

Horticultural Specification

Arborfield, District Centre

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MURDOCH WICKHAM
THE LANDSCAPE ATELIER

HORTICULTURAL WORKS

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SCOPE OF HORTICULTURAL WORKS

A The horticultural works include the following general items:

1. Formation of ground to new levels.
2. Excavation of planting pits for trees.
3. The backfilling of planted areas with subsoil and topsoil.
4. The backfilling and grading of grassed areas with subsoil and topsoil.
5. The supply and planting of trees and shrubs
6. Aquatic planting.
7. Seeding.
8. Turfing.
9. Maintenance of grassed areas for a twelve-month period commencing after practical completion.
10. Maintenance of trees and shrub beds for a twelve-month period commencing after practical completion.
11. Associated horticultural works.

Constraints

B Planting work shall only be carried out after the completion of hardworks in the immediate vicinity and shall be carried out as soon as possible after such completion.

CULTIVATION

Formation Levels for Grassed and Planted Areas

A Formation levels are to be excavated or made up where required (except within the RPA of existing trees) to the following depths below finished ground level:

- Shrub/herbaceous plant areas 600mm
- Transplant areas 500mm
- Grassed areas 300mm
- Nursery stock tree pits 700mm
- Semi mature trees 1000mm

Suitable surplus materials from excavations or imported subsoil shall be used where formation levels need to be made up.

B The Contractor shall be responsible for the removal of all noxious weeds and couch grass prior to the treatment of the formation.

C Exposed substrate to areas of grass and shrubs/herbaceous plants shall be thoroughly broken up by machine or by hand to a minimum depth of 400mm. Prior to backfilling with subsoil/topsoil water test all areas of prepared ground to ensure that they are free draining. If any areas exhibit signs of impeded drainage report immediately to the Contract Administrator.

D Following ripping all coarse rubble and artefacts greater than 75mm in diameter exposed by ripping operations are to be removed from site.

E For small and restricted access areas, a tracked excavator, fitted with a single tine ripper attachment (ripper tooth) shall be used to loosen the subsoil. Rips shall be preferably made and at 45 degrees to direction of slopes on mounds from the toe of the mound.

F Repeated passes in different directions may be needed to break up the subsoil sufficiently. This shall be largely dependent on the strength of the soil and its resistance to cultivation at the time of the operation.

Cultivation of Existing Planted Areas

G Existing planted areas that are to be either replanted or grassed within existing topsoil shall first be cut back and treated with an approved non-residual herbicide such as 'Roundup'. Herbicides are to be used in accordance with the manufacturer's instructions. More than a single application may be required to eradicate plant, grass/weed growth.

H Once all green growth been killed off the ground can be cleared and any rubbish to be removed from site. The soil can then be cultivated to a depth of 300mm.

I Any damage caused by the Contractor to existing planting to be retained through the processes of cultivation or weed killing shall be rectified by the Contractor at his own expense.

SOILING

General

- A Formation levels for soft landscaping and its decompaction is described in the specification above. This section describes the backfilling of these areas firstly with subsoil and then topsoil to finished levels.

Subsoil Quality

- B Subsoil shall be multipurpose complying BS 8601:2013 and as detailed below. On visual inspection subsoil shall have a defined granular or blocky structure and shall be free of fragments and roots of aggressive weeds, sticks, straw, pieces of brick, concrete, glass, wire, large clumps of clay or vegetation/organic material and the like. Subsoil shall be a naturally occurring, free draining material derived from a non-marine environment.

Subsoil Properties/Composition

• pH value	5.5-8.0
• Electrical conductivity (1:2.5 water extract)	2000uS/cm
• Sand (0.063 – 2.00mm)	30-85%
• Silt (0.002 – 0.063mm)	0-45%
• Clay (less than 0.002mm)	5-30%
• Max. stone size in any dimension	75mm
• Max stone content (2-20mm)	20% (dry weight)
• Max stone content (20-75mm)	20% (dry weight)
• Max organic matter content	2%
• Potential contaminants	as per SSAC's or GAC

Topsoil Quality

- C Topsoil shall be multipurpose complying with BS 3882:2015 and as detailed below. On visual inspection it shall have a defined, granular or blocky structure and shall be free from non-soil material, brick and other building materials and wastes, potential sharps, hydrocarbons, plant matter, roots of perennial weeds and any other foreign matter or substance that would render the topsoil unsuitable for use.

Topsoil Properties/Composition

• pH value	5.5-8.0
• Electrical conductivity (1:2.5 water extract)	1500uS/cm
• Sand (0.063 – 2.00mm)	40-85%
• Silt (0.002 – 0.063mm)	0-45%
• Clay (less than 0.002mm)	5-35%
• Max stone content in any dimension	50mm
• Max stone content (2-20mm)	30% (dry weight)
• Max stone content (20-50mm)	10% (dry weight)
• Phosphorus (P)	26-100 mg/l
• Potassium (K)	240-1500 mg/l
• Magnesium (Mg)	51-600 mg/l
• Max organic matter content	4-10%
• Potential contaminants	as per SSAC's or GAC

Imported Washed Sand Quality

- A Imported washed sand for use in the lower portion of tree pits (rootballed trees) shall be compliant with the requirements given below. On visual inspection sand shall be free of fragments and roots of aggressive weeds, sticks, straw, pieces of brick, concrete, glass, wire, large clumps of clay or vegetation/organic material and the like. The sand shall be a washed, quarried sand derived from a non-marine environment.

Washed Sand Properties/Composition

• pH value	5.5-8.0
• Electrical conductivity (1:2.5 water extract)	1000/cm (max)
• Particles above 3.00 mm	None
• Particles between 3.00 - 1.00mm	not to exceed 5%
• Particles between 1.00 - 0.50mm	between 5% to 15%
• Particles between 0.50 - 0.25mm	between 50% to 70%
• Particles between 0.25 - 0.15mm	between 15% to 30%
• Particles less than 0.15mm	not to exceed 5%
• Minimum Hydraulic Conductivity:	150 mm per hour
• Max. organic matter content	0.5%

Existing Site Soils

- B If existing subsoil/topsoil is to be stripped and reused on site representative samples of each type of soil shall be submitted to an approved soil scientist for laboratory analysis. Subsoil testing parameters shall be in accordance with BS 8601:2013 and topsoil testing parameters in accordance with BS 3882:2015.
- C The analysis in both instances is to be supported by an interpretive report related to its suitability for reuse on site and detailed recommendations for the amelioration and handling of the soil at both the stripping, storage and re-spreading stage of the works.

Imported Subsoil & Topsoil

- D If imported subsoil and topsoil are required, representative samples of each type of soil shall be submitted to an approved soil scientist for laboratory analysis carried out as specified below. Test methods shall be in accordance with BS 3882:2015 or BS 8601:2013, unless otherwise indicated.
- E The analysis will be supported by an interpretive report related to each type of soil, its suitability for use on site.

Imported Soils - Sampling

- F Sampling shall be undertaken for all imported topsoil/subsoil intended for use on site. The samples submitted for analysis shall be truly representative of the subsoil/topsoil being offered. One composite sample shall be taken for every 250m³ of subsoil/topsoil being considered, with a minimum of 3no. samples per source
- G Each composite sample shall be made up of 10no. sub- samples taken from evenly spaced locations across the field/stockpile. The sub-samples should be mixed together and quartered down to form a 1kg composite sample.

Imported Soils - Testing Schedules

- A The samples shall be submitted for independent laboratory for analysis in accordance with the following testing schedules.
- B A visual examination shall be carried out on each sample submitted to record Munsell colour, moisture status, aerobic state, soil structure, texture, stoniness (size & shape) and the presence of any deleterious materials
- C Imported Topsoil
- Particle size analysis (clay, silt, sand)
 - Stone content by % weight (2-20mm, 20-50mm, >50mm)
 - pH value (1:2.5 soil/water extract)
 - Electrical conductivity (1:2.5 soil/water extract)
 - Exchangeable sodium percentage
 - Major plant nutrients including content of total nitrogen, extractable phosphorus, extractable potassium and extractable magnesium
 - Organic matter content
- D Potential contaminants (heavy metals, PAHs, phenol, aliphatic, & aromatic TPH (C5-C35, BTEX compounds) and any other contaminants that could inhibit plant growth or present a risk to humans and animals.
- E Imported Washed Sand
- Particle size analysis (clay, silt, 5 sands – USGA sieve sizes)
 - Fine gravel content (>3.4mm)
 - Saturated Hydraulic Conductivity (ASTM F1815:2011)
 - pH value (1:2.5 soil/water extract)
 - Electrical conductivity (1:2.5 soil/water extract)
 - Organic matter content
- F Imported Subsoil
- Particle size analysis (clay, silt, sand)
 - Stone content by % weight (2-20mm, 20-50mm, >50mm)
 - pH value (1:2.5 soil/water extract)
 - Electrical conductivity (1:2.5 soil/water extract)
 - Exchangeable sodium percentage
 - Organic matter content
- G Potential contaminants (heavy metals, PAHs, phenol, aliphatic, & aromatic TPH (C5-C35, BTEX compounds) and any other contaminants that could inhibit plant growth or present a risk to humans and animals

Subsoil and Topsoil Stockpiles

- H Soils shall be either stockpiled at a location agreed between the Contract Administrator and the Contractor or shall be delivered straight to the areas requiring soiling. Stockpiles should be no more than 3 metres in height.

Spreading

- A Following the Contract Administrator's approval of the formation grades, subsoil and topsoil shall be spread over the areas required and lightly firmed. The overall depth shall be as specified and shall allow for settlement and for final grading to finished levels. Soiling shall be suspended during prolonged periods of heavy rain if the soil is waterlogged or if formation grades are flooded.
- B Topsoiling shall be carried out using the approved site topsoil or imported topsoil (where required).
- C A hydraulic excavator fitted with a toothed-bucket shall be used to load the topsoil from the stockpile into a dump truck. The dump truck shall transport the topsoil to the desired location and tip it in a line of heaps.
- D The topsoil shall be spread by a second tracked excavator working from the subsoil layer or a temporary surface or adjacent hard standing.
- E The topsoil shall be spread in one layer. Each layer shall be consolidated by tracking in, or using the excavator bucket, or by trampling in (restricted areas only) as deemed appropriate.
- F The topsoil shall be graded to smooth flowing contours with falls for adequate drainage and removing any minor ridges or hollows.

Soil Depths

- G Soil depths when slightly consolidated are as follows, for:
- Shrub beds: 400mm topsoil over 200mm subsoil
 - Transplant areas 300mm topsoil over 200mm subsoil
 - Grassed areas: 150mm topsoil over 150mm of subsoil
 - Nursery stock tree pits 400mm topsoil over 300mm subsoil
 - Semi mature trees 400mm topsoil over 600mm subsoil

Topsoil Cultivation

- A After respreding topsoil (site-won or imported), the soil profile shall be ripped at 300mm centres to a minimum depth of 300mm (grass areas) or 600mm (shrub beds, hedges) to decompact the soils and key-in the topsoil and subsoil layers.
- B On larger, open areas a tractor drawn wing-tined subsoiler set at 600mm centres (or similar and approved) shall be used. For small and restricted access areas, a tracked excavator, fitted with a single tine ripper attachment (ripper tooth) shall be used to loosen the soil profile.
- C Any large, compacted lumps shall be broken down further by appropriate cultivation to produce a fine tilth suitable for planting (<30mm), turfing and seeding (<10mm).
- D Larger areas may be cultivated with a tractor drawn agricultural cultivator (e.g. power harrow, rigid/spring tine harrow) to a depth of 250-300mm.
- E Less accessible areas shall be cultivated by hydraulic excavator fitted with a landscape rake or similar and approved.
- F The topsoil may be anaerobic after storage in the stockpile. Cultivations shall ensure that the topsoil is fully aerated.
- G Only when the topsoil has lost any sour odour or grey colouration (symptoms of anaerobism) shall it be satisfactory for planting, turfing or seeding.
- H Any undesirable material brought to the surface during the cultivation exercise shall be removed by picking or raking. For example, stones, fill materials and coarse vegetation larger than 50mm in any dimension.

Finished Formation Levels

- I For grassed areas adjoining pavements, kerbs, manholes, etc. the finished formation level shall be 25mm above the hard areas and 150mm below D.P.C.
- J For planting beds the finished formation levels shall be 30mm below the levels of adjacent grass and hard areas and 150mm below D.P.C.

Additional Cultivation

- K The Contractor is responsible for and is deemed to have included for any additional cultivation required to keep areas free from rubbish and weed growth, if, owing to the time of year, weather or other causes there is a period of waiting between completion of topsoiling operations and the preparation and actual planting operations.

Protection and Litter Removal

- L The Contractor shall protect topsoiled areas from site traffic, builders work to adjacent areas and contamination by harmful substances, builders rubbish, brickbats, etc., wind blown litter, cans and bottles, etc., shall be removed from time to time and immediately prior to each cultivation.

GENERAL CONDITIONS RELATING TO ALL PLANTING WORKS

Suppliers

A All plant material is to be obtained from the following approved nurseries:

Trees:

- Barcham Trees (www.barcham.co.uk)
- Deepdale Trees (www.deepdale-trees.co.uk)

Transplants:

- Johnsons of Whixley (www.nurserymen.co.uk)
- Oakover Nurseries (www.oakovernurseries.co.uk)

Specimen shrubs:

- Europlants UK (www.europlants.net)

Container grown shrubs and herbaceous stock:

- Robin Tacchi Plants (www.robintacchiplants.com)

Procurement of planting stock

B Within 10 working days of the contract being awarded, the Contractor shall place all the orders for supply of plant stock and make it available for inspection. The Contract Administrator may request to tag trees in the nursery prior to delivery to site.

Alternatives

C Where at the time of tendering the Contractor has inserted rates for plants, he shall be deemed to be able to supply such plants to the species description. If at the time of planting the Contractor offers smaller plants of the same species than quoted for, then these may be accepted by the Contract Administrator but the rate per plant will be reduced, or extra plants provided at no extra cost.

D Where the Contractor proposes alternative varieties or cultivars he shall obtain the Contract Administrator's approval to the proposals in writing before making the substitution.

E The Contract Administrator reserves the right to visit all sources of supply of plant material and storage areas the Contractor proposes using but by doing so does not vitiate his ability to reject such material as previously inspected when it is delivered to site.

Samples

- A Before any planting commences the Contract Administrator may direct the Contractor to deliver labelled samples of the plants he proposes to use. A sample of any variety of plant shall normally comprise five (5 No.) plants, which upon the approval of the Contract Administrator shall be deemed to be the minimum quality of the sample variety acceptable for incorporation into the works. Approved sample plants shall be either heeled in temporarily - or planted in their final positions as directed by the Contract Administrator. Samples that are not approved shall be removed at the Contractors own expense.
- B After approval of samples, where called for, all subsequent deliveries of similar varieties shall be at least to the minimum standard of the sample, or if less, removed at the Contractor's own expense.

Damage to Plants During Transit to Site and Prior to Planting

- C All plants are to be carefully and adequately packed and protected to survive transportation from the suppliers nurseries to the final planting positions so that the plants are planted in first class condition. The form of packing, protection and transportation shall be appropriate to the season and the type and size of plant. Upon arrival material grown in polythene bags shall be capable of being lifted by the stem without dislocation of the rootball occurring. Damaged or broken branches or twigs on shrubs shall be cleanly pruned back to sound wood unless in the opinion of the Contract Administrator the ultimate shape of the plant would be affected, whereupon the plant shall be rejected. Plants rejected by the Contract Administrator shall be replaced with suitable material at the Contractor's own expense. Major pruning work shall comply with BS 3998:1989.

Handling and transportation of Advanced Nursery Stock and Semi-mature trees.

- D During transportation branches should be well tied and trunks wrapped in hessian. Evergreen Species should be completely wrapped to prevent desiccation.
- E All trees are to be handled by machinery appropriate to their size and should be lifted by the rootball. Slings may be used on the trunk for support and balance only and must NOT be self-tightening. All trees over 50cm girth must be lifted by an approved crane or similar equipment and not by JCB or other excavator.
- F All stock must be lifted within two weeks of delivery and planted within 7 days of delivery to site. Any stock not planted within two weeks must be properly stored on site set into a peat filled plunge bed in an upright position properly secured and spaced. Branches to be untied and then retied before planting. The Contract Administrator may reject stock that in his opinion is not properly maintained on site or that is damaged during transportation, handling or planting.

Protection of Shrubs and Transplants Prior to Planting

- G All pot grown plant material delivered but not able to be immediately planted shall be stored in an upright position by the Contractor in an approved safe place. All bare rooted or rootballed plant material delivered but not able to be immediately planted shall be heeled in a topsoiled trench in a safe place or covered by straw and damp hessian and protected from the wind.

Evergreens

- A All evergreen plants must be dipped or sprayed with anti-dessicant before delivery to site and sprayed with the same soon after planting but not in rainy or frosty weather when planting should be postponed.

Time of Planting

- B Planting can take place at any time subject to suitable weather conditions. Planting may take place at other times only on the written authority of the Contract Administrator. Suitable weather conditions shall mean mild, moist, dull, overcast, even in winter, with the soil in properly workable condition. Planting shall be suspended during periods of persistent drying cold winds, when the soil is waterlogged or frost bound or during any other climatic condition unfavourable to the successful establishment of the plants.

Watering

- C The Contractor shall allow for the adequate watering of all newly planted material prior to and immediately after planting and for keeping the plant material well watered throughout the contract period.

Acceptance of Planting at Practical Completion

- D The Contractor shall allow for keeping planted areas well maintained and protected to a standard not less than specified in the maintenance schedule and including the replacement of dead, damaged or missing plants occurring before Practical Completion until handed over at Practical Completion.

TREES

Quality

- A All trees are to be well grown, healthy, of good form and strain with vigorous stems, having either a well balanced branching head or a well defined straight and upright central leader with branches growing out from the stem with reasonable symmetry, according to the species and shall be hardy and free from all defects and shall comply with BS 3936-1:1992 Nursery Stock: Specification for Trees and Shrubs in all applicable respects.
- B Where applicable trees shall also comply BS 4043:1989 Transplanting Rootballed Trees.
- C Handling, storage, planting and post planting maintenance shall comply with BS 8545:2014 Trees: from nursery to independence in landscape – Recommendations.

Air-Pots

- D Where indicated in the species description, trees shall be provided in air-pots and shall be properly rooted in.

Pot Grown

- E Where indicated in the species description, trees shall be provided as pot grown which shall mean trees having been properly rooted into in a pot or similar container.

Rootballed

- F Where indicated in the species description, trees shall be provided as root-balled which shall mean having their roots contained within a well defined mass of soil by protective material.

PLANTING OF TREES

Sequence of Operations

- G The following general sequence of operations shall be observed:
1. Setting out tree stations
 2. Forming planting hole
 3. Driving in stakes or underground guys
 4. Preparing backfill mix
 5. Planting tree and returning backfill mix
 6. Tying/tightening guys
 7. Pruning
 8. Watering

Setting out Tree Stations

- H The Contractor is responsible for setting out the position of each tree in accordance with the planting plans. The Contractor is to ensure that the tree pits are positioned clear of any services and should check their location. Where the trees cannot be planted as the drawing for any reason, an alternative location is to be agreed with the Contract Administrator.

Forming Planting Holes

- A The size of the planting pit must be at least 1.5 times the diameter of the rootball. As a general rule the holes for individual trees should be excavated in accordance with the schedule below:

Trees up to 20cm girth	planting hole 1000mm x 1000mm x 700mm deep
Trees 20-25cm girth	planting hole 1200mm x 1200mm x 1000mm deep
Trees 25-30cm girth	planting hole 1300mm x 1300mm x 1000mm deep
Trees 30-35cm girth	planting hole 1500mm x 1500mm x 1000mm deep
Trees above 35cm girth	planting hole 1.5 x the rootball diameter x 1000mm deep
Multi-stems up to 5m	planting hole 1200mm x 1200mm x 1000mm deep
Multi-stems over 5m	planting hole 1300mm x 1300mm x 1000mm deep

Arisings

- B Topsoil and subsoil arising shall be heaped separately beside the pit. Excess soil arising from the pit shall be removed from site. The base of each planting hole shall be broken up to a minimum depth of 400mm and the sides of the pit shall be thoroughly scarified to remove any compaction or smearing. The Contract Administrator is to be informed if there are any issues with waterlogging prior to planting.

Tree Stakes and Ties (for nursery stock trees)

- C Tree stakes shall be machine rounded stakes 2.4 metres x 75mm diameter, with one end pointed. Two stakes shall be driven into the base of each pit equally distant from the trunk either side of the rootball, so that 1.5m remains above finished ground level. A cross bar 900mm x 38mm x 75mm shall be secured to each post with sheradised screws.
- D Trees shall be secured to the cross bar using a Toms Big Block (L3) in conjunction with 50mm special reinforced rubber belt as supplied by 'Toms Tree Ties' (www.jtoms.co.uk/catalog) or other equal and approved. Each belt is to be secured to the cross bar using 4 galvanised nails per strap.

Tree Pit Accessories

- A Root Barriers: Root barrier shown on plans and details where required and in the proximity of underground drainage and services. Root barrier is to be supplied by GreenBlueUrban (www.greenblue.com) and installed strictly in accordance with the manufacturer's recommendations.

*All services within close proximity to proposed trees to have taped joints.

Use:	Product:
Against kerbs and haunching where required.	ReRoot 600 (Product Code RER210X0.6A) – 600mm high x 1mm thick.
In close proximity of underground drainage, services and manholes.	ReRoot 1000 (Product Code RER210X1.0A) - 1000mm high x 1mm thick. *In extreme cases where there is risk of root penetration at depths greater than 1000mm then use ReRoot 2000 (Product Code RER220X2.0A) – 2000mm high x 2mm thick.
Where there are duct joins within tree pit / planting zone	RERJT ReRoot joining tape – To be wrapped tightly around cleaned joints to guard against any possibility of root ingress.

Root Cell System

- B Root cell systems have been identified on plans and details where they are required to achieve sufficient planting depth for trees within hard landscaped areas. Root cell systems are to be supplied by GreenBlueUrban (www.greenblue.com) and installed strictly in accordance with the manufacturer's recommendations.

Use:	Product:
RootSpace 400	RootSpace 400 Upright (Product Code GBURAC400B) 400x500x75mm RootSpace Airflow Lid (Product Code GBURAC500B) 75x500x500mm RootSpace 400 Infill (Product Code GBURSP45PB)

Trees to be Secured Underground (for feathered, multi-stem and semi mature trees)

- C All feathered trees, multistems and trees over 20cm girth are to be secured underground using 'Arborguy' Tree Anchoring systems as per the schedule below (www.greenblue.com) or similar and approved. Fixing should be strictly in accordance with the manufacturer's recommendations. Where trees are guyed underground tree stakes are not to be used. For Multi-stem trees larger than 5m use two kits per tree, six anchor wires positioned equally around the rootball, the two straps installed in a star of David pattern, in accordance with the manufacturer's recommendations.

Trees up to 25cm girth	Product code SASMCB
Trees 25-45cm girth & Multi-stems over 5m	Product code SASLCB

Watering Tube

- A Each pit is to incorporate a tree irrigation unit as manufactured by GreenBlue Urban (www.greenblueurban.com) in accordance with the schedule below. Installation is to be in accordance with the manufacturer's instructions and above the mid point of the rootball.

Trees 12-18cm girth	Root Rain Metro – code RRPC4
Trees 20-35cm girth	Root Rain Civic – code RRCIVIC 1
Trees over 35cm girth	Root Rain Civic – code RRCIVIC 2
Trees in hard paving with Rootcell system	Root Rain Precinct – code RRPRECINCT 1 plus double inlet system code RRPRECINCT 3

Root Directors

- B All tree pits in hard paved areas are to incorporate GreenBlue Urban's Root Directors (www.greenblueurban.com) product code RD1050 with one optional air/water vent RDWV. Installation is to be in accordance with the manufacturer's instructions.

Backfill Mix

- C The base of the tree pit to the underside of the rootball is to be backfilled with imported washed sand.
- D Washed sand is to be placed below and around the rootball in separate layers no more than 200mm deep. Individual layers shall be lightly consolidated to remove pockets of air and to prevent undue settlement once the tree is installed.
- E The final 400mm of the pit is to be backfilled with topsoil and the final 200mm with a mixture of compost and topsoil.
- F Suitable compost (e.g. PAS100:2011 /Landscape Institute/WRAP grade (10mm screened) green compost) shall be applied and incorporated into the upper 200mm of the topsoil.

Trees & Multi-stems	Compost: 15% by volume (30mm compost layer mixed into 200mm of topsoil)
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Planting

- G Each tree is planted at the same depth as it has been previously growing in the nursery. The required backfill shall be then worked carefully between and around the roots and evenly firmed to eliminate voids. Great care shall be taken to avoid damage to the root system while planting.

Pruning

- H Following planting the crown of each tree shall be lightly pruned to remove any damaged twigs or buds and to promote even vigorous growth. Growth springing from below 1.8 metres on the scheduled clear stemmed plants shall be removed.

Watering

- A Watering is to be carried out not more than 24 hours after planting and a thorough soaking-in shall be achieved. A sufficient quantity of water should be applied to ensure that the whole volume of the tree pit and rootball is saturated.

Strimmer Guards

- B On completion of planting supply and fit 225mm high strimmer guards to the base of each tree.

Mulch to Trees in Paving or Grass

- C On completion of planting form a 700mm circle around the base of each tree and cover with a 50mm consolidated layer of mushroom compost. The soil shall be thoroughly wetted prior to application and also a complete cleaning through and weeding of tree pits shall be carried out leaving the soil weed-free, smooth and conforming to acceptable finished levels.

Arboresin

- D On completion of planting operations cap trees in hard paving with GreenBlue Urban's Arboresin (www.greenblueurban.com) in conjunction with a galvanised support frame. Installation is to be in accordance with the manufacturer's instructions. For pedestrian areas the thickness of Arboresin is to be 50mm and for vehicular areas it is to be 75mm

SHRUBS AND PERENNIALS

Quality

- A All plants shall be well grown, bushy, healthy well established nursery transplants of good form, hardy, free from defects, furnished with a fibrous root system and true to name and size as specified.

British Standards

- B All shrubs shall comply with BS 3936-Part 1:1992 in all applicable respects.
- C Transplants shall comply with BS 3936-Part 4:2007 in all applicable respects
- D All roses shall comply with BS 3936-Part 2:1990 in all applicable respects.

Perennials

- E Perennials shall be rooted, healthy, hardy and not less than one year of full growth.

Pot Grown

- F Where indicated in the species description, plants shall be provided as pot-grown which shall mean having been individually grown from propagation in a pot or similar container.

Root-balled

- G Where indicated in the species description, plants shall be provided as root-balled which shall mean having their roots contained within a well defined mass of soil by protective material.

Bare-root

- H Where indicated in the species description, plants shall be provided as bare-root which shall mean plants having been lifted without the soil around the plants.

PLANTING OF SHRUBS

Sequence of Operations

- I The following general sequence of operations shall be observed:
1. Forking through.
 2. Setting out.
 3. Planting procedure.

Forking Through

- A Before planting work can commence the Contract Administrator's approval shall be obtained that all levels, grading and tilth of the planting areas are satisfactory. Areas of compaction or settlement shall be made good by forking through or by making up the levels as required.

Organic Matter

- B Supply and spread a 50mm layer of Melcourt Composted Fine Bark (www.melcourt.co.uk) or equivalent and approved, evenly onto the soil surface and then thoroughly incorporate into the top 150mm of soil.

Water Retaining Polymer

- C Spread and cultivate 100 grams per square metre of Broadleaf P4, water storing polymer, or similar and approved into the top 20 to 30 cm's of soil.

Bonemeal

- D Bonemeal shall be medium coarse in texture and shall contain not less than 20% soluble P2 O5 (Phosphate) and between 3-5% N2O (Nitrogen).
- E All areas of planting are to have bonemeal spread on the surface at a rate of 135 grams per square metre and raked into the surface not more than four weeks and not less than one week prior to planting.

Setting Out

- F The periphery of each group of shrubs shall be set out by the Contractor according to the planting plan.
- G The plants within each group shall be evenly distributed in an informal manner over the marked area, making allowance for the overlapping of adjacent groups and avoiding straight lines and regular geometric patterns, except for hedging plants. These are to be planted in either a single line or double staggered row as specified on the contract drawings.

Planting Procedure

- H The planting pits shall be large enough to allow the roots of the plants to be spread out evenly. Place the plants in position showing its best side to the front and in an upright and well balanced stance. The required backfill shall be worked carefully between the roots and evenly firmed to ensure no air pockets are left. Great care shall be taken to avoid damage to the root system and stems when planting and any damaged roots shall be cleanly cut back to healthy wood. Pot grown plants which have their roots badly entwined shall have the roots slightly loosened.
- I All plants shall be planted at the same depth at which they had been previously growing in the nursery.
- J Quick growing species such as Privet and Hawthorn shall be cut back at the time of planting. No other species shall have their leaders cut unless instructed by the Contract Administrator.

Mulching

- A On completion of planting operations spread a layer of Ornamental Bark Mulch produced by Melcourt Industries Ltd, (www.melcourt.co.uk) or equivalent to a minimum depth of 50mm evenly over the soil of planted areas.
- B The mulch shall consist of matured British conifer bark, with an even particle size distribution between 5-30mm. All dust and fine material to be excluded and the mulch shall contain less than 5% wood. The mulch shall be pest, disease and weed free and to be free of Methyl Bromide contamination.
- C A sample of the bark mulch shall be supplied to the Contract Administrator for approval prior to its application.

Climber Guards

- D Where indicated on the contract drawings climber guards shall be fixed after planting operations have been completed.
- E The climbing plant guard shall be 900mm high and opened to form a semi-circular section radius 200mm, set vertically against the wall spiked end to the ground and centred on a plant position. The aperture at the top shall be closed by folding to the wall three sections produced by two vertical cuts made into the top of the guard. Each guard shall be trimmed and wired to form a rigid cage and shall be securely attached to the wall at six points by 2mm galvanised clips and 60mm galvanised or sheradised screws or bolts plugged or impacted into the wall.

TRANSPLANTS

Quality

- A All plants shall be well grown, healthy well established nursery transplants of good form, hardy, free from defects, furnished with a fibrous root system and true to name and size as specified.

British Standards

- B Shrubs shall comply with BS 3936-Part 1:1992 in all applicable respects.
- C Transplants shall comply with BS 3936-Part 4:2007 in all applicable respects.

Pot Grown

- D Where indicated in the species description, plants shall be provided as pot-grown which shall mean having been individually grown from propagation in a pot or similar container.

Bare-Rooted

- E Where indicated in the species description, plants shall be provided as bare-rooted which shall mean plants having been lifted without the soil around the roots.

PLANTING OF FEATHERED WHIPS AND SHRUBS

Sequence of Operations

- F The following general sequence of operations shall be observed:-
1. Cultivation of planting areas.
 2. Setting out.
 3. Formation of planting holes.
 4. Backfill mix.
 5. Planting procedure.

Cultivation of Planting Areas

- G Before planting work can commence planted areas are to be cultivated to a depth of 150mm breaking up all clumps and clods, clearing out all weeds, weed roots, large stones, broken bricks, concrete, etc., and loosening all heavily compacted areas, removing all arising debris from the site.
- H The Contractor is responsible for and is deemed to have included for any additional cultivation required to keep areas free from rubbish and weed growth, if, owing to the time of year, weather or other causes there is a period of waiting between completion of cultivation and preparation, and the actual planting operations.

Setting Out Planting Holes

- A The Contractor shall provide pegs or canes and set them out at the position of each plant in accordance with the planting plan. The positions shall be inspected by the Contract Administrator and the canes or pegs adjusted as necessary.

Formation of Planting Hole

- B Planting holes shall be excavated 450mm x 450mm x 400mm deep with the base of each planting hole broken up to a minimum of 100mm.
- C The topsoil arising shall be heaped beside the pit ready for mixing with additives as specified. Any subsoil arisings shall be removed from site.

Backfill Mix

- D Backfill pits with topsoil arising and with any imported topsoil as required mixed together with 20 litres of 'Scott Levington Tree Planting and Mulching Compost' or similar and approved.
- E Each pit shall receive 25 grams of 'Enmag' or similar and approved, slow release fertiliser. This is to be intermixed with the top layer of backfill.

Planting Procedure

- F Place the plants in position showing its best side to the front and in an upright and well balanced stance. The required backfill shall be worked carefully between the root and evenly firmed to ensure no air pockets are left. Great care shall be taken to avoid damage to the root system and stems when planting and any damaged roots shall be cleanly cut back to healthy wood. Pot grown plants which have their roots badly entwined shall have their roots slightly loosened.
- G All plants shall be planted at the same depth at which they had been previously growing in the nursery.

Protective Shelters

- H All transplants are to be fitted with Tubex green protective shelters in conjunction with 0.9m high 25 x 25mm softwood stakes (www.tubex.com) as follows:
- 0.75m high, 160mm dia. shrubshelter – for all plants except those listed below
 - 0.6m high, 250mm dia. netguard – for pines, holly and yew
 - 0.2m high voleguard (dark brown) – to ivy

Item Horticultural Specification

Mulching

- A On completion of planting operations spread a layer of Amenity Bark Mulch produced by Melcourt Industries Ltd, (www.melcourt.co.uk) or equivalent to a minimum depth of 50mm evenly over the soil of planted areas.
- B The mulch shall consist of matured British conifer bark, with an even particle size distribution between 5-30mm. All dust and fine material to be excluded and the mulch shall contain less than 5% wood. The mulch shall be pest, disease and weed free and to be free of Methyl Bromide contamination.
- C A sample of bark mulch shall be supplied to the Contract Administrator for approval prior to its application.

AQUATICS

Quality

- A All plants shall be well grown, healthy and well established/well leafed without dead material, free from defects and furnished with a fibrous root system where applicable. Plants shall be true to name and size as specified in British Standards.

British Standards

- B All plants shall comply with BS 3936-1:1992 Nursery Stock: Specification for Trees and Shrubs in all applicable respects.

Pot Grown

- C Where indicated in the species description, plants shall be provided and pot grown in fine mesh plastic pots to the sizes specified for individual plants. Pot grown shall mean having been individually grown from propagation in fine mesh plastic container.

Sequence of Operations

- D The following general sequence of operations shall be observed:
1. checking depths of gravel to accommodate plants.
 2. setting out
 3. planting procedure

Preparation

- E Before planting work can commence the Contract Administrator's approval shall be obtained that all depths of gravel are in place and that all planting widths etc. accord with the contract drawing

Organic Matter

- F No organic matter, fertilisers or any products that may increase the fertility of the areas to be planted will be applied

Setting Out

- G The plants within each group shall be evenly distributed in an informal manner over individually marked areas. Avoid straight lines and overlapping of different plant types

Planting Procedure

- H Planting to proceed in sequence with the filling of the pond areas. Floating leaved plants such as lilies shall have their pots placed into the full depth of gravel to be provided beneath the areas to be planted. Do not remove pots. Emergent aquatic plants shall be planted into gravel to the full depth of their pots so that the top of the pot is flush with adjacent gravel areas. Do not remove pots submerged, rooted plant shall be dropped into areas of open water (by boat, or similar means) once the ponds have reached their final, finished water level. Remove dead leaves/broken stems at the time of planting and dispose of arisings away from site.

Coir Rolls

- A Where specified on drawings, Coir Rolls are to be supplied by Salix and installed strictly in accordance with their instructions. They are to be 300mm dia. coir rolls 3 metres long.
www.salixrw.com

TURFING

Quality of Turf

- A The turf shall be Rolawn 'Medallion' (www.rolawn.co.uk), or similar and approved, complying with the latest published edition of BS 3936:1998, fibrous well rooted, mown and free from matted or dead grass and pernicious weeds. The grass mix shall consist of 40% Dwarf Perennial Ryegrass, 20% Chewings Fescue, 10% Slender Creeping Red Fescue, 30% Strong Creeping Red Fescue, and shall be supply with an even thickness throughout (cut size x 610mm x 1640mm long). For large areas Turfmaster rolls are to be used.

Samples

- B Samples of turf are to be submitted for approval and the site of origin stated and verification of weedkiller application furnished to the Contract Administrator. A sample area of the approved turves shall be delivered and laid to a location to be agreed between the Contract Administrator and the Contractor for final approval. The quality of the turf must be maintained throughout with the sample area and any subsequent turfing below the standard of the approved area will be rejected and must be lifted and removed at the Contractor's own expense.

Delivery and Storage

- C Turf shall be laid immediately on delivery and must not be left stacked for any period of time, other than whilst they are being laid.

Season

- D The turf may be laid when weather and soil conditions are suitable and, where possible, preference shall be given to autumn and early winter operations. No turf shall be laid in exceptionally dry or frosty weather or in other unsuitable weather conditions.

TURF LAYING

Cultivation

- E Prior to laying the turf the soil profile shall be prepared in accordance with 'Topsoil Cultivation' stated above and the topsoil shall then be lightly and uniformly firmed and brought to an even and fine tilth 20mm deep. The Contractor shall pick up and remove from site all rubbish, roots and stones over 20mm in diameter.
- F For large areas a professional hydraulic stone burier (such as a BLECavator) shall be used for preparation of turf beds. The stone burier should be set to burying stones and other objects to a depth 150mm.

Pre-Turfing Fertiliser

- G Before turfing and during cultivation, the Contractor shall supply and work into the top 20mm of Rolawn GroRight fertiliser (www.rolawn.co.uk), applied at 40 grams per square metre as per the manufacturer's recommendations. Alternatives must be approved by the Contract Administrator.

Procedure for Laying Turf

- A A single row of turves shall first be laid around the periphery of the area to be turfed. Turves shall then be laid in rows on the prepared bed of soil commencing at one end of the area and laid progressively by placing planks over the last row of turves laid and subsequent turves there from, the planks to be moved forward as each line of turves is laid and so on to the end of the area. The turves are to be laid with half-lapped joints, well butted up and evenly beaten, twice over the whole area, with wooden turf beaters. The bottom of the wooden beaters are to be scraped clear of accumulated soil or mud as required to ensure the turves are evenly laid. No roller is to be used unless so directed by the Contract Administrator.
- B Any inequalities in finished levels, owing to variation in turf thickness or unequal consolidation of soil is to be adjusted after the first beating by raking and/or packing fine soil under turves to obtain an even surface. The finished levels of turf abutting paving or tops of kerbs must be 25mm above the adjacent hard surface after laying.

Turfing to Banks

- C On banks exceeding 30° the turves shall be secured by wooden pegs.

Top Dressing for Turf

- D The rates for laying turf shall include for top dressing 6mm depth of approved fine sifted soil complying with BS 3882:2007 well brushed into joints at a rate of 1m³ to cover 170m².

Trimming

- E Turf edges of border, beds and margins shall be carefully trimmed square and true to line, leaving 700mm circle free of turf around all trees.

Watering

- F The Contractor shall allow for adequately watering all areas to be turfed prior to and immediately after turfing and keeping the turf well watered up to Practical Completion.

First Cut

- G When the grass has reached 50mm in height it shall be cut back to 25mm high. No more than a third of the leaf height shall be removed at any one time. Grass cuttings shall be gathered and removed from site.

Routine Maintenance

- H After the initial cut turfed areas shall be maintained at 25-50mm high up to Practical Completion.

Acceptance of Turfed Areas at Practical Completion

- I The Contractor shall allow for keeping such turfing watered, weeded, maintained and protected to a standard not less than that specified in the maintenance schedule and including the replacement of areas of failed turf occurring before Practical Completion.

GRASS SEEDING

Quality

- A Grass seed shall comply in every way with the current E.E.C. regulations and each sealed bag shall carry a certificate stating the composition, purity germination, year of harvest and country of origin of the seed. Seed shall be the latest crop and obtained at least 21 days before sowing.

Seed

- B The specified mixes can be obtained from Emorsgate Seeds (www.wildseed.co.uk). Alternatives must be approved by the Contract Administrator. The seed must be stored in a dry area prior to sowing.
- C
- EG22 Strong Lawn Grass Mixture – sown at 25g/m²
 - EP1 Pond Edge Mixture – sown at 4g/m²
 - EM8 Meadow Mixture for Wetlands – sown at 4g/m²

Season

- D The seed may be sown when the weather and soil conditions are suitable and, where possible, preference shall be given to autumn and spring operations. No seed shall be sown in exceptionally dry or frosty weather or in other unsuitable conditions.

Herbicide Application

- E At least 3 weeks prior to cultivation of the seed beds apply a residual herbicide to remove all weeds and other vegetation. This may require several applications. Only when all vegetation is dead and browned off should the ground be cultivated.

Cultivation

- F For large areas a professional hydraulic stone burier (such as a BLECavator) shall be used for preparation of seed beds. The stone burier should be set to burying stones and other objects to a depth 150mm. For smaller areas a pedestrian stone burier (such as the Camon Condor Stone Burier) can be used.

Pre-Seed Fertiliser to Amenity Grassed Areas

- G Before Seeding and during cultivation's, the Contractor shall supply and work into the top 20mm of soil DLF Trifolium Pro-Fert 2, applied at 50-70 g/m². The pre-seeding fertiliser shall be applied in accordance with the manufacturer's instructions, no more than 48 hours prior to sowing.

Sowing

- H The seed shall be sown using the optional seeding unit attached to the stone burier. On small areas, where machine distribution is impractical, seed shall be sown by hand. After sowing the ground shall be lightly harrowed or raked.

Amenity Grass Cutting and Trimming

- A The grass shall be topped with a rotary cutter when it is approximately 70mm high, leaving 30-50mm of growth. All stones exceeding 20mm in any direction shall be removed before the initial cut. Approximately 48 hours before topping, all areas seeded shall be rolled with a light roller.
- B After establishment, the grass of newly seeded areas shall be maintained between 12 - 50mm high, removing all surface stones exceeding 20mm in any direction.

Amenity Grass Cutting Trimming

- C Edges to borders, beds and margins shall be carefully trimmed with a half-moon square and true to line as shown on the drawings. Trees in seeded areas are to have a 700mm circle cultivated around the base of the trunk, this is to be kept free of grass and weeds.

Wild Flora Grass Cutting First Year

- D First cut to 5cm March/April (Spring Seeding 1st cut in May) Cut every 2 months or when sward reaches 15cm. Final cut September/October. The contractor is to ensure that all cuttings are removed from site.

Acceptance of Seeded Areas at Practical Completion

- E The Contractor shall allow for keeping such seeded areas watered, weeded, maintained and protected to a standard not less than that specified in the maintenance schedule and including over-sowing of failed seeded areas occurring before Practical Completion until hand over at Practical Completion. The Contract Administrator will only accept seeded areas for Practical Completion after the first cut and only when an even grass sward is established.

GENERAL CONDITIONS RELATING TO MAINTENANCE PERIOD

Timing of Maintenance Visits and Watering

- A It is the Contractor's responsibility to ensure that the horticultural works always have a well maintained appearance and that the planting scheme flourishes. The need for maintenance and watering visits will depend on weather conditions. It is the sole responsibility of the Contractor to ensure that visits are arranged to achieve this.
- B The minimum requirements for maintenance and watering visits are:
- once a week between April and October (months inclusive)
 - once a month between November and March (months inclusive)
- C Maintenance visits and watering visits will not necessarily be made simultaneously.
- D If due to neglect on the part of the Contractor weed growth, etc., becomes excessive or plants fail due to lack of water, no extra payment will be made for any necessary rectification or reinstatement work.

Watering

- E Generally
- Water as necessary to ensure the continued thriving of all planting.
 - Obtain the Contract Administrator's approval before using a supply other than potable mains water.
 - Ensure the full depth of topsoil is thoroughly wetted.
 - It will be the Contractor's responsibility to water via bowsers if necessary.
 - Where necessary, loosen soil or form depressions around the stem base of plants to ensure that water reaches the root zone instead of dispersing on the surface.

Drought Conditions

- F It is the Contractor's responsibility to obtain water for the works in the event that on site supplies are restricted by emergency legislation.

Herbicides and Pesticides

- G The Contractor shall allow for the applications of both herbicides and pesticides (non-residual) that are required during the maintenance period in order that the planting establishes and looks healthy at all times.

Litter Collection

- H Collect and remove all extraneous rubbish from grassed and planted areas including paper, packaging materials, bottles, cans, and similar debris.

Maintenance and Watering Reports

- I The Maintenance Report Slips shall be completed by the Contractor, recording the date and areas subject of the visit and copy them to the Contract Administrator.

Damage Reports

- A The Contractor shall report immediately to the Contract Administrator and confirm in writing within seven days any damage to the work, missing plants or disturbed grass areas or any other matters of concern relating to the horticultural works which are noted during the maintenance visits.

Replacements

- B At suitable times depending on season, the horticultural works shall be inspected by the Contract Administrator who shall list all those items which are either dead, not thriving or are missing for any cause. All items so recorded by the Contract Administrator shall be replaced by the Contractor on a like-for-like basis, at the earliest possible time, free of charge, except those items outside the Contractor's replacements obligation, these being those items resulting from rodent damage or vandalism. Any replacements that fail are subject to the same obligation and will also have to be replaced.

Failure to Maintain

- C In the event of the Contractor failing to maintain the work to the standard specified, the right is reserved to delete the remaining maintenance work from the Contract and instruct another to complete the work without thereby vitiating the plant replacement guarantee embodied in this specification contract.

MAINTENANCE SCHEDULE - TREES

Maintenance to Area Beneath each Tree

- A Remove to tip all rubbish and weed growth by hand weeding and hoeing.
- B Fork over panned down areas.
- C Maintain mulched area in grassed areas at a depth of 50mm, topping up if necessary. The 700mm circle is to be kept weed free at all times.

Maintenance to Each Tree

- D Check each stake, tie and adjust, re-fix or renew as necessary to ensure that no damage occurs to any tree and check that the stakes are supporting the tree in the intended manner.
- E If guyed check the tree is supported in the intended manner and adjust cabling if required.
- F Inspect and adjust, re-fix or replace loose or defective guards to original specification and to prevent chafing.
- G Lift grilles, remove weeds and make up levels with breedon gravel lightly compacted. Re-lay to level. Neatly refill the grille interstices and lightly compact.
- H Check that each tree is growing healthily and remove all dead wood and diseased or damaged branches and water shoots growing from the clear stem. Any wound shall be neatly pared back to sound tissue.
- I Re-firm trees which have been loosened by wind or frost.

Watering

- J Water trees throughout the growing season via the Root-Rain pipes or additionally via the irrigation system where installed. The amount of water required will depend upon individual trees type, size, soil condition, and weather. It is the Contractor's responsibility to ensure that the rootballs are always kept moist to allow full development of the crown.
- K Where there is no access to watering points or irrigation system the Contractor will be expected to water via bowser.

Report Damage

- L Report all damage to the Contract Administrator using the maintenance report slip.

MAINTENANCE SCHEDULE - SHRUB BEDS AND HEDGES

Maintenance of Planted Areas General

- A Maintain planted areas in a good weed free condition to the satisfaction of the Contract Administrator.
- B Ensure that the site is left in a clean and tidy condition after each maintenance visit.

Maintenance of Individual Beds or Planting Pits

- C Remove all weeds, including roots, by hand using hoes, trowels or forks, taking care to remove not more than a minimum quantity of soil, causing minimum disturbance to trees, plants, mulched surfaces and bulbs and leaving the area in a neat, raked, clean condition. Remove to tip all rubbish and arisings. Ensure that the methods used cause the minimum of damage to adjacent plants, trees or grass.
- D Check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems. Remove dead plants as soon as possible, and replace in the next scheduled round of replacement planting.
- E Fork over panned down areas.
- F Maintain mulched area at a depth of 50mm, topping up if necessary.

Watering

- G Maintain the soil within shrub beds in a moist condition.

Maintenance to Each Plant

- H Re-firm plants which have been loosened by wind or frost.
- I Check each stake and tie where fitted and adjust, re-fix or renew as necessary to ensure that no damage occurs to any plant and check that each stake is supporting its plant in the intended manner.

Pruning Ornamental Shrubs

- J Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour. Remove all suckers, damaged branches and water shoots by cutting back level with the source stem or root.

Pruning Flowering Species of Shrubs and Roses

- K Unless otherwise specified or instructed, prune:
- Winter flowering shrubs in spring
 - Shrubs flowering between March and July immediately after flowering
 - Shrubs flowering between July and October back to old wood in winter
 - Rose bushes in early spring to encourage basal growths and a balanced habit

Pruning Particular Species

A The following species are to be pruned to separate specific instructions, as scheduled:

- Cornus varieties in February/March (cut neatly to 200mm above ground level)

Trimming Rapidly Establishing Hedges

B Allow to reach planned height as rapidly as possible, trimming back lateral branches moderately to establish the required shape, removing clippings from site

Trimming Slowly Establishing Hedges

C Cut back hard in June and September to encourage bushy growth down to ground level. Allow to reach planned dimensions only by gradual degrees, depending on growth rate and habit, removing clippings from site

Reinstatement of Planting

D Remove dead and damaged plants as previously described. Carefully move any mulch to one side and dig over the soil, leaving it fit for replanting. Take care not to disturb roots of adjacent plants. Replace plants, using pits and plants to the original specification or to match the size of adjacent or nearby plants of the same species.

Report Damage

E Report all damage to the Contract Administrator using the maintenance report slip.

MAINTENANCE SCHEDULE – ORNAMENTAL GRASSES & SEDGES

Ornamental Grasses

- A Cut back deciduous grasses as follows:-
- *Deschampsia cespitosa* : cut back stems close to ground level from late February through to the end of March. Cut stems can be left on border as natural mulch or composted. Reinvigorate every 3-5 years by division.
 - *Stipa tenuissima* : Comb or rake off any old, tired or dead leaves and flowers in spring. Quick growing and the flowers can become top heavy as they dry. When needed simply cut back close to the base while the plant is in active growth to encourage new foliage. Do not cut back in autumn or winter. If a lot of dead material has accumulated cut back close to ground level in spring.
- B Avoid damage to any new growth in spring. Cut back old clumps to a few centimetres from ground level leaving a hairy tuft through which new growth can emerge easily without getting tangled in old stems. Pick out any dead leaves and debris in crown and remove any weeds.

General

- C Keep areas surrounding grasses and sedges weed free at all times. Mulch and top dress areas around the crown of all plants and apply 50g/sqm of general fertiliser in spring.
- D Maintain evergreen grasses as follows:-
- *Carex 'Ice Dance'* : cut off spent flowering stalks and manually remove any scorched or diseased leaves.
 - Smaller evergreen grasses : neatly trim out any damaged or diseased leaves.
- E Avoid damage to any new growth in spring. Cut back old clumps to a few centimetres from ground level leaving a hairy tuft through which new growth can emerge easily without getting tangled in old stems. Pick out any dead leaves and debris in crown and remove any weeds.

MAINTENANCE SCHEDULE - TRANSPLANTS

Maintenance of Planted Areas General

- A Maintain planted areas in a good condition to the satisfaction of the Contract Administrator. Ensure that the site is left in a clean and tidy condition after each maintenance visit.

Maintenance of Individual Beds or Planting Pits

- B Remove all weeds, including roots, by hand using hoes, trowels or forks, taking care to remove not more than a minimum quantity of soil, causing minimum disturbance to trees, plants, mulched surfaces and bulbs and leaving the area in a neat, raked, clean condition. Remove to tip all rubbish and arisings. Ensure that the methods used cause the minimum of damage to adjacent plants, trees or grass.
- C Check all shrubs and transplants, removing all dead foliage, dead wood, and broken or damaged branches and stems. Remove dead plants as soon as possible, and replace in the next scheduled round of replacement planting.
- D Fork over panned down areas and maintain mulched area at a depth of 50mm, topping up if necessary.
- E Check protective fencing and repair/replace if necessary.
- F Maintain the soil within shrub beds in a moist condition.

Maintenance to Each Plant

- G Re-firm plants which have been loosened by wind or frost. Check each protective shelter, stake and tie where fitted and adjust, re-fix or renew as necessary to ensure that no damage occurs to any plant and check that each stake is supporting its plant in the intended manner.

Pruning Shrubs and Transplants

- H Prune to encourage healthy and bush growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour. Remove all suckers, damaged branches and water shoots by cutting back level with the source stem or root.

Reinstatement of Planting

- I Remove dead and damaged plants as previously described. Carefully move any mulch to one side and dig over the soil, leaving it fit for replanting. Take care not to disturb roots of adjacent plants. Replace plants, using pits and plants to the original specification or to match the size of adjacent or nearby plants of the same species.

Report Damage

- J Report all damage to the Contract Administrator using the maintenance report slip.

MAINTENANCE SCHEDULE – AQUATIC PLANTS

Generally

- A Remove dead leaves from lilies in Oct/Nov do not remove underwater leaves and flower heads.
- B Divide plants that become overgrown or are crowding neighbouring plants and dispose of unwanted material away from site. Place arising on adjacent dry land close to the water's edge and leave for a minimum of 24 hours before carting away.
- C Remove dead and dying foliage regularly from all emergent/aquatic plants (at least monthly) between October and March by neatly cutting with a sharp knife or secateurs.
- D Regularly monitor, at least fortnightly or when advised by the Contract Administrator, the ponds areas and remove blanket weed, duckweed and fallen leaves using a rake or similar tool. Dispose of arisings away from site
- E Ensure that two thirds of the surface area remains clear of floating leaved plants at all times.
- F Ensure that one third of the water area of the pond C3, C70 & C71 remains largely clear of submerged aquatic plants at all times.

Chemicals and Fertilisers

- G Do not use chemicals or fertilisers on pond areas unless specially agreed with the Contract Administrator.

Report Problems

- H Report any problems related to pond levels, water loss or aquatic plants to the Contract Administrator immediately they are identified.

MAINTENANCE SCHEDULE - GRASS AREAS

Maintenance of Grassed Areas

A Generally

- Maintain grass height within the specified range.
- Maintain ornamental turf and lawns reasonably free from moss, thatch, weeds, frost heave, worm and mole casts, and with neat well defined edges
- Ensure that soil and grass does not become compacted or waterlogged.
- Maintain grass in a healthy vigorous condition, free from disease, fungal growth, discoloration, scorch or wilt.
- Repair grassed areas damaged by trampling, abrasion or scalping during mowing.
- Remove litter and fallen leafs regularly to maintain a neat appearance.
- Maintain turf in a manner appropriate to the intended use.
- Aerate/decompact soil to improve water infiltration.

Grass Cutting

B Generally

- Remove litter, rubbish and debris from grassed areas before mowing.
- Cut to a neat even finish, without rutting or compaction of the surface, especially when ground conditions are soft.
- Leave edges neat and well defined.
- Neatly trim all grass edges round the base of lighting columns and signs.
- Sweeping adjoining hard areas clear of arisings and remove.
- Do not cut during periods of drought, or when ground conditions or grass are wet, without the prior agreement of the Contract Administrator.
- No more than a third of the leaf height shall be removed at any one time.

Tree Stems

- C** Do not allow mowing machinery closer than 100mm to any tree stem. Avoid damage to tree stems by nylon filament rotary cutters or other mechanical tools.

Grass Cutting Machines

- D** Grass cutting machines must be appropriate to the grass cutting operation required, taking due regard to grass type, mowing specification, ground contour and condition. Machinery is to be well maintained and correctly adjusted to give a clean even cut without damaging the grass. They must be fitted with appropriate guards etc. to comply with current Health & Safety legislation.

Mowing Strips

- E** Where specified, maintain a mowing strip approximately 150mm wide along the base of walls, fences and hedges by applying a suitable non-residual herbicide twice during the growing season.

Leaf Removal

- A Remove fallen leaves from paths by sweeping with a motorised vacuum sweeper or by rotary brush sweeper. Remove fallen leaves by hand from shrub beds

Mowing Lawns

- B Maintain height of grass between 12 and 50mm. Cut when necessary using a pedestrian rotary mower with roller and grass box. The clippings are to be removed from site.

Mowing General Areas

- C Maintain height of grass between 20 and 50mm. Cut when necessary using a rotary mower and where mowing produces a swathe, the clippings shall be gathered and removed from site.

Cutting Summer Flowering Wild Flower Meadows First Year:

- D The requirements for the first year are to control weeds and reduce the competition from grasses. Cut the grass sward to a height of 5 cm every two months or when the sward reaches 15cm (first cut March or spring seeding May). Final cut September/October. Remove all cut material to avoid smothering the sward. Where persistent weeds are a problem, spot treat with Glyphosate or dig out.

Cutting Summer Flowering Wild Flower Meadows Year 2 onwards:

- E The sward should be well established after the first 12 months and contain a diverse range of species. Cut to 7.5cm during March/April and remove cuttings. The second cut to 7.5cm should take place at the end of the flower season during August/October (the flowering season may alter slightly according to climatic conditions). The site may require further cuts in the autumn period to remove untidy growth in an extended growing season. Always remove cuttings after mowing.

Trimming

- F Trim with shears the edges of the grass areas which abut mowing margins, shrub beds and tree circles leave a smooth flowing line. Clip round all posts, etc., which are surrounded by grass.

Top Dressing

- G Apply top dressing of approved fine sifted soil complying with BS 3882:2007 to a depth of 6mm over any hollows, gaps, depressions and ruts.

Rolling

- H Roll if required with self propelled or gang roller to consolidate turf and reduce frost heave.

Spiking

- I Spike if required with tractor drawn or self propelled spiker to aerate the soil to a depth of 150mm in any areas where compaction has occurred.

Re-Forming Grass Edges

- A During the months of April, July and October, re-form edges abutting paths, borders, manhole covers and the like with a suitable edging tool, to clean straight lines or smooth flowing curves. Removing all arisings from site. Where abutting mowing margins, shrub beds and tree circles, form a clean edge, sloping slightly back from vertical, drawing back the soil from edges to permit the use of edging shears.

Selective Herbicide

- B Where required spray with a suitable selective herbicide to remove weed growth. Do not spray wild flower or bulb and corm planted areas. Where required use a portable applicator and spot treat weeds.

Fertilisers

- C The Contractor shall apply 1 No. Autumn-Winter dressing of DFL Trifolium Pro-Fert 6 and 1 No. Spring-Summer dressing of DFL Trifolium Pro Organic, each applied at 35 g/m² (www.dlf.co.uk) or approved and similar.

Reinstatement of Grassed Areas

- D Reinstatement worn areas by re-turfing using turf of a quality and appearance to match existing any areas and oversow any patches that have become bare.

Report Damage

- E Report all damage to the Contract Administrator using the Maintenance report slip.

MAINTENANCE REPORT SLIP

Project: Arborfield, District Centre

Phase:

Contractor:

The following items indicated by a tick in the boxes below have been completed in accordance with the specification and maintenance schedules:

☐	Removed all rubbish and weed growth
☐	Forked over panned down areas
☐	Spread additional mulch
☐	Checked all ties and stakes to trees, shrubs etc.. and adjusted/renewed
☐	Removed dead plants and replaced with plants of the same name and quality
☐	Removed dead and diseased wood
☐	Refirmed soil around all plants and trees found to be loose
☐	Trimmed hedges as specified/instructed
☐	Replanted trees that failed
☐	Replanted shrubs that failed
☐	Mowed grass and removed clippings
☐	Overseed bare patches
☐	Trimmed edges and obstacles in grassed areas
☐	Fertilised grass as per maintenance schedule
☐	Applied weedkiller to grass as per maintenance schedule
☐	Repaired protective fencing
☐	Watered trees (record litres if applicable):
☐	Watered planted areas (record litres if applicable):
☐	Watered grass (record litres if applicable):

Damage Report:

The following plants and trees have been damaged or are missing since the last inspection:
[please indicate location and nature of damage, use additional sheet if required]

The above work was satisfactorily completed on [date].....
and the site has been left in a clean and tidy condition. Signed on behalf of client:

[Signature].....



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