

# Landscape, Specification, Management and Maintenance Plan

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CLIENT: FAO JL

WRITTEN: GH

CHECKED: RC

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ADDRESS: 7 MEADOW CLOSE, RUISLIP



## Table of Contents

<u>1. OUTLINE SPECIFICATION</u>	<u>3</u>
<u>2. OBJECTIVES</u>	<u>4</u>
<u>4. TOPSOILING AND CULTIVATION</u>	<u>6</u>
<u>5. PLANTS AND PLANTING</u>	<u>6</u>
<u>6. GRASS WORKS</u>	<u>8</u>
<u>7. PRELIMINARIES</u>	<u>9</u>
<u>8. GENERAL MAINTENANCE</u>	<u>9</u>
<u>9. AMENITY GRASS</u>	<u>10</u>
<u>10. SHRUB AND TREE PLANTING</u>	<u>10</u>
<u>11. WEEKLY MAINTENANCE</u>	<u>12</u>
<u>12. ANNUAL MAINTENANCE</u>	<u>12</u>

## 1. Outline Specification

Existing trees retained shall be protected in accordance with the current British Standard 'Trees in relation to construction'. Generally fencing shall be 1.8m 'Herres' type fencing secured and maintained in position for the duration of construction. No existing trees will be removed to make way for this development.

### GENERAL

All planting work & plants shall be in accordance with all approved current U relevant horticultural & British Standard specifications including 'Nursery stock', 'Landscape Operations', 'Trees in relation to Design, Demolition & Construction', 'Tree Work' and the latest National Building Specification, National Plant Specification & HTA 'Handling & Establishing Landscape Plants'.

Herbicides, pesticides and other chemicals may only be used with the approval of the CA Use of chemicals shall be in accordance with all relevant guidelines and the manufacturers recommendations. Imported topsoil shall be a minimum specification of general purpose grade, unless otherwise instructed. 1 cu.m approved compost/organic material/soil ameliorant per 20 sq m shall be cultivated into topsoil before planting. Peat shall not be used.

Following planting all shrub beds shall be treated with an approved granular fertilizer at rates recommended by the manufacturer. All hedge and native planting shall be mulched with 75mm depth mushroom compost.

### TOPSOIL

Imported topsoil shall be a minimum specification to current British Standard Multi-purpose grade from an approved source in accordance to the above specification, unless otherwise instructed. 1 cu.m approved compost/organic material/soil ameliorant per 20 sq m shall be cultivated into topsoil before planting. Peat shall not be used.

### MAINTENANCE

The defects liability period for planting shall be 12 months from completion of the works, to the current British Standard. During this period, any plant which is found to be dead, dying or otherwise defective shall be replaced at the expense of the contractor during the next planting season. The contractor shall make maintenance visits as required to ensure the successful establishment of the planting and maintain all shrub areas in a weed free condition. Regular visits (minimum 8 No.) required, to maintain all planted areas in a weed and litter free condition using a combination of chemical spray and hand weeding to be agreed with the CA. Maintenance to include watering, pruning, pest and disease control and re-mulching as required to current British Standard. Final visit to be immediately prior to handing over and to include a fertilizer treatment of Enmag (6:20:10) at 100g/m<sup>2</sup> and 25mm depth bark mulch top up to all ornamental planted area. Amenity grass mowing at two week intervals during growing season, meadow grass maintained in accordance with seed suppliers recommendation. Maintenance to be carried out in years 2-5 to be agreed.

### PLANT SCHEDULE

Hedges - Planted into 450mm depth topsoil. Specimen Shrubs - Planted Into 450mm depth topsoil. Ornamental Shrubs and Groundcovers - Planted into 450mm depth topsoil. Grass area - 100mm depth topsoil

## PLANT MATERIAL TREATMENT

All to be British grown stock and fully hardened off. Root Dip - Proprietary Root Dip applied to all bare rooted stock (1) at time of lifting at nursery and (2) prior to planting.

Anti-Desiccant - Proprietary anti-desiccant to be applied to foliage of all containerized root balled material in leaf, specimen conifers and evergreen etc., (1) prior to transportation and (2) during any delay in planting.

Pruning - Allow for pruning of all deciduous trees and shrubs by 113rd following planting at Landscape Architects instruction or as indicated in the planting schedule. Tree stakes and ties - Stakes to be pressure treated, round, smooth and peeled larch or chestnut, not less than 100mm in diameter. Advanced nursery stock - double staked with cross bar.

## 2. Objectives

To ensure the successful planting operations, establishment and continued healthy growth through to maturity of the Trees, Shrubs and Grass.

To achieve a clean, tidy condition and appearance of all external areas.

### General Information

The following documentation has been prepared in relation to the proposed application:

- Landscape Plan
- Landscape Schedule
- Landscape Specification, Management & Maintenance Plan.

The controlling Authority is Hillingdon Council, who should be consulted on any matters relating to existing trees and the approved landscape proposals for the scheme.

### Specification

## 3. Site Preparation and Earthworks

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

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.

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

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.

**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 section 6.

No branches are to be cut or damaged and no roots larger than 25mm in diameter are to be cut or damaged in accordance with BS 5837 7.2.3. 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.

**Weed Control:** All weeds shall be cut down and taken 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.

**Loose Debris:** All loose debris, rubbish and foreign matter of any kind shall be cleared from the site and taken to a tip found by the Contractor.

**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.

**Grading:** Allow for grading and cross grading over the site to achieve final grades.

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.

**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.

**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.

Removal of surplus excavated material: Remove all surplus excavated material from the site.

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.

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 Architect and local planning authority.

#### 4. Topsoiling and Cultivation

Imported Top-Soil: Imported top-soil is to be a 'multipurpose topsoil' in accordance with BS 3882:2007, unless there is a requirement for a 'specific purpose topsoil' which will also be in accordance with BS 3882:2007. 2.2 As well as being in accordance with BS 3882:2007, the multipurpose topsoil should a quality loam and have the following properties:

- pH value 7.0
- 8.2 Nitrogen (N)
- 0.15 min Phosphorous (P)
- 2% min Potash (K)
- 2% min Magnesium (Mg)
- 1% min Clay 15% min 35% max Silt 20% min 30% max Sand 30% min 55% max 2.3

The top-soil shall be free from stone, rubbish of any kind, roots of perennial weed or any other injurious matter.

The topsoil must be supplied with a BS3882:2007 declaration of analysis, analysis certificate and sampling protocol.

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.

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.

2.7 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).

Compost: Peat free compost to be used where necessary.

Soil-Improver: Shrub beds will be treated as follows:

Alginure Soil Improver incorporated into the shrub beds at 75 g M2. 2.10

#### 5. Plants and Planting

**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)".

**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.

**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.

**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.

**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.

Immediately before planting, all container and pot grown plants will be well watered. Care will be taken during planting not to break up the root ball. Where plants have become pot bound, the roots on the outside of the ball will be gently eased out before planting.

**Heeling In:** After delivery, if planting is not carried out immediately, root balled plants shall be placed next to each other 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.

**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.

**Planting shrubs:** 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.

**Watering:** Shrubs shall be well watered in immediately after planting.

**Mulch:** Apply 75mm depth of mulch over whole of planting bed immediately after watering in. Mulch to be free from pests, disease, weeds and additives.

## **6. Grass Works**

**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.

**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).

**Top Soil:** Minimum depth of top soil required for grass seeding areas is 150mm.

**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.

**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.

**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.

**Grass Seed Mixture:** Seed shall be certified as to source, purity and germination, and the certificates shall be handed to the Architect.

**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.

**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.

**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.

**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 wellrooted, 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.

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 good quality topsoil and fine peat-free compost 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.

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

## Management and Maintenance

### **7. Preliminaries**

(Pre-practical Completion): Any trees, shrubs, other plants other than those found to be missing or maliciously damaged which are found to be defective at practical completion of the project shall be replaced by the Contractor entirely at the Contractors own cost.

Malicious Damage or Theft prior to Practical Completion: All loss or damage arising from theft or malicious damage prior to practical completion of the project shall be made good by the Contractor at the Contractors own expense.

Post Practical Completion: The maintenance of trees, shrubs and grasslands after the date of practical completion will be carried out by the Contractor until the responsibility is transferred to the new owners or by the appointed Management Company.

Replacement of plants shall take place as many times as is necessary in order to maintain a complete cover of plants and to maintain the scheme as designed by the Architect, and within the correct season for the type of plant, tree, shrub and grassland mix.

### **8. General Maintenance**

The landscape shall be the responsibility of the domestic owner(s).

Following installation and after transfer, all areas of land will be maintained in perpetuity by the domestic owners.

The Developer shall ensure that any landscape contractor employed by the developer shall carry out the periodic maintenance of all planted areas, other than any areas for which the appointed homeowner(s) becomes responsible during the Maintenance Period. Inspection checks shall be carried out at monthly intervals and the appropriate work carried out.

The Developer shall ensure that any landscape contractor employed by the developer shall carry out in all areas any shrub, tree, grass and other plants replacements that may be necessary until transfer of responsibility to the homeowner.

No existing trees, shrubs or grass shall be removed or cut without specific instructions from the Contract Administrator and written agreement of the Local

Planning Authority Tree Officer. Existing trees are to be retained, protected and undisturbed throughout the contract.

## **9. Amenity Grass**

Areas directly to the front and flat areas of rear gardens to the new properties will be laid to an amenity grade turf.

Grass shall be cut during the growing season (generally April-October) using a sharp cutter to leave about 30-35mm of growth and remove arisings from site.

Grass will be cut at intervals of not more than 10-14 days depending on growing conditions. Arisings shall be collected and carted away. A dressing of prepared fine fishmeal shall be applied at the rate of 60gms/m squared after the second mowing and the arisings of the cut following are to be allowed to fly.

The sward shall be maintained weed free by an annual application of specified weed-killer approved as necessary.

Grassed edges to planted areas to be trimmed to maintain a clear smooth edge to planted beds; strim edges elsewhere but not against trees; spike annually in October.

Should bare patches of grass develop, area is to be cultivated to 150mm and then seeded with amenity grass seed. To 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 meter and the ground lightly raked over on a still dry days when the top 25mm of soil is dry.

This management plan should be made available to the new owners to help outline the principles of the retained habitats and encourage the future management of these areas in perpetuity

## **10. Shrub and Tree Planting**

All shrubs and trees beyond the boundaries of domestic ownership will be maintained in perpetuity by the homeowners.

All tree works to be undertaken by an Arboricultural Association Approved Contractor to British Standard 3998 Tree Work specifications and approved prior by the Local Authority.

The density of planting will require that all weeding is carried out by hand, using the appropriate tools. All resultant material should be removed from site.

The homeowners will be responsible for litter picking in those areas that it manages. All plants shall be inspected monthly for wind firmness and firmed as necessary at the same time. Stakes shall likewise be checked for firmness and all plant ties inspected and made good if required. All stakes and ties shall be removed as soon as the developing root system is strong enough to support the plants. This is usually after two full growing seasons.

All guards and other protective furniture shall be inspected annually and removed as soon as it is no longer needed to protect the existing trees or where it is causing damage to the trees.

All existing trees shall be checked regularly for mammal, human or other external damage and remedial action taken where necessary.

The site works should progress as follows to ensure the healthy retention of the existing trees.

- a. Tree works, in accordance with BS3998
- b. Installation of all tree protection measures.
- c. Construction.
- d. Soft landscaping.

Site supervision – An individual e.g. the Site Agent, must be nominated to be responsible for all arboricultural matters on site. This person must:

- a. Be present on the site the majority of the time.
- b. Be aware of the arboricultural responsibilities.
- c. Have the authority to stop any work that is, or has the potential to cause harm to any tree.
- d. Be responsible for ensuring that all site personnel are aware of their responsibilities towards trees on site and the consequences of the failure to observe those responsibilities.
- e. Make immediate contact with the local authority and / or retained arboriculturalist in the event of any related tree problems occurring whether actual or potential.

It is recommended, that to ensure a commitment from all parties to the healthy retention of the trees, that details are passed by the architect or agent to any contractors working on site, so that the practical aspects of the above precautions are included in their method statements, and financial provision made for these.

Existing Trees – 5Ltr's per tree, Shrubs 1Ltr each, Grass 5Ltr's/m2. Watering to commence following 10 consecutive days of no rainfall, during the months of June to August. Following Bowser watering a weekly visit should be carried out until the onset of natural rainfall. Any failures due to drought shall be replaced by the homeowners at their own cost.

Minor pruning of dead or damaged wood shall be carried out annually. All wounds must not be treated with a sealant as per BS3998:1989 Recommendations for Tree Works. On substantial trees, the Local Planning Authorities Tree Officer must be consulted for any necessary approvals.

All plants shall be watered as may be required to maintain healthy growth following planting, during the maintenance period and subsequently in cases of extreme drought.

All planted areas shall be given an application of an approved top dressing at the rate of 40 gm per sq. metre in May. This should be in slow release form e.g. Enmag or similar. This should be worked lightly into the soil, without disturbing the roots, before the mulch is re-spread. Unless specific nutritional deficiencies are identified, no fertilizer shall be applied to newly planted trees in the first season.

Shrubs shall be maintained in a balanced shape and shall be annually pruned to allow for this. Any growth which will obscure windows, signs or sight-lines shall be removed. Once established, any support canes shall be removed from the shrubs.

The hedging plants are to be maintained with a bi-annual trim to a neat form, once in the spring during February and once in autumn during October, to avoid bird

nesting season, and to encourage healthy growth and good form. All trimmings are to be collected and removed from site to a composting facility.

The bark mulch should be maintained at an even spread, 75mm deep, of consistent thickness, to ensure that it is effective as a weed suppressant and moisture conserver. Following any maintenance operations and on a bi-annual basis, the mulch shall be supplemented to allow for any material which may have been lost.

No plant substitutions to be made without the prior written agreement of the Local Authority Landscape Section.

## **11. Weekly Maintenance**

- All plants shall be watered following 10 days without rain. Then weekly until natural rainfall during June – August. Fortnightly
- Amenity Grass to be cut every 10-14 days
- There should be a minimum fortnightly litter pick over the entire site within areas covered by the
- Weed control shall be allowed for at monthly intervals.  
All areas to be weeded by hand.
- All plants shall be inspected monthly for wind firmness and firmed as necessary at the same time.
- The bark mulch should be topped up bi-annually
- Hedges to be managed – cut in line with guidance given above.

## **12. Annual Maintenance**

- Replacement of any failed existing trees or shrubs will be allowed for annually to ensure that the planting areas are fully stocked at all times.
- Any hollows which appear due to settlement shall be top dressed annually, early in the growing season.
- An application of a residual weed killer shall be allowed for on shrub areas.
- Minor pruning of dead or damaged wood shall be allowed for annually.
- All planted areas and trees shall be given an application of an approved top dressing in May.
- Shrubs shall be maintained in a balanced shape and prevented from obscuring signs, windows and encroaching on paths.
- Check for invasive species and remove from site.