

LEGEND

General Legend for all drawings



Site Boundary

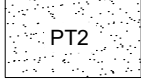
Hard Landscape

Note: Sub-base and base design to be suitable for vehicular or pedestrian usage to be determined by engineer. Specification and detail to engineers information.
All block paving to meet BS EN 1339:2003 requirements.
All concrete slab paving to meet BS EN 1341:2012 requirements.

Paving Types



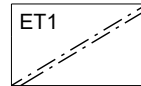
Paving Type 1 - Vehicular Tarmacadam [*indic.*]
To Engineer's specification and detail



Paving Type 2 - Pedestrian Tarmacadam [*indic.*]
To Engineer's specification and detail

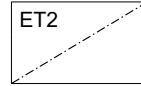
Note: All hard landscape surfaces to be coordinated with Arboriculture Report. Cellweb sub-structure to be used in all no-dig/RPA areas

Edging Types



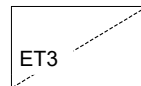
Edging Type 1 - Upstand Kerb [*indic.*]

Product: Fusion Textured Kerb
Supplier: Tobermore or similar approved
Size/Colour: 145x255x914mm / Natural
Upstand: 100mm / To Engineers Specification



Edging Type 2 - PCC Pin Kerb

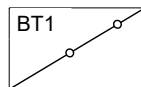
Product: Fusion Pin Kerb
Supplier: Tobermore or similar approved
Size/Colour: 75x150x900mm / Silver
Upstand: Flush



Edging Type 3 - Drop Kerb

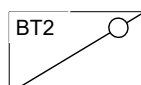
To engineer's detail & specification

Boundary Types



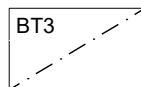
Boundary Type 1 - Timber Post & Rail

To outer boundary of public space
Size/Colour: 500mm (ht) / Natural
150x150mm timber posts
Note: Hand-dig post location within RPAs



Boundary Type 2 - Tubular Bow Top Metal Fence

Along entire site frontage
Size: 1.20m
Note: To engineer's specification



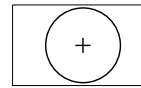
Boundary Type 2 - Chain Link Fence

To outer boundary of public space
Size/Colour: 1.80m / Green Coated PVC
Note: To engineer's specification

Note: Edging types are indicative. Refer to Engineers drawings and specifications for details on kerbs. All edging are to meet BS EN 1340:2003 requirements. All droppers are to match road kerbs.

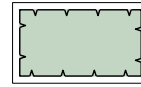
Soft Landscape

Note: Refer to Engineers drawings and specifications for details on kerbs. All edging are to meet BS EN 1340:2003 requirements. All droppers are to match road kerbs.



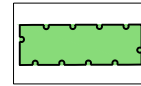
Proposed Tree Planting

Size/Spec: Refer to plant schedule
Notes: Trees to be tagged by landscape architect prior to delivery, final location to be coordinated with root-barriers and below ground services



Proposed Shrub Planting

Product: Container grown plant stock
Size/Spec: Refer to plant schedule for details
Supplier: Local source to be approved



Proposed Hedge Planting

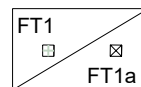
Product: Container grown plant stock
Size/Spec: Refer to plant schedule for details
Supplier: Local source to be approved



Proposed Neutral Grassland Planting

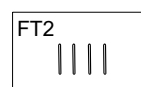
Product: Hedgerow Mixture EH1
Supplier: Emorsgate or similar and approved
Note: To be established underneath hedgerows and shrub planting.

Furniture



Furniture Type 1 + 1a - Timber Bollard

Product: Timber Bollard, Pyramid top or similar and approved. FT1a to be removable.
Supplier: Woodscape or similar and approved
Size/Colour: 800mm above ground / Hardwood



Furniture Type 2 - Sheffield Cycle Hoops

Product: Sheffield Stand, cycle rack
Supplier: Cyclehoop or similar and approved
Finish/Mounting: Galvanised / Surface mount

INDICATIVE PLANT SCHEDULE

The proposed species list is inclusive of but, not restricted to the following:

TREES

Name	Common Name	Height	Girth	Pot Size	Specification
Acer campestre 'Elsrijk'	Field Maple	4.0-4.5m	14-16cmg	RB	Specimen; Clear Stem min. 200
Betula 'Fascination'	Chinese Red Birch	4.0-4.5m	16-18cmg	RB	Advanced Nursery Stock; Clear Stem min. 200
Malus 'Evereste'	Crab Apple	4.0-4.5m	16-18cmg	RB	Advanced Nursery Stock; Clear Stem min. 200
Sorbus aucuparia	Rowan	4.0-4.5m	14-16cmg	RB	Specimen; Clear Stem min. 200
Tilia cordata 'Streetwise'	Lime	4.5-5.0m	18-20cmg	RB	Specimen; Clear Stem min. 200
Ulmus 'Iutece'	Elm	4.0-4.5m	14-16cmg	RB	Specimen; Clear Stem min. 200

Note for large tree planting: Climax species to be used that will provide long term landscape resilience within the car park and help to soften the built form.

FORMAL HEDGE

Name	Common Name	Height	Specification
Acer campestre	Field Maple	80-100cm	200mm centers; double staggered; Transplant
Carpinus betulus	Hornbeam	80-100cm	200mm centers; double staggered; Transplant
Prunus lusitanica	Portuguese Laurel	80-100cm	200mm centers; double staggered; Transplant

Note: Evergreen hedge to be kept at a height of 1.4m to provide privacy when seated whilst maintaining good natural surveillance. Exist points align with desire line and existing footpath alignments.
Note for car parking hedging: Evergreen hedge to be kept at 1.4m to provide privacy when seated whilst maintaining good natural surveillance and provide a natural visual barrier between car park and the community building.

SHRUB PLANTING

Name	Common Name	Species Group	Density	Pot Size	Specification
Abelia x grandiflora	Abelia	Shrub	5/m2	5L	Full Pot
Agastache rugosa	Korean mint	Herbaceous	7/m2	2L	Full Pot
Alchemilla mollis	Ladys mantle	Herbaceous	7/m2	2L	Full Pot
Amsonia tabernaemontana	Blue star	Herbaceous	7/m2	2L	Full Pot
Anemone x hybrida 'Honorable Jobert'	Japanese Anemone	Herbaceous	7/m2	2L	Full Pot
Artemisia 'Powis Castle'	Wormwood	Herbaceous	7/m2	2L	Full Pot
Asplenium scolopendrium	Harts tongue	Fern	7/m2	2L	Full Pot
Aucuba japonica 'rozzanie'	Japanese laurel	Shrub	5/m2	5L	Full Pot
Bistorta officinalis 'Superba'	Red Bistort	Herbaceous	7/m2	2L	Full Pot
Brachyglottis 'Sunshine'	Senecio	Shrub	5/m2	5L	Full Pot
Brunnera macrophylla 'Jack Frost'	Siberian Bugloss	Shrub	5/m2	5L	Full Pot
Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass	Grass	5/m2	5L	Full Pot
Caryopteris x clandonensis	Cropteris	Shrub	5/m2	5L	Full Pot
Ceanothus thyrsiflorus var. repens	Creeping Blue Blossom	Shrub	5/m2	3L	Bushy
Carex 'Ice Dance'	Sedge	Grass	7/m2	3L	Bushy
Ceratostigma plumbaginoides	Hardy Plumbago	Shrub	5/m2	5L	Full Pot
Cornus alba 'Sibirica'	Dogwood	Shrub	5/m2	5L	Full Pot
Cytisus x praecox 'Allgold'	Broom	Shrub	5/m2	5L	Full Pot
Deschampsia cespitosa	Tufted Hair Grass	Grass	5/m2	3L	Bushy
Deutzia gracilis 'Nikko'	Slender Deutzia	Shrub	5/m2	5L	Bushy
Escallonia 'Apple Blossom'	Escallonia	Shrub	5/m2	5L	Bushy
Euonymus japonicus 'Green Rocket'	Japanese Euonymus	Shrub	5/m2	5L	Bushy
Geranium sylvaticum 'Mayflower'	Geranium	Herbaceous	7/m2	3L	Full Pot
Hemerocallis altissima	Daylily	Herbaceous	7/m2	2L	Full Pot
Hydrangea paniculata 'Conifetti'	Hydrangea	Shrub	5/m2	5L	Bushy
Lavender x Intermedia 'Grosso'	Lavender	Shrub	5/m2	5L	Bushy
Osmanthus x burkwoodii	Osmanthus	Shrub	5/m2	5L	Bushy
Pittosporum tenuissima	Kahuhu	Shrub	5/m2	2L	Bushy
Perovskia 'Blue Spire'	Russian Sage	Herbaceous	7/m2	2L	Full Pot
Philomis fruticosa	Jerusalem Sage	Shrub	5/m2	3L	Bushy
Persicaria bistorta 'Superba'	Common Bistort	Herbaceous	7/m2	3L	Bushy
Philadelphus x lemoinei 'Belle Etoile'	Mock Orange	Shrub	5/m2	3L	Bushy
Primula veris	Cow Slip	Herbaceous	5/m2	1L	Full Pot
Sarcococca confusa	Sweet Box	Shrub	3/m2	5L	Full Pot
Skimmia x confusa 'Kew Green'	Skimmia	Shrub	5/m2	3L	Bushy
Miscanthus nepalensis	Silvergrass	Grass	7/m2	3L	Full Pot
Verbena bonariensis	Purpletop Vervain	Herbaceous	7/m2	3L	Full Pot
Viburnum x bodnantense 'Dawn'	Viburnum	Shrub	3/m2	10L	

Note: Mixed shrub planting to provide all year interest, defensible space within the car park whilst contributing towards BNG.

Proposed Neutral Grassland Seed Mix [GT1]

Product: Hedgerow Mixture EH1
Suggested Sowing Rates
40kg/ha 16kg/acre 4g/m2

Description

EH1 contains wild flowers and grasses that are tolerant of semi-shade and is suitable for sowing beneath newly planted or established hedges and on woodland edges, rides and glades.

Composition

Wild Flowers

0.10%	Achillea millefolium	Yarrow
1.00%	Alliaria petiolata	Garlic Mustard
0.50%	Anthriscus sylvestris	Cow Parsley
1.50%	Carex divulsa ssp divulsa	Grey Sedge
2.00%	Centaurea nigra	Common Knapweed
3.00%	Chaerophyllum temulum	Rough Chervil
2.00%	Cruciata laevipes	Crosswort
0.20%	Dipsacus fullonum	Wild Teasel
0.50%	Galium album	Hedge Bedstraw
0.10%	Geranium pratense	Meadow Crane's-bill
1.00%	Geranium pyrenaicum	Hedge Crane's-b'll
0.30%	Geum urbanum	Wood Avena
0.20%	Knautia arvensis	Field Scabious
1.00%	Leucanthemum vulgare	Moon Daisy
1.00%	Malva moschata	Musk Mallow
2.00%	Plantago lanceolata	Ribwort Plantain
3.00%	Silene dioica	Red Campion
0.50%	Silene flos-cuculi	Ragged Robin
0.10%	Tortilis japonica	Upright Hedge-parsley

Grasses

1.00%	Agrostis capillaris	Common Bent (w)
2.00%	Anthoxanthum odoratum	Sweet Vernal-grass (w)
1.00%	Brachypodium sylvaticum	False Brome (w)
50.00%	Cynosurus cristatus	Crested Dogtail
2.00%	Deschampsia cespitosa	Tufted Hair-grass (w)
20.00%	Festuca rubra	Red Fescue (w)
4.00%	Poa nemoralis	Wood Meadow-grass

PROPOSED TREE PLANTING

Nursery Stock and Selection

All trees and planting are to be selected and tagged by the landscape architect prior to any stock being delivered to site. 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. All delivered stock is to be inspected by the landscape architect prior to any planting being carried out.

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 balled 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 are to 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.

Tree Planting

The tree supplier is to be approved by landscape architect prior to any ordering of stock. 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, soil report provided by agronomist 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 be inspected by the landscape architect prior to planting. 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 loosen 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 cellular product is to be used to ensure the tree has a minimum of 9m3 growing area. Type and manufacture is to be agreed with the client and landscape architect prior to installation. The landscape architect is to inspect all tree pits prior to planting.

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 in the ground quicker as a result of the wind rocking the tree that encourages root ground. 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 'Specification for topsoil' 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 (Vitax 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. Landscape Architect to inspect tree pits prior to planting.

Tree pit size guidelines:

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

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 moist 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 condition, 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 'Specification for topsoil' 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 (vitax 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 'Specification for topsoil' in the first available planting season after construction.
- All shrubs are to be planted as container stock unless otherwise specified (5litre), all stock is to be well rooted into the container. All hedge are to be planted in double staggered rows.
- All shrubs are to be planted with a slow release organic fertilizer (vitax 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.

Planting Guidelines

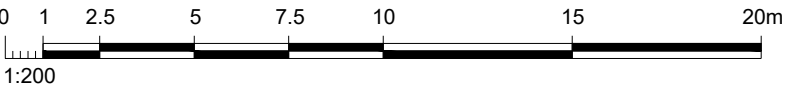
- All planting and landscape operations should comply with the requirements specified in BS 3936-4:2007 'Nursery Stock' (Part One) and BS4428:1989 'Code of Practice for General Landscape Operations' (excluding hard surfaces).
- All trees are to be planted in accordance with BS: 8545:2014
- All topsoil and testing to conform to BS 3882: 2015 'Specification for topsoil'.
- All topsoil used for planting to be tested by an approved Topsoil Analyst and any required amelioration or soil improvements to be carried out in line with Analyst's report.
- All fertilizers are to be applied or supervised by qualified staff to avoid the action of plasmolysis.
- Nurseries to provide protocols for ensuring that plant stock is free of invasive species.
- No planting is to be carried out when the site is covered by frost.
- Irrigation of plant material to be carried out during periods of drought will be required to ensure successful establishment of all plant stock.
- All new planting to be protected from mammal grazing by individual guards or stock proof fencing.
- If planting is to be carried out during the growing season, all bareroot / rootballed plant stock is to be substituted with containerised stock. Specification to be agreed with Landscape Architect prior to ordering and implementation.

Maintenance Notes - Overview

- All landscaped areas are to be maintained for 24 months following practical completion of the phase or until the plants have established, all tree planting to be maintained for 36 months.
- All planted areas to be kept clear of weeds at all times throughout maintenance period.
- Planted areas to be forked through regularly to keep soil loose and aerated.
- All litter and debris to be removed from landscaped areas and carted off site.
- Plants pruned as instructed by the Landscape Architect to promote healthy growth and to remove dead and diseased wood.
- Watering as required to maintain healthy growth.
- Any species that dies or fails to establish in the first five years should be replaced by an identical species, or alternative species as agreed with LPA.

Additional Notes

- Existing levels to be preserved around existing trees and vegetation to be retained.
- Existing trees and vegetation to be retained are to be protected during construction to BS 5837:2012 'Trees in Relation to Design, Demolition and Conservation Recommendations'.
- Any necessary tree works to be carried out by an approved tree surgeon to BS 3998:2010 'Recommendations for Tree Works'.
- Final location and tree species selection will be subject to service report and foundation depths to be provided by engineers.



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