1 mix of an approved topsoil with compost. Backfill firmly to 50mm above previous ground level and creating a slightly domed shape with the highest point being at the centre of the trench to assist drainage and settlement. Planting bed to be covered with a medium grade bark mulch to a settled depth of 75mm. Container plant stock to be planted centrally in a single row at 250mm spacings (4 per linear metre). Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Prune back hedges in front gardens to a height of 1 metre.

Cherry Laurel 'Rotundifolia' hedge along the southern boundary that is to be a landscape buffer to be planted in a previously prepared planting trench 300mm deep and up to 1 metre wide. Bare root stock shall be planted between November and March/April. 100g per sq/m of blood fish and bone fertilizer should be sprinkled along the base of the trench just before the plants are individually healed into place with a topsoil mix. The trench is to be backfilled with 300mm of a 3:1 mix of an approved topsoil with compost. Backfill firmly to 50mm above previous ground level and creating a slightly domed shape with the highest point being at the centre of the trench to assist drainage and settlement. Planting bed to be covered with a medium grade bark mulch to a settled depth of 75mm. Bareroot plant stock to be planted in a double row in the centre of the plant bed, 330mm between plants and 300mm between rows (6 no. plants per linear metre). Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Prune back the sides only of the landscape buffer and allow the top of the hedge to grow up to 5m high before the top is cut back.

New mixed native hedges - Double staggered row

Bare root stock shall be planted between November and March/April. Consistent in species, cultivar and clone to ensure a uniform hedge. Plants to be planted in groups of 3, 5 or 7 of the same species.

To be planted in a previous prepared planting bed 1metre wide. Planted to be centrally in a double row, 400mm between plants and 300mm between rows. Ensure plants are planted to the correct depth to correspond to the soil mark on main stems.

Prune back to a height of 2 metres.

Turfed Areas:

To be specified and laid in accordance with BS. 3936:1998 Recommendations for turf for general purposes. Turf to be Lindum Festival Turf (or similar approved). Hardwearing with a dense sward containing a mixture of 25% perennial ryegrass, 55% fescues and 20% smooth stalked meadow grass. This mix is easy to maintain and will recover well from general wear.

Turf to be laid in suitable weather conditions on a prepared bed with no weeds and a suitable slow release fertiliser applied to bed prior to laying. Turf to be watered regularly until it is well established.

Rear gardens:

Subsoil to be prepared to a depth of 300mm as per ground preparation and soil specification.

Topsoil to be supplied as per ground preparation and soil specification to a depth of 300mm, after gentle compaction and to be left bare in rear gardens.

Grass Seeding:

Seed mix shall be Germinal AberSustain mix, or similar approved. Sowing to be taken between March and October.

Topsoil shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Levels to be graded to form finished levels as indicated in section, 'Topsoil'.

Roll, fertilise at 50gms/sq m, 10-14 days prior to seeding, sow at rate of 40g/m2 and lightly rake. First cut to be undertaken when grass reaches 50mm.

Wildflower Seeding:

Seed mix shall be Germinal WFG20 Eco Species Rich Lawn, or similar approved. Sowing to be taken between March and October.

Topsoil shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Sow at rate of 10 g/m2 and lightly rake. First cut to be undertaken 6 weeks after sowing or when reaches 40 - 70mm.

Wildflower Seeding:

Seed mix shall be Germinal WFG9 Wetland and Pond Areas, or similar approved. Sowing to be taken between March and October.

Topsoil shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Sow at rate of 5 g/m2 and lightly rake. First cut to be undertaken 6 weeks after sowing or when reaches 40 - 70mm.

Weeding:

A plant that roots directly from its base and has shallow roots is to be removed by hand, by removing the main root system.

A weed that grows from a clumped, fibrous root system is to be removed using the crowning method, by cutting the roots from the crown of the weed.

A large weed infestation is to be removed by spraying an approved chemical directly onto the target infestation.

A plant being a tree or a vine is to be removed using the cut and paint method, by cutting the base of the stem close to the ground and immediately applying herbicide to the cut.

4) MAINTENANCE AND MANAGEMENT

Plant stock and soft landscaped areas shall be maintained for a period of five years via the developers' agent or appointed Management Company during which time the following operations shall be carried out:

Regular visits:

Monthly maintenance visits to include the following operations:

- Hand weed planting beds
- Remove litter
- Sweep mulch spillage
- Re-firm plant stock as necessary
- Adjust stakes and ties as necessary
- Prune plant stock as required to encourage good form
- Check all plant stock and report signs of pests, disease, death and damage

Mulch:

Top up mulch levels (using matching material) surrounding trees and within beds to 75mm at the end of the maintenance period.

Watering:

Plant stock to receive the following quantities of water each month, depending on soil conditions and weather conditions:

Heavy Standard trees: 35 litres each month between April and September

Leader with lateral trees: 25 litres each month between April and September

Shrubs and transplants: 5 litres/plant on three occasions throughout growing season.

Watering to be undertaken during the first 24 months as needed to maintain plant health.

Grass cutting:

Grass shall be cut throughout the growing season to maintain a sward of approximately 38mm. Shall be edged, watered as necessary and clippings removed.

Wildflower cutting:

Wildflower areas shall be cut 2 times a year during the late spring and after the flower season (September / October) to maintain a sward of approximately 40-70mm. The clippings shall be left in situ for 3 days to allow seed drop, then removed to prevent nutrient build up.

Landscape buffer new tree/shrub planting:

Weed control by hand to ensure planting area is weed free. Check stakes and guards are in place and replace where necessary. Replace dead / dying stock in winter.

Plant replacements:

All dead, dying and vandalised plant stock shall be replaced, at the landscape contractor's expense, at the end of each growing season throughout the maintenance period.

Plant Schedule

Trees						
Number	Abbreviation	Species	Specification	Pot Size	Girth	Height
3 -	ACE CAM	Acer campestre	3x; Heavy Standard; clear stem minimum 200cm; 5 breaks; RB		12-14cm	350-425cm
3 -	ALN GLU	Alnus glutinosa	3x; Heavy Standard; clear stem minimum 200cm; 5 breaks; RB		12-14cm	350-425cm
6 -	BET PEN	Betula pendula	3x; Heavy Standard; clear stem 175-200cm; 5 breaks; RB		12-14cm	350-425cm
5 -	COT COR	Cotoneaster cornubia	Branched; clear stem 125-150cm; 3 breaks	35L	8-10cm	350-400cm
5 -	LIG LU	Ligustrum lucidum	Heavy Standard; bushy head; clear stem 150-175cm	50L	12-14cm	250-300cm
7 -	MAG GAL	Magnolia 'Galaxy'	Leader with laterals	25L		175-200cm
3 -	MAL TSC	Malus tschonoskii	3x; Heavy Standard; clear stem 175-200cm; 5 breaks; RB		12-14cm	350-425cm
3 -	PIN SYL	Pinus sylvestris	Leader with Laterals; 4x; RB			200-250cm
2 -	PRU PAD	Prunus padus	3x; Heavy Standard; clear stem 175-200cm; 5 breaks; RB		12-14cm	350-425cm
2 -	SOR AUC	Sorbus aucuparia	3x; Heavy Standard; clear stem 175-200cm; 5 breaks; RB		12-14cm	350-425cm
Total :39 -						

Shrubs						
Number	Abbreviation	Species	Specification	Pot Size	Density	Area
40 -	CHO PEA	Choisya 'Aztec Pearl'	Bushy; 6 brks: C	5L	2/m²	17.8196m²
34 -	COR ELE	Cornus alba 'Elegantissima'	Branched; 4 brks: C	5L	2/m²	16.1624m²
40 -	ERI PIN	Erica carnea 'Springwood Pink'	Bushy; C	3L	5/m²	7.5406m²
31 -	EUO GAI	Euonymus fortunei 'Emerald Gaiety'	Bushy; 9 brks: C	5-7.5L	2/m²	14.0741m²
72 -	EUO QUE	Euonymus fortunei 'Silver Queen'	Bushy; 7 brks: C	5L	3/m²	22.4198m²
34 -	HEB WIN	Hebe 'Mrs Winder'	Bushy; 5 brks: C	5L	2/m²	14.9786m²
46 -	HEB GEM	Hebe 'White Gem'	Bushy; 7 brks: C	5-7.5L	2/m²	21.259m²
70 -	POT ELI	Potentilla fruticosa 'Elizabeth'	Bushy; 5 brks: C	5-7.5L	2/m²	32.4994m²
32 -	SAN CHA	Santolina chamaecyparissus	Bushy; 8 brks: C	5L	2/m²	14.5901m²
75 -	SKI RUB	Skimmia japonica 'Rubella'	Bushy; 4 brks: C	5L	3/m²	24.0896m²
65 -	SKI GRE	Skimmia x confusa 'Kew Green'	Bushy; 4 brks: C	5L	3/m²	20.7353m²
45 -	SPI WAT	Spiraea japonica 'Anthony Waterer'	Branched; 7 brks: C	5-7.5L	2/m²	21.1121m²
37 -	SPI PRI	Spiraea japonica 'Little Princess'	Bushy; 7 brks: C	5L	2/m²	17.6794m²
Total :621 -						

Formal Hedge						
Number	Abbreviation	Species	Specification	Height	Pot Size	Density
726 -	PRU ROT	Prunus laurocerasus 'Rotundifolia'	Bushy; 2 brks: C	40-60cm	2L	0.25Ctr
499 -	PRULARO	Prunus laurocerasus 'Rotundifolia'	Bushy; 7 brks: RB	80-100cm		0.33Ctr Double Staggered at 0.3m offset
Total :1225 -						

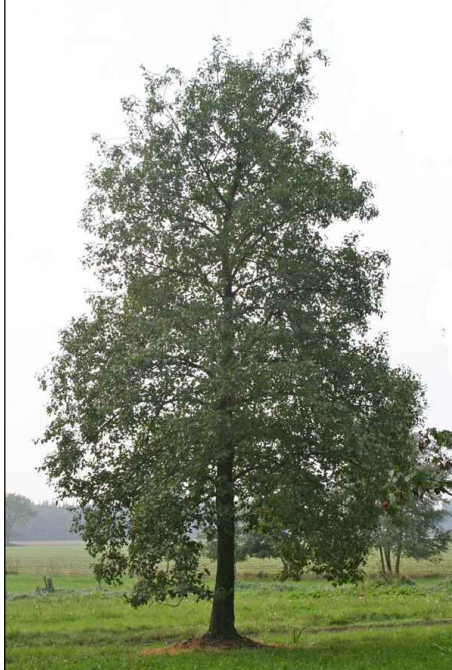
Native Hedging Mix (Hawthorn)						
Number	Abbreviation	Species	Specification	Height	Pot Size	Density
111 -	COR AVE	Corylus avellana	1+2: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.4Ctr Double Staggered at 0.3m offset
597 -	CRA MON	Crataegus monogyna	1+1: Transplant - seed raised: B	60-80cm		0.4Ctr Double Staggered at 0.3m offset
165 -	ILE AQU	Ilex aquifolium	Bushy; 3 brks	40-60cm	3L	0.4Ctr Double Staggered at 0.3m offset
111 -	PRU AVI	Prunus avium	1+1: Transplant - seed raised: B	60-80cm		0.4Ctr Double Staggered at 0.3m offset
111 -	ROS CAN	Rosa canina	1+1: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.4Ctr Double Staggered at 0.3m offset
Total :1095 -						

Mixed Landscape Buffer						
Number	Abbreviation	Species	Specification	Height	Pot Size	Density
6 -	COR AVE	Corylus avellana	1+2: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.7Ctr
10 -	CRA MON	Crataegus monogyna	1+1: Transplant - seed raised: B	60-80cm		0.7Ctr
4 -	ILE AQU	Ilex aquifolium	Bushy; 3 brks	40-60cm	3L	0.7Ctr
2 -	PRU PAD	Prunus padus	1+1: Transplant - seed raised: B	80-100cm		0.7Ctr
6 -	PRU SPI	Prunus spinosa	1+1: Transplant - seed raised: Branched: 2 brks: B	60-80cm		0.7Ctr
4 -	ROS ARV	Rosa arvensis	1+0: Seedlings: Branched: 2 brks: B	50-60cm		0.7Ctr
4 -	ROS CAN	Rosa canina	1+1: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.7Ctr
2 -	SAM NIG	Sambucus nigra	1+1: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.7Ctr
6 -	VIB OPU	Viburnum opulus	1+2: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.7Ctr
Total :40 -						

Mixed wetland shrub and tree planting						
Number	Abbreviation	Species	Specification	Height	Pot Size	Density
3 -	COR AVE	Corylus avellana	1+2: Transplant - seed raised: Branched: 3 brks: B	60-80cm		1.5Ctr
3 -	CRA MON	Crataegus monogyna	1+1: Transplant - seed raised: B	60-80cm		1.5Ctr
3 -	ROS CAN	Rosa canina	1+1: Transplant - seed raised: Branched: 3 brks: B	60-80cm		1.5Ctr
8 -	SAL CAP	Salix caprea	0/1: Cutting: Branched: 2 brks: B	80-100cm		1.5Ctr
3 -	SAL CIN	Salix cinerea	0/1: Cutting: Branched: 2 brks: B	60-80cm		1.5Ctr
10 -	SAL PEN	Salix pentandra	Feathered: 5 brks: 2x: B	200-250cm		1.5Ctr
6 -	SAL VIM	Salix viminalis	0/1: Cutting: Branched: 2 brks: B	60-80cm		1.5Ctr
3 -	SAM NIG	Sambucus nigra	Branched: 3 brks: C	40-60cm	2L	1.5Ctr
6 -	VIB OPU	Viburnum opulus	1+2: Transplant - seed raised: Branched: 3 brks: B	60-80cm		1.5Ctr
Total :45 -						



Acer campestre



Alnus glutinosa



Betula pendula



Cotoneaster cornubia



Ligustrum lucidum



Pinus sylvestris

