

GENERAL NOTES

All plants supplied shall comply with the National Plant Specification. Supplying nurseries shall be registered under the Horticultural Trade Association (HTA) Nursery Certification Scheme. All plants shall be packed and transported in accordance with the Code of Practice for Plant Handling as produced by CPSE.

Native species shall be British provenance, where available, and certified to confirm origin.

Good Horticultural Practice

All landscaping work shall adopt good horticultural practices. Compost, mulch and soil conditioners shall be peat-free. The use of pesticides (herbicides, insecticides, fungicides, slug pellets etc) shall be discouraged. Any pesticides used shall be non-residual, i.e. glyphosate.

Protection of Existing Trees/Hedgerows

Existing trees/hedgerows retained on or overhanging the site shall be protected in accordance with BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction - Recommendations'. Protection measures shall be implemented prior to any preliminary or preparation works on site.

Nesting Birds

To ensure compliance with the Wildlife & Countryside Act 1981 (as amended), vegetation clearance shall be undertaken outside the bird nesting season, which generally extends between March and September inclusive, dependent on weather. If birds are found to be nesting any works which may affect them shall be stopped until the young have fledged and the nest abandoned naturally.

GROUND PREPARATION

Weed Control

Prior to any excavation or cultivation of soft landscape areas treat existing weeds where necessary with a glyphosate based herbicide and allow a suitable period as recommended by the manufacturer for this to take effect.

Subsoil Depths & Acceptable Materials

Provide a minimum depth of subsoil beneath topsoil formation levels to the clearances specified below in all soft landscaped areas. Where there is insufficient depth excavate and dispose of material, loosen the formation and make up with additional subsoil or second quality topsoil. Grade to smooth flowing contours to achieve specified finished levels of topsoil.

Acceptable Materials

Additional subsoil or second quality topsoil shall be free of pests, diseases, visible fragments and roots of aggressive weeds, sticks, straw, turf and significant quantities of foreign matter such as building materials, vegetation, lumps of clay, and the like. Do not use any materials contaminated with rubbish or other materials that are:

- corrosive, explosive, or flammable
- hazardous to human or animal life
- detrital to healthy plant growth

Contaminated Subsoil

Thoroughly clean existing subsoil of all builders' rubbish to full depth before ripping the ground.

Subsoil Treatment

Prior to spreading topsoil and when ground conditions are reasonably dry the subsoil shall be thoroughly loosened to full depth using a winged file cultivator. The spacing between the line furrows shall be close enough to cause the uplifting and fracturing of the soil throughout the treatment depth. Remove any stones larger than 75mm and other items including bricks, kerbs, lumps of concrete, plaster, timber, plastic, glass, metal and any other building debris brought to the surface.

Soil Requirements

Imported subsoil to **BS 8601: 2013**

Imported topsoil to **BS 3882: 2015** - multi-purpose for general landscaping operations.

- Minimum placement depths:
- Amenity grass: 600mm comprising 150mm topsoil over suitable sandy subsoil
 - Shrub beds: 600mm comprising no more than 300mm topsoil over suitable sandy subsoil

- Tree pits: Refer to key for specific requirements
- Handle topsoil in the driest conditions possible. Do not handle during heavy rainfall. Break up compacted topsoil to full depth prior to cultivation.

New Tree Planting Adjacent Services & Structures

All trees and shrubs, whether existing, felled, or proposed, on or adjacent to the site shall be taken into consideration by the client's structural engineer when calculating foundation types and depths.

- No tree shall be planted within 6m of centreline of an adoptable sewer.
- All trees planted within 3m of a building or heavily loaded structure shall have their roots deflected away by means of a high density deep adoption root barrier to avoid direct damage from future tree growth.
- All trees within 2m of a masonry boundary wall, or within 5m of any hard paved surface or underground service, shall have their roots deflected away by the installation of a tree root barrier system to avoid direct damage from future tree growth.

Root Barrier System

- For protection of building foundations: ReRoot 2000 high density deep application root barrier as supplied by GreenBlueUrban Ltd., or similar
- For protection of pavements only (surround applications): Root Director preformed root protection system as supplied by GreenBlueUrban Ltd., or similar, size dependent on predicted girth (circumference) of mature trunk (to be advised by manufacturer)
- For protection of pavements & underground services/utilities (linear applications): ReRoot ribbed root barrier as supplied by GreenBlueUrban Ltd., or similar, size dependent on predicted girth (circumference) of mature trunk (to be advised by manufacturer)

Installation in full accordance with manufacturer's instructions.

The Landscape Contractor shall be responsible for acquiring 'As-Built' drain and service plans before commencing work on site.

ESTABLISHMENT AFTERCARE

Maintenance operations for all new planting, including Contractor's initial 12 months defects and aftercare period, shall include:

Native Trees & Shrubs in Grass Plots

- Weed Control - A translocated herbicide shall be applied around individual trees and shrubs to maintain a 600mm diameter weed free circle
- Firming - Any plants which have been subject to frost heave or wind rock shall be straightened to an upright position and the ground re-firmed
- Pruning - Where required, trees and shrubs shall be pruned to ensure an appropriate habit and form is maintained and to encourage healthy growth; remove any dead, broken, or damaged branches by pruning back to healthy wood
- Stakes, shelters and ties (where fitted) shall be checked and adjusted to allow for the growth of each plant, and replaced where missing or damaged. Vegetation within shelters shall be pulled by hand
- Stakes, shelters and ties shall be removed 5 years after planting or when no longer required

Ornamental Shrubs & Hedgerows

- Weed Control - All planting beds and base of hedges shall be kept weed free by hand weeding or herbicide treatment. Top up mulch twice annually in spring and autumn to maintain original specified depth.
- Firming & Pruning - Firm and prune all newly planted shrubs in accordance with good horticultural practice to promote healthy, bushy growth and to ensure individual plants establish dense cover as rapidly as possible. Any damaged shoots or branches shall be pruned back to healthy wood
- Native Mixed Hedges - once established, trim annually on rotation one side at a time. Trimming shall be carried out during the dormant season from November to March, ensuring not to disturb nesting birds
- Hornbeam Hedges - once established clip annually one to three times during the summer to maintain desired shape and height, taking care not to disturb nesting birds
- Monitor health and control pests and diseases
- Watering - water as required to ensure establishment and survival (see below)

Specimen Trees

Individual trees planted as specimens shall be inspected annually during the growing season and maintained as follows:

- Firm and straighten to an upright position as required
- Maintain irrigation systems/pipes in good working order. Irrigation pipes shall be checked and repaired as necessary
- All tree stakes and ties are to be checked and adjusted if too loose, too tight, or if chaffing is occurring. Any broken stakes are to be replaced
- Formative pruning to include: removal of epicormic shoots, deadwood, competing secondary leader shoots, and closely spaced, duplicated branches with potentially weak or tight forks. All tree works to be carried out in accordance with BS 3998:2010.
- Apply an annual application of slow release fertiliser during March and April at a rate of 50g per tree
- Watering - Water as required to ensure establishment and survival (see below)

Watering

During the first two years after planting a monitored watering regime shall be implemented, commencing from the end of March/early April to the end of October - depending on weather conditions. Apply water when there has been no appreciable rain for 7 days or when there has been drying winds or very high temperatures.

Replacement of Failed or Defective Plants

Following the initial 12 months defects period any trees or plants which within a period of 5 years from the completion of the development are missing, found dead, or are seriously damaged or diseased shall be replaced in the next planting season.

GRASSLAND ESTABLISHMENT & MANAGEMENT

Establishment (first year after sowing):

- Areas which fail to germinate or establish shall be re-turfed or re-seeded as required
- Amenity Grass - all areas shall receive 2 establishment cuts; first cut carried out once height of initial growth reaches 50mm, with grass cut to a finished height not exceeding 50mm. Second cut shall be carried out when the grass once again reaches 50mm. All arisings shall be removed. After the second cut all turfed areas shall be rolled and all stones removed.
- Tussock Grass - annual weeds shall be controlled by topping or regular mowing until the sown grasses are established. Control perennial weeds by spot application of herbicide, or by pulling (Ragwort)

Management once established:

- Amenity Grass - cut to a height between 20-30mm throughout the growing season (March to October inclusive) to maintain a neat tidy appearance. Remove all arisings. Reform edges as required
- Tussock Grass - control scrub and bramble by cutting every 2-3 years between October and February on a rotational basis so that no more than half the area is cut in any one year leaving part as an undisturbed refuge.
- All grassed areas - Control perennial weeds by occasional spot treatment with a herbicide, or by pulling (Ragwort)

PLANT SCHEDULE

ORNAMENTAL SPECIMEN TREES

Species	Girth (cm)	Form	Height	Condition	Qty
Acer campestre 'Elegant' (Field Maple)	14-16cm	Extra Heavy Standard	425-600cm	Rootball	5
Betula pendula (Silver Birch)	14-16cm	Extra Heavy Standard	425-600cm	Rootball	12
Pinus sylvestris (Scots Pine)	40-45cm	Heavy Standard	350-400cm	Container grown	5
Prunus avium 'Pens' (Wild Cherry)	14-16cm	Extra Heavy Standard	425-600cm	Rootball	10
Sorbus aria 'Maestrea' (Whitebeam)	14-16cm	Extra Heavy Standard	425-600cm	Rootball	6

NATIVE MIXED HEDGE

Hedge				NH1	NH2	NH3
Length (m)				41	153	137
Species	%	Height	Root Condition	Qty	Qty	Qty
Acer campestre (Field Maple)	15	60-80cm	1+1 bareroot transplant	31	115	103
Cornus sanguinea (Dogwood)	15	60-80cm	1+1 bareroot transplant	31	115	103
Corylus avellana (Hazel)	15	60-80cm	1+1 bareroot transplant	31	115	103
Crataegus monogyna (Hawthorn)	30	60-80cm	1+1 bareroot transplant	61	229	205
Ilex aquifolium (Holly)	10	60-80cm	3 litre container	20	76	68
Viburnum opulus (Guelder Rose)	15	60-80cm	3 litre container	31	115	103
Total				205	765	685

Plant in single species groups of 3-9m with groups evenly distributed along the entire length of the hedge.

NATIVE HORNBEAM HEDGE

NATIVE HORNBREAM HEDGE				HH1	HH2
Hedge				106	47
Length (m)					
Species	%	Height	Root Condition	Qty	Qty
Carpinus betulus (Hornbeam)	100	60-80cm	1+1 bareroot transplant	530	235

NATIVE TREE & SHRUB MIX WITH STANDARD TREES

TREES & SHRUBS WITH STANDARD TREES					NTS1	
Total Area (m2)					2440	
Transplants & Shrubs					Qty	Group Size
Species						
	%	Height	Condition			
Acer campestre (Field Maple)	5	60-80cm	1+1 bareroot transplant	53	10-20	
Betula pendula (Silver Birch)	5	60-80cm	1+1 bareroot transplant	53	10-20	
Carpinus betulus (Hornbeam)	2.5	60-80cm	1+1 bareroot transplant	26	5-10	
Corylus avellana (Hazel)	20	60-80cm	1+1 bareroot transplant	211	20-30	
Crataegus monogyna (Hawthorn)	20	60-80cm	1+1 bareroot transplant	211	20-30	
Ilex aquifolium (Holly)	5	60-80cm	3 litre container	53	5-10	
Malus sylvestris (Crab Apple)	5	60-80cm	1+1 bareroot transplant	53	10-20	
Prunus avium (Wild Cherry)	5	60-80cm	1+1 bareroot transplant	53	10-20	
Prunus spinosa (Blackthorn)	10	60-80cm	1+1 bareroot transplant	105	10-15	
Quercus robur (Oak)	7.5	60-80cm	1+1 bareroot transplant	79	5-10	
Prunus aucuparia (Mountain Ash)	5	60-80cm	1+1 bareroot transplant	53	10-20	
Viburnum opulus (Guelder Rose)	10	60-80cm	1+1 bareroot transplant	105	10-15	

Standard Trees	Girth (cm)	Height	Condition	
Species				
Carpinus betulus (Hornbeam)	8-10cm	250-300cm	bareroot	12
Quercus robur (Oak)	8-10cm	250-300cm	bareroot	31
Plot Total				1088

All trees and shrubs shall be planted at 1.5m c/s (0.45 plants per square metre) in single species groups of the size shown, except for standard trees which shall be planted as individual specimens as indicated on the drawing. Groups shall be evenly distributed across the plot.

NATIVE SHRUB MIX WITH STANDARD TREES

PILOT				NS1	NS2	NS3	NS4	
Total Area (m2)				150	155	196	315	
Transplants & Shrubs	%	Height	Condition	Qty	Qty	Qty	Qty	Group Size
Species								
Corylus avellana (Hazel)	30	60-80cm	1+1 bareroot transplant	43	45	57	92	10-20
Crataegus monogyna (Hawthorn)	30	60-80cm	1+1 bareroot transplant	43	45	57	92	10-20
Ilex aquifolium (Holly)	10	60-80cm	3 litre container	14	15	18	32	5-10
Prunus spinosa (Blackthorn)	15	60-80cm	1+1 bareroot transplant	22	22	29	46	5-10
Viburnum opulus (Guelder Rose)	15	60-80cm	1+1 bareroot transplant	22	22	29	46	5-10
Standard Trees								
	Girth (cm)	Height	Condition					
Species								
Carpinus betulus (Hornbeam)	8-10cm	250-300cm	bareroot	2	2	2	3	4
Quercus robur (Oak)	8-10cm	250-300cm	bareroot	4	4	4	4	4
Pilot Total				150	155	196	315	

Standard Trees	Girth (cm)	Height	Condition	
Species				
Carpinus betulus (Hornbeam)	8-10cm	250-300cm	bareroot	2
Quercus robur (Oak)	8-10cm	250-300cm	bareroot	4
Plot Total				150 155 196 315

All shrubs shall be planted at 1m c/s (1 plant per square metre) in single species groups of the size shown. Groups shall be evenly distributed across the plot. Standard trees shall be planted as individual specimens as indicated on the drawing.

ORNAMENTAL SHRUB PLANTING

Species	Height	Size	Density	Qty
Cornus alba 'Sibirica'	60-80cm	bare-root	2/m2	215
Euonymus fortunei 'Emerald Gaiety'	20-30cm	3 litre container	4/m2	59
Escalonia 'Crimson Spire'	40-60cm	3 litre container	3/m2	76
Hebe 'Mrs Winder'	20-30cm	3 litre container	4/m2	107
Lonicera nitida 'Maygreen'	30-40cm	3 litre container	3/m2	32
Prunus laurocerasus 'Otto Luyken'	30-40cm	3 litre container	3/m2	148
Rosa 'Bonica'	30-40cm	3 litre container	3/m2	122
Spiraea japonica 'Anthony Waterer'	30-40cm	3 litre container	3/m2	62
Viburnum opulus 'Compactum'	40-60cm	bare-root	2/m2	48

IMPLEMENTATION PROGRAMME

All soft landscape works including preparatory operations shall be carried out when all building works are complete and before the end of the first planting season, subject to the following constraints:

- No planting or preparatory operations shall take place when the ground is frost bound, covered by snow, excessively wet or waterlogged, or in excessively dry or windy conditions
- Seed shall be sown in autumn or spring during calm weather and not when the ground is frost bound or waterlogged
- Container grown plants may be planted at any time during favourable weather and soil conditions. Watering and weed control to be provided as necessary
- Planting of bare-root and rootballed deciduous trees and shrubs, where specified, shall be carried out from late October to late March. All bare root stock, where used, shall be root dipped in mycorrhizal inoculant such as Agniture or similar, applied in accordance with the manufacturer's recommendations.

CONTRACTORS USE OF HERBICIDES

Mechanical control shall be favoured over chemical methods where possible. Herbicide shall only be used where weed growth is out of control.

Where herbicide is to be used in or near watercourses contractors shall comply with all current legislation and ensure the following:

- The herbicide to be used shall be appropriate for the purpose and location. Only suitable herbicides listed on www.pesticides.gov.uk shall be used
- Before each pesticide application the Contractor shall notify the Environment Agency and obtain any necessary consent forms
- Operators must hold a BASIS Certificate of Competence, or work under the supervision of a certificate holder
- No spraying shall take place

