

SOFT LANDSCAPE

EXISTING TREES & VEGETATION

Existing Trees to be Retained
To be protected in accordance with BS 5837:2012 'Trees in relation to Design, Demolition and Construction'

Note: No dig construction to be carried out in any location where construction is within RPA of existing trees. Refer to Arboriculturalists drawings & reports for further details

PROPOSED PLANTING

Proposed Tree Planting
Size/Spec: Refer to plant schedule for details
Note: Final location of trees to be determined with services alignment.

Proposed Shrub Planting
Product: Container grown plant stock
Size/Spec: Refer to plant schedule for details

Proposed SuDS/Rain Garden Planting
Product: Container grown plant stock
Size/Spec: Refer to plant schedule for details

Proposed Single Species Hedge Planting
Product: Container grown plant stock
Size/Spec: Refer to plant schedule for details

Grass Type 1 - Proposed Turf
Product: Rolawn Medallion® Turf
Supplier: Rolawn or similar approved

Grass Type 2 - Flowering Lawn Mix
Product: WFG20 Eco Species Rich Lawn Mixture
Supplier: Germinal Seeds or similar approved

Grass Type 3 - Meadow Mixture
Product: EM2 Standard General Purpose Meadow Mixture
Supplier: Emorsgate Seeds
Note: Allow closer mowing regime for 400mm width adjacent to footpaths

Close mown Path Through Meadow

Private Garden
To be cleared and graded, or cleared and turfed as per developer specification

HARD LANDSCAPE

PAVING TYPE

Paving Type 1 - Vehicular Macadam
To Engineer's Specification

Paving Type 1a - Pedestrian Macadam
To Engineer's Specification

Paving Type 2a - Block Paving to Retained Building Apron
Colour: Arran Stone
Sizes: 600 x 300 x 80mm
Bond: Stretcher

Paving Type 2b - Block Paving to Courtyard
Colour: Arran Stone
Sizes: 300 x 200 x 80mm
Bond: Herringbone

Paving Type 3 - Block Paving to Parking Bays
Colour: Arran Stone
Sizes: 200 x 100 x 80mm
Bond: Stretcher

Paving Type 4 - Linear Plank Block Paving to Main Carriageway
Colour: Steel (90%), Slate (10%)
Sizes: 220 x 55 x 80mm
Bond: Stacked
Notes: Sailor header course, stack bond with 100% slate

Paving Type 4b - Linear Plank Block Paving at Courtyard
Colour: Steel
Sizes: 220 x 55 x 80mm
Bond: Stacked

Paving Type 5 - Block Paving to Streets
Colour: Natural
Sizes: 200 x 100 x 80mm
Bond: Herringbone

Paving Type 6 - Block Paving to Parking Courts
Colour: Bracken
Sizes: 200 x 100 x 80mm
Bond: Herringbone

Paving Type 7 - Setts to Thresholds
Product: Concrete setts or similar approved
Colour: Silver
Sizes: 100 x 100 x 50mm
Bond: Stack

Paving Type 8 - Flag Paving to Dwelling Footpaths
Colour: Silver
Sizes: 450 x 450 x 50mm
Bond: Stack

Paving Type 10a - Textured Coloured Concrete to Courtyard
Product: Textured coloured concrete
Colour: Steel Grey
Supplier: Aggregate Industries or similar and approved

Paving Type 10b - Textured Coloured Concrete to Courtyard
Product: Textured coloured concrete
Colour: Smoke
Supplier: Aggregate Industries or similar and approved

Paving Type 10c - Textured Coloured Concrete to Courtyard
Product: Textured coloured concrete
Colour: Pietachio
Supplier: Aggregate Industries or similar and approved

Paving Type 11 - Custom Glass In-Lays
Product: Glass in-lays
Colour:
Supplier:

Paving Type 12 - Loose Gravel
Product: Natural gravel
Size/Colour: Golden

Paving Type 13 - Gravel Reinforcement
Product: Recycled plastic cellular ground reinforcement or similar and approved

FURNITURE

Furniture Type 1 / 1a - Concrete Block Seat
Product: FT1 - Modular concrete block seat
FT1a - Modular concrete block with hardwood top

Furniture Type 2 - Terrace Planter
Product: Raatl planter/ie or similar and approved
Size: 400mm height

EDGING TYPES

Edging Type 1 - Granite Aggregate Kerb with Upstand
Product: Textured Kerb or similar approved
Colour: Silver
Sizes: 145 x 255 x 915mm

Edging Type 2 - Granite Aggregate Kerb Flush
Product: Textured Kerb or similar approved
Colour: Silver
Sizes: 145 x 255 x 915mm

Edging Type 3 - Raingarden Inlet Kerb
Product: Textured Kerb or similar approved
Colour: Silver
Sizes: 125 x 255 x 400mm

Edging Type 4 - Raingarden Conservation Kerb
Product: Textured Kerb or similar approved
Colour: Silver
Sizes: 145 x 255 x 915mm

Edging Type 5 - PCC Edging
Product: Edging or similar approved
Colour: Natural
Sizes: 50 x 150 x 914mm

Edging Type 6 - Block Edging
Product: Concrete blocks laid stretcher course
Colour: To match adjacent paving
Sizes: To match adjacent paving

BOUNDARY TYPES

Boundary Type 1 - Brick Wall to Dwelling Boundaries
Product: Brick to match dwellings
Height: 1800mm

Boundary Type 2 - Timber Fencing to Dwelling and Garden Boundaries
Product: Close-boarded timber fence
Height: 1800mm

Boundary Type 3 - Vertical Metal Railings with Art Deco Detailing
Product: Galvanised black vertical metal railings
Height: 1200mm high

OTHER

Application Boundary

Garden Gates
To Architect's detail and specification

Extent of Root Cell
Surface area of Root Cells based on Deeproot, Silva Cell product with 900mm depth to provide minimum 15m³ per tree. Full fabrication drawing, layout and design plans for cell system to be confirmed with manufacturer prior to commencement. Services to be fully coordinated with tree pits to ensure delivery. Deeproot (or similar and approved) to coordinate with services and create coordinated detail plans.

Root Barrier: Install at 1m Depth

All drainage and utilities to be co-ordinated with trees and root cells. Root barrier to be confirmed by Landscape Architects and Engineers and co-ordinated with both drainage and utilities to ensure locations do not clash with rooting areas. Refer to tree setting out plans.

Notes on drawings

- Refer to engineers and specialist drawings and details for lighting, drainage, underground services.
- Final tree location to be fully coordinated with lighting layout, underground service runs and site drainage.
- Requirement for and extent of permeable paving to be confirmed by engineer's design.
- Levels information for the areas of open space in relation to the built form FFL's and retaining walls are to be read in conjunction with Engineer's proposed levels, boundary treatments to be coordinated with Landscape Architects and Engineers Site layout plans.
- Slope profiles to the open space areas are to be as slack as possible considering access for all.

INDICATIVE PLANT SCHEDULE

PROPOSED TREES

Qty.	Species	Girth	Height	Specification
3	Acer campestre	18-20cm		Advanced Nursery Stock 'Clear Stem min. 200cm: RB
11	Amelanchier lamarckii	Multi-Stem	2.0-2.5m	Multi-Stemmed :5/7 brks :RB
3	Betula albosinensis 'Fascination'	18-20cm		Advanced Nursery Stock 'Clear Stem min. 200cm: RB
18	Betula pendula	18-20cm		Extra Heavy Standard 'Clear Stem 175-200cm: RB
6	Magnolia 'Elizabeth'	14-16cm		Extra Heavy Standard 'Clear Stem min. 200cm: RB
16	Metasequoia glyptostroboides	18-20cm		Advanced Nursery Stock 'Clear Stem min. 200cm: RB
19	Prunus serrula	18-20cm	2.0-2.5m	Multi-Stemmed :5/7 brks :RB
11	Prunus yedoensis	16-18cm		Advanced Nursery Stock 'Clear Stem min. 200cm: RB
1	Pyrus calleryana 'Chanticleer'	16-18cm		Advanced Nursery Stock 'Clear Stem min. 200cm: RB
2	Quercus robur	18-20cm		Advanced Nursery Stock 'Clear Stem 175-200cm: RB
9	Tilia cordata 'Streetwise'	18-20cm		Advanced Nursery Stock 'Clear Stem min. 200cm: RB
6	Tilia europaea	18-20cm		Advanced Nursery Stock 'Clear Stem min. 200cm: RB
17	Ulmus 'Lutece'	14-16cm		Extra Heavy Standard 'Clear Stem min. 200cm: RB
Total :122				

PLANTING SCHEDULE

Proposed Formal Topiary & Hedge Planting	Size/Spec	Condition	Density
Species			
Ilex aquifolium 'Aureomarginata'	120-150cm	C5	7/m²
Prunus laestracia	120-150cm	C5	7/m²
Fagus sylvatica	120-150cm	C5	7/m²
Pyracantha coccinea	120-150cm	C5	7/m²
Euonymus 'Jean Hugues'	120-150cm	C5	7/m²
Osmanthus x burkwoodii	120-150cm	C5	7/m²
Lonicera nitida	120-150cm	C5	7/m²
Ilex crenata	120-150cm	C5	7/m²

Proposed Native Hedge Planting	Size/Spec	Condition	Density
Species			
Crataegus monogyna	120-150cm	C5	7/m²
Cornus sanguinea	120-150cm	C5	7/m²
Prunus spinosa	120-150cm	C5	7/m²
Rosa canina	120-150cm	C5	7/m²
Ligustrum vulgare	120-150cm	C5	7/m²
Euonymus europaeus	120-150cm	C5	7/m²
Viburnum opulus	120-150cm	C5	7/m²

Proposed Rain Garden Planting	Size/Spec	Condition	Density
Species			
Cornus alba 'Sibirica'	90-120cm	C5	7/m²
Cornus sericea 'Flaviramea'	90-120cm	C5	7/m²
Cornus sanguinea 'Midwinter Fire'	90-120cm	C5	7/m²
Salix alba 'Britzensis'	90-120cm	C5	7/m²
Lysimachia nummularia	90-120cm	C5	7/m²
Viburnum opulus	90-120cm	C5	7/m²
Aster 'Little carlow'	90-120cm	C5	7/m²
Miscanthus 'Yakushima Dwarf'	90-120cm	C5	7/m²
Miscanthus 'Gracilimus'	90-120cm	C5	7/m²
Crocsmia crocosmifolia	90-120cm	C5	7/m²
Rudbeckia fulgida var. deamii	90-120cm	C5	7/m²

Proposed Native Shrub Planting	Size/Spec	Condition	Density
Species			
Cornus sanguinea	90-120cm	BR	9/m²
Corylus avellana	90-120cm	BR	9/m²
Crataegus monogyna	90-120cm	BR	9/m²
Frangula alnus	90-120cm	BR	9/m²
Ilex aquifolium	90-120cm	BR	9/m²
Ligustrum vulgare	90-120cm	BR	9/m²
Prunus spinosa	90-120cm	BR	9/m²
Rosa canina	90-120cm	BR	9/m²
Salix cinerea	90-120cm	BR	9/m²
Sambucus nigra	90-120cm	BR	9/m²
Ulex europaeus	90-120cm	BR	9/m²
Lonicera periclymenum	90-120cm	BR	9/m²

Proposed Ornamental Shrub Planting	Size/Spec	Condition	Density
Species			
Brachyglottis 'Sunshine'	40-60cm	C5	5/m²
Cornus alba 'Elegantissima'	40-60cm	C5	5/m²
Choisya ternata	40-60cm	C5	5/m²
Cytisus x praecox 'Allegro'	40-60cm	C5	5/m²
Daphne odora 'Aureomarginata'	30-40cm	C3	6/m²
Deutzia gracilis 'Nikko'	30-40cm	C3	6/m²
Hydrangea paniculata	30-40cm	C3	6/m²
Potentilla fruticosa	30-40cm	C3	6/m²
Salvia rosmarinus	30-40cm	C3	6/m²
Sarcococca hookeriana 'Purple Stem'	60-80cm	C5	5/m²
Genista lydia	30-40cm	C5	5/m²
Viburnum tinus 'Eve Price'	40-60cm	C5	5/m²
Viburnum davidii	40-60cm	C5	5/m²

Proposed Herbaceous Planting	Size/Spec	Condition	Density
Species			
Anthemis tinctoria 'E.C.Buxton'	20-30cm	C3	9/m²
Anemone x hybrida 'Königin Charlotte'	30-40cm	C3	9/m²
Scabiosa columbaria subsp. ochroleuca	30-40cm	C3	9/m²
Aruncus 'Horatio'	30-40cm	C3	9/m²
Phlox russelliana	40-60cm	C5	6/m²
Nepeta 'Walker's Low'	15-20cm	C3	9/m²
Bergenia 'Silberlicht'	15-20cm	C3	9/m²
Salvia yangii 'Blue Spire'	40-60cm	C5	6/m²
Hydrangea 'Herbsttraube'	20-30cm	C3	9/m²
Geranium 'Blookside'	20-30cm	C3	9/m²
Geranium sylvaticum 'Mayflower'	20-30cm	C3	9/m²
Tiarella 'Spring Symphony'	20-30cm	C3	9/m²
Brunnera macrophylla 'Jack Frost'	20-30cm	C3	9/m²
Libertia grandiflora	30-40cm	C3	9/m²

Proposed Ornamental Grasses	Size/Spec	Condition	Density
Species			
Miscanthus sinensis 'Kleine Fontaine'	30-40cm	BR	7/m²
Deschampsia cespitosa	30-40cm	C5 Full Pot	7/m²
Anemathelle lessiana	30-40cm	C5 Full Pot	5/m²
Calamagrostis 'Karl Foerster'	30-40cm	BR	7/m²
Panicum virgatum 'Shenandoah'	30-40cm	C5 Full Pot	7/m²
Sesleria autumnalis	30-40cm	C3 Full Pot	9/m²

Proposed Ferns	Size/Spec	Condition	Density
Species			
Dryopteris affinis	30-40cm	C5 Full Pot	7/m²
Dryopteris filix-mas	30-40cm	C5 Full Pot	7/m²
Polystichum setiferum	30-40cm	C5 Full Pot	7/m²
Asplenium scolopendrium	30-40cm	C5 Full Pot	7/m²

Proposed Bulb Planting	Size/Spec	Condition	Density
Species			
Narcissus 'King Alfred'	Top size	Dry Bulb	25/m²
Narcissus 'Talia'	Top size	Dry Bulb	25/m²
Hyacinthoides non-scripta	Top size	Dry Bulb	25/m²
Galanthus nivalis	Top size	Dry Bulb	25/m²
Tulip fosteriana mix	Top size	Dry Bulb	25/m²
Tulip darwin mix	Top size	Dry Bulb	25/m²
Iris x hollandica	Top size	Dry Bulb	25/m²

GENERAL SPECIFICATION NOTES

Proposed Tree Planting: Nursery Stock and Selection

All planting should comply with the requirements specified in BS 3936:1992 'Nursery Stock' (Part One). All nursery stock and trees are to be free of pest and diseases prior to being delivered to site. The Landscape architect reserves the right to reject trees and nursery stock that do not meet specifications as set out in the requirements and guidelines in BS 3936:1992 or in accordance with the landscape architects drawings. If a particular defect or substandard element can be corrected easily, appropriate remedies shall be applied and agreed with the landscape architect. If destructive inspection of a root ball is to be carried out, agreement should be in place prior as to the time and place of inspection. Inspection of shrub roots in containers or rootball can be carried out on site if required.

BS 8545:2014 'Trees: from nursery to independence in the landscape', is a new British Standard to assist people involved in resourcing, producing, planting and managing new trees in the landscape. A process for planting young trees that will result in them achieving 'independence in the landscape'. This means that they are healthy and have every chance of survival

Tree Handling

It is recommended that companies that do not have experience with handling large trees or the required equipment to do so seek advice from the landscape architect or tree supplier. Furthermore, specialist hauliers are to be used who will have the correct lifting equipment to deal with unloading large trees. The landscape contractor must follow the industry guidance method for handling trees. Below are recommended industry standards.

Dormant trees sizes of 12-16cmg:

These can be lifted and unloaded using a root hook and hoist. Even when the tree is dormant it is recommended to wrap the stem in hessian for additional protection when unloading maintaining the lifting weight on the root hooks.

Dormant trees sizes of 18-20cmg - 25-30cmg:

These can be lifted and unloaded using a 3 tonne sling in combination with a chain and root hooks. Even when the tree is dormant it is recommended to wrap the stem in hessian for additional protection when unloading.

Tree Planting

All trees are to be planted in the first available planting season after construction as root balled stock unless otherwise specified and agreed with the client. All tree pits are to be excavated 24 hours prior to delivery to reduce the time the rootball is out of the ground. All tree pits are to be excavated under favourable weather conditions to avoid deterioration of the soil structure and glazing. All excavations are to be carried out using a toothed bucket ensuring tree pit walls are not glazed, the walls of the tree pit can also be loosened with hand held tools.

Tree pit dimensions are subject to soil conditions and rootball size. Tree pits can never be excavated too wide in an unrestricted space (open ground), however they can be too deep. All trees are to be planted at the correct height which is the same depth as the tree was growing on the nursery. The root collar must remain visible. Tree pit sizes are to be agreed with landscape architect prior to excavations. All tree pits are to have suitable irrigation pipe and end cap and aeration tubes if required (aeration tubes tend to be required for trees planted in a hard landscape environment). They are only required for the first two years after which they are superfluous. All irrigation pipes are to be placed as high as possible not at the base of the rootball. The tree would also benefit from an earth reservoir around the rootball on the surface to aid watering. The reservoir is best backfilled with bark mulch to avoid soil glazing on the surface.

Note: Trees may sink after planting due to soil settlement. With sandy soils generally there will be a settlement of 10% and clay soils 20%, this will need to be considered by the landscape contractor when planting and therefore the tree may need to be planted slightly higher to accommodate soil settlement.

Note: Never excavate deeper than the highest water table to ensure organic matter does not come in contact with groundwater resulting in anaerobic digestion within the soil.

All hessian and wire supports around the rootball are to remain in place when planting (in some case it may be required to loose the hessian and wire). The hessian will quickly decompose. The wire will oxidize and also disappear in the soil eventually.

Trees planted within hard landscape areas are to have tree grilles and guards where specified. Subterranean cable product is to be used to ensure the tree has a minimum of 9m³ growing area. 1 type and manufacture is to be agreed with the client and landscape architect prior to installation. Trees are to be supported either by high anchoring, low anchoring or underground anchoring systems. The type of anchoring system is to be agreed with the landscape architect and detailed within the specification of works. For trees that are <10-12cmg use 1no untreated softwood stake at min 10cm diameter driven into the ground at least 1m depth (30cm of which must be in undisturbed ground), the stake is to be placed on the side of the prevailing wind. Trees >10-12cmg use 2no untreated softwood stakes at min 10cm diameter driven into the ground at least 1m depth with horizontal bracing bar. Trees >25-30cmg use 3no stakes in a triangle around the tree (1.4m above ground level) with horizontal bracing bars, tree bands are to be secured to the posts with galvanised nails.

Underground anchoring systems are to be used for large compact rootballs or trees within hard landscape with tree grilles to BS 4043:1989 'Recommendations for Transplanting Root-Balled Trees'. The type of anchoring system is to be agreed with the landscape architect. Biodegradable anchoring straps are to be used to ensure the straps do not grow into the trunk.

Note: There are benefits to using low level anchoring as field trials have demonstrated that the tree becomes independent of the ground quicker as a result of the wind rocking the tree that encourages root growth. However, this method is not recommended in exposed conditions or coastal locations due to a greater risk of the trunk breaking.

Ties and stakes are to be checked and adjusted every six months or after periods of strong wind and rain.

All topsoil is to conform to BS 3882:2015 'Multipurpose' or similar approved by an agronomist. The tree pit shall be backfilled with previously prepared topsoil excavated from the pit and additional topsoil as required. All backfilled material is to include an organic slow release fertilizer to ensure there is no adverse affect on soil organisms (Vltax Q4HN) or similar approved at a ratio of 10 -7.5 -10.2 + TE. The second application to be made 10-16 weeks after planting depending on soil type and weather conditions.

Tree pit root barrier are to be installed to all trees within 3m of any underground service routes or within 2.0m of kerb lines & hard surfaces & building foundations. Type of root barrier material is to be agreed with the landscape architect. The landscape contractor is to confirm locations of all services prior to implementation of trees. Prior to installation NJUG specification and requirements are to be referred too.

Guidance for Tree Pit Sizes within Soft Landscape Areas

Final tree pit size will vary dependent on size of rootball, tree stock and soil type. Below are general guidance sizes only. The landscape contractor is to speak to the grower to obtain exact sizes prior to delivery.

Tree pit size guidelines:

Tree size	Rootball Size	Tree pit size (length, width, depth)
14-16 cmg	50x50cm	80x80x65cm
18-20 cmg	60x60cm	80x80x75cm
20-25 cmg	70x60cm	90x90x75cm

Tree aftercare and pruning

When a tree is lifted/harvested it will lose a percentage of it's root system. As a result the roots are unable to supply the crown with the water demand being placed on the root system which can cause stress to the tree. As a result the tree will respond by reducing the amount of foliage, in some cases when the water storage is great the tree will shed wood from the crown. Watering the tree is important in the first two years after transplanting. In very hot conditions the canopy can dry out even when the rootball is most simply because there is not enough root development yet. Therefore, the only solution is to reduce the canopy volume to reduce the stress.

All pruning is to be done by removing first and second wood only, all pruning works are to be carried out by appropriately trained landscape contractors.

It is recommended that hessian is placed around the tree stems after planting to prevent the overheating of the trunks.

The flow of water within the bark will normally prevent this, however, after planting less water is transplanted and as a result the trunk is at risk of sunburn. The setting sun will cause the most potential damage. Most of the damage will be visible on the western side of the tree. Trees with smooth bark are more vulnerable to sunburn than trees with rough bark.

Note: This is to only be done as a temporary measure as the tree is establishing, after which the hessian is to be removed.

Monitoring of the trees is to be carried out during the rectification period and as part of the long term management. The following points are to be considered and monitored:

- Watering, trees will require watering for the first two years after planting, after which they will generally look after themselves. The number of times will depend on location, weather conditions and growing season. Therefore, as the tree is a growing organism the required experience and knowledge will

determine the number of times the tree is watered to ensure establishment. It is better to give the tree a lot of water once a week rather than water every day as this will encourage root development and prevent the tree becoming "lazy". Over watering will push oxygen away from the root system preventing root development.

- Soil compaction, these can be carried out by a specialist to monitor the oxygen levels (that should ideally be 18-21%, 16-18% will be sufficient levels, 12-16% will be poor levels <5% shows acute root mortality). Soil moisture levels both within the rootball and surrounding ground to also be monitored.
- Soil compaction, traffic over planted areas or areas to be planted are to be limited or ideally avoided completely. When soil compaction is higher than 2.5MPa root development will not be possible.
- Canopy, monitor leaf development, size, colour and the amount of foliage that is within the crown. Length of new growth and bud development and size of buds.

Proposed Ornamental Shrub / Perennial Planting

- To be planted in a minimum of 300mm depth approved topsoil to BS 3882: 2015 'Multipurpose' in the first available planting season after construction.
- All shrubs are to be planted as container stock unless otherwise specified (5 or 10 litre), all stock is to be well rooted into the container but not pot bound.
- All shrubs are to be planted with a slow release organic fertilizer (vltax or similar approved) and backfilled with a mixture of excavated top soil and compost (not peat based). A minimum of 50 mm approved ornamental grade bark mulch is to be applied to planting areas unless stated otherwise.

Proposed Hedge Planting

- To be planted in a minimum of 300mm depth approved topsoil to BS 3882: 2015 'Multipurpose' in the first available planting season after