Landscape Specification

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GENERAL

DESCRIPTION OF WORK

The work consists of general preparation works, site and soil preparation, grass seeding, tree and shrub planting.

SCOPE OF WORKS AND QUALITY STANDARDS EXPECTED

This specification covers cultivation, fertilisation and horticultural preparation, planting and cultural treatment to trees, perennials, and shrubs, herbicide application, pruning and proper maintenance.

The scope of the work is to maintain and develop through sound horticultural practises the planting listed.

All works to comply with BS 4043 (Trees), BS 4428 (General / shrubs), B.S. 3936: Parts 1-10: 1965 Specification for Nursery Stock and BS 3882 (topsoil). Tree planting and establishment to BS 8545 (2014 -from nursery to independence).

TIMESCALE

The landscape elements are to be implemented within the first growing season on completion of the building works. All landscape works to be completed before occupation of the buildings.

Bare root and root balled tree planting to be carried out during October to March.

The contractor is invited to tender for all or part of the planting work listed. The contract may be for part or all of the accompanying drawings.

The tenderer shall satisfy him/herself as to the range of plants and growing conditions on site and tender in both full knowledge of planting and site.

The names, qualifications and experience of the contract manager and site foreman shall be submitted with the tender. Qualifications and experience in horticulture are essential to ensure the skilled and appropriate plant care and subsequent maintenance.

The contractor must submit :

a) Day rates and hourly rates for skilled and unskilled personnel

b) Day rates and hourly rates for any machinery proposed.

c) Rates for planting the full range of plants.

No pruning shall be undertaken by unskilled or inexperienced staff.

DRAWING REFERENCES

This specification should be read in conjunction with the Landscape Architect's drawings attached.

INSPECTION

The Contractor shall be deemed to have visited and inspected the site and surroundings previous to tendering and to familiarise him/herself with site conditions.

The Contractor shall familiarise him/herself with location and route of all underground services on site and shall arrange his/her work so as not to damage or interfere with these.

Contractors shall protect the pavement surrounding the areas to be planted. Crossing these with heavy machinery is prohibited unless by prior written agreement with the clients agent.

Where agreement is given the appropriate protection measures are to be agreed with the client.

NOTICE:

Make advance arrangements with the landscape architect to give her/him the opportunity of being present during Setting out and planting of shrubs and trees.

Clearly mark boundaries of planting areas and location of trees and obtain approval before starting work.

The Contractor shall give the Landscape Architect 10 days notice of intention to commence.

EXISTING VEGETATION

Remove all existing weed vegetation from planted area except for mature trees or shrubbery to be retained.

SITE CLEARANCE:

Remove any rubbish, concrete, metal, glass, decayed vegetation, contaminated topsoil, and stones with largest dimension exceeding 75mm.

Contamination includes subsoil, rubble, fuel, lubricants or other substances injurious to plant growth.

Grub up and dispose of any large roots occurring within planting areas without undue disturbance of soil and adjacent areas.

Apply a suitable non-residual herbicide to all planting areas.

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SOIL CONDITIONS:

Cultivate and plant into moist friable soil that is not waterlogged.

Do not plant into frozen or snow covered soil without prior approval of the landscape architect.

Provide adequate additional root protection and prevent planting pit sides and bases and backfill materials from freezing.

CLIMATIC CONDITIONS:

Carry out the work while soil and weather conditions are suitable for the
relevant operations. Do not plant during periods of frost or strong winds. Plant only during the following periods unless specified otherwise by Landscape Architect:

Deciduous trees and shrubs: Late October to late March.
Conifers and evergreens: September/October or April/May.
Herbaceous plants (including aquatic and marginal): September/October or March/April.
Container/spring ring grown plants: At any time if ground and weather conditions are favourable. Ensure that adequate watering and weed control is provided.
Dried bulbs, corms and tubers: September/October.

MACHINES AND TOOLS:

Use only machinery and tools suitable for the site conditions and the work to be carried out. Use hand tools around trees, plants and in confined spaces where it
is impracticable to use machinery.

WATERING:

Obtain landscape architect's approval before using a supply other than potable mains water.
Ensure the full depth of topsoil is thoroughly wetted.
Use a fine rose where appropriate to avoid damaging or loosening plants.
Water as necessary to ensure the establishment and continued thriving of all
planting.

DROUGHT CONDITIONS:

If water supply is or is likely to be restricted by emergency legislation:
Inform Landscape Architect without delay and ascertain availability and additional cost of second quality water or other alternative source of supply.
If planting has not been carried out, do not do so until instructed.
If planting has been carried out, obtain instructions on watering.

MAINTENANCE AND DEFECTS LIBILITY PERIOD

It covers a subsequent maintenance programme for a 24 month period.

The contractor must demonstrate a proven high standard horticultural expertise. He / she must at all times proceed with only in proper conditions.

The client expects the contractor to maintain all plantings in excellent conditions without recourse to regular site visits and promptings by the Landscape Designer.

All works to comply with BS 4043 (Trees), BS 4428 (General / shrubs), B.S. 3936: Parts 1-10: 1965 Specification for Nursery Stock and BS 3882 (topsoil). Tree planting and establishment to BS 8545 (2014 -from nursery to independence).

All plants shall be guaranteed for a period of 24 months from the date of practical completion, against death deformation or disease. The Contractor shall include in their tender pricing for the supply and replacement of any plant which dies during the defects period, except due to vandalism, theft or losses attributed to the negligence of other contractors.

Care and attention is required at all times to protect grassed areas from damage caused by machines or careless use of herbicides.

Notification of any losses or damage must be made within 24 hours by email to Hayes Ryan and recording with a digital camera the photographs to be forwarded by post together with an estimate of the cost of repair or replacement.

Notification of damage to plants by any other contractor should be made within 24 hours to the client or Hayes Ryan and photographs forwarded by post.

Physical maintenance of all work shall commence from the time of granting the contract. The maintenance will then continue for a 24 month period from the date of completion of the contract. The contractor is to submit a schedule of cultural treatments, applications and timings with the tender.

PROGRAMME OF WORKS

The Contractor shall work within the periods indicated for each plant category.

Fertiliser application	1st April to 30th June
Herbicide; residual before	30th April
Translocated	After March 1st
Contact	as necessary
Planting	as soon as is practical subject to landscape

architect's approval.

Completion date of planting to be specified before contract is awarded.

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Bare root plants shall be planted before March 17
Container grown plants shall be planted before date agreed with landscape architect
Mulching shall be spread as soon as the planting is completed.

Part of the works may be excluded or reprogrammed at the discretion of the Employer/Client.

Planting will be carried out during favourable weather and soil conditions during the period from 1st November to 31st March, unless agreed otherwise with the Landscape Architect. If trees are to be planted outside of this period, “spring ring” grown trees or other appropriately grown trees are to be used.

No planting works shall be carried out when the ground is excessively wet or dry, frozen, covered by snow or in excessively windy conditions.

The Contractor shall not deliver more plants to the site than can normally be planted in one working day.

Planting shall not be carried out during periods of frost, drought or cold drying winds, or if ground is approaching saturation.

Herbicide shall be applied during periods of appropriate weather, as recommended by the manufacturers.

Do not use materials containing concentrations of toxins, pathogens or other extraneous substances harmful to plant, animal or human life, except as specified elsewhere.

PLANT INSPECTION

The Contractor shall make all plant materials available for inspection at the nursery prior to supply to the site.

APPROVED CHEMICALS

Use only where specified or approved, and then only products on the current list of
the Department of Agriculture’s Pesticides Section.

Where work is near water, drainage ditches or land drains, comply with the Department of Agriculture’s Pesticides Section relevant codes of practice for the use of herbicides on weeds in water courses and lakes.

All chemicals to be used must be products on the current list of Dept Agriculture Pesticides section. Usage must comply with Dept Agricultures current guidelines. All chemicals used by the Contractor shall be non toxic to humans, birds and other animals associated with the area, when used as directed by the manufacturer.

The Contractor shall follow the manufacturers instructions in the handling, application and storage of all chemicals. All herbicides shall be stored only in the containers in which they were supplied. Weedkillers shall not be stored in site unless in a securely locked hut or trailer.

SUPERVISION

The Contractor shall provide full and adequate supervision during progress of landscape works and shall employ a competent landscape foreman, approved by the landscape designer and constantly on the works. The foreman must be able to receive and act upon all instructions, directions or orders by the Landscape Architect. The name, telephone number and base of the contractor to be provided in the tender.

PAYMENTS

Payments shall be made upon verification by the Landscape Designer that works are in accordance with the Contract. Certification will be made within fourteen days of receiving the invoice.

Payment shall be made upon receipt of the Certificate of Practical Completion and Final Certificate.

There is a 5% retention. This will be released over the 24 months after each reinstatement period.

PROOF OF PURCHASE

The Contractor shall furnish necessary proof of purchase documents such as invoice, cheque stub and bank statement as support evidence of the supply and application of the quantities of material specified.

LOWEST TENDER

The Lowest or any tender will not necessarily be accepted.

HEALTH AND SAFETY

The landscape contractor to adopt safe work practices on site. To protect his/her own employees, the employees of the employer and members of the public. To comply with 2005 Health Safety and Welfare at work act, the 2006 Constructions regulations, the 2007 General applications regulations, COSHH regulations, and any subsequent updates including any other regulations or orders or EC directives in relation to health and safety.

TOPSOIL

Topsoil to be good quality medium loam free of all contaminants and perennial weeds. It must be freshly excavated and not taken from storage heaps. It shall conform to BS 3882 1965 and shall be free of perennial roots toxic waste, sticks or other foreign matter.

The contractor is obliged to take random samples from the supply site and have the samples analysed for Ca, P, K at a reputable soil analysis lab. Results of the analysis to be furnished by the landscape architect prior to commencement of the contract.

Topsoil to have a pH of greater than 5.5 and less than 6.8. It is the intention of the landscape designer to inspect the topsoil prior to commencement of the contract.

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Quality topsoil shall be placed by the main contractor to the following levels :

Grass seeding areas	min 150m mm depth
Shrub planting areas	min 300mm depth
Tree Planting	min 1000 x 1000 x 1000 pit

TREE PLANTING PITS :

A minimum depth of 1000mm of topsoil should be placed on the area for all trees. The planting pit should then be dug into this and the trees and shrubs planted as outlined below.

All planting pits shall be excavated carefully by hand or machine to allow adequate clearance between the root ends (when fully spread) or the perimeter of the ball and the side of the pit.
The depth of pits shall be greater than the depth of the root system, and the base and sides shall be forked over to break up the subsoil. When excavating planting pits, all good topsoil shall be placed to one side for re-use and all other material removed from site to tip. Care shall be taken when excavating pits in existing seeded or paved areas to minimise damage, and any damage caused to such areas shall be fully reinstated by the Contractor at his own expense.

Planting pits shall be of the following minimum dimensions:

(i) Semi-Mature Trees: Where possible, planting pits shall have a width of at least 600mm greater and a depth of at least 300mm greater than that of the root-ball to allow for adequate incorporation of backfill around the root system.
(ii) Extra Heavy Standard Trees: Planting pits shall have a diameter at least 600mm greater and a depth at least 300mm greater than that of the root-ball to allow for adequate incorporation of backfill around the root system.
(iii) Shrubs/Ornamental Grass/Herbaceous Plants/Conifers: Planting pits shall be 300x 300 x 300mm or sufficiently wide and deep enough to accommodate the fully spreadroots or root ball, whichever is the greater

PLANTING SEMI-MATURE TREES

Standards: Semi-mature trees shall be prepared, supplied and planted in accordance with BS 4043: 1989.

Tree Sizes: Trees shall be between 6m and 15m high and will weigh between 250kg and 10 tonnes, including the root-ball.

Time of Planting: For most species, transplanting shall be undertaken during the period stated above. If trees are to be planted outside of this period, “spring ring” grown trees or other appropriately grown trees are to be used. If coniferous or evergreen species are to be transplanted in the autumn, they shall be sprayed with an anti-desiccant spray before and after transplanting. The spray shall not be applied during rainy or frosty weather.

Lifting, Unloading and Transportation: Trees shall be lifted and unloaded by levering, winching or by machine or other appliance of an appropriate type. Multi-core nonabrasive nylon slings with additional padding, if required, shall be used for trees up to 400mm girth. The use of chains or ropes will not be permitted. Trees in excess of 400mm girth or in excess of 1 tonne in weight shall be lifted by means of a protective hardwood spaced batten to take the wire lifting hoister. The root-ball shall be supported during lifting and unloading and the Contractor shall take care to prevent damage to the tree from bruising, crushing and chafing by the use of additional padding on machines. Additional supportive and protective wrappings shall be placed around the root ball to prevent drying out or damage from vibration in transit.

Tree Pits: Tree pits shall vary in size depending upon the size of the root-balls of the trees to be transplanted. The Contractor shall, however, excavate pits with a diameter at least 600mm greater and a depth at least 300mm deeper than the root-ball to allow for incorporation of backfill beneath and around the roots. The bases and sides of pits shall be broken up to a minimum depth of 250mm to assist drainage and root penetration. Compacted glazed sides shall also be roughened and the floor of the pit shall be slightly raised in the centre.

Planting: Before planting, the Contractor shall measure the depth and diameter of the root-ball and undertake any necessary modifications to the size of the pit. The tree shall then be set in the pit and oriented in the required position. When finally set, the tree shall be at its original nursery depth after settlement. All root-wrappings shall be completely removed and any damaged roots or branches cleanly pruned. Any cuts over 25mm in diameter shall be treated with `Arbex’ or similar approved fungicidal wound paint.

Backfilling shall be carried out in layers of 150-225mm depth and at each stage backfill shall be firmly consolidated to eliminate all air pockets under and around the roots. If necessary, the Contractor shall thoroughly water each layer to assist settlement, allowing the water to drain away before adding the next layer.

The final layer of backfill shall not be consolidated and shall be of sufficient depth to allow for settlement.
Watering: After backfilling, the Contractor shall apply a minimum (50litres) of water to the base of each tree so that it is thoroughly watered in.

Mulching: After watering, the full extent of the planting pit shall be spread to a uniform depth of 75mm with well-composted, fine grade forest

PLANTING EXTRA HEAVY STANDARD TREES

Standards: Planting shall be undertaken in accordance with BS 4043:1989.
Backfill: All pits shall be backfilled with a 3 to 1 mixture (by volume) of topsoil and non-peat based compost as specified.

Planting: Prior to planting, any damaged shoots or roots shall be cleanly cut back to sound wood, ensuring that there are no snags and that a balanced crown shape is preserved. Cuts over 25mm in diameter shall be treated with ‘Arbrex’ wound paint or similar approved. All plastic bags, root wrappings, etc shall be removed before planting.

Trees shall be planted at the original soil depth and it shall be maintained at the finished levels, allowing for soil settlement. The bottom of the pit shall be covered with 75-100mm of backfill and the root-ball placed centrally in the pit. Backfill shall be placed around the root-ball and the tree shall be shaken to prevent air pockets. Backfill shall be firmed as filling proceeds, care being taken to avoid damage to the roots. The final layer shall not be consolidated and shall be of sufficient depth to allow for settlement, so that the pit surface after settlement will be the same as adjoining levels.

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PLANTING STANDARD TREES

Trees to comply with BS 3936 and should have an upright, straight central leader and a well balanced branching head of a form and habit natural to the species. Heavy standard trees shall be supplied with roots balled and securely wrapped to ensure that the soil and roots remain moist and intact until planting. Trees shall have been carefully lifted and conserving a suitable proportion of fibrous roots to aid transplanting.

Standard trees (6-8, 8-10, 10-12, 12-14)

Place topsoil as outlined above. Excavate planting pit minimum 600 * 600*300mm deep.Fork over the base of the pit to achieve an even tilth 225mm deep. Supply slow release fertiliser 16-18 month Osmocote at the rate of 25gms/pit placing plant in position and orientate to best effect. Remove wrappings and bindings of the rootball. Partially backfill the pit to hold the rootball steady. Setting rootball to same depth as in nursery leaving 25mm of soil over the soil nursery mark on the stem of each tree. Backfill in layers not exceeding 225mm deep, making firm as the work proceeds. Water thoroughly before placing on the top layer of soil and allow to drain, ensuring that there is a minimum cover of 25mm. Stake on south side of tree.

Stakes

Stakes shall be of peeled larch, Pine or Douglas Fir, preserved arsenic to IS 131, to a net dry salt retention of 5.3 kg per m^3 of timber. Stakes shall be turned and pointed one end.
For tree sized 6-8 and 8-10 use 1 stake only. For sizes 10-12 to 16-18 use two stakes stakes. For sizes 18-20 to 25-30 use 4 stakes per tree set max. 500mm from tree. Stakes shall be 1200mm * 100mm dia. The stake is to be driven with a drive all, wooden maul, or cast iron headed mallet, not with a sledge hammer. Stakes shall be buried 500mm into ground, placed 500mm from the tree. Trees to be securely fastened to cross members using proprietary rubber ties and spacers.

Tree Ties

Tree ties shall be of rubber, pvc or other suitable composition and durable enough to hold tree securely for three years. Ties will be min. 25mm wide, fitted with a buckle for adjustment. Ties to be nailed to the stake or cross member with one galvanised nail immediately behind the buckle, leaving the tie end free for adjustment.

PLANTING SHRUBS

Shrubs, climbers and ground covers shall be of the minimum size specified on the drawings with several stems originating from or near ground level, bushy with no open centre, and have a good root system. Plants should not have roots deformed or be pot bound.

All plants to be planted at the spaced centres specified. when planting containerised plants remove all plastic and non degradable wrappings before planting. Make four vertical cuts with a sharp knife on the quadrants through the edge of the container grown rootballs to sever girdling roots. Excavate hole to min. 10cm greater diameter than the roots spread, and to a depth to allow planting to the same depth as in the nursery. Backfill in layers of not more than 10cm, firming each layer.

Shrubs, climbers and ground cover plants should be in good condition and as specified in the accompanying plant schedule.

Standards: All shrub shall be carried out in accordance with BS 4428: 1989.
All plants shall have been supplied as specified.

Plants shall be spaced and located according to species as shown on the Contract Drawings. All setting out shall be approved prior to planting.

Plant Sizes: All shrubs shall be of the species, sizes and forms described on the Contract Drawings

Planting: Prior to and during planting, the Contractor shall take all the necessary precautions to protect the plants, particularly from the drying out of the root systems. Any plants which are in a root dry condition prior to planting shall be rejected.

Each plant shall then have its roots gently teased out and shall be placed in the centre of a pit large enough to accommodate the root system without restriction. Bare-rooted plants shall have their roots fully extended, but not damaged, so as to allow for optimum root growth. The pit shall then be backfilled in layers with the excavated material mixed with compost and fertiliser as described and gently firmed as filling proceeds, rocking the plant to avoid air pockets. After settlement, each plant shall be at the original soil mark on the stem of the shrub.

Watering: After backfilling, the Contractor shall apply a minimum of 4.5 litres (1 gallon) of water to the base of each shrub so that it is thoroughly watered-in.

Fertiliser Application: On completion of the planting operations, the Contractor shall apply a top-dressing of a suitable fertiliser to all shrub areas. The fertiliser to be applied at the rate and by the method as specified by the manufacturer.

Mulching: Following planting, all shrub areas shall be left in a clean and tidy condition, and cleared of all pots, containers and root-wrappings. The shrub beds shall then be lightly pricked over and any weeds removed. They shall then be mulched to a uniform depth of 75 mm with well-composted, fine grade bark. The mulch shall only be applied when the shrub beds are in a weed-free and damp condition.

GRASS SEEDED AREAS

Areas to be grassed shall have a fine tilth seedbed prepared through a combination of technbiques such as rotovating, stone raking, stone burying. Grass areas to be seeded at a rate of 25g pr square metre of an appropriate mix such as Suburban grass seed mix from Pitchcare.ie or similar approved

%	Cultivar	Species
25	Disco	Perennial Ryegrass
30	Doremi	Perennial Ryegrass
10	Trophy	Chewings Fescue
35	Franklin	Strong Creeping Red Fescue

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BULBS

Plant so that the top of the bulb/corm/tuber is at a depth of approximately twice its height with base in contact with bottom of hole. Backfill with finely broken soil and lightly firm to existing ground level.

When planting in existing grassed areas neatly remove a plug of turf and replace after planting.

TREE CARE

The roots of bare root trees shall be protected at all times from the desiccation by drying winds both during transport to the site and on the site. Trees left uncovered will be deemed unsuitable for planting.

MULCH

Mulch must be horticulturally graded bark from coniferous trees, particles 20-50mm maximum free of fine materials, dust, wood, damaged, broken or diseased shoots. The bark must be of medium landscape grade or similar approved. Mulch not to specification must be removed at the contractors expense.

FAILURES AND REPLACEMENTS

Excepting theft or malicious damage after practical completion, any trees/shrubs/plants that have failed to thrive, which are apparent, will be regarded as defects due to materials or workmanship not in accordance with the Contract.

Unless otherwise instructed they must be replaced by approved equivalent trees/shrubs/plants.

Replacements must match the size of adjacent or nearby plants of the same species or should match the original specification, whichever is the greater.

All losses, other than those due to theft and vandalism, will be made good at the Contractor's expense. There will be a final joint inspection towards the end of the first and second growing seasons and a jointly agreed schedule of replacement planting will be prepared.

Replacement planting shall be carried out at end of first and second growing seasons.

Newly-planted stock will only be accepted at the end of the first and second growing seasons if it is healthy, in full leaf and has put on reasonable growth. Acceptance of plants will be at the entire discretion of the Landscape Architect.

All plant losses resulting from vandalism or theft shall be replaced by the Contractor at the Employer's expense. The losses shall be jointly assessed by the Contractor and Landscape Architect at an agreed time during the course of the Maintenance Period and a schedule of replacement planting will be prepared. Replacement planting will normally be carried out at the end of the first and second growing seasons.

Replacement plants shall conform to the original specification and replacement planting shall be carried out in accordance with the original planting details.

Maintenance Inspections by the Landscape Architect will be carried out as agreed with the client.

MAINTENANCE

Objectives :

The scope of the recommendations is to maintain and develop and maintain the landscape surrounding the proposed development through sound horticultural practice. Care and attention is necessary at all times now to maintain the surrounds up to the standards expected for a modern residential development.

General :

Timing of maintenance operations is crucial. The result of failure to carry out day to day operations such as grass cutting, sweeping and clearing is obvious and gradual. Failure to carry out the necessary pruning, weed control and fertilizer applications at the correct time results in a longer term degeneration of the scheme.

The Contractor to be financially responsible for replacements if scheduled operations were not carried out or performance requirements not met and such neglect contributed to the failure of the plants.

Weed Control in Planted areas

The contractor to submit a maintenance schedule outlining all cultural treatments in their programme.

It must list the chemicals and methods they propose to use, and a schedule of application dates. The contractor shall adhere to manufacturers instructions, using accurate calibration and well maintained equipment and skilled and qualified labour.

The contractor to ensure the healthy growth of all plants maintained free of disease and pests. they must be wind firm, adequately watered and weed free, training and pruning as necessary to ensure the natural or desired growth habit.

Maintain a weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of the original planting pit. Keep planting beds clear of weeds, by hand weeding and/or use of approved herbicides.

All herbicides must be suitable for the purpose for which they are intended and should be approved by the Landscape Architect prior to their use on site. Herbicides which have adverse ecological effects on soils and wildlife will not be permitted. Spraying shall only take place during favourable weather conditions.

General Maintenance Operations

Maintenance operations to include hand-weeding of shrub areas, including the weeding around all plant stems, the digging out of deep-rooted weeds and the edging of beds to maintain a clean border between grass and planted areas. All weed debris arising from these operations shall be removed from site

Chemical weeding of shrub areas using approved herbicides to manufacturers instructions. Herbicide shall be

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applied to the whole of the planting areas up to the line of protective fencing, where this defines the planting areas. Chemical weeding shall include the hand removal of weeds around plant stems where necessary and for hand digging out of deep-rooted weeds.

Ensure that trees and shrubs are not damaged by the use of mowers, nylon filament rotary cutters and similar powered tools.

Every visit check condition of stakes, ties, guys and guards. Replace broken or missing items. Adjust if necessary to allow for growth and prevent rubbing of bark. Cut back any damaged bark.

The contractor shall apply 18.6.12 fertilizer at the rate of 30 gms per square metre before March 31st and again before June 30th.

The contractor shall remove any weeds at the juvenile stage before they flower. Grass free circles must be maintained around trees at all times.

It is the contractor's responsibility to ensure any signs of pests and disease are treated immediately. Contractor to include for sticking agents to improve chemical uptake.

The bark mulch must be constantly topped up and maintained at a minimum 60mm depth.

The contractor must provide adequate water to all plants in times of drought.

Carry out the following operations from completion of planting for 24 months maintenance or as instructed by the landscape architect.

Make visits at approximately monthly intervals during the growing season in order to determine any preventative or remedial action required and as necessary to fulfil therequirements of this specification. It shall be the Contractor's sole responsibility to ensure that the inspections and programme of maintenance works are adhered to.

During the Maintenance Period, the Contractor shall be responsible for undertaking with due care all operations required to ensure the establishment and maintenance of healthy, vigorous plants and grass. The Contractor shall be responsible for planning and executing a programme of maintenance works to both improve the condition of the plants or to prevent defects from arising.

The contractor shall remove any weeds at the juvenile stage before they flower. Appropriate residual herbicide whip planting areas.

Trees and Shrubs in Open Spaces: to facilitate mowing and to enhance growth rates create a one meter vegetation free diameter circle around the base of each tree and shrub.

Spray briars and other shrubs emerging with Brushwood weed killer (in September). Dig out where necessary.

Spray vegetation on the margin of all road to kill dandelions, grasses and grounsel.

Treat grass areas with a proprietary mixture of M.C.P.A/ 2.4.D in May to control lawn sward weeds. Retreat the areas in August/early September.

Spot treat areas where applicable. Only spray infested areas.

Spot treat (monthly) all perennial weeds until all re-growth is killed.

Kill nettles, thistles and docks with specific weed killer., Bindweed to be hand painted with translocated herbicide.

Applicants will be in strict accordance with manufacturers instructions using accurately calibrated and well maintained spaying equipment.

Spraying should be undertaken with the necessary protection for Trees Shrubs and Perennials and Herbaceous plants. Therefore spraying should not take place where wind speeds are likely to cause damage by spray drift.

All areas of planting shall remain weed free by the combined use of contact and residual chemical sprays by overall and spot treatments in accordance with manufactures specifications or by hand weeding where necessary.

Check tree ties in April to secure the tree after the winter. Ties on all staked trees should be within 100mm of the top of the stake

Check wind firmness and taking measures to create an erect and vertical tree bole on each tree. For avenues the development of a clear straight leader and stem is essential.

Dig up all seedlings of Salix or Rubus where they occur.

Trim all hedges flat on top and batter the sides to a slight angle.

Fertilise hedges with a specific tree and shrub NPK fertiliser at the rate of 50gm/m².

Create a vegetation free band 500 mm wide around each side of hedges.

All dead weeds to be removed from site. At no time will weeds be allowed to become invasive. Weeds shall not exceed 100mm in height.

<u>Weed Control in Grass Areas</u>

All grass areas shall be maintained weed free by the application of an approved selective weed killer as necessary.

Grass free circles must be maintained around trees at all times. Treat with Kerb flo and spot spray any emerging weeds during the season with contact herbicide to manufacturers recommendations

<u>Pruning</u>

Prune at appropriate times, to remove dead or dying and diseased wood and suckers, to promote healthy growth and natural shape. Prune trees to favour a single central leading shoot, unless specified otherwise.

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All wounds in excess of 12mm diameter shall be dressed with `Arbrex' or similar approved bituminous wound paint.
Pruning operations for the promotion of basal/lateral growth shall only be carried out following a request from the Landscape Architect.

Any plants which in the opinion of the Landscape Architect have suffered severe damage as a result of incorrect pruning shall be replaced by the Contractor at his own expense.

Trees : Prune head of trees and all side branches by 20 percent immediately after planting.

Cut back to a main branch, damaged broken or diseased shoots.

Shrubs & Perennials : Prune as necessary to encourage the natural form, habit and flowering characteristics of the plant to flourish.

Each plant requires an individual pruning technique. This selective thinning will promote its natural growth habit and form.

The indiscriminate use of hedge trimmers for pruning is banned. Hedgecutters are suitable for cutting hedges only.

Staff must be supervised by a qualified horticulturist at all times when pruning. Pruning work will not be carried out by unqualified labourers who were not familiar with the range of plants and their individual requirements.

It is important to recognise the desired effect in each bed. Plants must be pruned accordingly to maintain this effect.

To facilitate mowing and to enhance growth rates clear a one meter diameter circle around the base of each tree and shrub should be maintained at all times.

Create a vegetation free band 500 mm wide around trees on grass areas

Prune the lower branches of the trees close to the boundaries within the estate to give a branchless clear stem height of 1500mm.

Prune as per the Shigo principles, leaving the branch collar intact.

Remove all rootstock suckers, at or below ground level.

Remove all damaged, diseased or awkward branches.

Pest and Disease Control

The Contractor shall report to the Landscape Architect any outbreak or build up of insect pest, fungus disease or disorder affecting the plants, or grass as soon as noticed.

It will be the responsibility of the contractor to ensure that any signs of disease or pests are treated immediately.

The contractor to ensure the healthy growth of all plants maintained free of disease and pests. they must be wind firm, adequately watered and weed free, training and pruning as necessary to ensure the natural or desired growth habit.

Fertilizer Application

To encourage crown and root development, the Spring fertiliser application of 18-6-12 at a rate of 25 grams/tree. To encourage root development an application of 0-7-30 at a rate of 10 grams per tree to be applied in September.

Fertilising for shrubs and Perennials to encourage root and crown development in Spring. Fertiliser application of 10-10-20 at a rate of 10grms/m².

To encourage healthy growth an application of Sulphate of Ammonia 21% Nitrogen to be applied in mid June at a rate of 10 grams/ m².

Apply a general concentrated fertiliser such as 10.10 20 at the rate of 20 gr/m² to all trees, hedges and shrubbery, in April / early May.

Apply a nitrate fertiliser to all grasses areas at the rate of 20 grams/m² in April. Repeat mid to end of June.

Edging

All borders and edges are to be maintained in a neat and tidy fashion.

Bark Mulch

The bark mulch must be constantly topped up and maintained at a minimum 60mm depth.

Adjustment of tree ties and stake removal

The contractor shall check and adjust tree ties. The dates to be submitted in the maintenance schedule. Check tree ties in November/January and after storms, and loosen ties each year in July to allow girth to expand.

All plants must be wind-firm the contractor must regularly check all trees and take appropriate measures to achieve a vertical stem.

Maintenance of Grass areas

The contractor is responsible for the aftercare and maintenance of the completed works for a period of 24 months form the date of practical completion.

First cut

Landscape Specification

When the grass has grown to 40mm the contractor must roll and mow the grass in appropriate weather conditions.

Thereafter the grass shall be cut regularly (approx 30 cuts per year) during the growing season. Cuttings shall be collected or spread evenly on grass surface if minimal. All cuttings to be swept from paved areas. The objective to have an average cutting height of 20mm, depending on season.

Fertilizing.

Apply 10.10.20 or approved lawn fertilzer in June followed by a second application in August at a rate of 20g per m2.

Weed Control

It is the contractors responsibility to ensure that the sward is healthy and vigorous at all times. Appropriate selective broadleaf weedkillers to be used in accordance with manufacturers recommendations.

Settlement

Localised depressions to be made up at contractor expense. The grass areas to be handed over as a complete established and level sward.