

Manor Farm
Havant

LANDSCAPE SPECIFICATION

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For

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Ecology

Arboriculture

Landscape Architecture



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1.0 Site Preparation and Earthworks

1.1 Programme of Operation: The exterior planting shall be installed over the minimum period to complete the whole of the works. Dates are subject to discussing and agreement with suitable environmental conditions prevailing. The Contractor must verify this programme of works before commencing on site

1.2 Protect Work: The Contractor shall provide adequate temporary protection to the work during the installation and shall include temporary coverings, and all other measures for protecting the work from damage.

Any work damaged or soiled by traffic or other causes due to inadequate temporary protection shall be removed and made good at the cost of the Contractor. If other work is damaged by the Contractor he will be held responsible for the cost of rectification.

1.3 Rubbish: All rubbish is to be immediately cleared and carted away as it accumulates during the course of the work. At completion the site is to be left clean and tidy.

1.4 Water must not be allowed to accumulate in any part of the works and the Contractor is to allow for providing for all necessary pumping or bailing that may be required to keep any excavations, or any part of the site free from water at all times.

1.5 Existing Vegetation: No existing trees, shrubs or other plants shall be removed or cut without specific instructions from the Architect. Existing trees are to be retained, protected and undisturbed throughout the contract in accordance with BS 5837 sections 4.2-4.1. No branches are to be cut or damaged and no roots larger than 75mm in diameter are to be cut or damaged. No fires are to be lit under or anywhere near the trees. No debris, fuel, or building material of any sort to be stacked against or piled around the trunks.

1.6 Weed Control: All weeds shall be cut down and removed off site to a tip found by the contractor. One contact, approved, herbicide spray shall be applied to all areas of site to eliminate any remaining green weed vegetation.

1.7 Loose Debris: The site shall be cleared of all loose debris, rubbish and foreign matter of any kind and removed to a tip found by the Contractor.

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contractor. One contact, approved, herbicide spray shall be applied to all areas of site to eliminate any remaining green weed vegetation.

- 1.9 Loose Debris: The site shall be cleared of all loose debris, rubbish and foreign matter of any kind and removed to a tip found by the Contractor.
- 1.10 Formation of Mounding: Prior to mounding operations, aerate sub soil in soft landscape areas to a depth of 250mm below top-soil.
- 1.11 Filling: Carry out all necessary filling to form new soil formation levels which will give finished levels as shown on drawings. Include for loading and depositing sub-soil on site, and for importing fill material. All material in making up levels shall be to the approval of the Architect and shall be spread and consolidated in layers not exceeding 300mm.

All imported fill material shall be free from metal, vegetable matter and any toxic wastes or pollutants. Rock and/or masonry of limited size will be permissible provided that the dimension does not exceed 50mm. A sample load shall be stored intact for comparison with further loads which shall be of similar standard.

- 1.12 Grading: Allow for grading and cross grading over the site to achieve final grades in accordance with the grading and contour drawings. All finished gradients are to be smooth flowing, marrying in with all existing levels (back of pavement etc.) eliminating all abrupt angles and changes of levels. All shaping works are to be carried out in consultation with the Architect on site. Minor fillings and excavations are to be made as necessary.
- 1.13 Measurements: Attention is drawn to the fact that all measurements of the above area are net measurements and the contractor shall allow in his prices for increases in bulk and for transporting material to and from temporary store as may be necessary.
- 1.14 Sub-Soil Preparation: All stone, brick, concrete, wood, wire, pipes debris, rubbish, weed roots and foreign matter of any kind above a maximum dimension of 150mm shall be removed from the sub-soil formation layer to a depth of 225mm.

The sub-soil shall be evenly graded to the appropriate formation levels below the finished levels of the top soil, i.e in the cases of grass areas 150mm and for shrub

planting areas 450mm.

All sub-soil areas shall be broken up to a depth of 150mm immediately prior to top soiling. Allow for removing all vegetative matter and other rubbish from the areas concerned before topsoiling.

- 1.15 Removal of surplus excavated material: Remove all surplus excavated material from the site.
- 1.16 Re-Use of Top Soil: The re-use of existing top soil shall only be permitted with the strict approval of the Architect. Any surplus top soil is to be removed from site.
- 1.17 Buffer Zone Clearance: Clearance of accumulated construction waste and fly tipping within the buffer zone to be removed to contractors tip. Contractor to carry out first cut over existing grass areas with cuttings removed to contractors tip, all hollows to be filled and grass to be left in a good condition subject to the satisfaction of the landscape Architect and local planning authority.

2.0 Topsoiling and Cultivation

- 2.1 Imported Top-Soil: Imported top-soil is to be quality loam to BS 3882 and have the following properties:-

pH value	7.0 - 8.2	
Nitrogen (N)	0.2 min	
Phosphorous (P)	2% min	
Potash (K)	2% min	
Magnesium (Mg)	1% min	
Clay	15% min	50% max
Silt	20% min	30% max
Sand	30% min	55% max

The top-soil shall be free from stone, rubbish of any kind, roots of perennial weed or any other injurious matter. At the outset of the works a sample 5m load must be deposited on site for approval and comparison and all subsequent loads shall be at least equal in quality to the sample, which shall remain until top-soil spreading is completed.

- 2.2 Approved Chemicals: All chemicals used shall be non-toxic to human beings, birds and animals, under normal use and chemicals which are not on the "Agricultural Chemicals Approved Scheme" current list of Approved Products shall not be used.
- 2.3 Fertilizers: The bonemeal is to be medium coarse in texture and is to contain not less than 20% soluble P O (Phosphates) and between 3-5% N O (Nitrogen).
- 2.4 Peat: Peat substitute such as Wessex Cocoapeat or similar approved should be used
- 2.5 Soil-Improver: Tree pits and shrub beds will be treated as follows:

Alginure Soil Improver incorporated into tree pits at 1.5 Kg M3.

Alginure Soil Improver incorporated into the shrub beds at 75 g M2.

- 2.6 Cultivation of Planting Areas: All planting areas are to have the ground double dug which includes for cultivation of the sub-soil either by hand or by suitable mechanical means. Care shall be taken not to mix the sub-soil with topsoil or to bring the sub-soil to the surface. Compost as before described shall be dug in where specified at the rate of 25 litres per square metre. Approved fertiliser shall be raked in at the rate of 40 gm per sq. metre. Beds shall have a suitable tilth in readiness for planting.

All weeds, rubbish and large stones (25mm and above) shall be removed from site. Finished levels of planting areas and at junctions with edges and kerbs shall be as shown on drawings and the relevant standard details.

The contractor is to mark out plant beds as shown on drawings. Set aside any top-soil of the standard specified in clause 2.1 and remove from site any sub-soil and debris. Make up levels with top-soil to finish generally 150mm above the present level after settlement. Allowances are to be made in the rates for this settlement to occur. The surface is to be lightly consolidated, but not panned, to give a minimum top-soil depth of 450mm.

Where machine work is not practical, hand working is to be carried out to give the same degree of cultivation and finished tilth. Care must be taken during cultivation not to mix sub-soil from below with top-soil. Perimeters of plant bed areas are to finish at the same level as surrounding kerbs, paving, turf beds, etc. Particular care is to be taken to ensure soil is not less than 150mm below d.p.c. levels immediately adjacent to buildings.

- 2.7 Setting out of works: Location of all works, bed positions, shapes and tree position, shall accurately be set out and approved by the Architect before any further site work or cultivations are commenced.
- 2.8 Areas to be Turfed: Finished turf levels are to be 40mm above surrounding kerbs, paving and plant bed edges and the addition of imported top-soil shall be undertaken where required.

- 2.9 Preparation for Turfing: The final preparation of the soil shall be carried out by cultivators, harrows and rollers so that the ground is broken down to an approved degree of tilth and firmness.

The finished surface for turfing shall be free from stones exceeding 50mm in any dimension and shall consist of a crumbly structure. Bonemeal at a rate of 60 grms/m shall be incorporated.

Allow for removing any further weeds from all top-soiled areas, just prior to turfing and cart away.

3.0 Plants and Planting

- 3.1 Planting Operations: Planting operations shall be carried out in general accordance with the requirements of Sections 7, 8 and 9 of B.S. 4428: 1989 "Recommendations for General Landscape Operations (Excluding Hard Surfaces)".

- 3.2 Damage: All plants shall be adequately and carefully packed and protected to survive transport, by whatever means, to the site without damage in loading, transit or unloading.

If in spite of these precautions, roots, branches or shoots suffer slight damage, they shall be carefully pruned. If major damage has occurred, the plant shall be rejected and replaced.

- 3.3 Container and Pot Grown plants: Container and pot grown shrubs must have grown in weed free containers of the sizes specified for at least one complete growing season and must be healthy, bushy, vigorous and well-rooted but not pot bound and equal to all clauses of this specification.

- 3.4 Species and Varieties: All plants are to be of the species and variety indicated on the schedules and drawings. If however, any plants are unobtainable at the time of ordering, the contractor is to inform the Employer immediately and submit a list of alternatives for consideration.

Container and pot grown plants which are not planted on arrival on site must be watered frequently to prevent drying out. Plants which have been allowed to dry out to the extent where their health is affected will be replaced at the Contractor's expense. Immediately before planting, all container and pot grown plants will be well watered. Care will be taken during planting not to break up the rootball. Where plants have become pot bound, the roots on the outside of the ball will be gently eased out before planting.

- 3.5 Heeling In: After delivery, if planting is not carried out immediately, root balled plants shall be placed cheek to cheek and the ball covered with sand or fine soil and watered to prevent drying out. Bare rooted plants shall be heeled-in by placing the roots in a prepared trench and covering them with fine soil which shall be watered in to avoid air pockets round the roots.

- 3.6 Shrubs: Shrubs shall comply, at least, with the requirements of B.S. 3936: Nursery Stock, Part 1 Trees and Shrubs or Part 2 Roses and the JCLI Standard Form for Tender for the Supply and Delivery of Plants (4th Edition 1982). Shrubs shall be to the minimum height or spread as specified and shall have at least 5 branches developed. Cutting back shall occur if necessary for the normal development of the plant.
- 3.7 Climbers: Climbers shall be strong, well rooted and grown, healthy and hardy and shall not have less than 3 established branches. Climbers shall be adequately staked and pot grown.
- 3.8 Herbaceous Plants: Herbaceous plants shall be exactly true to name, well grown, healthy, vigorous clumps, in at least their second season of growth from division or propagation. They shall be planted to the correct depth in staggered rows at approximately equal centres and well watered in at the time of planting and subsequently, as necessary.
- 3.9 Planting shrubs, climbers and Herbaceous Plants: Dig out holes large enough to receive the roots of the plant fully extended and well spread out. Carefully work top-soil among roots and backfill. Plants to be well firmed by heeling and the surface left neat and even. Planting must be to the same depth as in the nursery. Care must be taken not to disturb the root balls of pot grown plants and not let any roots dry out at any time.
- 3.10 Watering: Shrubs and herbaceous plants shall be well watered in immediately after planting.
- 3.11 Mulch: Apply 75mm mulch over whole of planting bed immediately after watering in. Mulch to consist of pulverised natural pine bark such as "Cambark" ornamental grade from Camland Products Ltd., 36 Regent's Street, Cambridge. or equivalent. Graded particles 8mm-25mm with all fines removed, free from pests, disease, weeds and additives. Available manganese to be less than 35ppm. pH to be 4-3. Rose beds shall have organic manure spread after planting in addition, at a rate of 1m cubed to every 20m squared, before applying mulch.
- 3.12 Bulbs to be planted at 3 times the depth of the bulb or as per suppliers instructions.

4.0 Trees

- 4.1 Tree Pits: Tree pits shall be of a diameter 600mm greater than the root ball. The depth of the pit shall be 225mm deeper than the root ball and not less than 600mm deep. The base of the tree pit shall be forked over to a depth of 225mm.
- 4.2 Tree Stock: All stock must comply in all respects with the current edition of B.S. 3936 except where superseded by the JCLI Standard Form for the Supply and Delivery of Nursery Stock (4th Edition 1982) when the latter shall apply.

Trees shall be well grown nursery stock free from disease, true to type and of a size scheduled in accordance with the approved method of measurement.

- 4.3 Planting Trees: Spread a minimum 75mm thick layer of well rotted manure in the bottom of each pit and fork over. Lay 50mm minimum mixture of peat substitute/leaf mould/sharp sand 6:3:1 by volume; the peat being well moistened. All the manure is to be covered so that none comes in direct contact with the tree roots. Soak the roots of bare-rooted trees in water for at least an hour before planting.

Continue backfilling with top-soil into which 170gm of bonemeal has been mixed (per tree). Firm down well by heeling as filling proceeds. The tree must be planted to the same depth as in the nursery, and to the same orientation.

- 4.4 Planting of Semi-Mature Trees: Semi-Mature trees shall be transplanted in accordance with B.S. 4043: 1989 and the following procedures.

Trees shall be transplanted during their dormant period following a thorough application of anti-desiccant spray. Trunks and main branches are to be wrapped in Hessian prior to lifting.

Trees shall have been root pruned at least one growing season prior to lifting.

Before unloading, the depth and diameter of the rootball shall be measured, to facilitate the digging of the pit to the correct size.

The tree shall be re-planted to the same depth and orientation as in the Nursery allowing for settlement and thoroughly watered-in, including foliage spray in warm weather.

All impervious root wrapping material shall be removed and any damaged roots over 25mm diameter shall be planted with a fungicidal sealant.

Back filling shall be done in layers of 150mm-225mm depth with each stage firmly consolidated to eliminate air pockets.

The tree shall be secured with an approved method of underground guying and the trunk protected with wire mesh tree guards fixed to two stakes.

- 4.5 Stakes: To be requisite length, pressure impregnated (with preservative non injurious to plants) de-barked softwood 100mm square or diameter.
- 4.6 Tree Ties: To be plastic ties "Toms" pattern, two per stake and nailed to stake with large head galvanised nails.
- 4.7 Planting of Whips, Forestry Transplants and Feathers: Plants shall be planted at the same depth as in the nursery and well firmed with the ball of the foot. Any frost lifting or wind blow damage or loosening shall be corrected from time to time.
- 4.8 Planting Season: Unless otherwise specified all transplanting shall be carried out between the end of October and the end of March. Container grown trees may be transplanted at times other than these at the discretion of the Landscape Architect.

The transplanting shall be carried out when the weather is dull and the ground is moist and workable. On no account must the planting take place when there is freezing wind. Where approval is given by the developer to transplant between March and September, the trees shall be given a transplanting spray before transplanting and again between 7 and 10 days after planting, at the Contractor's expense.

In the case of evergreens, transplanting spray shall be applied both before and after transplanting whatever time of year.

- 4.9 Transplanting in Frosty Conditions: Planting of trees in frosty conditions will only be permitted if adequate precautions are taken. The prepared root balls must have additional wrapping. The bottom and sides of the tree pits, and the piles of top-soil, must be protected from freezing by the use of boards, tarpaulins or other approved materials.

- 4.10 Watering: At the time of planting, each tree shall be well watered in. If there is a risk of frost within 24 hours the watering shall be delayed until such risk has passed.
- 4.11 Mulch: Apply 50mm mulch around trees immediately after watering in. Mulch to consist of pulverised natural pine bark such as "Cambark" ornamental grade from Camland Products Ltd., 36, Regent Street, Cambridge, or equivalent. Graded particles 8mm-25mm with all fines removed, free from pests, disease, weeds and additives.
- 4.12 Identification: Every specimen tree, and one tree from each group of similar trees, shall bear labels with the correct full botanical name. These to be of 6mm Dymo tape (or equal) stuck onto white plastic labels and tied loosely to tree in a position where it can be seen clearly.
- 4.13 Trees to Correspond with Varieties Specified: Trees supplied shall correspond exactly with the species, varieties and sizes stated.

No substitutes will be permitted unless expressly authorised in writing by the Local Planning Authority. Trees shall be of good stock, hardy and well rooted and where applicable shall be furnished with straight sturdy trunks, and well branched balanced heads.

Plants should have been regularly transplanted during growth in the nursery, and be generally in compliance with the requirements of the relevant parts of B.S. 3934. Any damaged plants must be replaced by the planting Contractor.

Trees brought onto the site shall have their roots protected from drying out until planting is carried out.

- 4.14 Protection of Planting Material: All trees shall be adequately and carefully packed and protected to survive transportation to the site without damage.

Particular care must be taken that the roots are not allowed to dry out and plants must be protected by damp straw moss, sacking or the like. Trees which are not used immediately on site shall be heeled in to ready prepared trenches and shall be kept thus in a moist condition until planting on the same day. Trees not used on the same day of arrival may be heeled in and stored at a site to be agreed with the Architect. Plants so stored will not be subject to an extra cost on the contract.

5.0 Grass Works

Grass

- 5.1 Time of sowing: While grass seeding works may be carried out from May to September in appropriate weather conditions, a programme for sowing in either early or late summer will normally be agreed.
- 5.2 Grassing Works: Preparation and grassing works shall be carried out in general accordance with the requirements of Section 5 of B.S. 4428 (Recommendations for General Landscape Operations).
- 5.3 Top Soil: Minimum depth of top soil required for grass seeding areas is 150mm.
- 5.4 Grass Finished Levels: Grass finished levels at kerbs, gulleys, manholes and other horizontal surfaces will finish 25mm above these hard surfaces and be as indicated in the appropriate standard detail.
- 5.5 Cultivation: The top soil in areas to be seeded shall be ploughed or disc harrowed to a depth not exceeding 150mm, care being taken not to bring the subsoil to the surface. All weeds, rubbish and stones 75mm and above shall be removed from the site.
- 5.6 Preparation of Seed Bed: The areas shall be cultivated to produce a fine tilth suitable for seeding and firmed by lightly rolling.
- Fertiliser shall be granular fertiliser, obtained from an approved reputable horticultural supplier, stored in approved dry building until required for use.
- 5.7 Grass Seed Mixture: Seed shall be certified as to source, purity and germination, and the certificates shall be handed to the Architect.
- 5.8 Sowing: Seed shall be cross-sown in two directions at right angles to each other, (half the seed being used in each direction) at the rate of 35 gm per square metre and the ground lightly raked over on a still dry day when the top 25mm of soil is dry.
- 5.9 Rolling: After sowing areas are to be lightly rolled, weather permitting.

- 5.10 First roll and cut: When grass has grown to 38mm it shall be lightly rolled and, two days later, mowed with an approved mower having no roller and sufficiently sharp to avoid root pulling.
- 5.11 Finished Grass Levels: Finished grass levels are to 40mm above surrounding kerbs, paving and plant bed edges and the addition of imported topsoil shall be undertaken where required. Minimum Topsoil depth for turfed areas to be 150mm when lightly consolidated.
- 5.12 Wildflower mix to be sown according to suppliers instructions.

Turf

- 5.13 Turf: Turfs shall be in accordance with BS 3969: Recommendations for Turf for General Landscape Purpose. Turfs shall be clean meadow or downland turfs, fibrous and well-rooted, free from matted dead grass and perennial weeds, and shall have been subject to proper maintenance and treatment with selective weed-killers and insecticides during the previous growing season.

On completion of laying, the whole turf shall be top dressed with finely sifted soil well worked into the joints.

No turf shall be laid during frost, exceptionally dry weather or on water-logged ground.

- 5.14 Correction of Hollows: Any slight hollows which appear within the aftercare period due to settlement or other causes are to be top dressed early in the growing season, with a mixture of fine compost and damp peat lightly rolled in and the grass allowed to grow through before cutting.

Deeper hollows are to be treated by neatly cutting out a square of turf, building up beneath with the same mix plus an equal quantity of sharp sand, and the turf replaced at the correct level for rolling. Cutting may proceed without interruption.

Hollows repaired as above are to be kept watered as necessary until the turf has fully married in.

- 5.15 Watering: On completion of laying and top dressing, turf areas shall be well watered.



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