

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 grounds 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 8545:2014 '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*.

Standard Tree Planting:

Trees to be pit planted following supplier recommendations. Minimum pit size: Standard tree 900 x 900x 750mm / Heavy Standard and Extra Heavy Standard tree 1000 x 1000 x 900mm.
Pits to be prepared to base and sides of pit to be further scarified.
Standard 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 centrally 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 in same day with 52 litres per tree.
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 standard 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 planted 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 water in thoroughly. Shrubs shall be individually pit planted in prepared pits set 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 - 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.
To be planted in a previous prepared planting bed 1metre wide. Planted to be centrally in a double row, 400mm between plants and 400mm 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 0.6metres.

New mixed native hedges

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 400mm 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 1.2metres.

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 Germinall Grade A19 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 5g/m2 and lightly rake. First cut to be undertaken when grass reaches 50mm.

Overseeding:

Seed mix shall be Germinall AberSustain mix, or similar approved. Sowing to be taken between March and October.
Existing grassland shall be mown to approx 25mm. Scarify to break up and remove the layer of dead matted grass. Sow at rate of 20g/m2.
First cut to be undertaken when grass reaches 50mm.

Grass Seeding:

Seed mix shall be Germinall 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 Germinall 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 70-100mm.

Bulbs Planting:

Bulb planting prior to grass seeding. Scatter the bulbs as plan, to an average density to create naturalistic planting. With a bulb planter or trowel plant the bulbs in an upright position, where they fall, to a depth of 3 times the size of the bulb. Cover with soil and firm gently.
Bulb planting after turfed installed. Dig planting holes through turf to three times the depth of the bulb. Plant bulbs in an upright position and backfill with topsoil and turf plug previously removed.

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-firming plant stock to ensure the new planting is all planting to upright positions.
- 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:
Semi-mature trees: 75 litres each month between April and September
Heavy Standard trees: 35 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.

Bulb areas in grass:

Bulbs areas to be left uncut during late winter/early spring when bulbs are growing/flowering and for a period 6-8 weeks after flowering to allow bulbs to regain nutrients, after which a normal mowing regime can resume.

Grass Maintenance:

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 Maintenance:

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.

WFG20 Eco Species Rich Lawn Maintenance:

Autumn Sown: during the first year: first cut shall be early July, then monthly during August, September and October to maintain a sward of approximately 70-100mm.

Thereafter: shall be cut 2 times a year mid-July to early September to maintain a sward of approximately 70-100mm.

Spring Sown: during the first year: first cut shall be mid-September, then again during October to maintain a sward of approximately 70-100mm.

Thereafter: shall be cut 1 time a year mid-July to early September or as required leaving at least fortnight between cuts to maintain a sward of approximately 70-100mm.

The clippings shall be left in situ for 3 days to allow seed drop, then removed to prevent nutrient build up.

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. Prune, thin and remove suckers, seedlings, dead, damaged, or diseased branches annually between October and January to avoid the bird nesting season. 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	Density	Height	Girth
39 -	ACE ELS	Acer campestre 'Elsrijk'	Selected Standard: 4 brks: 2x: RB: Clear Stem min. 200cm		300-350cm	10-12cm
4 -	ALN GLU	Alnus glutinosa	Heavy Standard: 5 brks: 3x: RB: Clear Stem min. 200cm		350-425cm	12-14cm
10 -	AME BAL	Ameiarcher 'Ballerina'	Selected Standard: 4 brks: 2x: RB: Clear Stem 175-200cm		300-350cm	10-12cm
5 -	BET PEN	Betula pendula	Extra Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm		400-450cm	14-16cm
7 -	BET JAC	Betula utilis jacquemontii	Selected Standard: 5 brks: 2x: B: Clear Stem 175-200cm		300-350cm	10-12cm
11 -	LIQ STY	Liquidambar styraciflua	Selected Standard: 4 brks: 2x: RB: Clear Stem 175-200cm		300-350cm	10-12cm
28 -	PRU COO	Prunus 'Snow Goose'	Selected Standard: 4 brks: 2x: RB: Clear Stem 175-200cm		300-350cm	10-12cm
4 -	PRU AVI	Prunus avium	Extra Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm		400-450cm	14-16cm
4 -	PRU PAD	Prunus padus	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm		350-425cm	12-14cm
8 -	QUE PET	Quercus petraea	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm		350-425cm	12-14cm
12 -	QUE ROB	Quercus robur	Extra Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm		400-450cm	14-16cm
26 -	SOR ARI	Sorbus aria	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm		350-425cm	12-14cm
1 -	SOR AUC	Sorbus aucuparia	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm		350-425cm	12-14cm
7 -	SOR STR	Sorbus aucuparia 'Streetwise'	Selected Standard: 4 brks: 2x: RB: Clear Stem 175-200cm		300-350cm	10-12cm
18 -	TIL EUR	Tilia x europaea	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm		350-425cm	12-14cm
Total :184 -						

Formal Hedges						
Number	Abbreviation	Species	Specification	Density	Height	Length
4782 -	CAR BET	Carpinus betulus	1+1: Transplant - seed raised: B	0.4Citr Double Staggered at 0.15m offset	60-80cm	945.7802m
Total :4782 -						
					Total :945.7802m	

Ornamental Shrubs						
Number	Abbreviation	Species	Pot Size	Specification	Density	Area
70 -	CEA REP	Ceanothus thyrsiflorus repens	5L	Bushy: 5 brks: C	2/m²	32.8015m²
111 -	COR ELA	Cornus alba 'Elegantissima'	5L	Branched: 4 brks: C	2/m²	52.1448m²
17 -	ELA EBB	Elaeagnus x ebbingei	5-7.5L	Branched: 4 brks: C	1/m²	14.9546m²
136 -	ERI SPA	Erica carnea 'Pink Spangles'	2L	Bushy: C	6/m²	22.0034m²
34 -	EUO GAI	Euonymus fortunei 'Emerald Gaiety'	5-7.5L	Bushy: 9 brks: C	2/m²	16.0065m²
27 -	EUO QUE	Euonymus fortunei 'Silver Queen'	5L	Bushy: 7 brks: C	3/m²	8.4363m²
65 -	EUO HUG	Euonymus japonicus 'Jean Hugues'	2L	C	4/m²	15.4672m²
64 -	HEB WIN	Hebe 'Mrs Winder'	5-7.5L	Bushy: 7 brks: C	1/m²	69.7704m²
42 -	HEB GEM	Hebe 'White Gem'	5-7.5L	Bushy: 7 brks: C	2/m²	19.3883m²
137 -	LON MAI	Lonicera nliida 'Maigrün'	5L	Bushy: 6 brks: C	2/m²	64.0337m²
48 -	LON PIL	Lonicera pileata	5L	Bushy: 8 brks: C	2/m²	22.8077m²
48 -	POT ELI	Potentilla fruticosa 'Elizabeth'	5-7.5L	Bushy: 5 brks: C	2/m²	22.2297m²
201 -	POT TAN	Potentilla fruticosa 'Tangerine'	3L	Bushy: 4 brks: C	3/m²	62.3884m²
220 -	PRU BRA	Prunus laurocerasus 'Cherry Brandy'	3L	Bushy: 3 brks: C	3/m²	69.9846m²
23 -	SAN CIA	Santolina chamaecyparissus	5L	Bushy: 8 brks: C	2/m²	10.2914m²
138 -	SAN VIR	Santolina virens	3L	Bushy: 7 brks: C	3/m²	43.5169m²
108 -	SAR HUM	Sarcococca humilis	3L	Bushy: 6 brks: C	4/m²	25.8093m²
Total :1490 -						
					Total :562.4347m²	

Herbaceous						
Number	Abbreviation	Species	Pot Size	Specification	Density	Area
50 -	ART CAS	Asterisma 'Powis Castle'	2L	Bushy: 5 brks: C	4/m²	7.2262m²
35 -		Bergenia 'Abendglut'			11/m²	3.1406m²
45 -	GER BLU	Geranium 'Johnson's Blue'	2L	Full Pot: C	4/m²	10.6199m²
Total :110 -						
					Total :20.9867m²	

Climbers						
Number	Abbreviation	Species	Pot Size	Specification	Density	Height
28 -	CLE VIT	Clematis vitalba	2L	Caned: Several Shoots: 2 brks: C	Counted	60-80cm
Total :28 -						

Mixed Landscape Buffer						
Number	Abbreviation	Species	Specification	Density	Area	Height
29 -	COR AVE	Corylus avellana	1+2: Transplant - seed raised: Branched: 3 brks: B	1Citr	26.2379m²	60-80cm
46 -	CRA MON	Crataegus monogyna	1+1: Transplant - seed raised: B	1Citr	43.7298m²	60-80cm
20 -	ILE AQU	Ilex aquifolium	1+0: Seedlings: CE	1Citr	17.4919m²	20-40cm
11 -	PRU PAD	Prunus padus	1+1: Transplant - seed raised: B	1Citr	8.7459m²	80-100cm
29 -	PRU SPI	Prunus spinosa	1+1: Transplant - seed raised: Branched: 2 brks: B	1Citr	26.2379m²	60-80cm
20 -	ROS ARV	Rosa arvensis	1+0: Seedlings: Branched: 2 brks: B	1Citr	17.4919m²	60-80cm
20 -	ROS CAN	Rosa canina	1+1: Transplant - seed raised: Branched: 3 brks: B	1Citr	17.4919m²	60-80cm
11 -	SAM NIG	Sambucus nigra	1+1: Transplant - seed raised: Branched: 3 brks: B	1Citr	8.7459m²	60-80cm
11 -	VIB OPU	Viburnum opulus	1+2: Transplant - seed raised: Branched: 3 brks: B	1Citr	8.7459m²	60-80cm
Total :197 -						
					Total :174.919m²	

Mixed Native Bulbous						
Number	Abbreviation	Species	Specification	Density	Area	Bulb Size
619 -	ANE NEM	Anemone nemorosa	Plug: Established Root min. 2-3 Months: Sept to April planting: British Native-origin: C	20/m²	30.7058m²	
619 -	COL AUT	Colchicum autumnale	Grade 18/20	20/m²	30.7058m²	18/20
619 -	HYA SCR	Hyacinthoides non-scripta	Plug: Established Root min. 2-3 Months: Sept to April planting: British Native-origin: C	20/m²	30.7058m²	
619 -	NAR OBV	Narcissus obvallaris	Grade 8/10	20/m²	30.7058m²	8/10
619 -	NAR PSE	Narcissus pseudonarcissus	Grade 5/6	20/m²	30.7058m²	5/6
Total :3095 -						
					Total :153.529m²	

Native Hedging Mix (Hawthorn and Blackthorn)						
Number	Abbreviation	Species	Specification	Density	Percentage Contribution	Length
16 -	COR AVE	Corylus avellana	1+2: Transplant - seed raised: Branched: 3 brks: B	0.4Citr Double Staggered at 0.4m offset	10%	2.8756m
73 -	CRA MON	Crataegus monogyna	1+1: Transplant - seed raised: B	0.4Citr Double Staggered at 0.4m offset	50%	1.4.3784m
16 -	ILE AQU	Ilex aquifolium	Leader with Laterals: C	0.4Citr Double Staggered at 0.4m offset	10%	2.8756m
30 -	PRU SPI	Prunus spinosa	1+1: Transplant - seed raised: Branched: 2 brks: B	0.4Citr Double Staggered at 0.4m offset	20%	5.7514m
16 -	ROS CAN	Rosa canina	1+1: Transplant - seed raised: Branched: 3 brks: B	0.4Citr Double Staggered at 0.4m offset	10%	2.8756m
Total :151-						Total :28.7566m